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## FOREWORD

After a certain former US president criss-crossed the world in the only manner he knew how, sobriety has, to some degree, returned to the global stage. Finding a mechanism to best manage the Covid-19 pandemic is no longer a political playing field, rather, science has won over some of the more outlandish conspiracy theories that were being bandied about last year.

For a moment, a dangerous world of "alternative facts" was gaining a foothold, with this rhetoric unfortunately being peddled on social media platforms. Fake news became a dangerous weapon at an already perilous time.

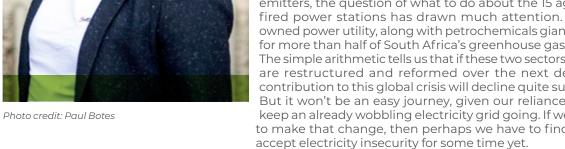
It's in this more sober state that the 26th session of the Conference of the Parties — COP26 — took place in Glasgow earlier this month. Under the theme "Uniting the World to Tackle Climate Change", world leaders have committed to collaborative measures aimed at significantly reducing emissions in their countries. This global event, which had some 120 world leaders in attendance, has demonstrated a sense that matters of

sustainability are being taken seriously. Hopefully, the world is awakening to the new dawn of a conscientious and sustainable existence to safeguard our collective future.

For the Mail & Guardian, it's been a matter that we've taken seriously for more than two decades, having launched the Greening the Future supplement towards the end of the last century, in 1998.

We've stood as the only publication in this country that has dedicated itself to the stories of climate change and the role that we, as humans, have played in the rising temperatures in the only place we know as home. For us on the southern tip of Africa, there are no delusions of an escape to Mars.

South Africa: While we rank 14th as one of the world's largest emitters, the question of what to do about the 15 ageing coalfired power stations has drawn much attention. The stateowned power utility, along with petrochemicals giants, account for more than half of South Africa's greenhouse gas emissions. The simple arithmetic tells us that if these two sectors of industry are restructured and reformed over the next decade, our contribution to this global crisis will decline quite substantially. But it won't be an easy journey, given our reliance on coal to keep an already wobbling electricity grid going. If we are going to make that change, then perhaps we have to find means to



It's the biggest question that we face as a country, perhaps even bigger than all our socioeconomic worries — of which there are sadly too many.

Our journey as a country will be one where we will need to continue encouraging companies, organisations and individuals to invest in the environment and, in turn, future generations. The Mail & Guardian Greening the Future Awards — now in its 17th edition — will continue to be their biggest cheerleaders into the next two decades and beyond. Despite this very strained existence, this year's prestigious cohort of winners are saving tomorrow for future generations in what is still a wonderful world.

#### **Ron Derby**

Editor-in-chief, Mail & Guardian

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# THE CLIMATE CLOCK

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DEVESTATING GLOBAL CLIMATE IMPACTS



necessary – beyond what politicians have deemed and Lifeline on the Climate Clock tell us what we politically possible. **The next ~7 years is humanity's** need to do, by when. They are arguably the most **best window to enact bold, transformational** important numbers in the world. changes in our global economy to avoid raising

T e are in a climate emergency, but there is the global temperature above 1.5°C, a point of no still time to avert disaster if we take bold, return that science tells us is likely to make the immediate action at the speed and scale worst climate impacts inevitable. The Deadline

IT'S WORTH UNDERSTANDING WHY

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# GREEN WARRIORS STEP TO THE FRONTLINE AS THE SUN SETS ON ANOTHER COP.



s the sun sets on another United Nations climate change negotiation (COP26) with divided sentiment on its successes and failures, the Mail & Guardian is celebrating those at the frontline who are already championing a greener, more sustainable future.

The Greening the Future Awards recognise the individuals and organisations driving a new narrative, which illustrates the opportunities

that sustainable development and climate action present for South Africa.

While significant progress has been made since COP26 kicked off two weeks ago in Glasgow, Scotland, environmental rights watch groups are lamenting the failure of some participants at the Conference of the Parties to commit to phasing out fossil fuels in line with scientific recommendations and warnings.

Back home, it is the rural woman who wakes at dawn to work her subsistence farm under a state of drought disaster to whom these high-level diplomatic talks mean very little, but for whom the stakes are high. It is she and her surrounding community who will need access to information, technology and finance to adapt to a present and future where weather extremes wreak havoc on food security.

Does she know that Africa is disproportionately affected by climate disasters despite its small contribution to the greenhouse gas emissions accelerating global warming?

Is she aware that the wealthy nations most responsible for these disasters are liable for the damages her farm continues to suffer in the wake of prolonged drought?

Does she know that nature itself provides solutions to the detrimental effects of climate change?

She may not. The 60 environment champions commemorated in this year's Greening the Future Awards are among the frontline responders who are helping farmers and other sectors transform, with the collective aim of meeting the United Nations Sustainable Development Goals (UNSDGs) by driving access to clean energy, sustainable farming practices and other initiatives painting the future green.

The 17th edition of the Mail & Guardian's Greening the Future flagship awards is uniquely positioned to recognise individuals, corporates, financial institutions, civil society, local community groups and government departments that have actively and positively championed causes for the environment and, as a result, for people.

When the high-level deliberations at COP26 conclude this week, it is these organisations that will carry out the marching orders needed for countries to meet their commitments to the Paris Agreement signed by world leaders in 2015 to take action on climate change. It is these organisations who will help communities and cities build resilience to climate change while inspiring future green warriors, who will continue to protect communities and natural habitats, mobilise finances and collaborate across sectors to overcome the challenges of the climate crisis. Global leaders at COP26 may outright fail to "consign coal to history" or commit the necessary finance developing nations need as the COP presidency has called for, but it is the acts of these frontline responders that can make up for the anticipated disappointments when the negotiations end.

Already the talks have been marred by what organisations such as Greenpeace have described as "a string of voluntary agreements that contain vague language and big loopholes".





The stakes are high. The World Meteorological Organisation estimates that a billion people could face extreme heat stress if global temperature rise reaches 2°C above the pre-industrial era. A failure at COP26 to prioritise the people most vulnerable to climate change — in Africa and small island states — will taint an already compromised framework and put even more responsibility on individual and collaborative action outside of the United Nations Framework Convention on Climate Change (UNFCCC).

But while the grown-ups decide the fate of millions, the global climate youth movement continues to raise its voice and claim its position in dealing with the climate crisis. Young people from more than 200 organisations, schools, universities and community clubs contributed to the creation of the South African Youth Climate Action Plan presented at COP26

Among the actions the youth are calling for is a ramp-up of awareness about climate risks.

"South Africa is already experiencing severe impacts of climate change, however, those most impacted often have the least access to the knowledge and resources that would equip them to cope with it. We recognise that awareness and communication are crucial for an inclusive climate change response. Accordingly, national climate plans and strategies need to account for these massive awareness disparities, and recognise that inaccessibility is heightened when using jargon, single-language communication, and unequal distribution of technological and knowledge-sharing resources," the action plan states.

Other promising green shoots of progress are arising on the side-lines of this critical moment for parties at the UNFCCC. For one, green financing and environment, social and governance (ESG) is entering the mainstream, with a growing network of finance institutions and corporate multinationals choosing to prioritise green growth and development.

In addition, South Africa is set to benefit from a first-of-its-kind financial commitment among several wealthy nations, who have pledged to support the country's move away from coal-fired power. It comes in the wake of continued load-shedding that is stripping away the gains made in the post-Covid-19 recovery.

President Cyril Ramaphosa told a COP26 side event that bold climate action must start with accelerated decarbonisation of our energy systems. Through the United Kingdom, European Union, Germany,

France and US partnership, an initial amount of \$8.5-billion will be mobilised over the next three to five years to support South Africa's just transition to a low-carbon, climate resilient future.

In the meantime, South Africa's eco champions who are celebrated at this year's Greening the Future Awards will be the backbone of how the country achieves the solutions it has set out to beat the climate disaster.



From sustainable designing to innovative energy efficiency, from clean air and quality of life to oceans and forests, these people and organisations are spearheading a future planet healed from the impacts of industrialisation and one that rises above capitalism's legacy of putting profit over people and the environment.



Authors: Tunicia Phillips, Sheree Bega



#### **CAPTURING THE VALUE IN PACKAGING WASTE**

f we are to create truly circular economies, where waste is minimised and reuse of materials is maximised, the starting point is understanding that packaging materials have value. capture that value to prevent packaging from becoming waste at the end of its lifecycle.

That is why the Coca-Cola system is focusing on creating closed loop systems that can extract the maximum value from materials and products while in use and recovering, reusing, or recycling them Coca-Cola Company launched the World Without Waste strategy, renewing a plastic packaging and eliminating waste in the environment.

made important changes to its policies, goals and partnerships. The company remains committed to being part of the solution to the plastics pollution problem and has made progress, but there is still much more to do.

In a recently released global report on plastic pollution from As You Sow, the company scored the highest (out of 50 companies) for its efforts in reducing

plastic pollution, including its strong commitment to recycling, transparency for its packaging use and support for producer responsibility initiatives.

Importantly, we need to find ways to In South Africa, Coca-Cola is focused on making progress on the company's ambitious sustainable packaging initiative, despite the challenges of the Covid-19 pandemic.

Coca-Cola's World Without Waste strategy is an ambitious sustainable packaging initiative that aims to collect or recycle a bottle or can for each one after they have been used. In 2018, the we sell by 2030, and make 100% of our packaging recyclable by 2025.

focus on creating a circular economy for As part of this vision, through our product innovations, we have committed to use at least 50% recycled material in our packaging by 2030. In addition, it In line with this strategy, the company has is Coca-Cola's goal to reduce the use of virgin plastic by a cumulative three million metric tons globally by 2025.

#### **DESIGNING** BETTER BOTTLES

The Coca-Cola World Without Waste strategy gives prominence to the entire packaging lifecycle—from how bottles and cans are designed and produced, to how they are recycled and repurposed. The strategy focuses on three pillars: design, collect and partner for a waste-free environment.

PET, the highest-volume packaging Glass Bottle (RGB) production line material, is valuable, versatile, lightweight, shatterproof and can be recycled into brand new PET plastic bottles, which can be reused or refilled.

In South Africa, Coca-Cola's 2L Returnable/Refillable PET bottles have been rolled out across select regions in the country and in various flavours, saving landfill space and reducing the use of virgin PET, while saving consumers money.

Once this returnable PET bottle is returned to one of our bottlers, Coca-Cola Beverages South Africa (CCBSA), it goes on a looped journey to be cleaned as per Coca-Cola's stringent requirements and is then refilled to start its next lifecycle. When the bottle reaches the end of its useable lifecycle, it

joins the recycling value chain and is repurposed into another PET bottle. In the Western Cape, our other bottling partner, Coca-Cola Peninsula Beverages (CCPB) has been in the business of Returnables for almost 30 years with the launch of the 1.5L pack in 1992. Since then, they have invested in a Returnable and introduced a 300ml and 500ml bottle. CCPB now makes 11 flavours in 1.5L Returnable/Refillable PET bottles and the RGB packs are also available in different core flavours.

CCPB also introduced a paper label on 1.5L Returnable/Refillable PET bottles, 500ml and 300ml RGB bottles which has replaced the Applied Colour Label (ACL). Paper labels allow us to communicate to consumers on the ability to drive a culture and habit of "Returnable" among consumers and reduce waste as part of Coca-Cola's World Without Waste pledge. It is also a great way to introduce Zero Products and Flavour extensions to all Returnable packaging.



The company also introduced Returnable Glass Bottles under the fruit juice blend brand, Cappy. To achieve these goals, the company is focusing on creating closed loop systems that can extract the maximum value from materials and products while in use and recovering, reusing, or recycling them after they have been used.

#### **COLLECTING FOR A SUSTAINABLE FUTURE**

Coca-Cola is an active member of the PET Recycling Company (PETCO). In the last reporting period, through initiatives supported by PETCO, 55% of post-consumer beverage PET bottles were collected for recycling, despite disruptions caused by the Covid-19 pandemic. During the peak of the Covid-19 pandemic, Coca-Cola approved a R3-million grant and partnered with PETCO to support the national network of over 100 buy-back centres. The cash flow injection, which was deployed in 2021, ensured that they could open their doors when the economy reopened.



Importantly, the company's support of the recycling sector supports income-generating opportunities for more than 60 000 waste reclaimers as well as small buy-back centres, especially in the township economy. To further empower waste reclaimers, Coca-Cola partnered with BanQu in early 2021

to introduce an innovative payment platform to enable cashless transactions, help reclaimers to develop a financial record and assist buy-back centres with automated recording and tracking of transactions. This project will be significantly scaled up in the coming months, through PETCO.



#### PARTNERSHIPS DRIVE THE WAY FORWARD

In partnership with PETCO, and in line with Coca-Cola's World Without Waste strategy, our bottling partner, Coca-Cola Beverages South Africa (CCBSA), has partnered with Matongoni Recycling to increase the collection of PET bottles, and is ready to support collectors in Polokwane, Makhado, Messina, Venda, Tzaneen, Lebowakgomo, Thabazimbi and Lephalale.

#### **CCBSA WILL EMBARK ON THE FOLLOWING:**

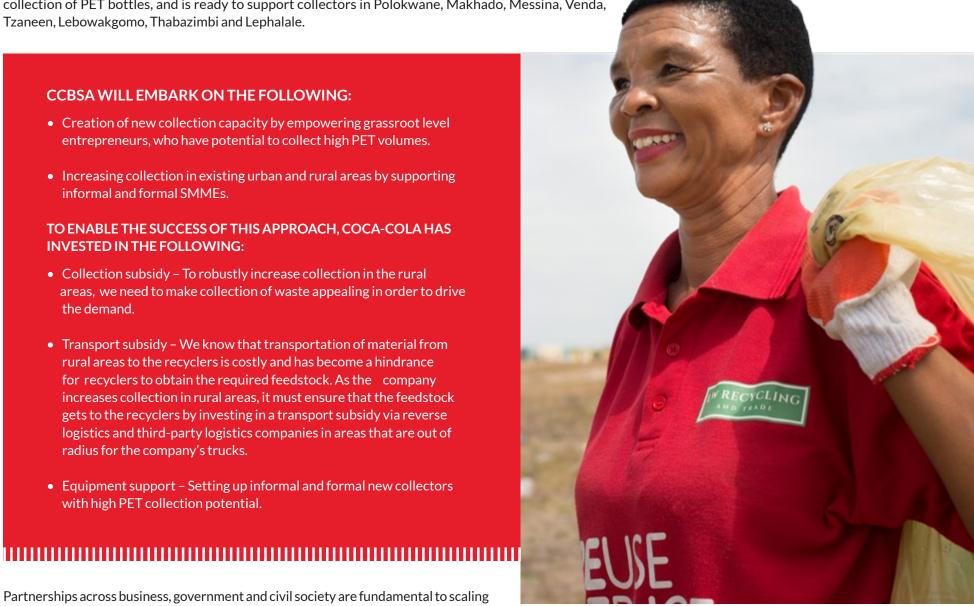
- Creation of new collection capacity by empowering grassroot level entrepreneurs, who have potential to collect high PET volumes.
- Increasing collection in existing urban and rural areas by supporting informal and formal SMMEs.

#### TO ENABLE THE SUCCESS OF THIS APPROACH, COCA-COLA HAS **INVESTED IN THE FOLLOWING:**

- Collection subsidy To robustly increase collection in the rural areas, we need to make collection of waste appealing in order to drive the demand.
- Transport subsidy We know that transportation of material from rural areas to the recyclers is costly and has become a hindrance for recyclers to obtain the required feedstock. As the company increases collection in rural areas, it must ensure that the feedstock gets to the recyclers by investing in a transport subsidy via reverse logistics and third-party logistics companies in areas that are out of radius for the company's trucks.
- Equipment support Setting up informal and formal new collectors with high PET collection potential.

Partnerships across business, government and civil society are fundamental to scaling solutions and critical to reaching our collective climate target and achieving a circular economy. Coca-Cola works with policymakers and industry partners to advocate for effective Extended Producer Responsibility (EPR) systems. These systems will provide an efficient, financially sustainable collection programme for all recyclable materials to ensure we can collect more bottles and cans for recycling and reuse.

Coca-Cola's bottlers, CCBSA and Coca-Cola Peninsula Beverages (CCPB) host ambitious community initiatives and clean-ups every year and work with other organisations to keep our waterways clean, underpinning Coca-Cola's commitment to collective action to address packaging waste.



Credit: PETCO - Loretta Waterboer -LW Recycling and Trade

Read more about Coca-Cola's World Without Waste here: www.coca-cola.co.za/sustainability/world-without-waste

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in Thapelo Jnr Phiri

#### **Thapelo** Phiri

Founder and director @ Golden Legacy Trading and Projects

Thapelo Phiri has always had an interest in sustainability, but was particularly inspired when the UN Sustainable Development Goals were released in 2015. "My focus became studying the 17 goals and assessing which I could target using my personal knowledge and experience," he says.

hiri is the director of Golden Legacy Trading and Projects, a Johannesburg-based business that concentrates on regenerative agriculture as a means to combat climate change and hunger.

He has developed an organic fertiliser called Dijo Tsa Mobu, which improves soil fertility and helps crops to become climate resistant by keeping the soil moist for longer. As well as improving yields for growers, organic fertilisers add value to plant or animal by-products that would otherwise be destined for waste streams. "Less waste and abundant yields mean lower costs, which benefits the consumer, giving them access to highquality and affordable food," says Phiri. Rich in organic matter, organic fertilisers also encourage the biodiversity of soil. Phiri assists local farmers in implementing regenerative farming practices. He focuses on researching solutions to agricultural challenges, using materials that benefit natural processes and nurturing farming communities.

He believes the agricultural industry has great potential to generate employment and improve economic development.

"Making agricultural production more sustainable in South Africa is an important part of a greener and more competitive economy," he says.

Food security in South Africa is particularly important for Phiri. "We are the last generation to be able to limit the future effects of climate change," he says. "And I believe we could also be the first generation to end hunger in Africa."

#### **Steve** Carver

Co-founder and chief executive @ U Can Grow Africa (Pty) Ltd

**(in)** UCanGrow\_Earth

Steve Carver is the co-founder of U Can Grow Africa, which provides a holistic approach to establishing collectives of small growers that, together, create economic scale.

in rural communities through the creation of shared money is making a difference," he says. value. "You cannot save the planet if no one is making money and people are starving. U Can Grow Africa is transforming people's lives by including them in major supply chains for the first time," says Carver.

Small farmers are incentivised through micro-learning, micro-jobbing and rewards and micro-financing, which creates a fully traceable value chain. As a result, the history of consumables is completely trackable, further encouraging conservation and regenerative farming. "Consumers want to know the truth behind what they are eating. Was this food grown on a massive industrial farm with chemicals, or was it grown organically? When people choose us, they are

heir primary aim is to break down the poverty cycle supporting the growth of transformational farmers; their

According to Carver, small farmers don't want to stay small



pipeline of exceptional farmers, the company is supporting their professional success. "When you combine business skills together with regenerative climate change skills, it suddenly means that innovation is in somebody's hand. It's incredibly exciting."

Thanks to U Can Grow Africa, the future of farming is looking bright. "What people are learning is that the usual academic channels have all got a sell-by date. I'm a great believer in unlearning and recreating newer solutions so that we are striving for continuous improvement."

– Loren Shapiro

in Sithuli Mbeje



#### **Sithuli** Mbeje

Food technologist and managing director @ AfriFood Technologies SA

"Growing up, there was never a time when there was waste we did not know what to do with, whether it was the neighbour who could craft skins or the traditional healer who needed to use the horns, there was always a use for everything."

s a qualified food technologist with more than a decade of experience in food technology — working with large local and international fast-moving ner goods companies, in research and development, and new product innovation — Sithuli Mbeje was finally able to answer the questions he had as a child who was fascinated by

is company, AfriFood Technologies, specialises in the development of food products and processes. Its main product offering is a mobile abattoir aimed at implementing circular food economies across the country, especially in rural communities. Mbeje explains that the mobile abattoir allows for the slaughtering of 10 cows per day as opposed to a normal abattoir with a capacity to slaughter up to 700. The benefits of this are less distressed livestock, better quality meat, reduced waste and fewer carbon emissions. Mbeje says: "I believe if we dive

deep into such practices, we could find a whole host of solutions for a greener planet." Which is why he incorporates African traditional cultural practices — such as never letting the outside of the skin touch the inside meat when slaughtering a goat (to stop the hairs from ruining the meat) — in his thinking and

Mbeje predicts that with so many new entrants to the country's agricultural market, all looking to go linear and drive volumes in large-scale farming, we will only farm for 10 years because of the carbon footprint we will have generated. He suggests we look into more sustainable means of production — especially with small and medium enterprises on the rise — so that the youth become the champions and drivers of negative emissions.

— Alexandra van Nieuwenhuizen

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#### AGRIBUSINESS AND 41R.





#### Rirhandzu Marivate

Project manager @ Sustainability Institute – Living Soils Community Learning Farm

In her capacity as the project manager at the Sustainability Institute, Rirhandzu Marivate is at the forefront of combating challenges around climate change through the lens of community farming.

stablished in 2019, Living Soils Community Learning Farm is a partnership project between Woolworths, the Sustainability Institute and Spier Wine Farm. The main idea of the project is to establish a sustainable farm that uses ecologically regenerative farming practices to grow food. The project is a platform for training young farmers and it also ensures that the vegetables grown go towards supporting local food security.

To Marivate, farming is more than a vocation, it is "life giving and life affirming". She believes that if we can live in a world where people and nature co-exist in a respectful relationship, we will be able to support ourselves and thrive. We need to understand that we have to actively restore and protect our ecosystems.

Extreme weather conditions, habitat destruction and soil degradation are not unique to our corner of the globe. What is uniquely South African are the socioeconomic consequences of these factors. The work that Living Soils does mitigates the economic effects of climate change within one of the country's

largest employment sectors. Its work also breaks the cycle of poverty and food insecurity that plague our population, particularly among the youth.

Living Soils plans to expand its work nationally and start multiple regenerative farm projects across the country. Marivate hopes to lead the next generation of sustainability advocates and environmental stewards, and she believes that it is through generational care that these issues can be properly addressed.

- Tshiamo Seape

#### GreenCape

Urban greening project manager @ The Greenpop Foundation

(\*\*) @thegreencape (\*\*) GreenCape

GreenCape is a company that is working to transition Africa from a linear "take-make-waste" economy to a clean and sustainable circular economy by working with government and in academia.

icholas Fordyce, senior communications officer and publications manager, explains: "We collaborate to identify opportunities in the green economy and potential barriers to those opportunities — then we work to find ways to overcome those barriers." GreenCape uses a noncompetitive market model to build trust with partners and collaborators.

"Sustainability means clean, renewable and economically viable green tech solutions that can meet the growing needs of the African community," Fordyce says. This is reflected in the myriad projects that they've embarked on and plan to undertake. From water, food and waste management to transport and energy, GreenCape continues to make a sustained impact across South Africa after their founding 11 years ago. Their know-how and noncompetitive model make them a source of knowledge and experience for emerging

organisations. "Many NPOs make the mistake of wanting to be the heroes. Don't be afraid to shift the hero status towards



those who fund your work. Work with similar organisations, not against them," Fordyce advises.

With the support of the EU, GreenCape will soon collaborate with South African youth. "Our intention with the South African Climate Change Champions project is to build a community of young South Africans who use their voice to meaningfully engage with national and local climate and energy policy, to communicate their vision of the future and who take action at their schools and in their communities on climate mitigation and adaptation," says Fordyce.

– Nabeel Allie

#### **Primestars**

Programme manager @ Primestars

"We are trying to reach every South African high school learner who is interested in starting a business in the green economy."

gh unemployment rate for 17 years by offering free training to high school learners. Their "step up to a green startup programme" addresses another big issue for South Africa, namely the climate crisis. The programme runs as a competition, which inspires and guides students across the country to find sustainable entrepreneurial opportunities. The organisation has a unique edutainment model and uses educational films as a way to reach potential entrepreneurs in underprivileged high schools. By arranging screenings at local movie theatres, in schools and through their website, Primestars is able to reach about 12 000 learners countrywide.

"We are trying to reach every South African high school learner who is interested in starting a business in the green economy," says programme manager Tarryn Reynders. Through their films, Primestars aims to highlight the climate emergency, as well as make learners aware of the opportunities in the green economy.

Johannesburg, has been tackling South Africa's create an entrepreneurial business idea that can sustainably solve or alleviate a problem in their community. The finalist of the competition — one team from each province — attend a boot camp, where they meet industry specialists, interact with other entrepreneurs and are upskilled with financial literacy tools. The competition concludes with an awards ceremony where bursaries for further studies are awarded by the sponsors of Primestars, including Bidvest, Sanlam and the department

> While this is the first time the programme has highlighted sustainable entrepreneurship specifically, Primestars will continue to focus on this area going forward. "The green economy is such an important part of today, tomorrow and the foreseeable future — we're looking at running part two next year," says Reynders.

— Andie Reeves

(ii) @primestars-marketing (iii) @primestarsSA





## CLEAN AIR AND THE QUALITY OF LIFE.



#### **Mbali** Baduza

Legal researcher and deputy-secretary of the South African Climate Justice Coalition @ Section27

@SECTION27news

"We work towards building a society where our work is not necessary any more. As long as we are necessary, we will continue to work faithfully and diligently to promote the realisation of the rights enshrined in the Constitution."

fter graduating from Rhodes University in 2014 with a BA in political science, an honours in international relations and an LLB, Mbali Baduza worked as a candidate attorney at Lawyers for Human Rights, under the refugee and migrant programme and the land and housing unit, managing the Upington satellite office.

Baduza joined Section 27 in 2020, as a legal researcher under the health rights programme. "My role as a researcher and activist entails proactively exploring research areas relating to law and human rights — preparing research reports and articles for publication. I am involved with developing advocacy campaigns, drafting court papers and making submissions on proposed policy, legislation, and international frameworks and conventions. I also conduct rights education workshops and develop partnerships locally, regionally and internationally with other human rights organisations," she says.

Section 27 has four priority work areas that use tools of activism such as research, litigation and advocacy to address key issues. "Section 27 has resolved to expand the nature of our work to include the intersections between climate justice, health and education. We have joined the Climate Justice Coalition, and have agreed to work together on advocating, educating, training and mobilising around a just transition and transformative climate justice agenda," Baduza explains.

The organisation also works with partners to advocate for government participation and better prioritisation of human rights-based funding for the following: health and education; the right to basic education guaranteed by Section 29 of the Constitution; the prevention of sexual violence and corporal punishment; the provision of safe, hygienic sanitation facilities; learner and teacher support materials; and sufficient classrooms. Beyond education, Section 27 advocates affordable, better quality public and private health systems.

"We seek to hold accountable the institutions and public officials that exist to serve the people," summarises Baduza.

— Afrika Bogatsu



#### Olivia Rumble

Director @ Climate Legal

② @OliviaRumble in Olivia Rumble

Olivia Rumble is an admitted attorney of the high courts of Johannesburg and Cape Town, and holds a degree in politics, philosophy and economics from Stellenbosch University, as well as an LLB and LLM from the University of Cape Town.

he and Andrew Gilder, also an admitted attorney with 17 years of legal experience, are the directors of Climate Legal, a consultancy firm that works with government, industry and civil society to support the development of climate legislation and policy in South Africa.

Their work is made easy because South Africa is so advanced when it comes to climate change plans, agendas, policies, strategies and frameworks. "The country has been incubating climate policy since at least 2000 and, as a result, our plans and policies are relatively mature. We are in a welcome space of fine-tuning them, engaging with barriers to implementation, mainstreaming them across other instruments and costing their implementation," says Rumble. Rumble and Gilder also co-drafted and coedited a book on South African carbon tax with Mansoor Park and Geoff Stiles. It was released last year, and an updated version was published in October. "The book unpacks the complexity around carbon tax — which

was implemented last year — and tries to situate the tax within a wider policy and environmental legal framework, making it more accessible to practitioners," says Rumble.

Up next is a book on climate change law and policy in the Southern African Development Community, as Rumble and Gilder believe we need greater global awareness of the impressive climate change legal and policy responses being developed in Africa

— Buntu Ngcuka



#### Michelle Ludwig

Chief operating officer and director of education @ GreenED

@Green-ED Africa

The platform offers online courses and webinars for continuing professional development credits and **Green Star building-related training.** 

reenED is an online education resource for professionals and students who want to learn about sustainable, climate resilient design in the built environment and green rating certifications. The platform offers online courses and webinars for continuing professional development credits and Green Star buildingrelated training.

The platform was officially started in 2017 and was developed by Michelle Ludwig along with fellow architects Marloes Reinink and Karen Eicker. "We've been senior green building consultants for many years, and realised that we wanted to start educating, because there's a noted gap in the skills market," Ludwig says. "There's always been a big gap for education for green design and green certification."

Courses on offer at GreenED include subjects ranging from green interiors to net zero water. "We've had good feedback and have been very pleased with the production value and quality — something that was missing in the continuing

300 participants.'



professional development market," Ludwig says. The team already offers guest lectures at different universities, and they are looking to package semester courses to address the higher education market. "We also see municipal government departments and facilities managers as an audience with the view of educating them on what they need to know about green design in order to run a building efficiently," says Ludwig, "and aligning this with the broader sustainable development goals."

GreenEd is mentoring and training the next generation in competent green design, as well as partnering with green building councils in other African countries, including Ghana and Kenya.

- Neo Khanyile

### CLEAN AIR AND THE QUALITY OF LIFE.



@greenworxcs in John Coetzee @GreenWorxCleaningSolutions

#### John Coetzee

Founder, owner and chief executive @ Green Worx Cleaning Solutions

With the promise "we do more than clean your conscience", his business prides itself on transparency, research and ethical product development - to which its long list of certifications and awards attest.

s founder, owner and chief executive of Green Worx Cleaning Solutions, John Coetzee is a heavyweight  $\Delta$  in South Africa's green cleaning sector. With the promise "we do more than clean your conscience", his business prides itself on transparency, research and ethical product development — to which its long list of certifications and awards attest. Indeed, Green Worx is a leading ecoaccredited biotechnology company both in South Africa and on

Wary of "greenwashing" - misleading consumers with ambiguous claims — Coetzee's Green Worx is the culmination of years of dedication to developing hygiene solutions that pair environmental awareness with science. Whereas most widely available cleaning products are made with harsh chemicals, Green Worx's award-winning formulas use enzymes and probiotics to offer effective solutions that are tough on grime and gentle on the environment. Prompted by the ongoing global health crisis, Coetzee and his research team compared bio enzyme alternatives to standard sanitising products. Their findings suggest that, while most alcohol-based products are active for only minutes — from the moment the solution is applied to when it dries — probiotic alternatives

remain effective for days after application, extending lasting protection against virus contamination. In addition to championing the effectiveness of ecofriendly cleaning solutions, Coetzee emphasises the relatively low cost of his products compared to most conventional petrochemical brands. Making sustainable products financially accessible is central to his vision. Asked what continues to motivate him in his work, Coetzee cites his business's contribution to "the climate change requirements of the country" — the national policy mandating net zero carbon emissions by 2050. Using green cleaning products, he says, offers an inexpensive way to effect large-scale change in both domestic and industrial settings.

In creating hygiene solutions that are sustainable, that meet market demands and outperform generic alternatives, Green Worx empowers individuals, companies and industries to meaningfully reduce their impact on the environment. As to his advice for young people looking to implement change in their communities, Coetzee says: "Dream big, act bigger — always look to being cleaner, greener, smarter."

— Lucienne Bestall

#### **Centre** for **Environmental Rights**

**(in)** Centre for Environmental Rights

Civil society has both the right and the power to use environmental laws to hold government and corporations to their legal obligations.

stablished in 2009 by a collective of eight nonprofit civil society organisations, the Centre for Environmental Rights (CER) is a nonprofit organisation that helps communities and civil society organisations advocate and litigate for environmental justice. The aim of the CER is to defend people's right to an environment that isn't detrimental to their health and the health of future generations.

According to section 24 of the Constitution, everyone has the right to an environment that isn't harmful to their health or wellbeing. Protecting environmental rights means ensuring that considerations of profit and personal gain do not lead to the flouting and noncompliance of environmental protection laws. In a country that frequently under-invests associated activists. The CER has also trained more than 60 in enforcement, it is often up to communities and civil society organisations to hold businesses and industries with the power to do major environmental damage accountable. Providing legal assistance in these situations is the CER's mandate.

Notable CER successes include preventing a coal mine from being built in a protected area in Mpumalanga, overturning a state decision to not disclose greenhouse gas emissions data submitted by corporations, and winning an appeal against a Strategic Litigation Against Public Participation defamation suit brought by a mining company against CER attorneys and

community environmental justice activists over the past four years at their Environmental Rights and Remedies School, and it runs an ongoing campaign encouraging divestment from fossil fuels by finance institutions. The power to hold government and corporations accountable depends on an active civil society, and if we are to protect our environment, we must never stop mobilising for climate justice.

— Anita Makgetla



@Siyamthanda Community services

#### Sithabiso Mndaba

Chairperson @ Siyamthanda Community Services

"Everything starts in the mind, so we are looking to initiate a project where we can start teaching kids about sustainability and keeping our environments clean."

ithabiso Mndaba is the chairperson of Siyamthanda mmunity Services, an NPO that creates an enabling environment for collaborations that drive tangible macts in communities.

During level five lockdown, Mndaba realised that the uMhlathuze Local Municipality was not able to adequately service the community in which it operated. Taking the initiative, he began with a clean-up, enlisting the help of volunteers. Clearing the litter and other waste was not the sole target of their efforts. Mndaba also cut grass and trimmed foliage in an attempt to beautify his community. With this ethos in mind, Siyamthanda was formed.

Mndaba's approach to community work centres on empowerment. This extends to the day-to-day work that Siyamthanda engages in and the networks Mndaba

is building with other NGOs within the sector.

He believes that the maintenance and improvement of the physical location of his community will preserve and enrich both the community and their land.

Future Siyamthanda projects include a series of educational drives to encourage better community management. Mndaba aims to educate his community about proper waste disposal. Following this, he plans to expand Siyamthanda's role from clean-up to landscaping.

Mental preparation, focus and full support of your colleagues, family and friends is the most important advice that Mndaba can give to anyone trying to make it within his field. To be an environmentalist, one needs to be hands-on, and this kind of approach will invariably lead to interactions with many people. Mndaba's values will lead the way.

- Tshiamo Seape

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**CLIMATE CHANGE** 

CHAMPS

they are the jobs of today.



Mokgadi Modise

#### **Mokgadi** Modise

Chief director, Energy Efficiency Projects @ Department of mineral resources and energy

Mokgadi Modise is chief director: clean energy in the department of mineral resources and energy.

rior to President Cyril Ramaphosa's merging of the two departments, Modise was the chief director of energy efficiency projects at the then department of energy.

Her current responsibilities include planning and co-ordinating initiatives and interventions focused on the development and improvement of the energy efficiency market; ensuring integration of energy efficiency initiatives with relevant associated institutions; conducting socioeconomic analyses; and monitoring the effectiveness of these initiatives.

Modise co-ordinates and oversees the work of the South African National Energy Development Institute, the state entity charged with facilitating renewable energy research coordination and collaboration, and the dissemination of national and international renewable energy knowledge contributing towards a sustainable low-carbon energy future. Modise's responsibilities also include co-ordinating the implementation of international energy agreements and compliance with the National Environmental Management Plan. "Energy efficiency is a cross-cutting function and therefore, whilst the department remains the policy lead, we have to work very closely with other mandated government institutions and the private sector, among other entities," she explains. "Simply put, we have to work with all the citizens as it also holds the individuals to be energy efficient in whatever we are doing, even in our private spaces." Modise began her career as a lecturer at what is now known as Capricorn TVET College in 1995 before heading back to university, where she obtained a master of science in water and environmental engineering degree. She joined the North West provincial department of agriculture, conservation and environment, then went on to hold positions in the Rustenburg Local Municipality and the departments of land and water affairs before joining the energy department in 2009.

— Sandiso Ngubane



#### Motheo Seleke

Head: business development and stakeholder partnerships @ Renewable Energy Entrepreneurs Forum (South Africa)

@Renewable Energy Entrepreneurs Forum - South Africa

"We empower people in the renewable energy space through business and employment, and we provide the means to study to remove barriers so they can grow in the industry.

otheo Seleke is a champion for the inclusion of emerging black clean energy entrepreneurs into the economic mainstream. He is a founding member of the Renewable Energy Entrepreneurs Forum (South Africa), also known as REEF(SA), an empowering national network that supports and develops a successful transition to clean to use solar and wind system solutions as reliable energy and affordable renewable energy, with a focus on previously disadvantaged communities.

"We advocate and lobby for accelerated economic inclusion, skills development and job creation," he says. "We empower people in the renewable energy space through business and employment, and we provide the means to study to remove

barriers so they can grow in the industry." Sustainability and clean energy have always been passion points for Seleke, who is an alumnus of the Wildlife Film Academy and also the founder of his own consultancy firm, EnergyBlue. The firm offers support for public and private sector clients who want sources. "An exciting project we're working on at the moment is an early adopter programme that helps the public sector solarise government buildings," says Seleke.

His main motivation is encouraging the participation of black emerging clean energy entrepreneurs — in the Northern Cape there are 59 Renewable Energy Power Producer



Procurement Programme (REI4P) projects alone. The REI4P is a government effort launched in 2011 with the primary goal of diversifying South Africa's energy mix.

In the future, he hopes to see diverse stakeholders make more of an effort to upskill black youth and women when it comes to clean energy installations, and the acceleration of rooftop solar power as an economic driver in South Africa's townships.

– Buntu Ngcuka





Senior engineer @ Council for Scientific and Industrial Research

"Every small step contributes to a more significant change."

umna Malik was a nominee in the Mail & Guardian are a part of." she adds. 00 Young South Africans awards 2019 for her work on a renewable energy project during her honours year at the University of Johannesburg in 2013. She continues her involvement with the Council of Scientific and Industrial Research as a senior engineer in the defence and security cluster. Her projects embrace the safety and security of all South Africans and range from anti-rhino poaching to renewable

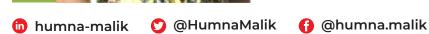
There is still a lot of work to do to have a "significant positive socioeconomic impact while helping to preserve our environment," says Malik. According to her, the most significant difference that we as individuals can make is a change of mind-set. The consequence of our every action should be continually evaluated. "There is a need to evaluate our actions to discover a synergy with the environment and ecosystems we

"We can no longer claim ignorance with the abundance of data and information we have available to us. When we begin to consider a greener future in our daily lives and change our little habits, these small efforts will add up to make a big difference." Malik is looking towards a greener future and hopes her career will provide the opportunity for her to make a considerable impact in creating a world that is safer, more secure and environmentally friendly.

"We are possibly the last generation with an opportunity to save the world. The notion that someone else will do it is our biggest threat. It is our responsibility to preserve and care for the planet

"Let's start small," she says "and save one starfish at a time!"

— Carol Chamberlain















Flying Drones over PV farms, climbing 100m high wind turbines to abseil off a blade, welding steel towers and casting concrete ones. Farming with fly larvae for protein, manufacturing batteries, working in the Hydrogen economy and controlling renewable energy projects on the other side of the planet. These are not the jobs of the future...

This year's Conference of the Parties (COP) represents the 26th such gathering of the United Nations Framework Convention on Climate Change (UNFCCC). Twenty-five years ago, when the first of these COP conferences had taken place, it may have been difficult to envisage the types of jobs that an evolving green economy would require.

As the world leaders prepare to gather in Glasgow for COP 26, and as economies all over the world attempt to #buildbackbetter in the wake of the Covid-19 pandemic, there is an emerging opportunity and imperative to prepare the youth of today for the incredible green economy job opportunities of today and tomorrow.

The 'Active Climate Change Citizenship for a Just Transition in South Africa' initiative (SA Climate Change Champs for short) aims to enable proactive, constructive and collaborative engagement by communities, women and youth in climate mitigation and adaptation. It will work to create capacity and awareness in the youth of the suite of opportunities in a green economy and the great career opportunities that the growing renewable energy industry in South Africa will bring.

The SA Climate Change Champs initiative, which was formally launched in October 2021, is funded by the European Union and implemented by GreenCape in partnership with the Friedrich Naumann Foundation.

who can effectively participate in democratic processes, and to enable communication with the government about their needs and priorities for climate mitigation and adaptation, with a particular focus on energy. By building capacity in a core group of civil

It sets out to build capacity and active citizens

**SA CLIMATE** 

**CHANGE CHAMPS** 

Enabling the youth of today

to take up green economic

opportunities of tomorrow

society organisations and community based organisations to train high school teachers and community organisations about renewable energy and climate change adaptations - this work will empower youth to understand and access the opportunities of today, while shaping the opportunities of tomorrow.

Working through the teachers, the project will reach at least 500 high school students so that they can share the economic, environmental and social benefits of renewable energy and the career opportunities available to them and their peers in South Africa.

Climate clubs and virtual networking platforms will be the mechanism for peer-to-peer learning and the foundation to build a community of young people that have a voice to influence national and local climate and energy policy. They'll take action at their schools and in their communities that will influence climate mitigation and adaptation.

The focus of #SA\_ClimateChamps is on urban and rural communities, women and youth in the Northern, Eastern and Western Cape. These are the communities and citizens that stand to benefit the most from a transition to cleaner and more sustainable energy, but whose voices are not currently adequately heard at national level and who may lack the knowledge, capacity and sense of agency to act locally.

> Find out more about the SA Climate Change Champs:







# South Africa secures R131-billion in pledges to kick-start energy transition

#### The plan is to decommission Eskom's coal-fired power stations and repurpose them for renewable energy

Patrick Wadula

egotiating with and lobbying developed countries to meet their commitments in assisting developing countries to reduce carbon emission and global warming at the United Nations Climate Change Conference (COP26) in Glasgow, Scotland is at the top of South Africa's agenda.

Barbara Creecy, Minister of Forestry, Fisheries and the Environment, is leading a high-powered South African delegation at the summit and they have already achieved positive results.

South Africa has secured R131-billion in pledges over three to five years from the European Union, Germany, France, the UK and the US, who have committed to support the country in its transition to clean, renewable energy. The plan is to decommission Eskom's coal-fired power stations and repurpose them for renewable energy.

The funding will take the form of grants, concessional loans, investment and risk-sharing instruments, as well as mobilising the private sector to reduce emissions, develop electric vehicles and implement green budges.

Celebrating the partnership, President Cyril Ramaphosa said: "Climate change is an existential challenge that confronts us all, and South Africa is committed to playing its part in reducing global emissions. The partnership that we have established is a watershed moment not only for our own just transition, but for the world as a whole. It is proof that we can take ambitious climate action while increasing our energy security, creating jobs and harnessing new opportunities for investment, with support from developed economies."

In a broader sense, Creecy says the Glasgow outcome has to be a package deal that advances the negotiations and all three aspects of the Paris Agreement, namely mitigation, adaptation, and the means of implementation of climate action.

For almost three decades, governments across the globe have met nearly every year to forge a global response to the climate emergency. Under the 1992 United Nations Framework Convention on Climate Change (UNFCCC), every country is treaty-bound to "avoid dangerous climate change" and to find ways to reduce greenhouse gas emissions globally in an equitable way.

Over the years, the summit has swung between fractious and soporific, interspersed with moments of high drama, occasional triumph (the Paris agreement in 2015) and disaster (Copenhagen in 2009).

The COP26 summit was postponed by a year due to Covid-19 and is being viewed by many as pivotal to saving the planet from the continued negative effects of climate change. It aims to curb emissions, negotiate how best to ensure global average temperature increases stay below 1.5°C, reduce coal use, establish rules for a global carbon market, and raise billions in climate finance.

Temperatures around the world are about 1.1 – 1.2°C above pre-industrial levels, and greenhouse gas emissions are still on an upward trend. Carbon dioxide output plunged globally during the Covid-19 lockdowns last year, but this was temporary and has begun to surge as economies recover. To stay within the 1.5°C goal, global emissions need to come down by about 7% a year for this decade.

Since the Paris Accord in 2015, scientists have issued increasingly urgent warnings that the goal of 1.5°C is slipping out of reach. To meet this target, global emissions must decline 45% by 2030 from 2010 levels and reach net zero by 2050. This requires enormous changes to countries' transport systems, energy production, manufacturing, and farming.

Creecy said that as part of a \$2.5-million (R38.5 million) allocation from the Clean Technology Fund, South Africa secured \$1-million (R15.4-million) to develop a just transition investment plan.

"The focus of this investment plan is the Eskom energy transition, including the repowering and repurposing of retiring coal plants and investment in new low carbon generation capacity.

"We hope to use the informal side meetings that take place at COP26 to generate further interest in supporting the country's Just Transition to a low carbon economy and climate-resilient society," Creecy said.

The Green Climate Fund, which aims to respond to and invest in climate-resilient developments, is skewed towards mitigation efforts, which limits adaptation efforts and has received less than \$5.5-billion (R84.6-billion) a year between 2014 and 2018.

She said there would be discussions with the global Climate Investment Funds (CIF) to broker a deal that could release up to \$500-million (R7.7-billion) to fund a shift away from coal-fired power.

"We see the decision by the CIF as a small but important first step towards laying the foundation for ... our just transition," she said.

More than 10 years ago, developed nations pledged that by 2020 they would raise \$100-billion (R1.5-trillion) each year to assist developing nations transition to cleaner energy.

The pledge has not been met and developing countries are increasingly frustrated with



Barbara Creecy, Minister of Forestry, Fisheries and the Environment

the feeling of not being taken seriously and being set up for failure in meeting their own commitments to reduce global gas emissions.

South Africa produces more than threequarters of its electricity and more than a quarter of its liquid fuels for transport from coal, making it the world's 12th-largest greenhouse gas emitter and fourth most carbon-intensive economy.

According to the Organisation for Economic Co-operation and Development, the total global climate finance was \$79.6-billion (R1.2-trillion) in 2019, an increase of just 2% from 2018

Creecy said it was important that developing and developed nations re-establish trust between them by ensuring that financial commitments are honoured, adding that the promise of \$100-billion (R1.5-trillion) a year needed to be increased to \$750-billion (R11.5-trillion) a year after 2025.

The conference needed to secure more "ambitious pledges" to further cut emissions, lock in billions in climate finance and complete

the rules to implement the Paris Agreement with the unanimous consent of the nearly 200 signatories.

Economic pressures and travel bans due to Covid-19 have exacerbated the divide between wealthier and poorer nations, and has meant that some representatives cannot attend COP26.

This has meant that the conference is not well attended and already the United Nations, the UK and the US have conceded that COP26 will not achieve its goals.

One of the key issues now is to ensure that the talks run smoothly. COP15 in Copenhagen (2009) was widely perceived as a failure, although it produced a partial agreement that became the foundation for Paris. The hope is that, obvious COP26 challenges aside, a clear road map will be drawn up that can keep the world from exceeding the 1.5°C goal.

## **GREEN ECONOMY TO CREATE JOBS AND ENHANCE GROWTH**

Eskom hopes to unlock R150-billion in green financing from international development agencies to finance its transition from coal to renewable energy

Charles Molele

nvestment in the green economy and green technologies will be one of the key topics that the South African government is set to discuss at the COP26 conference in Glasgow, cotland

Investors are already reluctant to invest in fossil fuels, posing a huge economic risk for South Africa, Africa and other developing countries. Whether it is cutting energy costs or reducing its carbon footprint, the pressure for businesses to adopt green practices is high, and it is only going to grow.

According to conservative estimates, most African countries are by 2030 projected to lose between 2% and 5% of gross domestic product to climate change, which will impact heavily on economies.

In a recent weekly newsletter, President Cyril Ramaphosa said South Africa needed to act with urgency to reduce its greenhouse gas emissions and create a low carbon economy.

Ramaphosa warned that the country could face major trade barriers unless it transitions to a low-carbon economy at a much faster pace. The government argues that the green economy opens access to new green financing opportunities — including the possibility of significant job creation. The green industries also form part of the key components of the country's Economic Reconstruction and Recovery

The Covid-19 economic stimulus packages and recovery plans that

governments across the world are now putting in place have the potential to create a revival that is both green and inclusive. This has the potential to create income opportunities, job creation and growth, at the same time accelerating action on the medium- and long-term environmental goals, nationally and globally.

South Africa is serious in its pursuit of "green industrialisation" by shifting into areas such as green hydrogen and electric vehicle production. The green industries also form part of the key components of

the country's Economic Reconstruction and

Ramaphosa last month unveiled the new line of vehicles from Japanese auto manufacturing giant Toyota at the Prospecton plant south of Durban in KwaZulu-Natal. The newly-launched production line includes a hybrid model, the Corolla Cross, which is fuel and battery operated and will be exported to 40 countries across Africa.

"We have called on leaders of developed economies to support South Africa's efforts to green our economy and to address our very ambitious climate change goals through equally ambitious grant and concessional funding support. We have identified three key priorities for climate action," Ramaphosa said.

He said the government will also focus on reducing Eskom's carbon emissions to accelerate plans for a green-hydrogen economy. Eskom is hoping to unlock about R150-billion in green financing from international development agencies to finance a transition from coal to renewable

energy. The state-owned entity is pursuing a Just Energy Transition (JET) strategy to accelerate the repurposing and repowering of power stations to grow renewable energy in line with the Integrated Resource Plan of 2019. Eskom is the country's largest greenhouse gas emitter and has committed in principle to net-zero carbon emission by 2050, which means shutting down its coal-fired power stations.

Change is coming in other sectors too. Sasol recently announced a first-of-its-kind memorandum of agreement with the Northern Cape government to conduct a two-year feasibility study for a landmark green hydrogen project in Boegoebaai.

Priscillah Mabelane, Sasol's vice-

president for Energy Business, said this project could potentially produce at least 400kt of hydrogen every year. The project underpins the province's Green Hydrogen strategy, a precursor to the country's Green Hydrogen strategy.

"A project of this magnitude has the potential to create up to 6 000 direct jobs, generating much needed socioeconomic

benefits, including creating further indirect jobs across the ecosystem. We are very excited to be leading this feasibility study as part of unlocking South Africa's ambition to be a global green hydrogen export player," she said.

The move towards the use of hydrogen — which only emits water vapour when used — has been globally hampered by the need to burn fossil fuels when extracting it.

COP26 is a critical pivot point for South African businesses, which operate in an economy that is one of the most coal-dependent in the world. The Climate Change Bill demonstrates South Africa's commitment to Carbon Tax and so does its move towards raising to 100MW the embedded generation threshold.

According to surveys, the Organisation for Economic Co-operation and Development says that the impact of Covid-19 has had some positive results. The pandemic has raised the public consciousness and the idea that our lives and the planet's are precious. This has led to the integration of



South Africa has one of the most coaldependent economies in the world, but the government is making an effort to introduce green initiatives

environmental and inclusiveness views into recovery and stimulus measures, allowing countries to meet their environmental goals and commitments as they continue to grow.



# Our critical role in global climate battle

South Africa is already experiencing the effects of climate change, and inconsistencies in law, policy and planning must be rectified

Lucas Ledwaba

very year in early October, villagers
would begin preparing their fields
in anticipation of the annual rains,
reminisces subsistence farmer
Jantjie Ramokone.

After the rains, they would use oxen to plough their patches of land. There was one hectare per household on the outskirts of the village as allocated by the traditional authority.

The villagers cultivated sorghum, millet, mealies, melons, beans, morogo, sweet potatoes, pumpkin and other crops. They also tended cattle and goats to provide milk. During the rainy season, the veld around the village teemed with wild fruit that supplemented their diets.

"That was our way of life. We were farming so that we could eat. We never bought food. We ate what we produced," he said.

"It was an exciting time. We would be walking to the fields, singing, calling each other to go work the land because the rain was coming," reminisced 68-year-old Ramokone with a smile.

This was a way of life in most rural parts of the country where communities produced their own food and relied less on buying from local retailers. But changing weather patterns resulting from climate change are slowly bringing an end to this traditional way of life and endangering food security.

Small-scale farmers with fewer resources have been hit hard by unusual weather patterns. Experts predict the trend will continue if nothing is done to mitigate the effects of climate change.

Peter Johnston, Climate Scientist and Researcher at the University of Cape Town, noted in an article published by UCT: "The threat of changing rainfall seasons leading to shifting rainfall dates plays havoc with planting dates and crop management. Wideranging crop yield reductions may not affect a country with access to grain imports, but many countries with a large subsistence agricultural base face severe food shortages when crops fail."

In March this year, cabinet approved the updated draft of the Nationally Determined Contribution (NDC), the cornerstone of the country's climate change response.

The NDC is South Africa's commitment to the global climate change effort in terms of the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement, of which South Africa is a signatory.

Under the Paris Agreement — a legally binding international treaty on climate change adopted by 196 parties at the Conference of the Parties (COP21) in Paris in 2015 — all parties are required to prepare, communicate and maintain successive NDCs every five years. South Africa's first NDC with the UNFCCC was published in October 2015.

South Africa has described the Paris Agreement as "a political landmark" and "a remarkable turning point for climate action,



## South Africa has committed to reducing its emissions. Climate change has already affected communities that relied upon traditional small-scale farming

sending a clear signal that a low carbon and climate-resilient world is inevitable".

The Paris Agreement's three fundamental aims are to keep the global average temperature increase "to well below 2 °C above pre-industrial levels and pursue efforts to limit it to 1.5 °C". This will "foster climate resilience and low greenhouse-gas emissions development, without threatening food production and establishing means of finance to achieve these goals".

South Africa's obligations under the Paris Agreement include the mobilisation of financial resources and capacity building to implement the NDCs.

The country is also obliged to ensure that

there is institutional memory for the reporting cycles (every five years) and to ensure that there are adequate institutional arrangements for planning, preparing and submitting NDCs every five years.

Barbara Creecy, Minister of Forestry, Fisheries and the Environment, has called for a resolution on the setting of common timeframes for NDCs. Creecy said South Africa has a five-year timeframe, which is in line with Africa's position of not locking in low emissions over a long period.

"The Glasgow outcome should be a package deal that advances the negotiations and all three aspects of the Paris Agreement, namely mitigation, adaptation and the means of implementation of climate action. South Africa stands ready to play a constructive role in the success of COP26," Creecy said.

The department has argued that it already has a well-developed base for mitigating climate change and building climate resilience in its Near-Term Priority Flagship

Programmes, which are strategic, large-scale measures of national significance.

"They are the game-changers in South

Africa's climate change response landscape and represent the low-hanging fruit that can potentially catalyse South Africa's long-term climate action."

According to the department, many components of these programmes have been

components of these programmes have been implemented with notable success and signify remarkably bold steps towards a low carbon and climate-resilient economy and society.

"The NCCRP gives effect to the Flagship

response policy."

Creecy noted the impact of climate change and the country's responsibility towards

Programmes and recognises them as an

integral part of South Africa's climate change

and the country's responsibility towards fighting its implications.
"South Africa is among the many vulnerable developing countries that are already

developing countries that are already experiencing the impacts of climate change. This is evident from the increased frequency of extreme weather conditions such as floods, droughts and heatwaves that threaten lives, food security and infrastructure," Creecy said.

"It is crucial for South Africa and Africa

as a whole, to see adaptation treated in a balanced manner at COP26 and to be on the agenda in Glasgow and implemented thereafter. We hope to use the informal side meetings that take place at COP26 to generate further interest in supporting the country's just transition to a low carbon economy and climate-resilient society," she said.

South Africa is a signatory of the UNFCC and the Kyoto Protocol, which legally binds developed countries to reduce their greenhouse gas emissions by 5.2% below the

1990 levels by 2012. South Africa signed the 1997 initiative in 2002, and it entered into force in 2005.

Creecy said South Africa's adaptation communication in line with the Paris Agreement outlines five goals, articulates the efforts that are to be implemented, and details the associated costs for the period 2021 to 2030.

"The adaptation communication will enable support for key sectors that are affected by the impact of climate change, including human settlements, agriculture, water and energy. It will also affirm the leadership role which South Africa has played in the international climate regime on adaptation," she said.

Following the adoption of the Paris Agreement, the Southern African Catholic Bishops' Conference through its Parliamentary Liaison Office, noted that South Africa is dealing with a new kind of agreement. "Inconsistencies in law, policy and planning must be rectified; and a balance must be struck between the imperatives of mitigating climate change on the one hand, and adapting to it on the other."

Creecy vowed that South Africa "goes to Glasgow (COP26) with a clear mandate to negotiate for the full implementation of the UNFCC and the Paris Agreement, including the global goals on mitigation, adaptation and support for developing countries, to avoid the worst impacts of climate change on our people and the environment".

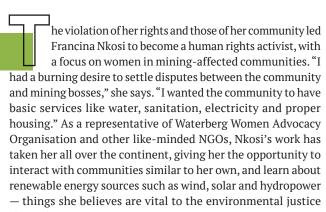
With such determination and zeal, perhaps another generation of subsistence farmers who can depend on the weather patterns will emerge.



#### Francina Nkosi

Human rights activist @ Waterberg Women Advocacy Organisation

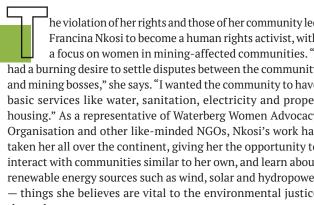
"I had a burning desire to settle disputes between the community and mining bosses," Francina Nkosi says. "I wanted the community to have basic services like water, sanitation, electricity and proper housing."



Nkosi sits on the steering committee for WoMin African Alliance, a Johannesburg-based NGO comprising women activists, communities, organisations and movements aiming While she does concern herself with the broader community, it is the voices of women that she specifically strives to represent. "As women, our roles often make us uneven users of natural resources such as water and firewood, and yet women face more risks and a greater burden from the impact of climate change caused by poverty, which is why I say energy is a women's issue." Advocating for women's rights and equal participation in formal decision-making is challenging, according to Nkosi, who says her advocacy has often led to intimidation and threats. Still, she remains steadfast and undeterred. "In South Africa, we have good policies which are not implemented. This country is rich with minerals, but we need to adopt a just transition to renewable energy sources that will lead to sustainable jobs,"

Gram Jackson () @Arcosud

Founder and director @ Africa Regional



for political convergence on the issues she cares about.

— Sandiso Ngubane

Understanding where humanity comes from, and the fact that our health depends on the health of the environment, is where sustainability starts.

he Africa Regional Coalition for Sustainable Development (Arcosud) is an NPO based in Gauteng that promotes sustainable development in marginalised communities across southern Africa. The organisation works to create healthier communities through environmental education, skills development support and technology resources with the intention to create behavioural changes that will prevent diseases and reduce poverty, while increasing sustainability practices. All projects are based on permaculture principles, earth care and economic resilience.

francina Emly Nkosi

"We believe that if we take care of the environment, the same environment will be able to take care of us, and as we reap the benefits of working in harmony with the environment, we will be more

**Sandiswa** Qayi

"Conserve, renew and reuse."

Managing director @ AET AFRICA

andiswa Qayi is an entrepreneur and one of three

on conservation and energy efficiency.

AET AFRICA, an East London-based

company established in 2012, is at

the forefront of manufacturing and

supplying clean technology products

n AETAFRICA 🔰 @sqayi88

and components

that "talk to the African condition".

According to

Qayi, export

technologies are

not designed

for Africa's

unique

co-founders of a business focused

Jackson studied phytotherapy, natural resources management and permaculture designing. "I believe that human beings are organic beings we came from the ground, and all the nutrients and vital minerals we need to nourish ourselves, heal ourselves or even prevent infections are found in the ground." This drives him to initiate programmes that work towards greening communities. "Our health depends on the health of the environment, This gives me the zeal to preach about the need to conserve our environment," says

For Arcosud, greening the future means taking action as governments, organisations and individuals to reverse the effects of humanity's actions on the

environment, making them ineffective and expensive to maintain. Their slogan "conserve, renew and reuse" shows their commitment to sustainablility, and Qayi

is determined to keep it that way.

Qayi and her partners have been actively researching and developing energy efficiency products in an effort to cut operational costs for users. The awardwinning Hotspot is one such product: launched in 2018, the retrofitted geyser sleeve provides faster, longer-lasting hot water and uses 27% less energy. AET AFRICA is currently testing the Heat Raider, a pioneering product designed to harness heat waste emitted from cooling appliances such as refrigerators. The concept came from one of the business partners who was accidently burnt while repairing a fridge. AET AFRICA currently has six prototypes installed and expects to get their product to market by 2022. Qayi grew up in a rural village without electricity, so energy conservation has always been a part of her life. For some, conservation is already a way of life, but we should all be thinking

about it in terms of how we live, she

believes. "The challenge is to maintain

focus on conservation. We need

to educate." — Carol Chamberlain

productive, resilient and sustainable," savs Arcosud founder, Gram Jackson. down trees for various reasons, poisoning the environment with chemicals and causing erosion of our precious topsoil as a result of conventional farming methods. All these actions have left the earth in a barren state and now we are forced to redress the situation and bring back life to our planet."

- Alexandra van Nieuwenhuizen





The National Cleaner Production Centre South Africa (NCPC-SA) has developed a Global Eco-Industrial Parks Programme (GEIPP) toolkit for South African park management and tenant companies looking to thrive post Covid-19. Eco-industrial

Interconnected businesses that implement EIP principles create more resource investment, and are risk resilient:

parks (EIPs) are the future of industry's resilience, and ultimate survival.

- By efficiently sharing resources i.e. information, water, materials, energy, and even waste, tenant companies generate new business opportunities.
- Through the industrial symbiosis exchange of waste or materials, tenant companies create mutually beneficial economic opportunities.
- Industrial park management elevate their service offerings by providing EIP added value services to their tenants to increase their productivity and competitiveness.

the dtic and the NCPC-SA, in partnership with UNIDO, launched the GEIPP in 2020.

For more information email ncpc@csir.co.za or visit www.ncpc.co.za to download the GEIPP toolkit.





#### GREEN BUILDING





@Balwin Properties

#### **Steve** Brookes

Founder and chief executive @ Balwin Properties

"When I started at Balwin, we were driven by financial security. We now want to be known as the most environmentally-friendly development company in the world."

n 1996, Steve Brookes founded Balwin Properties in Johannesburg. Twenty-five years later, Balwin Properties owns, sells and rents property across the country. "My latest journey has been becoming a grandfather," Brookes says, "and it's made me realise that the generational wealth of this country is in sustainability."

Today, Brookes is a board member of the Green Building Council of South Africa (GBCSA) — one of 75 councils that form part of the World Green Building Council. The GBCSA issues the internationally recognised certification, Edge (excellence in design for greater efficiencies), which sets sustainable building standards such as water and energy consumption reduction. Apart from promoting green building and architecture, the GBCSA also provides training in green building techniques, offering courses and webinars.

"When I started at Balwin, we were driven by financial security. We now want to be known as the most environmentally friendly development company in the world," Brookes explains. He believes that it is "fundamental" that our homes should enable

us to live in harmony with the environment around us, and his beliefs on sustainability are evident in Balwin's practices. It is mandatory for all new properties to receive an Edge certificate and Balwin has negotiated with banks to provide preferential home loan rates to those whose homes are Edge certified.

Brookes has imbued his company with an identity that has made it a fixture in South Africa's green economy. "There is no difference between how I view sustainability personally and professionally — if you are passionate about it, it makes no difference. What we do with my family is exactly in line with what we are doing at Balwin," Brookes says.

#### **Marloes** Reinink

Founder @ Solid Green Consulting

in Marloes Reinink

Marloes Reinink is involved in the Living Building Challenge, the most aspirational certification for sustainable building. About 105% of the buildings' annual energy consumption is generated on site. They're also net water, meaning they use rainwater, and wastewater is treated and reused.

einink is the founder of Solid Green, a successful green building consultancy that's been involved in the Green Star certification of more than 130 buildings. She came to South Africa as an exchange student at the University of Pretoria in 2002 and returned for her master's one year later. "I focused on sustainable school buildings in rural areas, in collaboration with the Council for Scientific and Industrial Research (CSIR) on 11 schools across the country," she says. "I moved back to South Africa permanently in 2005 to work for the CSIR and enrolled

for another master's at Wits concerning energy efficiency rainwater, and wastewater is treated and reused. labelling programmes for commercial buildings."

In 2007, she joined Green by Design and in 2008, along with the Green Building Council of South Africa, worked on the first Green Star ratings in South Africa. She founded Solid Green in 2010, which now has a team of 17.

Reinink is also involved in the Living Building Challenge, the most aspirational certification for sustainable building. About 105% of the buildings' annual energy consumption is generated on site. They're also net water, meaning they use

She enjoys motivating the youth: "I teamed up with Michelle Ludwig to start a company called GreenED, in which we develop online content and courses that teach people in the industry about sustainability. We try to make it practical and interesting so the learning becomes fun and easy to apply. All our courses are freely available on our website."

— Buntu Ngcuka



#### **Georgina** Smit

Technical specialist, market transformation strategist and head of training, certification and research @ Green Building Council South Africa

GBCSA strives for a world in which both people and the planet thrive.

eorgina Smit is a technical specialist, market transformation strategist and head of training, certification and research at Green Building Council South Africa (GBCSA). GBCSA is determined to transform South Africa's built environment into a place where people and the planet thrive. They are currently achieving this through certification of buildings, training of people, collaborations to further research and advocacy to raise awareness of green building and broader climate change issues. GBCSA is part of the World Green Building Council (WGBC) Advancing Net Zero programme, which supports and advocates for ambitious CO<sup>2</sup> emissions target reductions. Smit says: "Our aim is to have all new buildings designed for net zero carbon by 2030, and we are aiming to have all buildings be net zero carbon by 2050 — no small task!" The built environment accounts for approximately a third of all global carbon emissions. "While it is

a part of the problem, it is also a huge opportunity as a solution," says Smit. Green building makes use of available designs to address a wide range of environmental issues, including carbon emissions, water saving, responsible material procurement, improved indoor quality and protection of biodiversity. When designed correctly, green buildings can significantly reduce environmental impacts and in some cases even mitigate the impact to create a net zero effect. For Smit, greening the future means making green buildings accessible to all types of sectors and building users in South Africa. "This involves increasing the understanding among South Africans of why green buildings are good for your health and the wellbeing of the environment, and make financial sense." The organisation has integrated a strong training component into it's projects, which helps to develop the sector and upskill built environment professionals.

— Alexandra van Nieuwenhuizen







Inspiring a built environment where people and the planet thrive.







n Rest Kanju

#### **Rest** Kanju

Executive director @ Indalo Inclusive

By supporting young eco-entrepreneurs, Rest Kanju is creating a more inclusive economy with a focus on sustainability.

est Kanju is the executive director and head of operations for Indalo Inclusive, an NPO created with the goal of supporting ecofriendly and sustainable entrepreneurship in South Africa. In isiZulu, Indalo can be translated as either "creation" or "nature". The organisation specialises in the strengthening of eco-inclusive entrepreneurship, providing a platform for young business people eager to solve the unprecedented challenges that the climate crisis presents. Through its Climate Launchpad Competition, Indalo gives young cleantech entrepreneurs opportunities to start their own businesses.

Kanju was born in Bushbuckridge in Acornhoek, Mpumalanga, where he began his work in the green space at Magwagwaza High School. As a pioneer of the environmental movement within his community, he established eco-clubs at several schools in his town prior to 1994. His expertise has guided Indalo since its founding in 2017; it has incubated 83 eco-inclusive start-ups to date.

Indalo has trained 50 entrepreneurs within rural communities since its establishment, helping them create solutions that work for their own communities. These "Indalopreneurs" are economic actors who put positive environmental and societal impact first.

Indalo Inclusive is a collaborative effort. Outside of its own team, it has partnered with South African brands such as Nedbank and Old Mutual, and government and international bodies, including the department of forestry, fisheries and environment and the UN Environment Programme. These bonds have helped the organisation to create the foundation for a truly inclusive green economy within the country, one where environmental and social effects are measured equally, if not above, economic impact. Indalo Inclusive and Rest Kanju are helping to ensure South Africa's natural spoils are supported as our nation's economy blooms.

- James Nash

#### The Ridge

The V&A Waterfront

Energy performance was fully integrated into The Ridge building's design, which maximises natural light and ventilation, and manages water and waste resources efficiently.

he Ridge is the V&A Waterfront's third six-star Green Star-rated building. The new building was designed to meet and exceed the accommodation requirements of global consulting giant, Deloitte, which has commissioned the building for its Cape Town regional office.

This landmark building consists of progressive design elements customised to house its occupants in a productive, sustainable and energy-efficient manner.

It was designed to reduce building energy and water consumption on an ongoing basis. The developers achieved this by incorporating features such as natural ventilation, a thermally activated building structure (TABS) and displacement ventilation.

"Every time we build, we want to do it sustainably — The Ridge has been designed as a world-class living, breathing building," says Mark Noble, project leader and development director at the V&A Waterfront. With TABS operational, the building has the potential to naturally ventilate for up to 85% of the year, resulting in a direct saving in air-conditioning

Another standout feature of The Ridge is the "zigzag" exterior. This is the first instance where cross-laminated timber (CLT) has been used in the façade of a commercial building in South Africa. Far from being a whimsical design feature, the purpose of the timber zigzag is to reduce the carbon footprint of the building. Timber, including CLT, has a substantially lower energy and carbon footprint than any of the other traditional



cladding systems, including aluminium, glass and concrete.

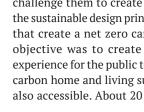
The Ridge used an estimated 12 000 "ecobricks". These are plastic waste-filled bottles — specifically the two-litre cool drink type bottles — used as void forming materials for non-load-bearing concrete elements. The downstream environmental and carbon-reduction considerations of this action are significant.

– Neo Khanvile



m Mary Haw @CityofCT @CityofCT





#### **Mary** Haw

Energy efficiency and renewable energy facilitation manager @ City of Cape Town

"We wanted to create an opportunity to engage with students and professionals of the built environment, to challenge them to create a model home that demonstrates the sustainable design principles, technologies and behaviours that create a net zero carbon home."

he My Clean Green Home project came about through the realisation that buildings present a significant opportunity to lower carbon emissions; they consume almost a quarter of Cape Town's total energy and are responsible for the largest proportion of its total carbon emissions.

"In partnership with the Green Building Council of South Africa, we wanted to create an opportunity to engage with students and professionals of the built environment to challenge them to create a model home that demonstrates the sustainable design principles, technologies and behaviours that create a net zero carbon home," says Mary Haw. The objective was to create a life-size, physical interactive experience for the public to see for themselves that a net zero carbon home and living sustainably is not only feasible, but also accessible. About 20 teams of architects, students and

professionals submitted their own take on the net zero carbon brief, incorporating elements of spatial efficiency, daylighting and ventilation, renewable energy, material choices and water efficiency. The winning design from Team Mahali was particularly impressive because of their incorporation of reused and upcycled materials. Two shipping containers are used for the main living areas, and the encompassing shading structure is made out of recycled wooden pallets — both of which are readily available in Cape Town.

"I am most proud when witnessing the epiphany on visitors' faces when they engage with My Clean Green Home and say, oh wow, I can do this in my home, Haw says.

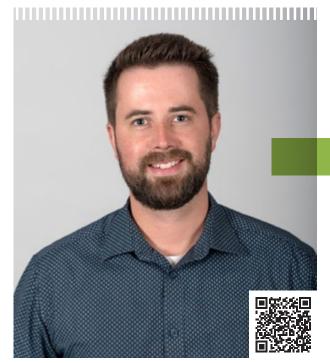
The My Clean Green Home exhibit is now permanently based in Green Point Urban Park.

Neo Khanvile

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(i) @Green Economy Skills Development in Atlantis

#### Jack Radmore

Energy and climate finance programme manager @ GreenCape

"Combining energy innovations with informal settlement upgrading gives us the opportunity to eradicate some of the unnecessary challenges faced by energy-poor South Africans."

ack Radmore is passionate about the green economy and uncompromising in his aim to provide energy to those who need it most.

A master's degree in economics and sustainable development led to his current role as the energy programme manager at GreenCape — an organisation that drives the widespread adoption of economically viable green economy solutions from the Western Cape, with hopes of expanding throughout the developing world in the next five years. At GreenCape, Radmore is responsible for managing the strategic direction of the company's renewable energy-related activities in South Africa and around the continent. He advises key local, provincial and national government organisations on how green infrastructure can best interface with government institutions, businesses and academia. Through his work, he has identified and removed barriers to economically viable energy and energy efficient interventions.

GreenCape has helped facilitate and support investments to the value of R42-billion in renewable energy projects and manufacturing.

From these investments, more than 19 000 local jobs have been created. Radmore has also developed and is leading South Africa's first dedicated off-grid management unit to provide energy services to impoverished off-grid communities in South Africa. The unit is currently servicing three sites and empowering more than 6 000 people. "Combining energy innovations with informal settlement upgrading gives us the opportunity to help with eradicating some of the unnecessary challenges faced by energy-poor South Africans," he says.

Radmore is currently hosting the 2021 climate finance accelerator (CFA) workshop. The CFA has announced 13 innovative low-carbon projects that it will support to access finance from investors following a call for proposals that attracted 120 applications. The CFA is part of the UK government's efforts to help South Africa tackle climate change through a transition to greener technologies.

— Tshiamo Seape

#### Siyanda Siko

Country coordinator @ Partnership for Action on Green Economy

🕥 @siya\_siko 🚺 @Siyanda Nzuzo Siko 🛅 Siyanda Siko

For the past seven years, Siyanda Siko has been South Africa's country coordinator for the UN Partnership for Action on Green Economy (Page). Through Page, Siko facilitates programmes that attempt to guide South Africa towards a greener and more sustainable future.

outh Africa joined Page in 2015 as a means of green recovery modelling project and the Imvelisi supporting the country's transition to a low carbon, resource efficient and pro-employment development plan. Its three primary objectives are to encourage increased collaboration and coordination in developing green policy and planning, to identify and enable sector reform where necessary while empowering existing green economy sectors, and to increase green economy training and understanding through knowledge sharing and partnerships with national learning institutions. Through these objectives, Page seeks to assist in the eradication of poverty, encourage job creation and social equity, improve livelihoods, and support environmental stewardship and sustainable growth.

enviropreneur programme. The post-Covid-19 green



recovery modelling project was centred on developing strategies to temper the socioeconomic impacts of Covid-19. Page South Africa took part in a rapid modelling exercise in which analysts from around the world compared Recent Page projects led by Siko include the post-Covid-19 recovery packages from different countries to understand

both immediate and long-term effects. The intention of the modelling exercise was to provide insight and technical support for greening South Africa's economic

The Imvelisi enviropreneur programme focuses on helping transform green business ideas into workable business proposals that can be presented to and supported by incubators and funders. Through education, mentoring, networking and a boot camp, the programme seeks to create opportunities for environmental entrepreneurs to develop green solutions for socioeconomic problems, especially in the wake of the Covid-19 pandemic.

— Anita Makgetla



#### **Candice** Stevens

Chair @ Sustainable Landscape Finance Coalition, Head of innovative finance and policy @ Wilderness Foundation Africa

Everyone has a unique combination of skills and passions that make them perfectly suited to fill a gap – you just have to find the gap that you can perfectly fill.

andice Stevens decided that the most effective way she could help protect our natural resources was to find financial solutions for conservation. She is the chair of the Sustainable Landscape Finance Coalition (SLFC), a collaboration between the Wilderness Foundation Africa and the World Wide Fund for Nature (WWF), through which she finds nuanced solutions to varied ecological obstacles.

Stevens studied law and finance, and specialised in tax and tax law, but decided to rededicate her time and energy. The SLFC has six projects in incubation, which include two separate tax incentives for the protection and management of endangered species, a carbon payments system tailored for our grassland  $biospheres, biodiversity offsets, municipal\ property\ rebates\ for$ greening cities and debt solutions for conservation institutes.

The project that has gone to scale is the 37D biodiversity tax incentive, which allows citizens to claim tax back on land that is declared a national reserve or park. It is introducing \$83-million in new finance to South Africa's protected areas and has garnered international recognition.



#### 

### INDALOPRENEUR FLAGSHIP AWARDS PROGRAMME CALLS ON YOUTH-LED ENTREPRENEURIAL INNOVATIONS FOR CLIMATE ACTION







The SAYCIA awards programme aims to identify 26 innovative solutions brought forward by the youth of South Africa

overty, unemployment and inequality are some of the greatest challenges of our time. This is exacerbated by the additional threat posed by climate change. There can be no neutral position when it comes to climate action. No one can stand on the side-lines or remain impassive before this issue. For this reason, Indalo Inclusive South Africa has made its own mandate to support green, inclusive and responsible

This is also because young people will have to spend a significant portion of their lives dealing with the impact of climate change. Therefore, there is a need to equip the youth with knowledge and skills to tackle this challenge.

The United Nations Framework Convention on Climate Change Conference of Parties (UNFCCC COP26) hosted

by the United Kingdom in Glasgow from 31 October to 12 November, brings together leaders, negotiators, climate experts, civil society, companies and people on the frontline of climate change to adopt harmonised action for tackling the global climate crisis. This is also the first COP meeting to be held since the coronavirus pandemic began, and the largest gathering of world leaders ever hosted by the United Kingdom.

With an objective to increase expose young people to climate-smart and inclusive innovations, Indalo Inclusive partnered with the British High Commission South Africa Country office and the Mail & Guardian as official media partner to develop and green entrepreneurial innovations with a focus on youth-driven solutions through the South African Youth Climate Innovation Awards (SAYCIA)



which will strengthen economic security while accelerating climate action

The SAYCIA awards programme aims to identify 26 innovative solutions brought forward by the youth of South Africa and will focus on the thematic areas of:

- Water
- Energy
- Waste



within and across these different sectors. We realise that the opportunities presented are significant, and the risks of inaction are profound. From energy to waste, these are the transitions that will define South Africa's green economy over the next decade. Most importantly, Indalo and its partners believe that while the attention now is on COP26, it is important that we think beyond this two-week event and begin to focus on the day after the conference a sustainable green economy, greater is adjourned. Investments and urgent action through innovation are required to begin to address and reverse the impact of climate change for vulnerable

The SAYCIA awards programme launched on 29 October 2021. The awards programme will provide a platform to profile these 26 entrepreneurs and their innovations, which bring solutions of mitigation and adaptation to climate change within their community and ultimately the broader South Africa landscape

**The programme will explore systemic pathways** Furthermore, Indalo will convene a dialogue series amongst the South African youth which will enable us to delve deeper into the challenges that are facing the young people. Ultimately our goal is for policymakers and ecosystem players to become more familiar with the issues raised and these will hopefully influence both increased technical support and investment focus. To create truly transformational change and accelerate the transition to co-operation, collaboration, and cross-sector partnerships between governments, investors and young entrepreneurs must be forged.

If we are to meet our climate change objectives then we must ensure that all voices are heard, we cannot achieve transformation without them. The dialogue series will bring together action- focused youth to challenge the limits of past thinking and call on their knowledge, experiences, and creative innovative ideas to develop grassroots solutions and effective climate action.

The key objective of the youth climate innovation dialogues series is to foster thinking and how we can take a new approach in tackling climate change challenges. We need to re-think our relationship with nature, shift human behaviours, and reimagine the vital systems that underpin our societies.

We have witnessed the youth in their response by demanding leaders to address the climate crisis while improving living standards. Young people are calling for renewable energy, green jobs, and climate finance that open new opportunities to strengthen economic security while accelerating climate action. And so, Indalo's commitment to showcase 26 young innovators from across South Africa.

Ultimately, this initiative should lead into demonstrable and replicable enterprise models which could attract Green Finance investments that can be measureable beyond Cop26 and in the lead up to Cop27.

Applications can be submitted via Indaloelearning.org.za before 19 November 2021.

For more information email info@indaloinclusive.org.za or call 012 844 0135

VISIT **INDALOINCLUSIVE.ORG.ZA** TO READ MORE ABOUT INDALO'S IMPLEMENTING PROGRAMMES.



## **ACTIVE OWNERSHIP TO UNDERPIN SA'S TRANSITION TO NET ZERO**

Norkers employed in the fossil fuel economic value hain will need to be reskilled, but there's potential for illions of new jobs

By Tebogo Naledi, MD of Old Mutual Investment Group

t is almost impossible nowadays for an asset manager to talk about capital allocation without touching on critical issues about impact investing and sustainability. One of the most urgent issues within the Environmental, Social and Governance (ESG) arena, and an issue that impact and responsible investors are increasingly incorporating into their investment decisions, is the recognition of climate change risk as a potentially catastrophic factor for the world's collective future.

There is growing recognition that investing for impact is a non-negotiable component in achieving both the United Nations' Sustainable Development Goals by 2030, and the tough carbon emissions reductions set at the various UN Climate Change Conferences to achieve net zero by 2050. Yet while the world must transition towards net zero carbon emissions to ward off the impending climate change disaster, there is also acknowledgement globally that there needs to be a just transition that decarbonises without causing social harm.

This is both a moral and a practical imperative. The 2021 GSG Global Impact Summit, in which Old Mutual Investment Group participated as a platinum sponsor, highlighted the flood of global investment capital towards impact investment opportunities. While globally, impact investment started off in private market funds, it has since moved into the fixed income space, with north of \$1.5-trillion in green bonds issuances in recent years and is now moving into the public market space. Over the next five to 10 years the impact investment theme is set to accelerate in public or listed markets, which is where the bulk of capital sits, as asset managers adopt a new investment paradigm that now considers impact on an equal footing with risk and return. This is becoming far more mainstream than what we've seen previously and will largely be driven by, among others, both pension funds regulation and by pension funds themselves, as they seek to fulfil the greener mandates of individual savers.

This normalisation of impact investment will be defined by the deliberate tilting of portfolio holdings towards companies that have lower carbon footprints, particularly relative to market benchmarks — with funds that are aiming for zero exposure to fossil fuels at the extreme end of this spectrum — as well as by the steering of more investment capital towards sustainable investment opportunities such as renewable energy.

The third mechanism for bringing impact investment squarely into the mainstream will be through an increased focus on active ownership and stewardship of investee companies within investment portfolios. Engaging with these companies on their ESG exposures and climate plans is becoming more established in the portfolio management space. Ultimately stewardship is critical in driving change. Governments cannot do this alone, and countries need to find ways to finance the transition, with public markets being an obvious means to do this. But engagement with these companies by capital allocators is absolutely necessary to steer the impact trajectory in the right direction.



and how to ensure that all of society benefits from the shift to a greener economy and net zero emissions, and certainly something that was discussed in detail at this year's GSG Global Impact Summit, was the question of the scale of opportunity. Recent work by the Business and Sustainable Development Commission points to \$1.1-trillion in private sector investment opportunities as the African continent progresses towards its 2030 SDGs. This investment is estimated to create around 85-million jobs, while another study by the National Business Initiative, in conjunction with Boston Consulting Group, suggests that South Africa's just transition will generate between 2.7 and 3.6-million

jobs. That would make a big dent in the country's unemployment numbers, with close to 15-million individuals currently unemployed.

But while opportunity is growing from a business perspective, the broader just transition debate plays out differently depending on where in the world you are sitting. The global investment community may laud many of these investment opportunities for their potential in leapfrogging old technology and carbon intensive industries, but there remain social consequences, particularly in countries such as South Africa that have legacy dependencies on intensive fossil fuel industries. South Africa produces more than 90% of its electricity from coal-fired power plants and around 30% of its domestic liquid fuels from a carbon intensive coal-to-liquid process. With this dependency in mind, and entire communities reliant on the production of coal, the social risks involved would add to an already significant unemployment rate in an economy acknowledged as one of the most unequal

achieve a just transition to net zero we will need to have a synchronised effort from businesses, communities, government and regulators. It also requires us to implement and manage interdependent reform processes over multiple years between today and 2030, and ultimately 2050. For example, to reduce South Africa's dependence on fossil fuels requires reskilling that section of the population that relies on the coal or oil industries for their jobs. Over the nine years to 2030, we must not only reskill workers

employed in the fossil fuel economic value chain but consider replacement industries for the towns and cities that were built around fossil fuel-dependent infrastructure. These measures will be critical in devising social and poverty nets so that no one gets left behind in the transition.

There are plenty of investment prospects that could support this approach and offer significant impact for relatively small amounts of capital; but we will need to tackle the challenge around scaling such projects and in expanding our investment to include infrastructure projects that address education, healthcare and sanitation needs, among others. Few will argue that impact investing will spearhead the African continent's transition to net zero, but our challenge, as allocators of capital is to ensure that the S, or the social component of ESG, is addressed, thereby driving a just transition to solve social issues rather than exacerbate them. Active stewardship on these issues across listed markets will be an essential aspect of investor effort to successfully create a decarbonised world that benefits us all.



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NBI website: www.nbi.org.za









Andrew Johnstone

#### **Andrew** Johnstone

Director and chief executive @ Climate Fund Managers

Andrew Johnstone is the managing director and chief executive of Climate Fund Managers, an innovative organisation facilitating climate investing through blended finance.

is work involves directing investment into projects that contribute purposefully to the battle against climate change, and build infrastructure as a means to mitigate the effects of climate change.

According to Johnstone, we are losing the battle every day and it is too late to maintain the world in its current status. However, he believes we can still make a difference and that it is not too late to sustain humankind

"We are on an exponential trajectory that is compounded. Time is critical," he says. The world is continually in a state of flux and the key is coming to terms with how we change with it. Climate change is a force that is much greater than ourselves and under  $\,$ which we have no choice but to adapt.

"We can no longer mitigate it; we have to adapt to the consequences. In the past, we had the ability to mitigate consequences by avoiding them. Climate change is now beyond

According to Johnstone, we live on and interact with our planet through an incremental system based on consumption. The

world has learned to operate to a scale that accommodates seven billion people. "In order to sustain humanity, we now need to find a way in which we consume differently, either in the form of less or in the form of different, sustainable consumption," says Johnstone.

"We are moving into a world that is profoundly different to the one in which we live now."

Carol Chamberlain

#### **Nedbank** CIB Carbon Trading Desk

Carbon has become the catalyst and life raft for several green projects in Africa, and Nedbank CIB's Carbon Trading Desk has played a pivotal role in this.

spite of Covid-19 forcing a slowdown, many projects climate change in ways that are sensitive to the local d communities have benefited significantly from the cash flow received via the sale of carbon credits, produced from organic waste and composting projects for community grazing and forestry projects. In the absence of carbon revenue, some of these projects would have been suspended, to the detriment of developers, communities, the environment, the habitat of local wildlife and the world. Nedbank is committed to the transformation of the South African energy system and continues to align its business activities with the commitments made by South Africa under the 2015 Paris Agreement. Specific focus is applied to achieving a net zero carbon economy and ensuring energy security. The aim is to play a leading role in addressing

context, which includes climate vulnerability, development

imperatives and structural economic challenges. Nedbank



is unlocking resources that have, until now, been neglected; this is paramount for delivering access to clean, affordable, safe and efficient energy services across the continent.

Nedbank CIB believes that climate change is one of the defining systemic issues of the 21st century and encourages younger generations to engage with their communities, public sector entities and service providers about opportunities to address the Sustainable Development Goals through partnerships and collaboration. Simply put, we are all jointly responsible for alleviating the risk of climate change for current and future generations.

### Megan van Vlaanderen

Advisory committee member @ The Green Outcomes Fund

"There are many viable opportunities out there that make business sense. Investing in green businesses doesn't have to be a loss. We need to change this narrative."



This is a significant achievement, considering how, historically, little to no financing has been available to green SMMEs. During Covid-19, the Green Outcomes Fund worked hard to ensure the green economy was not forgotten. It partnered with the European Union's Partnership Instrument and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety in the context of the International Climate

an fund managers to increase investment in several SMMEs over this time. According to Van Vlaand who sits on the advisory board, the project was a great success. "We saw a 5% job growth emerge from these 12 businesses – it was incredible." One of the biggest misconceptions the Green Outcomes Fund faces is that green businesses are not financially viable. Van Vlaanderen claims that the fund wants to change this mind-set. The Green Outcomes Fund is instrumental in encouraging more green businesses to apply for funding and more fund managers to invest in green businesses. Despite the challenges still faced by the environmental sustainability sector, the case for green innovation is strong. Not only does it support conservation and climate action, but it also plays a massive role in driving employment in South Africa. "There are many viable opportunities out there that make business sense. Investing in green businesses doesn't have to be a loss. We need to change that narrative," says Van Vlaanderen.



GreenCape



🛅 Zoë Gauld-Angelucci

#### Zoë Gauld-Angelucci

Head of programmes @ The Greenpop Foundation

Zoë Gauld-Angelucci has always loved the natural world. She spent her childhood tending to tomato plants and walking along rivers.

ast forward two decades and she attended the University of Cape Town, where she gained a broader perspective on the numerous intersecting social and environmental challenges facing South Africa. She subsequently made the decision to pursue a career tackling these issues.

She went on to complete an MPhil in development studies and wrote her thesis on the social impacts of urban greening projects run by a local environmental NGO, The Greenpop Foundation. Little did she know that this academic project would transform into a fulfilling career spanning almost eight years with the organisation. In 2018, she took up the role of Greenpop's head of programmes — a job that offered her the opportunity to tackle social and environmental justice. This position allowed her to develop, implement and oversee all of Greenpop's reforestation, urban greening, food gardening and environmental awareness projects across South Africa, Malawi, Zambia and Tanzania. Gauld-Angelucci is particularly proud to have facilitated the selection of Greenpop as an official supporting partner for the UN decade on ecosystem restoration — a title that solidifies the organisation's contribution towards the global field of ecosystem restoration.

Gauld-Angelucci believes that climate change should be seen

not only as an environmental issue, but also as an issue of social justice in South Africa. In 2020, Greenpop set an ambitious goal to plant 500 000 trees by 2025 and one million trees by 2030 in projects across sub-Saharan Africa. Gauld-Angelucci encourages businesses to get involved and support Greenpop to reach its goal of creating a greener South Africa for generations

— Shai Rama



#### **Sekhukhune** Environmental Justice Network

Never give up, especially if you have a passion to help vulnerable communities and those who need your services.

Environmental Justice Network (SEJN) first focused on causes environmental degradation in nearby communities," our organisation was when we managed to engage the one of the founders, Mmathapelo Thobejane, says. Based in Ditwebeleng village, the SEJN works throughout the about the water pollution that was happening in our area," Sekhukhune District Municipality and has reached close to Thobejane explains, "and livestock owners managed to get 50 schools, communities and traditional homes. With the compensated for the animals lost due to the polluted water." help of Bohwa Bja Rena, a community development trust, Thobejane wants to continue her organisation's work but on the SEJN planted 150 trees in schools across the municipality from 2019 to 2020.

communities of the region, and allowed for the development of partnerships that expand its range of work. This expansion

ounded by community leaders, the Sekhukhune helped to provide the SEJN with a seat at the table when the community sat down with government and mining communities affected by mining in the region. "Mining" representatives three years ago. "The biggest success of department of water and sanitation and the nearby mine

a larger scale. Funding remains an issue for the SEJN, despite its successes. "We want to see our school greening project The efforts of the organisation have been recognised by the implemented in 30 schools in the neighbouring Fetakgomo Tubatse Local Municipality, and trees planted in at least 50 more schools," she says. When resources are low, the

organisation has learnt to prioritise campaigns that can be run at no cost. These campaigns use community donations and charity drives — such as the distribution of personal protective equipment during lockdown and arranging psychological support for the community's healthcare workers. "We see ourselves running sustainable projects that will maintain our work without struggling for funds, and our management team being able to get proper work and earn something instead of volunteering all the time,"

#### **Enock** Pedze

Chairperson @ South Africa Volunteer Work Camp Association

Permaculture systems provide for their own needs, do not exploit or pollute, and are therefore sustainable.

he South Africa Volunteer Work Camp Association Through this initiative, the use of pesticides and chemicals are (SAVWA), is a youth-focused NPO working on projects addressing permaculture. SAVWA is a member of the Coordinating Committee for International Voluntary Service which aims to address climate change and protect our environment. "We want our youth to learn from an early age about sustainable food production techniques. Especially for those with fewer opportunities, we provide free capacity building and skills training programmes that help to bridge the critical capability gap, in addition to developing a greater awareness of their ecological footprint," says SAVWA chairperson Enock

SAVWA is dedicated to analysing and re-evaluating existing farming systems and improving land cultivation. In this way, SAVWA aims to create a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity.

minimised, reducing major environmental issues by ensuring healthy soil, water, flora and fauna. Pedze says: "We can provide healthy, sustainable production of our own back yard gardening at home, or any place you can imagine."

SAVWA believes that greening the future involves a fair transition principle, which Pedze explains as a "process to build sustainable economies and resilient communities. This transition process must be equitable and restorative in creating new relationships of power for the future through reparations." This transition describes both where humanity is going and how we will get there. "The effects of climate change have been identified as one of the biggest threats to society and communities. Greening for the future is to approach production and consumption cycles in a more holistic, waste and pollution-

— Alexandra van Nieuwenhuizen

#### PRESERVATION OF NATURAL HABITATS.



#### **Bishop** Ngobeli

Conservation manager @ Johannesburg City Parks and Zoo

Bishop Ngobeli's interest in conservation stems from his childhood. He grew up in rural Venda, where he says he was always exposed to the natural environment.

e studied nature conservation at the University of Pretoria, then began his career as an intern at Mokala National Park, near Kimberley.

He later joined the department of water affairs and forestry and became a project manager developing parks for the City of Johannesburg. He is currently conservation manager for Johannesburg City Parks and Zoo, where his responsibilities include taking care of reserves, koppies and bird sanctuaries.

Ngobeli is also president of the Institute of Environment and Recreation Management, a position that allows him to fulfill his passion for "greening our communities" and advocating for broader access to open spaces. In 2020, he was recognised as an emerging leader by World Urban Parks, an international organisation representing the urban parks, open spaces and recreation sector; he is the first black member of its board.

Ngobeli is also leading the president's 10 Million Tree Programme, launched in September with the goal of planting two million trees each year. "If you look at areas like Protea, Diepsloot, Braamfischerville and others, these areas are still

brown, so we need to have such initiatives and make them green by not only planting indigenous trees, but also fruit trees, so that in the near future, communities can utilise these trees for food security," Ngobeli says.

He adds: "Government has provided electricity and water to citizens, but we need to go further to ensure a better quality of life that comes from green and open spaces."

- Sandiso Ngubane

#### **Deon** Louw

Urban greening project manager @ The Greenpop Foundation

Greenpop's urban greening programme pursues an ecologically robust future, where local biodiversity is accessible to all and conserved by engaged community custodians. Deon Louw suggests that contributing to the natural world's continued preservation offers an antidote to the existential crisis of climate change.

s an urban greening project manager, Louw's paired passions for education and ecology coincide. Central to his work is the Fynbos for Future initiative, which connects children living in underserved — and "undergreened" — communities with their natural heritage by planting indigenous gardens at schools. Navigating economic and structural obstacles is primary to the programme, Louw says. "Our aim with building outdoor biodiversity classrooms is to bring nature to the kids, and, in doing so, removing accessibility barriers to natural spaces in Cape Town."

Greenpop has worked with schools across the metropole since 2010, providing eco-education workshops to learners and planting thousands of trees. Following the 2018 drought, the nonprofit urban greening programme refocused on restoring the Cape's fynbos ecosystem. The resulting school gardens work as both educational tools and biodiversity corridors, promoting environmental responsibility in children and supporting nature's resilience. Greenpop's urban greening programme pursues an ecologically robust future, where local biodiversity is accessible to all and conserved by engaged community custodians. Louw suggests that contributing to the natural world's continued preservation offers an antidote to the existential crisis of climate change. "Many people don't know what to do with this information," he says of the increasingly urgent warnings of planetary catastrophe, "and it could lead to anxiety and even apathy. To see the

positive change we all long for, we need to get active, not anxious." Getting active is easy: "One can do amazing things in the fields of urban greening and sustainability by just volunteering one's free time," Louw says. "Greenpop can only achieve what it does with the constant help of countless volunteers, and every bit counts." As to looking ahead to future projects, he says: "My dream would be to increase our capacity to enable us to work with more people, plant more food and plant more fynbos."

— Lucienne Bestall



n Phuluso David Tshidzumba

#### **David** Tshidzumba

Youth brigade chairperson and co-ordinator @ SOLVE — Save our Limpopo Valley Environment

"I strive for a future where sustainability is no longer something that is just discussed, and remains just that."

OLVE is fighting the authorisation of the Musina-Makhado Special Economic Zone in the ecologically sensitive and unique biome of the Limpopo Valley. David Tshidzumba, the youth brigade chairperson and co-ordinator of SOLVE, says: "Our work is to protect the communities in the region, because this project will hurt communities here that are already struggling as it is."

Tshidzumba was mentored by SOLVE's late co-founder, Walter Schultz, whom he formed a great connection with. "He was a man of many words, but he backed that up with even more action! That's part of my motto and something that Wally lived by: 'Don't tell me, show me'." SOLVE's projects focus on environmental conservation and community engagement. Tshidzumba elaborates: "We are focused on making sure that we protect Limpopo from any activity that will have

(1) @SOLVE - Save Our Limpopo Valley Environment

adverse effects on its people and natural landscape. A strong environmental network can only be positive for the region." In 2011, SOLVE successfully opposed the Mudimeli coal mine that was being proposed by MC Mining Ltd, formerly Coal of Africa Ltd, by submitting objections at public participation meetings, organising a protest in Polokwane and writing articles to drive its share price down.

The organisation's projects also include actively visiting schools and giving talks about the climate change crisis. "We believe more of it needs to be in the curriculum. We also attend public participation meetings on any proposed project in the area to actively engage, and we host workshops in the Louis Trichardt area to educate people about the importance of our precious environment," says Tshidzumba.

— Alexandra van Nieuwenhuizen







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@RooyNeville

#### **Neville** van Rooy

Community outreach coordinator @ The Green Connection

Through his deep connection with the oceans that border our nation and the communities that rely on them, Van Rooy fights to protect these precious parts of the country.

eville van Rooy travels the country, driving from coastal community to coastal community and educating residents about the dangers the oceans face. These communities are often reliant on the ocean for their livelihoods and face ever-present risks that come in a variety of forms, such as fracking and offshore oil and gas projects. Through Van Rooy's work, these communities are able to take action both independently and collectively to put a stop to developments that threaten not only their way of life, but also the complex and interwoven ecosystem that they

Taking "boots on the ground" literally, Van Rooy regularly visits the communities he works with, and travelled to three of the four coastal provinces at least twice in the past year alone. The pandemic has restricted his ability to connect with people across the country, but Van Rooy remains steadfast in his determination to empower communities and protect Connecting with everyone from small-scale fishers to coastal community leaders, he has managed to create a unified front capable of opposing commercial interests that might threaten South Africa's oceans. This work has not gone unnoticed, and Van Rooy's community engagements led to protest actions against offshore oil drilling, which, in turn, led to the department of environment, forestry and fisheries taking notice. As the community outreach coordinator for The Green Connection's Who Stole Our Oceans campaign, his work is integral to the larger fight to protect the natural wonder that is

our nation. At his core, Van Rooy is somewhat of a missionary

for our environment. With both a degree in theology and

qualifications in conservation, he is well equipped for the task.

— James Nash

#### PROTECTION OF OCEANS.



(2) @WILDOCEANSSA (in) Jean Harris

@Wildoceanssa

#### **Jean** Harris

Executive director @ WildOceans

'We want people to understand the connection between people and nature," says Jean Harris, the executive director of WildOceans – a platform for a coastal community-based "citizen science" movement that aims to benefit the coastline and its inhabitants, both animal and human.

he Wild Trust board expanded its work to include a programme on the marine environment four years ago, and that's when Harris was brought on board.

Among the projects WildOceans oversees is Oceans Stewards, which takes young science students on its own research vessel to sea. These trips have increased awareness about the ocean among the youth. WildOceans organised an Africa Youth Summit, which was attended by more than 500 delegates. "It's about giving youth the knowledge and allowing them to make change and reform the wrongs we made in the past," Harris says.

Another important project is to expand the Marine Protected Areas MPAs. South Africa currently has about 5% of its marine areas protected, but it should be about 30%. Recognising this gap, WildOceans has embarked on an urgent campaign called Ocean iMPAct for South Africa to expand to 10%. MPAs are important tools to fight

climate change. MPAs sometimes have a bad reputation in coastal communities that are excluded from their benefits. WildOceans recognises that even environmental organisations must work for people, and need to help people to prosper from

WildOceans backs up its advocacy and campaigning with science. Given the urgency of climate change and the state of our oceans, Harris says WildOceans is definitely part of the movement for crucial change.

— Shaazia Ebrahim

#### **Anthea** Rossouw

Founder and programme leader @ Dreamcatcher South Africa

- n Dreamcatcher South Africa

Dreamcatcher South Africa enables women, girls and youth enterprises (as well as some men) to develop ownership, accountability and co-responsibility where they live, while developing a portfolio of business opportunities with tourism as the cornerstone. It subscribes to an ethos of environmental stewardship and partnership to provide solutions for environmental regeneration.

reamcatcher South Africa is a network of South Africa. predominantly women in the local tourism business. These "kamammas" run their own communitybased tourism businesses and services. The network shares a common vision for more equitable tourism. It establishes and manages sustainable, outcomes-based projects to stimulate local economic growth.

Thirty years ago, founder and programme leader Anthea Rossouw set out on a 10-year journey to research and develop her concept of taking authentic, diverse tour experiences into local communities. In the 20 years that followed, she recruited members and worked with communities across

Rossouw had nothing to guide the business models she has developed over the years. Some of these have earned the organisation global recognition. Dreamcatcher's work found its way into Europe and the UK, and Rossouw has consulted for the UK government. Her contribution earned her the Gatwick Green Diamond Award.

One project, the Wasteland, Graced Land initiative, is a reclaimed waste dump site that has been declared a UN biosphere and will soon be published as an academic case study. It focuses on South African communities and aims to guide future niche tourism product development for



students, academics and others. Dreamcatcher has also been approached by other African countries to collaborate.

Dreamcatcher enables women, girls and youth enterprises (as well as some men) to develop ownership, accountability and co-responsibility where they live, while developing a portfolio of business opportunities with tourism as its cornerstone. It subscribes to an ethos of environmental stewardship and partnership to provide solutions for environmental regeneration.

# **Masifundise** Development Trust



"We empower fishing communities to assert their rights. In terms of conservation, we strongly believe that small-scale fishers are the custodians of natural resources because they depend on these resources in order to survive."

he Masifundise Development Trust advocates for small-scale fishers. Masifundise's vision has evolved over more than four decades. Originally established in 1980 as an adult literacy outreach trust, Masifundise supported people of colour in the Western Cape during the apartheid era, providing them with access to education.

In 1998, Masifundise began to change focus. The trust realised that with many organisations working on land issues, no one was paying attention to small-scale fishers, leaving the fishing community vulnerable.

Masifundise Development Trust registered itself as an independent trust in 2004. Their first key moment was the mobilisation and organisation of the small fishing communities. While the government was developing legislation for commercial fishing rights, it became apparent that the proposed system disregarded small-scale fishing. Masifundise successfully campaigned for a change in policy development at grassroots level. Small-scale fishers became involved in policy-making, putting them firmly at the centre of decision-making. The policy took into consideration the knowledge of the fishers and interaction with the ecosystems in which they worked.

Since 2012, Masifundise's work has expanded the full length of the South African coastline. In 2017, the organisation turned its attention to assisting inland fishing communities, with current legislation not recognising small-scale fishing for livelihoods in rivers and dams.

Masifundise provides fishing communities in South Africa

with the relevant knowledge and skills to become their own "agents of change", through its food sovereignty in smallscale fishing programme.

A 2018 supreme court of appeal ruling recognised the rights of small-scale fishers to continue customary fishing practices. Masifundise Development Trust empowers fishing communities to assert these rights.

– Carol Chamberlain

28 | Mail & Guardian Supplement, 12 - 18 November 2021

## Faye Brownell and Sanele Vilikazi

Leader and people mobiliser @ Duzi-uMngeni Conservation Trust

"How do we engage with communities so they come up with their own solutions."

hen a group of local canoers noticed the a catalyst to enable changemakers in these communities. As deteriorating quality of the uMngeni and uMsunduzi rivers, they decided to do something. The Duzi-uMngeni Conservation Trust (Duct) was born in 2005. Since inception, Duct leader Faye Brownell and Duct public mobiliser Sanele Vilikazi are proud of how the trust's focus has grown as it gains recognition and support. Duct's work includes controlling and removing invasive plants, improving waste management systems, and monitoring sewage pollution, uncontrolled sand mining operations and illegal dumping. Duct also raises public awareness about river health issues, providing access to its skilled team who create programmes to assist communities. Brownell says the organisation has come to appreciate that it is the communities alongside the rivers who must create sustainable solutions. "Rivers are the lifeblood of our communities. How do we engage with communities so they come up with their own solutions?" she says. Duct acts as

Brownell points out, every person and business is reliant on water. There is no point in waiting for the government to fulfil a mandate when water is essential to every part of our life.

For Vilikazi and Brownell, in an ideal world, rivers would be safe enough for people to swim in. From source to sea, communities would be participating in the management of their local rivers and catchments with the support of organisations such as Duct. "We would have people in formal and informal structures who show care to the water waste connected to rivers and wetlands, and who would take ownership and responsibility for these resources," Vilikazi says. Committing to river health is not easy. Vilikazi sees Duct as a light that flickers but tries to shine brightly, hoping that other candles will brighten things up along

— Shaazia Ebrahim





#### **Cameron** Service

Chief executive @ The Litterboom Project

"Treating the environmental plastic pollution problem without considering livelihoods or waste management infrastructure ensures you will never achieve true sustainability."

he ocean has always been an important place for to see the scalability of this solution, which gives me hope that Cameron Service, who grew up near the beaches of Durban. While working as a trail builder he found himself confronted with the ugly reality of plastic pollution, which inspired him to start The Litterboom Project, a river waste interception programme. "What started as a passion project for me to do more in my personal capacity has led me on a journey where we have achieved far more than I ever anticipated," he says. The Litterboom Project installs floating barriers across rivers that collect plastic waste upstream before it reaches the ocean. The design is low-tech, easy to install and manage, and is designed to exist in the wild without being stolen.

The first Litterboom was installed by one team working parttime in KwaZulu-Natal's Umgeni River. Service now employs 30 staff members and there are more than 30 Litterbooms installed along various South African rivers. "It is encouraging

The Litterboom Project has partnered with a number of private sector companies to develop more ways to "future-proof" the ecosystem. "The hope is to be able to have something replicable and scalable for not only South Africa, but also globally for countries with similar challenges to us," says Service.

we can solve our plastic pollution problem," says Service. He

believes the key to creating long-term solutions is a blended

approach: tackling environmental problems alongside social

and economic issues. "Treating the environmental plastic

pollution problem without considering livelihoods or waste

management infrastructure ensures you will never achieve true

sustainability," he says. As well as tackling pollution hands-on,

The Litterboom Project also focuses on education concerning

environmental issues and systematically creating change.

— Andie Reeves

🛅 The Litterboom Project 🔰 @the\_litterboom\_project 🚯 @thelitterboomproject









(2) @HennopsRevival (in) Tarryn Johnston

#### **Tarryn** Johnston

Founder and chief executive @ Hennops Revival

Tarryn Johnston started Hennops Revival to restore the health of the Hennops River, the largest and most polluted river in Gauteng.

began when her then 12-year-old daughter asked her for help in organising a river clean-up in September 2019. ohnston saw that one river clean-up would not be enough. She is now at the helm of a four-people team, which expands

In a perfect world, the river could be used as a freshwater source or for recreational purposes. Right now, it is mostly full of raw sewage and waste materials.

Given this, Johnston had her fair share of naysayers who said her work was futile, but her tenacity has garnered the support of the community. She has a background in plants and plant activism, and has now taught herself about water conservation. "Water is a great teacher, it teaches you to trust, surrender, flow," she says.

Hennops Revival has also set up various temporary emergency homeless shelters, done bank retention work, and has developed a working relationship with the City of Tshwane. Johnston is the global chairperson of the Moving Water Alliance, which performs river and beach clean-ups

She wants to stop people from throwing their waste into the river by collaborating with the city to create incentive-based recycling points, to allow people to get instant rewards for handing in their recyclables.

Johnston believes it will take generations before the river is clean again. "I'm not thinking about reaping the rewards today. I might not even be alive to see the fruits of my work," she says. Safeguarding our water and our heritage begins now. As Johnston says, the future started a long time ago.

- Shaazia Ebrahim



#### **Environmental** and Rural Solutions

@EnvironmentalAndRuralSolutions

Environmental and Rural Solutions fully subscribes to the UN's Sustainable Development Goals, with an emphasis on building social and environmental management networks and capital towards sustainable rural economies.

nvironmental and Rural Solutions (ERS) is a womenowned social enterprise established in 2002. The organisation integrates environmental management into developmental decision-making.

ERS recognised early on that it was difficult for rural populations to support environmental management unless it addressed issues of community and household livelihoods. Working with the local rural communities, a model was developed to build resilience for sustainable production to benefit people and the environment they live in. This is premised on the organisation's belief that effective and sustainable management will only happen if the needs and livelihoods of local people are prioritised.

The organisation fully subscribes to the UN's Sustainable Development Goals, with an emphasis on building social and environmental management networks, as well as capital to build sustainable rural economies. This includes developing local youth capacity in green business value chains that promote sustainable utilisation of natural resources — which in turn contributes to community building and biodiversity

South Africa is a water-scarce country and one of the major initiatives that the organisation is engaging in is the protection of the Drakensberg mountain range as a strategic water source area using stewardships and good governance. For this, Environmental and Rural Solutions



is cooperating with different agencies around the country, while also providing positive publicity for the work that local communities are doing. Co-director and co-founder Sissie Matela believes it is fundamental to educate yourself about the needs of your community and how to provide for your extended family. She adds: "There is no need to go looking for jobs far away. Make sure you build your capacity to make a living out of what your landscapes can provide. This way, you will be able to build thriving communities."

## **Sivuyile** Pezulu

Managing director @ iNdalo Water Technologies

"Businesses can be established, communities are healthier and productivity, as well as leisure, increases as less time is dedicated to fetching water."

ivuyile Pezulu is the founder and managing director experience adds context and passion to the problem we are of iNdalo Water Technologies, a water and wastewater gineering company that specialises in chemical-free treatment solutions. The company treats wastewater on site into reusable grey water. The use of grey water leads to a water bill reduction of up to 30% for its clients. iNdalo also specialises in industrial water treatment, where it removes minerals that cause scaling, corrosion and fouling. "Our ambitious vision as a company is to reduce freshwater usage in Africa by 50%, while accelerating access to clean drinking water," Pezulu says.

Pezulu grew up in Flagstaff along the Wild Coast and had no access to piped water at home, relying on nearby streams for water. "My mother, a qualified teacher, was able to erect a water tank to harvest rainwater," he says. "For most of my childhood, my brothers and I would take a wheelbarrow and 2.25-litre drums to fill at the river after school. Today, my childhood solving as a company."

Pezulu is also a member of the Water Institute of Southern Africa, where he served as the chair of its Gauteng young water professionals division. "Our mandate was to promote the water sector, to equip young water professionals with leadership skills and opportunities, and to be an active voice in influencing conversations about water."

He's a strong believer that access to clean water makes for thriving communities: "Businesses can be established, communities are healthier, and productivity, as well as leisure, increases as less time is dedicated to fetching water. If I'd had the choice as a boy, I can think of many things I would rather have done than spending an hour or two in the afternoon fetching water from the river."

- Buntu Ngcuka

# in Sivuyile Pezulu







## **JOHANNESBURG WATER LAUNCHES CROWN GARDENS WATER TOWER**



"It is imperative that the residents work alongside the City by keeping water conservation on top of mind as well as safeguarding the City's infrastructure"



Water scarcity is a challenge in many parts of the world, and South Africa is a water-stressed country, making this challenge a local phenomenon. There is an imbalance between growing competing water demands and the increasingly erratic availability of sufficient quality freshwater.

These were the words of MMC Tania Oldjohn at the recent launch of the refurbished Crown Gardens Water Tower. The City of Johannesburg has implemented water restrictions as a directive from its bulk issues, these restrictions impact a number of issues including growing pressures from agriculture, energy production, industries and hygiene. The City of Johannesburg is striving to ensure delivery of quality uninterrupted water services to minimise frustration and inconvenience to residents.



"But these efforts will fall short," noted Oldjohn, "unless we resolve the question of access to finance for water infrastructure. We need to propel the process of closing the gap of the current backlog of upgrading and constructing water infrastructure to be able to meet the water demands of the growing population of the City."

The MMC said it is imperative that the residents work alongside the City by keeping water conservation top of mind as well as safeguarding the City's infrastructure. This can be achieved by decreasing the daily water usage of each household, eradicating illegal water connections and logging service delivery calls on time. The Crown Gardens complex previously consisted of just a 22.4-megalitre concrete reservoir, as well as a 1.1-megalitre concrete water tower.

It was commissioned in the 1950s; for the past 50 years this complex has been adequately feeding Southdale, Mondeor, Ormonde, Robertsham and surrounding areas. Johannesburg Water began building an additional 2-megalitre elevated tower

in 2019 when the storage capacity of the existing tower became inadequate for the demands of an increasing population, which saw an increase in water shortages in the area due to demand exceeding supply.

The project was planned to be completed in August of 2020, but due to challenges such as work stoppages by the local community, excessive rainfall as well as the Covid-19 pandemic, the project was only completed in October 2021 at a cost of a little over R56million for skills transfer, labour, operational costs as well as jobs created during the construction of the tower.



A new pump station is part of the plan to increase capacity in the Crown Gardens complex. The new pump station will be equipped with three pumps, each delivering 153l/s at a height of 35m. The design further allows two pumps to deliver the expected peak consumption of 306l/s, with the third pump on stand-by. The pump station is designed to house the fourth pump in future, should the need arise to increase the pumping capacity. During the construction process, eight SMMEs were appointed for the project. The appointment of the contractor was on condition that 20% of the construction activities were subcontracted to the local community, with particular emphasis on skills transfer. This resulted in 31 local labourers' opportunities, of which 28 went to development of local women labourers.





Johannesburg Water has once again delivered on its promise of delivering quality and constant service to the residents of the City of Johannesburg. As Oldjohn noted:



"An investment in infrastructure is an investment in the future of the City of Johannesburg and the sustainability of water supply."

# TOWARDS AN INTERNATIONAL HIGH-LEVEL PANEL FOR CLIMATE RESILIENT WATER INVESTMENTS IN AFRICA



H.E. President Jakaya Kikwete, Chair: Global Water
Partnership Southern Africa and Africa Coordination
and former Tanzania President
bhoto credit: Office of H.E. President lakaya Kikwete)

# The continent is most affected by climate change, but contributes only 4% to global emissions.

Africa was high on the agenda as world leaders met in Glasgow on 1 and 2 November for the 26th session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC).

The World Leaders Summit, hosted by Prime Minister of the United Kingdom Boris Johnson, resulted in global and historic commitments concerning deforestation, reducing methane emissions and signing up for a clean technology breakthrough agenda, among others.

For African leaders, led by Félix Tshisekedi, President of the Democratic Republic of the Congo and current Chairperson of the African Union, the focus remained on securing climate finance for responding to climate change in Africa — specifically the \$100-billion targeted annually for climate finance to underdeveloped countries, which has not yet been delivered.

Tshisekedi noted that the global effort on climate change "can't be won unless it is won in Africa", which is home to 1.3-billion people. He was one of several African leaders, including Tanzanian President Samia Suluhu Hassan and Kenya's Uhuru Kenyatta, to highlight Africa's plight in the face of climate change.

The 2021 report of the Intergovernmental Panel on Climate Change States found that the rate of temperature increase in Africa is faster than the global average. Despite being most affected by climate change, the continent contributes only 4% to global emissions.

Hassan told world leaders: "Our pride, Mount Kilimanjaro, is drastically becoming bald due to glacier melting. Our exotic and beautiful archipelago, Zanzibar, is struggling with temperature rises, saltwater intrusion and inundation, thus impacting its tourism ecology. What does all this mean to a poor country like Tanzania? It means 30% of our Gross Domestic Product — that comes from agriculture, forestry and fisheries — is not

In an event on the margins of the World Leaders Summit at COP26, former Tanzanian president Jakaya Kikwete called on the international community to support the establishment of an International High-Level Panel on Water Investments in Africa, which is urgently needed to accelerate investments in water security on the continent.

Kikwete, speaking in his capacity as chair of Global Water Partnership (GWP) Southern Africa and Africa Coordination, was addressing delegates from COP26's first ever Water Pavilion on 2 November during the event named Towards an International High Level Panel on Water Investments in Africa.

"We urgently need the panel because of our circumstances. One in three Africans face water insecurity, about 400-million Africans have no access to safe drinking water and about 700-million do not have access to good sanitation. The economic and service sectors do not get the water they need for optimal performance, thus impeding socioeconomic growth and development," said Kikwete.

"I am delighted to inform this assembly that GWP has joined hands with the African Ministers' Council on Water (AMCOW), African Union Development Agency (AUDA-NEPAD), African Development Bank (AfDB), UNICEF, UNDP and Global Centre for Adaptation (GCA) to convene the Panel. Work of appointing persons to be members of the manel is ongoing by the convenors. We in Africa can't wait to see the panel established and start working," said Kikwete.

Ambassador Henk WJ Ovink, special envoy for International Water Affairs, Kingdom of The Netherland, who moderated the side event stated that the panel, which will be assembled from Heads of State in Africa and abroad over the course of 2022-2023, plans to develop a high-level action-forcing report and investment plan for the 2023 UN Conference and African Union Heads of States with a clear pathway and recommendations for countries to mobilize \$30-billion per year towards bridging the water investment gap in Africa.

"The AfDB estimates that US\$64-billion will be needed to be invested annually to meet the 2025 Africa Water Vision for Water Security for all," said Kikwete. "Currently, the figure stands between \$10-billion and \$19-billion, thus leaving a huge investment gap to be filled."

Kikwete added that Africa's water insecurity is only worsened by climate change. "As a result there is increased frequency and intensity of heavy precipitation in some parts of Africa and recurrent periods of drought in many parts of our dear continent."

"At the centre of this crisis is the African farmer. With over 95% of African food production being rain-fed, Africa's poor subsistence farmers are among the most hurt by climate change."

The High-Level Panel on Water Investments for Africa is supporting the goal of the Continental Africa Water Investment Programme (AIP), which originated in the 2018 report recommendations by the United Nations and World Bank-convened High Level Panel on Water.

In 2019 AMCOW recommended that the Continental Africa Water Investment Programme (AIP) be conceived. Subsequently, the AMCOW Secretariat teamed up with African Union Development Agency - NEPAD, African Development Bank, Global Water Partnership in Africa and others to undertake the work of conceiving and developing the AIP.

"The AIP is one of the biggest successes of the UN-World Bank High Level Panel on Water," said Nchedi Moripe, chief director, global co-operation and strategic partnerships in the South African department of water and sanitation and sherpa to the UN-World Bank High Level Panel on Water.



H.E. President Kikwete (right) in conversation with Dr. Ibrahim Mayaki, CEO of AUDA-NEPAD, at a brainstorming meeting focusing on water investments in Africa during November 2020. (Photo Credit: Global Water Partnership Southern Africa)





"Therefore we call on African leaders to ensure that the African Union is pulling both the AIP and the proposed International High-Level Panel on Water Investments in Africa from the front. Water ministers also have a role to ensure that their leaders remain engaged throughout." Moripe was speaking at the same event during COP26.

The AIP was adopted by the Assembly of the African Union Heads of State and Government as part of Programme for Infrastructure Development in Africa – Priority Action Plan 2 (PIDA-PAP 2) during the 34th ordinary session of African Union summit on 7 February 2021.

The purpose of PIDA is to accelerate infrastructure development in Africa by strengthening large cross-border infrastructure projects that integrate energy, transportation, and water development on a continental scale.

"The AIP was selected as part of PIDA-PAP 2 because we saw its potential to contribute to transboundary and regional investments in water — especially emphasising a nexus approach that finds linkages between health, energy, water and food security," said Dr Towela Nyirenda-Jere, Head: Economic Integration Division at ALIDA-NEPAD

"We are honoured to be part of the convenors of the panel that will move Africa's water agenda forward," added Nyirenda-Jere.

The AIP aims to leverage financing from development agencies, green climate funding, national budgets, and the private sector. The latter is a historically low source of funding for the African water sector, with only about \$3-billion invested in sub-Saharan African water projects compared to \$41.7-billion in East Asia and the Pacific and \$36-billion in Latin America and the Caribbean since 1990. Reversing this trend will be a key challenge for the AIP.

Dr Ania Grobicki, deputy director for external affairs at the Green Climate Fund (GCF) said that leveraging private investment funds would be very important for water investments in Africa.

The GCF is the largest global fund dedicated to help fighting climate change, and was established within the framework of the United Nations Framework Convention on Climate Change (UNFCC) to assist developing countries to respond to climate change.

In terms of de-risking the African water sector and making it more attractive to investors including those from the private sector, the AIP plans to work with partners such as the United Nations Development Programme (UNDP) to establish a water investment facility with an element of technical support offered to African regulators and water utilities

"We need to raise the standards and capacities of African utilities so that they are able to attract financing on their own merit," said Dr Pradeep Kurukulasuriya, executive coordinator and director, UNDP.

Osward Chanda, acting director of water and sanitation at the AfDB, said that as part of the drive to increase private sector interest in Africa, water should be an reflection of how Africa's governments themselves use their national budget allocations and resources as a means to leverage external finance flows.

The AfDB group has recently approved a new water policy, prioritising water security and the transformation of water assets to foster sustainable, green and inclusive economic growth in regional member countries. This is expected to support the implementation of the AIP and its goal to transform the outlook for water investments in Africa.

"The AIP represents new hope for Africa because it brings together governments, investment banks, development agencies and the private sector and pulls them in the same direction," said Dario Soto-Abril, chief executive of GWP.

"This is an Africa-bound and created initiative and a beacon for countries in the global north to invest in the commitment they have made in the Paris Agreement and all UNFCC conferences," he added.

In its support to the AIP, the International High-Level

Panel on Water Investments will drive global political mobilisation and international engagement to narrow the water investment gap on the continent and meet the socioeconomic needs for water.

"The panel will bring high level visibility and unlock increased political commitment and resources. And it builds on initiatives that we already have in place, such as the AIP Water Investment Scorecard," said Kelly Ann Naylor, director of water, sanitation and hygiene at UNICEF.

UNICEF is one of the partners supporting the development the AIP Water Investment Scorecard, under the leadership of AMCOW and AUDA-NEPAD, which will inform

the work of the Panel by supporting African countries to track progress on the mobilisation of investments in the water sector and raise awareness among heads of state and government decision-makers on bottlenecks.

Development of the AIP Water Investments Scorecard kicked off in April 2021, during a high-level event co-hosted by Dr Ibrahim Mayaki the chief executive of AUDA-NEPAD, and Kikwete. It's anticipated that the AIP scorecard will then be presented to the African Union heads of state in February 2022.

Also in the first quarter of 2022 is the anticipated launch of the International High-Level Panel on Water Investments.

Most recently, in September 2021, the executive committee of AMCOW formally welcomed the nomination of Dr Hage Gottfried Geingob, President of Namibia, and the current host country of the Presidency of AMCOW as panel co-chair.

Kikwete has been nominated as the alternate co-chair, while the Kingdom of the Netherlands, host government of the GCA and co-host of the 2023 UN Conference on the Water Action Decade, will be approached to co-chair as a representative of the Global North.

"A roadmap for the anel has already been adopted by the convening organisations," said Alex Simalabwi, executive secretary: GWPSA-ACU and head: joint secretariat for the panel.

"Key events for the panel will include the World Water Forum 2022 in Senegal, the African Bank annual meetings, World Water Week, and COP27 planned to take place in Egypt in the final quarter of 2022," said Simalabwi.



President Kikwete, GWPSA-Africa Chair, and GWPSA Executive Secretary Alex Simalabwi meet with UNFCCC Executive Secretary Patricia Espinosa to discuss increasing the importance of water in climate change. Photo credit: Office of H.E. President Kikwete)

"An inaugural meeting was hosted by the GCA, on the sidelines of the High-Level Dialogue on Climate Adaptation with Global Leaders ahead of COP26, in Rotterdam, the Netherlands, on 7 September 2021," he added.



The High-Level Dialogue was co-convened by Ban Ki-Moon, 8th secretary-general of the United Nations and co-chair of the GCA; Professor Patrick Verkooijen, chief executive of the GCA; and Kristalina Georgieva, managing director of the International Monetary Fund.

During the GCA High-Level Dialogue, Kikwete urged world leaders to place water at the centre of adaptation action — specifically for Africa. He reiterated that message at COP26 this week.

"It is of utmost critical urgency that increased attention is paid to adaptation interventions and investments related to water retention, storage, rainwater harvesting, water source protection, and water infrastructure," said Kikwete



President Kikwete, GWPSA-Africa Chair, and GWPSA Executive Secretary Alex Simalabwi, meet with GCA Co-Chair Ban Ki- Moon, 8th Secretary General of the United Nations, and GCA CEO Patrick Verkooijen (Photo credit: Office of H.E. President Kikwete)

"We call on international leaders assembled here at COP26 to support the AIP, the AIP Water Investment Scorecard, and the formal establishment of the International High-Level Panel on Water Investments for Africa."







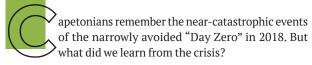


#### **Kevin** Winter

Director of research @ The Water Hub

@kevin.winter.338

Poverty entrenches people in unacceptable systems that limit education, experiences and opportunities to experience nature.



"We went through a drought, which sounds obvious," says Kevin Winter, senior lecturer in the department of environmental and geographical science at the University of Cape Town. "However, we don't know how much of it was caused by climate change. What we do know is that we have seen significant well-below-average rainfall. If we look at the records, our current worry is that the intervals between droughts may be becoming shorter, which could be catastrophic."

Winter is pioneering some impressive work with The Water Hub. Situated in Franschhoek, this research and demonstration site was founded in 2017 with the support of the Western Cape government and Stellenbosch Local Municipality.

Treatment of contaminated water to make it potable typically uses chemicals, however, Winter and his team have found natural solutions that work just as well, such as stone aggregates and peach pips. As research thrives, so has The Water Hub: "We now have a community food garden and an aquaponics project for fish."

When asked what the most looming environmental issue facing us as a society is, Winter maintains that it is poverty and inequality. He posits that what is at stake is not only our natural habitat, but also human dignity. "Poverty, especially in growing urban areas, entrenches people in unacceptable systems that limit education, experiences and opportunities to experience nature."

As he works towards a better world for all, Winter acknowledges that many solutions can be unlocked by examining the world around us - a point he has proven repeatedly through his work with The Water Hub. "I am constantly surprised by nature and learning from nature," he says.

— Francesco Nassimbeni



#### **Nick** Fordyce

Chairperson @ Friends of the Liesbeek

(1) @nick.t.fordyce

Like many children, Nick Fordyce grew up

obsessed with animals and eventually channelled this passion and desire to help conserve our natural world into completing a BSc in ecology and then a master's in environmental law at the **University of Cape Town.** 

is first professional role was project manager of the Liesbeek maintenance project, which of the Liesbeek maintenance project, which focuses on the ecological rehabilitation of the Liesbeek River (managed by Friends of the Liesbeek). He then took up the post of urban greening programme manager with The Greenpop Foundation, a role that focused on urban greening projects in low-income areas in Cape Town. He works in the communications team at GreenCape on a broad range of green economy projects in renewable energy, water and sanitation, electric mobility, sustainable agriculture and the circular economy.

Fordyce believes that the pursuit of a sustainable, green and circular economy will radically address environmental and social challenges in a meaningful way. His work as chairperson of Friends of the Liesbeek — although primarily related to the ecology of the Liesbeek River enables him to work with a diverse range of stakeholders to help inspire innovative approaches to complex issues. He adds: "We need to be innovative in the way we tackle

and overcome the imbalances

problems in our society. We can attempt to restore the river environment as much as we like, but it will be fruitless if we do not simultaneously work to reduce poverty and unsustainable urban design." Environmental work can be emotionally taxing and Fordyce encourages people to take time to reconnect with nature. Sustainability is about taking responsibility for how we live — it is not only beneficial to the planet, but invariably also beneficial to our physical and mental health.

— Shai Rama



#### Tracy-Lynn Field

Professor @ School of law, University of the Witwatersrand

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@Tracy-Lynn Field

At the age of nine, Tracy-Lynn Field wrote a letter to the editor of Family Radio and TV magazine. This set the stage for what would become a lifelong commitment to environmental activism and a general concern for people and the planet we call home.

he 47-year-old professor at the University of the Witwatersrand's school of law adds that her own coming of age coincided with the global mainstreaming of sustainable development.

"I was 18 when the UN Conference on Environment and Development was held in Rio de Janeiro in 1992 – the same global event that spawned the UN convention on climate change and the convention on biodiversity," she says. "I grew up with the evolution of the global understanding of the depth and immediacy of the ecological crisis that is upon us, which is always a socio-ecological crisis because the social and ecological fabric deteriorate together."

Since 2003, Field has been teaching several courses on environmental and sustainability law to students at Wits. "With the help of an amazing team at Wits this year, I was awarded the Claude Leon Chair in Earth Justice and Stewardship, which is paired with a colleague from the hard sciences, Professor

While she has spent more than two decades working in climate justice and renewables, water justice is a particular area of interest for Field. She says meeting Bill Frankel, chair of the Claude Leon Foundation, is a career highlight. "I promised him that I would do everything in my power to fight for the planet and people, particularly in the area of water justice, which will be a key focus for the next five years."

— Sandiso Ngubane







- @JeshikaRM
- in Jeshika Ramchund Pr Eng

#### Jeshika Ramchund

Lead engineer – developments division @ Bosch Projects

Jeshika Ramchund is a lead civil engineer at Bosch Projects. Her experience spans water, wastewater, integrated sustainable developments and circular economy projects.

he is currently involved in project structuring and financing for green economy and renewable energy projects, while growing a portfolio in the sustainable and integrated development space.

An avid environmentalist and change maker, Ramchund believes that a serious challenge facing the industry is "the eye-rolling" around environmental awareness. "We need to work to help marry hard science, like engineering, into what is deemed a very soft and 'frivolous' conversation, like sustainability." If cynicism is not challenged, then convenience might win. The engineer claims that for the majority of people who live a very protected life, changing consumption patterns is not front of mind. "For someone who is responsible for growing their own food, a delay in rain or a locust outbreak that eats all the crop means a family goes hungry. We struggle to connect how our actions might impact someone who has a different reality

The answer? Help make green living and environmental conservation mainstream. "A lot of engineering operates in spaces people don't see. In the integrated development space at Bosch, we connect with solutions that people can identify with to enable them to think about their own contributions to green living."

This November, Ramchund will be presenting at the Green Building Council South Africa on sustainable changes in the built environment. "South Africa has a well-developed system of standards to operate within the environmental engineering sector, but the goal is to thrive at the scale of infrastructure development. This is where we stand the best chance of setting ourselves apart."

— Loren Shapiro

#### **Stephen** Pikus

Creative director @ Stephen Pikus Designs

(1) @Stephen Pikus Design (in) Stephen Pikus

In the early 1990s, Stephen Pikus volunteered with an NGO collective on a farm in Tzaneen, Limpopo, working together with a group of carpenters, artists and metalworkers to service the local community.

he profit made from the work supported a range of initiatives. Pikus fell in love with making things from other people's trash and this started his passion for creating light fixtures out of upcycled materials.

In 2014, five years after returning to Johannesburg, Pikus entered and won Eskom's energy efficient lighting design competition with a design that used air filters from diesel trucks. While he wishes his green journey had started out of a need to do the right thing, he admits that it was because of a lack of money. "I used to go to rubbish dumps and literally open black bags looking for bottles. And then I realised there was a whole subculture of recyclers who collect trollies worth of bottles. We got them involved, created jobs and paid them three times more than what glass recycling companies do." A growing ecosystem creates jobs and reduces waste. Pikus's work shows that nothing negative can come from being more

environmentally conscious. Consol Glass, as part of its head office upgrade in 2019, commissioned Pikus and his team to



meticulous about the right finishes to really give someone a

product they don't want to throw away again." — Afrika Bogatsu

## **Gary** Kendall

Strategy and sustainability specialist @ Nedbank

"The way we have been operating for the past 150 years has been exploitative, extractive and linear. This needs to change urgently to an economy that is inclusive, restorative and circular."

vas during long walks with his father and brother through human behaviour, including how dramatically it can alter in just the English countryside that Dr Gary Kendall's passion for nature was ignited. "My father would stop and explain certain natural phenomena to us in simple language -I was transfixed." Today, Kendall is one of South Africa's pre-eminent sustainability experts. He fears that rapid urbanisation and the increasingly digital domain we inhabit have diminished our connection with nature: "I am troubled that our daily experiences are increasingly synthetic and disconnected from

Society's fantasy of infinite growth without environmental consequences is a mind-set that must shift urgently in order for humanity to sustain itself. "We already have all the technologies that we require for eight to nine billion humans to live healthy, prosperous lives within ecological limits. We just need to abandon fairy-tale thinking," is Kendall's sobering advice. The pandemic has yielded valuable insights into

weeks. "In contrast, mitigation of systemic risks, such as climate change and inequality, is dealt with slowly and incrementally. To sustain socioeconomic development into the future, we need to make significant changes now and not wait until 2030 or 2050." Asked to identify what the "average" South African can do to live a greener lifestyle, Kendall is quick to point out that, "given our extraordinary diversity and eye-watering inequality, there is no average. Where one sees wealth and income inequality, one also sees emissions and consumption inequality." Kendall makes no bones about who must be pressured to commit to real sustainability — it is the echelons of wealth and power that need scrutinising if we are to implement meaningful systemic change. "They rest their hands on the levers of power, which, if pulled correctly, can shift the system for everyone's benefit."

— Francesco Nassimbeni





Gary Kendall

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# **RUNNING IN CIRCLES**

How the paper industry is the epitome of the circular economy

ven before extended producer responsibility  $\blacksquare$  (EPR) was mandated by Government in May 2021, the paper manufacturing and recycling sector had been embarking on process and production innovation to reduce its environmental footprint, divert waste from landfill and stay ahead of the circular economy curve.

The circular economy is a closed loop; taking, making and reusing, as opposed to the linear "take-make-waste" approach. When we treat raw materials (such as wood and water) and energy as infinite, we end up with waste. Waste costs money - the costs of landfilling, the loss of reusable materials, and livelihoods that could have been supported. The environment also loses out - greenhouse gases are emitted when waste degrades.

The principles of the circular economy include reducing waste by design, retaining materials in circulation and restoring the systems from which resources are extracted. The forest products industry has adopted the circular nature of doing business for many years.

By increasing our sector's circularity, we increase our contribution to society, the economy and employment, and are part of the solution to climate change and green economic recovery.

#### Circles in the forest

We all know that paper comes from wood - even fibres in recycled paper came from a tree at some point. In South Africa's case, such trees are sustainably farmed in plantations, with stringent management of their impact on water, soil, indigenous landscapes and biodiversity.

Gone are the days of detrimental, wall-to-wall afforestation. Today, forestry companies work in tandem with high conservation value areas to create a mosaic of planted trees and protected spaces.







Sustainable forestry is circular in nature with planting, harvesting and replanting happening in rotation.

Sustainable forest management balances economic, social and environmental needs. While forestry practices optimise the land's ability to mitigate climate change through carbon sequestration, they also act as buffers for protected indigenous

Depending on the species usually eucalyptus or pine - these trees take around seven to 10 years to reach maturity. The reason we use exotic species is because they are fast-growing and we cannot and will not - use indigenous trees for productive purposes.

Currently, South Africa has 850 million trees growing over 676 000 hectares reserved for pulp and papermaking. Less than 10% of this area is harvested during the year. The same area is replanted with new trees saplings - often at a ratio of two trees for each one harvested.

This is the first circle: plant, grow, harvest, replant...

#### Circles of life

The circular economy then extends to leaving forest residues as a mulch for the next generation of trees. After harvesting, bark, limbs, and leaves are left behind to offer sustenance and refuge for creatures that aid in the decomposition of organic matter, which in turn attracts birds and other critters - and so we have another circle.

In addition, through photosynthesis, trees remove carbon dioxide from the atmosphere and convert it into food for growth. They also take

G paperrocksza

www.thepaperstory.co.za

up water, from the ground or rainfall. They keep carbon locked up in their fibres and give us back oxygen, and some water is also returned to the atmosphere

#### Circles in the mill

through transpiration.

Pulp and paper mills operate closed loop processes, by using natural resources efficiently often more than once.

Process water is recycled, lost fibre is recovered and reused, and spent chemicals are recovered for energy production. Even bark - a biomass - is used to power boilers, producing steam that generates electricity.

This makes us better at using more of the tree, ensuring little goes to waste.

#### Circling the bin

Once pulp and paper are made into office paper, magazines, books, pizza boxes, cereal boxes, cardboard boxes, newspapers, milk and juice cartons, the circle starts to hit home. Office paper can be printed on both sides, and boxes can be reused as storage. Magazines and newspapers are used by school children for projects and posters.

Importantly, paper fibres can be recycled; how we dispose of paper products creates another



circle. With a four-year average recovery rate of 70%, paper is the second most recovered material in South Africa.

By putting them in our rubbish bin, paper products go to landfill - or if retrieved by a waste collector, they might get to a recycling mill.

Ideally, we want paper products separate from wet waste. Even the simple act of placing clean recycling in a separate bag or box for a waste collector makes a considerable difference.

Recovered paper is reprocessed and made into packaging and tissue that comes back into our homes, and which we use and recycle. And so the paper "circle" continues. The carbon also stays locked up for longer when paper is recycled.

#### Circles in the laboratory

Some wood-based products are already in circulation in everyday life. Dissolving wood pulp is used in food, pharmaceutical and textiles. Cellulose binds and emulsifies - low-fat yoghurt, cheese and ice cream; lipsticks and vitamins. Wood can produce xylitol, a non-nutritive sweetener.

We also make bricks and biocomposites from paper sludge, leftovers from paper recycling when fibres become too short for use, and biodegradable alternatives to fossil fuels from lignin.

#### **BE PART OF** THE CIRCLE

Consumers can play their part too: by using pulp and paper products that are certified and responsibly sourced and produced. By separating paper products for recycling, we can practise sound environmental stewardship and be part of the circle.

> Recycle your paper!

# SUSTAINABLE DESIGN.





- @lilly\_loompa\_upcycled\_homeware
- (i) @lilly.loompa.upcycled.homeware
- **in** Lizl Naude

#### **Lizl** Naude

Creative director @ Lilly Loompa Upcycled Homeware

Preferring the term "hipcycling" to describe her efforts, Lizl Naude hopes to meaningfully reduce the amount of waste sent to landfills by illustrating the benefits of a circular economy and increasing public awareness.

elf-taught designer and entrepreneur, Naude is the founder and owner of Lilly Loompa Upcycled Homeware, a homeware store that transforms the most ordinary waste items — from salvaged wood to empty wine bottles — into carefully crafted products. Upcycling offers an immediate reimagining of discarded objects, extending the life of materials through innovative design. Preferring the term "hipcycling" to describe her efforts, Naude hopes to meaningfully reduce the amount of waste sent to landfills by illustrating the benefits of a circular economy and increasing

Naude's guiding motto is: "Start with what you have." Several years before Lilly Loompa began trading in 2018, Naude and her family lost all their material possessions. "This caused immense financial suffering and setbacks," she says. "During this desperate time, I came to understand that the way out for my family was waste." Trash transformed was the key to Naude's success — not only in supporting her family, but also in giving back to her community. "I love what I do," she says of her work

at Lilly Loompa. "I get to live out my creative ideas while making a difference by cleaning up my neighbourhood."

Lilly Loompa is as much concerned with environmental sustainability as it is with social upliftment. While Naude's current efforts focus on her immediate surroundings, she hopes to extend her reach in the coming years by establishing purpose-made "inno-centres". These micro factories, she says, will develop materials from pulverised waste and create new products to support further research. In addition to finding novel ways of reusing refuse, the inno-centres will offer meaningful, stable employment to local artisans. Naude's continued commitment to her work is simple: "There is value

- Lucienne Bestall

#### EnviroCrete

Producing viable, cost-effective and ecofriendly alternatives to traditional building materials while providing affordable, modern and dignity-affirming housing.

nviroCrete is a construction company that manufactures ecofriendly building materials and green construction solutions. It was founded in 2015 by Robert Pane, Shaiek Coe and Zuleigha Abderoef, and it's a BBBEE level 1-rated company. Through a combined strategy of waste recycling, scrap wood utilisation and concrete prefabrication, EnviroCrete reduces the amount of waste generated in the construction process. In addition to their ecofriendly building materials, EnviroCrete uses bioclimatic building practices to create spaces that are optimally designed to save energy and reduce environmental impact.

The manufacturing of EnviroCrete products is what the organisation has referred to as a "bridge across industries".

What they mean by this is that through their process of recycling to manufacture, they engage with the waste collection, timber and prefabricated construction industries. Through these processes, EnviroCrete provides viable, cost-effective and ecofriendly alternatives to traditional building materials, while providing affordable, modern and dignity-affirming housing

Through their specialised building system, EnviroCrete has developed an off-site, prefabricated system that allows for faster and easier construction, and better quality buildings. To achieve this, panels of the structure are precast and compiled without wet joining in a system that uses specially designed bolts and closures. This process reduces the time it takes to

construct the building and since the panels are cast to design, there are significantly fewer offcuts and less wasted material. The composition of EnviroCrete panels make them more

insulating than ordinary concrete. This improved insulation reduces the need for electrically powered environmental control systems such as heaters and air-conditioning, reducing the long-term carbon footprint of EnviroCrete

— Anita Makgetla



## Global GreenTag Africa

As the leader in ecofriendly certification, Global GreenTag Africa is helping to make a more sustainable and trustworthy green economy.

including South Africa. Regarded as one of the most scientifically robust eco-product certification programmes, it examines key elements that tell us how a business or a product impacts the environment. GreenTag was created to combat "greenwashing", or brands that falsely advertise themselves as ecofriendly, and to allow consumers of every scale to easily identify products that are ethically made and environmentally minded. There are two eco labels under Global Greentag. The GreenRate is for green design, procurement, facilities management and cleaning professionals. It offers three levels of attainment and each level equates to a "sustainability factor" based on various metrics. The LCARate is considered to be one of the toughest scientific scorecards in the world, measuring biodiversity, greenhouse gas emissions, social responsibility and more. The comprehensive analysis can reward customers as

lobal GreenTag is an internationally recognised well as brands that have put the effort in to move beyond simply Certification trusted in more than 70 countries. doing "business as usual". Those who take that extra step now have a badge of honour, proving scientifically that their product is part of the effort to save our environment.

> Lizette Swanevelder is the director of Global GreenTag Africa. She worked in the building industry before shifting to promoting ecologically sustainable building practices in 2009. She was the first in South Africa to launch a Global GreenTag programme outside of Australia. Since then, she has brought on an impressive amount of local manufacturers and works alongside institutes such as Cape Institute for Architecture, The Society of Architects, Planners, Engineers and Surveyors, the Western Cape Property Development Forum and more. Her dedication to sustainable development has allowed Global GreenTag Africa to become a highly regarded certification programme across Africa.

> > *Mail & Guardian Supplement, 12 - 18 November 2021* | **37**

— James Nash









## WASTE MANAGEMENT PRACTICE.





n The Compost Kitchen

@The Compost Kitchen

#### **Himkaar** Singh

Founder @ The Compost Kitchen

Himkaar Singh is the founder of The Compost Kitchen, a Johannesburg-based business that delivers compost rich in organic matter. "We collect and recycle food waste into vermicompost, using thousands of earthworms.

e give the vermicompost back to our customers each month, which they can use in their vegetable garden to grow food again," he explains. Singh worked as a civil engineer before completing his master's in integrated water management resources at TH Köln in Germany, during which time he learned the importance of organic matter levels in soil. "Food nourishes your body, and that means the quality of the food you prepare is very important, and the quality of the food is dependent on the quality of the soil, and good quality soil needs compost," he says.

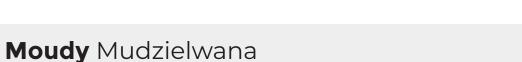
When he was working as a civil engineer, Singh was focused on water, designing stormwater systems, but he felt he wasn't achieving the impact he believed he could have. His master's programme took him to Vietnam and Jordan, and exposed him to the value of soil. "Organic matter is what enables the soil to act as a sponge and give food to everything living in it," Singh

Demand for The Compost Kitchen's vermicompost grew during lockdown, as more people wanted to grow their own vegetables at home. "Our biggest success has been our customers. I'm successful because I managed to get the idea across to them, and they're willing to support it," he says.

The Compost Kitchen assists schools and community groups with composting and compost education, and Singh plans to expand their sphere of influence. "We're developing a vegetable garden design service — we'll design it, build it and show customers how to run it," says Singh.

- Nabeel Allie





Director and founder @ Tshikovha Green and Climate Change Advocates

Tshikovha Green and Climate Change Advocates (Pty) Ltd

Tshikovha Green and Climate Change Advocates is a champion for environmental compliance, finding solutions that advance an ethical approach towards the intersections of business, law, community, government and environment.

company continues to lead by example, ensuring its clients know and understand environmental legislation to reduce any possible harmful impact.

While Tshikovha's mission is to to champion environmental advocacy, Mudzielwana believes there is more work to be done. "We are living in a dirty country. Do we question what is causing unhealthy communities? What is the future of a country full of sick people? A country cannot succeed with unhealthy people — Covid-19 is an example of this," Mudzielwana says. One of the biggest misconceptions Tshikovha is trying to challenge is that environmental management is up to the government to solve. "In townships,

ounded 15 years ago by Moudy Mudzielwana the we are disposing of waste next to our own houses and we expect the municipality to collect it.

"We need to acknowledge that if we want to see our environment being clean, we should take it upon ourselves to clean it." Tshikovha extends its expertise and support beyond business opportunities to educate the youth of

South Africa. "We run a graduate programme that focuses on skills development for young people through job placement opportunities. To date, we have employed and integrated more than 100 graduates into the working environment." Mudzielwana stands behind the idea that it is up to the youth of South Africa to create change, but says the government and institutions like Tshikovha must lead the way. "I believe that when our group of graduates start working, innovation will follow and if it's an innovation for the environment – I am happy."

- Loren Shapiro

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## **Tracey** Gilmore

Co-founder @ The Clothing Bank and The Appliance Bank

"Everything that we do is about all of us. It's about supporting the planet while supporting social foundations"

issues in South Africa, namely waste management and unemployment. The organisation partners with retailers, redirecting deadstock to the hands of local entrepreneurs.

"There's so much excess stock in retail," says Gilmore. "We realised that we can use this stock as a tool to help unemployed South Africans set up small businesses."

The Clothing Bank's retail sponsors — Mr Price and Woolworths — donate stock that can no longer be sold. Instead of going to landfills, The Clothing Bank uses the stock in its programme to upskill women, specifically unemployed mothers, to become entrepreneurs. The programme is intensive, with students spending their days in class, meeting with mentors and getting hands-on experience. Through five branches, The Clothing Bank helps 1 000 women a year set up their own businesses using the 1.8-million clothing items donated annually.

tarted by Tracey Gilmore and Tracey Chambers in As well as The Clothing Bank, the organisation runs The 2010, The Clothing Bank aims to address two major Appliance Bank, training unemployed men to repair and resell customer-returned appliances. There is a third project, Trade Up, which connects seamstresses with excess fabric stock, giving them the business skills and design knowledge to use the fabric to start their own businesses. "We provide a powerful solution — preventing all of this stock from going to landfill by empowering unemployed people," says Gilmore. The Clothing Bank will soon open a sixth branch in Johannesburg, with plans to one day expand to Namibia and Botswana. The organisation is also interested in creating a programme that focuses on upcycling — training people to customise and resell unfashionable stock. "Everything that we do is about all of us," says Gilmore. "It's about supporting the planet while supporting social foundations."

— Andie Reeves



## **Rowen** Anderson

Head @ Waste Want

While crafting a corporate social investment project as a Unisa student, Rowen Anderson realised that his family business was the ideal inspiration for a community outreach assignment.

is initial idea was to encourage the homeless to collect waste by offering them a place to sleep rather than paying them. Anderson joined the family company in earnest and began the journey he continues on today.

One of the issues Anderson faces in the waste management industry is the lack of follow-through after the awarding of funding. As a rule, Rowen and the Waste Want team never take on funding that is not accompanied by a contract — a practice that aims to keep all interested parties accountable. A further issue faced by Waste Want is bad municipal practices that affect the efficiency of running the business.

However, the past four years have seen a significant growth in the conversations surrounding climate change and waste management efficacy. There is still work that needs to be done in convincing South Africans to adopt environmentally sustainable practices. As it stands, only certain segments of the population lead and participate in conversations around such issues. Companies such as Waste Want need buy-in from the majority of the population to thrive.

the widespread adoption of sustainability practices. Through different departments, such as horticulture, tree cutting and pruning, Waste Want has many avenues to address the intersection between environmental protection and sustainability.

Anderson believes it is the people he has uplifted who are his biggest accomplishment. Many of Waste Want's employees come from very disadvantaged backgrounds, and seeing where they are now compared to where they were has been one of Anderson's greatest achievements.

— Tshiamo Seape



Waste Want addresses educational disparities that hinder

#### **Megan** Swart

Operations manager @ Packa-Ching

@Packa-Ching
Megan Swart

@wastewant



@wastewant

Packa-Ching provides recycling infrastructure on people's doorsteps, while educating communities about waste management and recycling.

acka-Ching is a Polyco initiative that collects separated recyclable waste at source. It develops small businesses that collect and recycle packaging from low-income and informal areas — areas that often have little to no recycling infrastructure or education. So far, Packa-Ching has paid out more than R3-million to Packa-Ching users and diverted more than 3.8-million kilograms of waste from landfills — statistics that fill operations manager Megan Swart with pride.

The initiative is a mobile truck-and-trailer solution that brings recycling infrastructure to people's doorsteps, while educating communities about waste management and recycling. Only about 5% of South Africans recycle, leaving 95% of waste to go to landfills or lying on the streets.

The lack of recycling infrastructure, education around recycling and the incentive to make an effort is at the heart of the problem. And Packa-Ching provides a solution to each of these problems.

Swart recalls an occasion when an elderly woman told her that she was begging on the before she joined the initiative. Today, she sells enough recycling to put food on the table for her four grandchildren.

"My work can give community members a dignified income. I try to be the change I want to see in the world," she says.

This initiative has had a big impact iacross the country, changing lives in low-income communities. It helps alleviate poverty by contributing to enterprise development and a

cleaner environment. Swart's team is working hard to expand the project across South Africa to 25 mobile and pop-up units. For her, working with communities brings a sense of belonging.

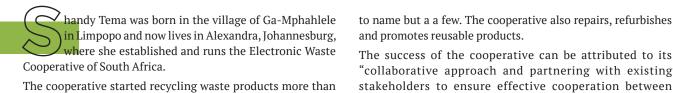
"This work is more than increasing revenue for the people at the top. It makes a real difference."

Linda Cilliers

### **Shandy** Tema

Community development facilitator, trainer and moderator @ Electronic Waste Cooperative of South Africa

The aim of the cooperative is to achieve the dream of a "self-realised grassroots empowered way of living".



20 years ago. It is now an integrated system of environmental management programmes and projects. The aim of the cooperative is to achieve the dream of a "self-realised grassroots empowered way of living". says Tema, and this can be achieved through reducing pollution in Alexandra and ensuring the greening of a clean environment.

Tema has personally been involved in conservation efforts since the age of 12. "I'm an advocate for recycling, reduce, reuse — my daily work is developing plans to see the youth being active in the environment where they live," she says.

The Electronic Waste Cooperative of South Africa works by recycling electronics, office equipment and home appliances,

and promotes reusable products.

The success of the cooperative can be attributed to its "collaborative approach and partnering with existing stakeholders to ensure effective cooperation between communities and companies for sufficient action to save the country and the world at large — the aim is to build together", says Tema. Tema has been involved in the curriculum development of e-waste issues, as part of professionalising the industry to ensure proper coordination and management within the waste management sector, in areas such occupational health and its practices and licencing. "We are aiming for a clean environment through e-waste recycling with the view of changing how communities view the environment and, ultimately, creating zero waste and saving the planet," she says.

— Neo Khanyile





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