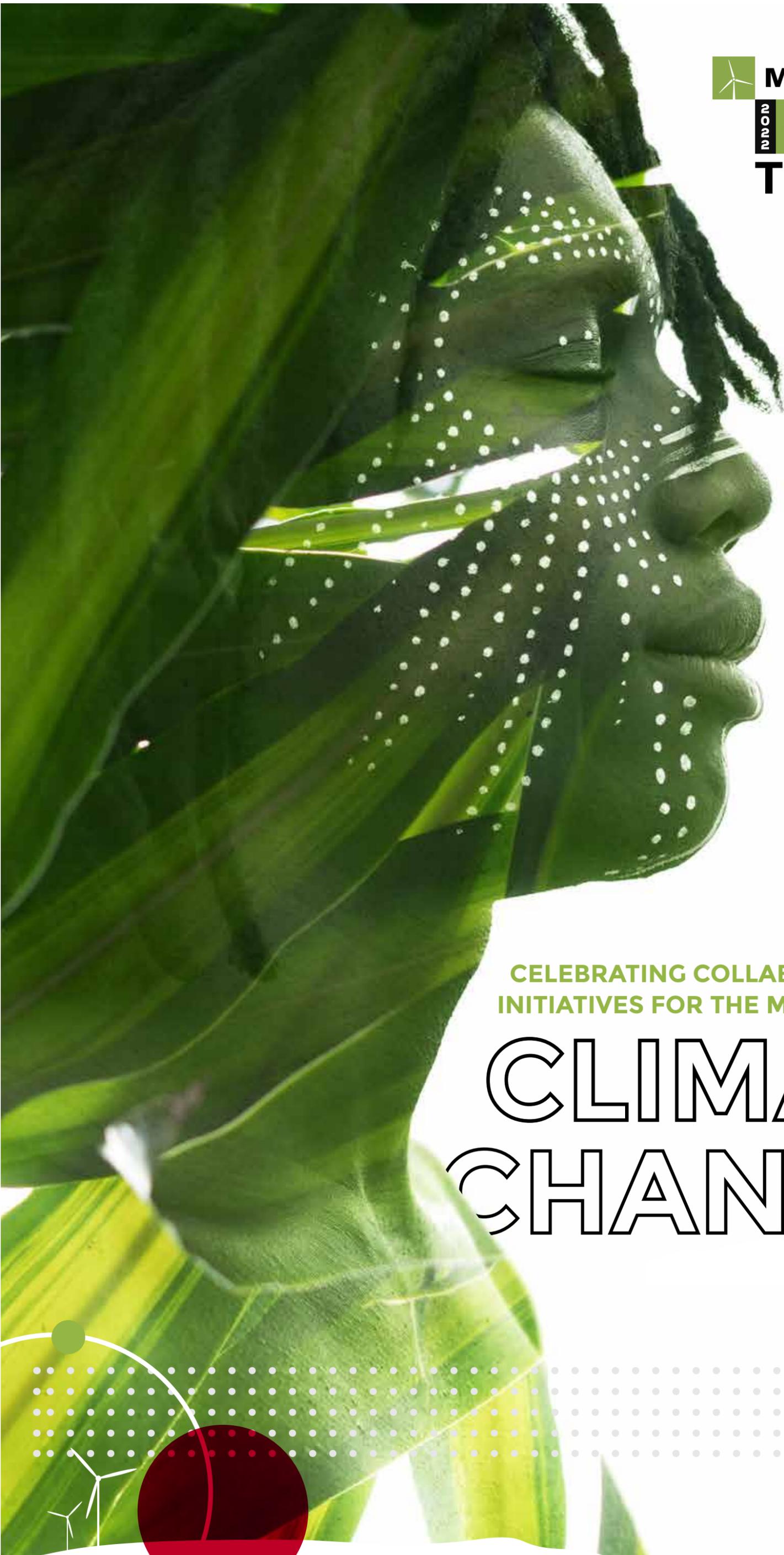




Mail & Guardian

2020

**GREENING
THE FUTURE**



CELEBRATING COLLABORATIVE
INITIATIVES FOR THE MANAGEMENT OF

CLIMATE CHANGE.





THE CLIMATE CLOCK

WE HAVE THIS MANY YEARS, MONTHS AND DAYS TO LIMIT GLOBAL WARMING TO 1.5 C TO AVOID DEVESTATING GLOBAL CLIMATE IMPACTS.



WE ARE IN A CLIMATE EMERGENCY, BUT THERE IS STILL TIME TO AVERT DISASTER IF WE TAKE BOLD, IMMEDIATE ACTION AT THE SPEED AND SCALE NECESSARY - BEYOND WHAT POLITICIANS HAVE DEEMED POLITICALLY POSSIBLE. THE NEXT ~7 YEARS IS HUMANITY'S BEST WINDOW TO ENACT

BOLD, TRANSFORMATIONAL CHANGES IN OUR GLOBAL ECONOMY TO AVOID RAISING THE GLOBAL TEMPERATURE ABOVE 1.50C, A POINT OF NO RETURN THAT SCIENCE TELLS US IS LIKELY TO MAKE THE WORST CLIMATE IMPACTS INEVITABLE. THE DEADLINE AND LIFELINE ON THE CLIMATE CLOCK TELL US WHAT WE NEED TO DO, BY WHEN. THEY ARE ARGUABLY THE MOST IMPORTANT NUMBERS IN THE WORLD.

IT'S WORTH UNDERSTANDING WHY
CLIMATECLOCK.WORLD

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Mail & Guardian GREENING THE FUTURE

LAUDING THE REAL CLIMATE HEROES



This year is a crucial one for Africa, given that the United Nations Climate Conference, COP27, took place in Egypt. The focus was on loss and damage, mitigation and adaptation. These themes are crucial for African countries, which face terrible harms caused by the climate crisis if carbon emissions aren't curbed – and they require serious finance to adapt to global warming.

Promises were made and plans are in place to deal with the climate crisis. We have to wait and see if these materialise. It's no understatement to say that the world is at a tipping point.

When the world's leaders travelled in private jets to attend COP27, the irony was apparent.

When the developed nations that got rich using fossil fuels told developing nations to use clean energy, we saw the irony.

When they said they would help finance the just energy transition, they offered loans that will have to be repaid and, once again, we saw the irony.

So, instead of lauding these countries and deals, the *Mail & Guardian* uses its *Greening the Future* edition to laud the real-life climate heroes. We celebrate people on the ground working hard to make a difference. The environment has always been a serious matter at the *M&G*. That's why we take the time to acknowledge people who fight for a better, more liveable planet for future generations.

In our 18th edition of *Greening the Future*, we used the key themes at this year's climate conference as categories. This year, the winners are working for a just energy transition, clean technologies, adequate clean water, waste reduction and protecting natural habitats and biodiversity.

I am honoured to be involved in a process where climate and environment champions are celebrated and recognised. It is a time for change, cleaner solutions and uplifting the most vulnerable. That's what this year's winners of *Greening the Future* hope to achieve.

Ozayr Patel
Climate and environment editor, Mail & Guardian

AWARD CATEGORIES.

	AGRIBUSINESS AND 4IR		CLEAN AIR AND THE QUALITY OF LIFE		PRESERVATION OF NATURAL HABITATS
	CLEAN, RENEWABLE ENERGY PROJECTS		GREEN FINANCING		PROTECTION OF OCEANS
	SAFEGUARDING THE QUALITY OF WATER		WASTE MANAGEMENT PRACTICE		SUSTAINABLE DESIGN





Mbongeni Buthelezi

Artist, mentor and activist @ Mbongeni Buthelezi Art Studio

f @Mbongeni Buthelezi

@buthelezimbongeniart

KwaZulu-Natal-born artist Mbongeni Buthelezi works in an unusual medium – plastic. He repurposes the synthetic material to make art, helping to raise awareness and combat climate change. He believes that art has the power to create environmental change, and wants to use his medium to raise awareness about this very important issue.

Every part of Buthelezi's artistic process is an intentional and a deliberate attempt to minimise pollution and find new uses for what would otherwise end up in landfills. He uses a heat gun that emits hot air to safely melt plastic waste, which he then applies onto recycled canvas. He creates striking abstract artworks, highly textured portraits and brightly hued depictions of animals.

Thanks to Buthelezi's collaboration with Bloomberg Philanthropies, his upcycled work was showcased at COP27, the United Nations Climate Change Conference in Sharm El-Sheikh, Egypt.

A series of his artworks that focus on the destructive impact of single-use plastics on

our oceans was on display for those in attendance at the November summit.

The 56-year-old artist, mentor and climate change activist has a wealth of experience; he's held exhibitions, participated in festivals, led workshops and taken up artist residencies in Germany, the US, Barbados, Egypt, Australia and Saudi Arabia.

He says: "As an artist, I am the mirror of my society. I'm supposed to reflect on what is happening on the ground where I live." He comes from a region – and a world – with a plastic waste problem. "What's on the ground is plastic. I feel that we all have a responsibility to act now."

— Patrick Visser

COP27 LOSS AND DAMAGE FUND WELCOMED BUT SOME FEAR IT IS AN 'EMPTY BUCKET'

Nations around the world reached a historic breakthrough agreement at the 27th Conference of the Parties (COP27) in Sharm El Sheikh, Egypt. The agreement was to fund the loss and damage incurred during climate-related disasters which are largely linked to past emissions by a few of the world's most developed countries.

Loss and damage talks remained the most contentious item on the agenda at the meeting and delegates were given three proposals by different countries or negotiating blocs over the weekend. The decision was that a financial support structure on loss and damage for the most vulnerable must be set up by the next COP in 2023. Costs from extreme weather events are estimated to be \$200 billion annually.

Loss and damage funding was mostly provided by the G7's Global Shield programme, an insurance initiative for 20 of the world's most vulnerable nations. Finance also went to UN early-warning systems, with some commitments to the Santiago Network and country-specific projects. About \$340 million in new pledges for loss and damage were made. This is a network that connects vulnerable developing countries with providers of technical assistance, knowledge and resources in relation to averting, minimising and addressing loss and damage due to rising temperatures.

COP president and Egyptian Foreign Minister Sameh Shoukry said political decisiveness had been shown at COP27, despite the differences between parties.

"It was only appropriate that this COP, the implementation COP in Africa, is where the fund is finally established. Millions around the globe can now sense a glimmer of hope that their suffering will finally be addressed swiftly and appropriately."

A LACK OF TRUST

Trust has been a major issue for the developing world as a result of failed financial promises in global climate diplomacy. Despite this, Shoukry pleaded with parties to realise their collective goals.

"Throughout this journey I came to better understand the climate challenge and to acknowledge the complexities and intricacies around it and to feel the agony and suffering. I came to realise that, despite the seemingly wide gaps in positions between parties at times, we are all here working for the same purpose in different ways. We need more trust, more empathy and more understanding – we all deserve this," he said.

The fund is among the most celebrated outcomes and a big step towards climate justice at COP27, which concluded two days over schedule on Sunday morning after intense negotiations on the final declaration.

"COP27 has delivered a historic decision on a loss and damage fund. This decision on African soil is a first step to rectify the systemic injustice towards billions of people on the frontlines of the climate crisis. The hard work to operationalise the fund and mobilise funding starts now. We will not have patience for delay or obstruction for progress," said Climate Action Network international's director Tasneem Essop, a veteran activist from South Africa.

Speaking during the closing plenary session just after 5am, Essop cautioned countries that failing to declare a phase-out of all fossil fuels would increase the burden of loss and damage.

"While COP27 begins to address the consequences of the climate crisis, it fails to commit to phasing out all fossil fuels which are at the root of the climate crisis. More fossil fuel equals more losses and damages," she said.

"At the beginning of these talks, loss and damage was not even on the agenda and now we are making history. It just shows that this UN process can achieve results and that the world can recognise the plight of the vulnerable.

"It's worth noting that we have the fund – but we need money to make it worthwhile. What we have is an empty bucket. Now we need to fill it so that support can flow to the most impacted people who are suffering right now at the hands of the climate crisis," said Mohamed Adow, executive director at Power Shift Africa.



COP27 has been officially closed off and nations around the world have reached a historic breakthrough agreement.

MAJOR GAPS FOR PREVENTING THE WORST OR THE MONEY TO ADAPT TO IT

Climate adaptation is equipping people and the environment to deal with climate shocks. Finance for adaptation has thus far been wanting and countries are already due to agree on a new global goal on adaptation. This has been pushed to COP28 in Dubai 2023. Signatories to the 2015 Paris Agreement, that commits the world to limiting warming below 2°C above pre-industrial levels and to try to keep it below 1.5°C, have largely failed on financial promises in most areas of climate action, including a \$100 billion a year promise to help developing nations prepare for changing climate.

Some regions of the world are already reaching 1.5°C averages, while assessments have found that Africa is already 1.2°C warmer and the impacts are showing.

The UN 2022 Adaptations Gap Report said a multi-year drought in the Horn of Africa, unprecedented flooding in South Asia, and severe summer heat and record-breaking droughts across many regions of the Northern Hemisphere, among others, point to mounting and ever-increasing climate risks. It said this had been compounded by the global energy and food security crisis after the Covid-19 pandemic and the war in Ukraine.

It found that international adaptation finance to developing countries had continued to rise, reaching \$28.6 billion in 2020. This represents a 34% share of total climate finance to developing countries in 2020 and is a 4% increase from 2019. It said that combined adaptation and mitigation finance flows in 2020 fell at least \$17 billion short of the \$100 billion pledged to developing countries, even by climate finance providers' own accounting.

MITIGATION

At the same time, mitigation, the act of limiting warming by stopping emissions, has shown little improvement in moving with science. Global emissions need to peak globally by 2025 to meet the 1.5°C goal. This failed to manifest in the final cover text at COP27.

COP26 president Alok Sharma described the negotiations as a relentless fight to hold the line on the target to keep temperature rise to 1.5°C. According to climate scientists, every degree of average warming since the Industrial Revolution began pumping vast amounts of greenhouse gas into the air, matters.

The failure at COP27 to move on emissions occurred in a year when the world has experienced massive climate impacts, such as flooding in Pakistan, Nigeria and Australia, and drought in the US, which will mean support structures, such as the loss and damage fund, have to work even harder. The 1.5°C goal was referred to in the deal but only to recognise it. Specific plans to actually achieve it were absent.

Sharma said a number of proposals about how to reach the goal were made at the beginning of COP27 but many failed to materialise.

"We joined with many parties to propose a number of measures that would have contributed to this.

"Emissions peaking before 2025, as science tells us is necessary. Not in this text. Clear follow-through on the phase-down of coal. Not in this text. A clear commitment to phase out all fossil fuels. Not in this text. And the energy text, weakened, in the final minutes.

"Friends, I said in Glasgow [COP26] that the pulse of 1.5°C was weak. Unfortunately, it remains on life support and all of us need to look at ourselves in the mirror and consider if we have fully risen to that challenge over the past two weeks," he said.

UNEVEN CLIMATE CHANGE

A key point scientists have made in major scientific assessments on the effects of warming is that the impacts of climate change haven't been spread evenly around our planet and they won't be in the future.

An Intergovernmental Panel on Climate Change Special Report on Global Warming shows that limiting warming to 1.5°C is expected to significantly reduce the probability of heat stress, drought and risks related to water availability in some regions, particularly in the Mediterranean (including Southern Europe, Northern Africa and the Near East), and in Southern Africa, South America and Australia.

About 61 million more people in the world's urban areas would be exposed to severe drought in a 2°C warmer world than at 1.5°C warming. This is among the reasons the final outcome of the past two weeks of talks among countries is underwhelming for human and environmental rights advocates who witnessed world leaders fail again to commit to a complete phase-out of fossil fuels in order to reach net-zero emissions by mid-century.

— Tunicia Phillips



The Future Reimagined



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This year our UJ Cloudebates™ focused on how the innovative technologies of the Fourth Industrial Revolution (4IR) can assist in alleviating the detrimental effects of climate change.

Visit uj.ac.za/4IR and click on Cloudebates™ to recycle this informative video series, before it's too late.

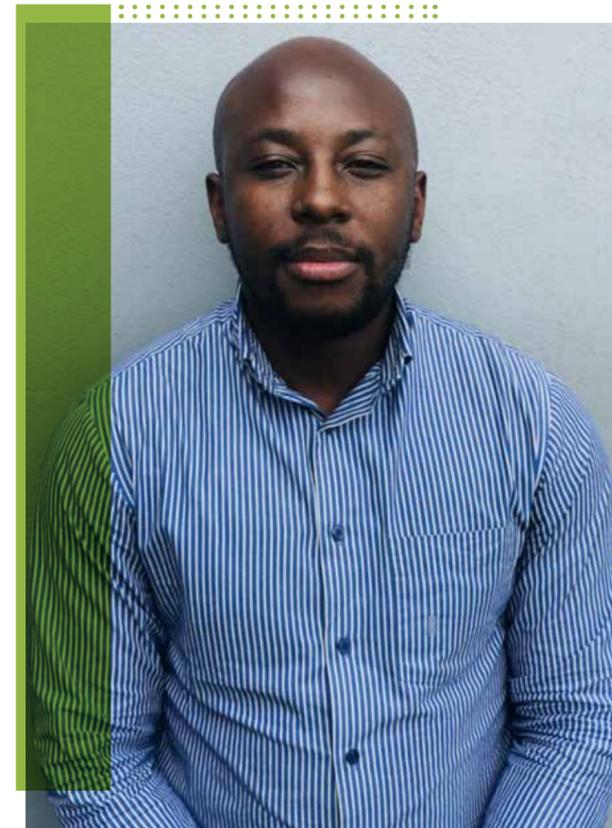
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AGRIBUSINESS AND 4IR.



Harold Rivombo

Town and regional planner @ Excellence Development Consultant

- @Rivos.Harold
- Harold Rivombo
- Harold Rorisang

"If protected, our natural environment can help create jobs and ensure all South Africans live in an efficient and sustainable environment," Harold Rivombo believes. As a town and regional planner, he has been exposed to the impact human behaviour has on the natural environment.

In 2019, Rivombo was part of a task team for the Khawuleza campaign initiated by President Cyril Ramaphosa, a collaboration between the departments of rural development and cooperative governance and traditional affairs. The campaign was aimed at compiling socioeconomic profiles for district and metropolitan municipalities to promote the "One District, One Development" concept as part of the district development model.

He has extensive experience in training municipality and government officials in developing strategies to effectively and sustainably deal with climate change.

The demands of his career quickly taught him that he needed to be adaptable and self-motivated. He had to tap into his leadership skills to carry out projects. "I remember an instance where I oversaw multiple projects. A supervisor was unavailable and I had to take charge," he says.

His notable achievements include participating in the Green Economy Development Programme with Youth Ignite in conjunction with the American embassy. The programme lasted six months and included a competition called the Green Action Challenge, in which he placed third.

Rivombo plans to engage NGOs, government departments and municipalities on national platforms to create climate change awareness campaigns. "South Africans should know that our environment is endangered and yet full of potential," he says. "Fertile land suitable for agricultural purposes is invaded by land grabbers who form informal settlements that are not in line with the plans of municipalities and the departments of human settlements, agriculture and economic development. There should be policies and strategies to protect communities from negative outcomes that may arise in [the] future."

— Matome Maenetsha

Dr Mamoloto Tlabela

Founder and chief executive @ Mamoloto Technologies

- Dr. Mamoloto Tlabela, Ph.D (MBA, M.Inst.D, Reg Eng Tech)
- @MTlabela
- @Tlabela Mamoloto (Dr Mamoloto)

After spending more than 30 years working in the electricity sector and becoming aware of problems such as copper theft, ongoing load-shedding and environmental damage caused by the continued use of fossil fuels to produce energy, Dr Mamoloto Tlabela decided to use renewable energy sources to help reduce greenhouse gas emissions. He founded a solar photovoltaic company in order to manufacture, install and upgrade this renewable energy source for residential, commercial and industrial energy uses.

He says: "I think that these modest steps help achieve the United Nations' sustainable development goals of a world free from environmental harm."

Tlabela's organisation, Mamoloto Technologies, plans to diversify into wind, ocean waves and green hydrogen energy. Wind energy diversification has already begun, particularly in coastal areas where small household turbines are integrated with a solar energy mix.

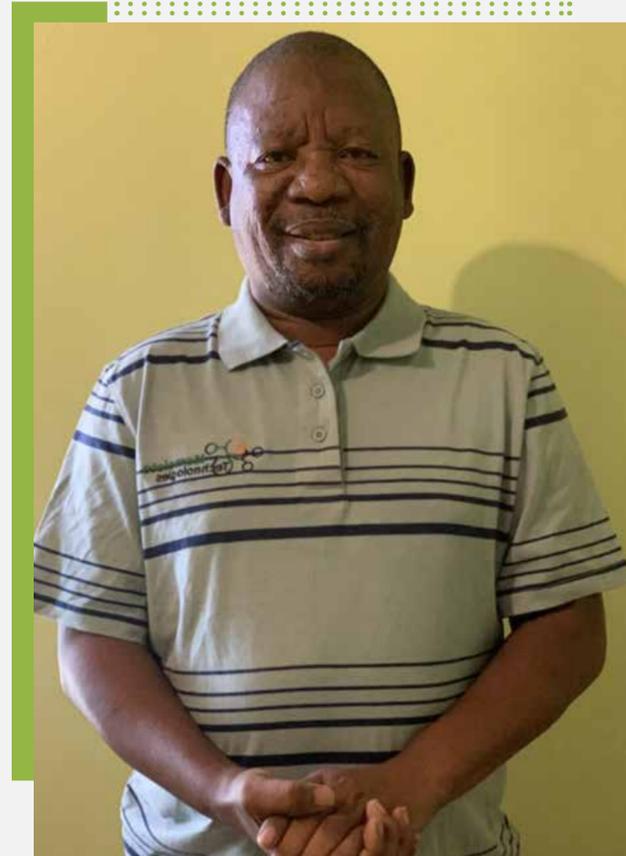
"As the adage goes, 'every generation borrows the planet from the next', so we must ensure that the environment is sustainable for the future. The best way to sustain this planet is to preserve the environment by using renewable energy sources. Solar photovoltaic is not toxic to future generations, whether they are plants,

animals or humans, and will never be depleted," he says.

Due to South Africa's socioeconomic conditions, shack fires, caused primarily by fossil fuels, are of particular concern. Tlabela believes that solar photovoltaic energy that is free of hazards will help prevent shack fires, while saving lives and the surrounding environment.

"By harnessing solar power, it is possible to reach a large number of households electrical copper cabling is not distributed over a long distance, which makes it vulnerable to theft, because [its] installation is contained within a household," he says.

— Afrika Bogatsu





f Themba Khumalo

Themba Patrick Khumalo

Secretary and co-founder @ Sukumani Environmental Justice

"People need to understand that it is their constitutional right to live in an environment that is not harmful to their wellbeing. Nature and the environment cannot fight for itself. It is us who must protect it for generations to come," says Themba Patrick Khumalo.

When he cofounded Sukumani Environmental Justice (SEJ) in 2019, its goal was to assist coal mining-affected communities in challenging the industry and to highlight the effects of Ikwezi Mining's operations on his hometown of Dannhauser.

The mining company's promises of job creation had originally filled the community with hope, but the reality of coal mining in the area was: blasting damaging property, cattle losing grazing land, local rivers and dams being contaminated and people feeling the effects of inhaling coal dust.

So, when Ikwezi Mining announced its plans to expand operations to the nearby town of Shepstone Lake, Khumalo and his SEJ colleagues leapt into action. They organised community meetings with key stakeholders and the Shepstone Lake community, in which they discussed the effects of coal mining.

When it became clear that people were unhappy, SEJ conducted a door-to-door petition to force the company to put forward a clear plan on how it would minimise its effects on the environment and people's health. And, as that plan is yet to emerge, SEJ was able to halt Ikwezi Mining's operations.

Khumalo believes educating communities is the key to ensuring the protection of the environment — and the people who call it home — for generations to come. Along with two other SEJ members, Khumalo attended the Rights and Remedies course by GroundWork Environmental Justice School and the Centre for Environmental Rights, enabling the organisation to host community workshops that educate people on their rights and empower them to make informed decisions.

— Jessica Littlewood

Michelin

Michelin Group

@Michelin @MichelinRSA Michelin

Michelin is a global leader in motor vehicle manufacturing, as well as an innovator in sustainable practices.

Karren Fikile, customer experience and digital marketing manager, says the Michelin factory in Bloemfontein has made strides in reducing environmental impact. The factory has pioneered the switch from coal to diesel in powering automotive manufacturing. The autoclave, which previously used coal to generate electricity for the factory, now runs on diesel.

On coal, the factory was using 65.4 megawatt hours per month on average. In comparison, diesel electricity usage is down to 35.6 megawatt hours per month. This equates to 13.741 tonnes of carbon emissions per month, roughly half of the previous coal carbon emissions. This saving by Michelin and Northswan Engineering significantly lessens its impact on the environment.

Michelin's global chief executive Florent Menegaux says: "Tomorrow, everything will be sustainable at Michelin," to emphasise the company's commitment. With their future-forward approach to transforming the automotive industry, Michelin aims to be 100% sustainable by 2050.

Michelin South Africa and Sub-Saharan Africa recently moved into their new, ecofriendly offices in Sandton. The office is 25% more energy-efficient as it is partially powered by solar energy. Thanks to Michelin's New Ways of Work programme, the company is reducing its collective carbon emissions impact by 40%.



Other sustainable innovations from Michelin include the green tyre, an ecofriendly alternative to normal tyres. Fuel consumption is affected by rolling resistance of tyres. By reducing the amount of friction created by tyre movement, vehicles fitted with these tyres don't consume as much fuel. Green tyres have many benefits: as well as improving fuel efficiency and reducing environmental impact, they have above-average grip and are more cost-effective than normal tyres.

— Laura du Toit

Mbali Brigette Mathebula

Activist @ Vukani Environmental Justice Movement in Action

Mbali Brigette Mathebula discovered the colossal voice that a small community can have.

Hailing from eMalahleni — "the place of coal" — Mathebula is a first-hand observer of the effect of pollution on her community's health. A satellite data analysis by Greenpeace Africa in 2018 revealed that eMalahleni tops the charts as one of the world's largest nitrogen dioxide hotspots. This harmful gas contributes to the formation of fine particles, known as PM2.5, and ozone, two of the most dangerous air pollutants.

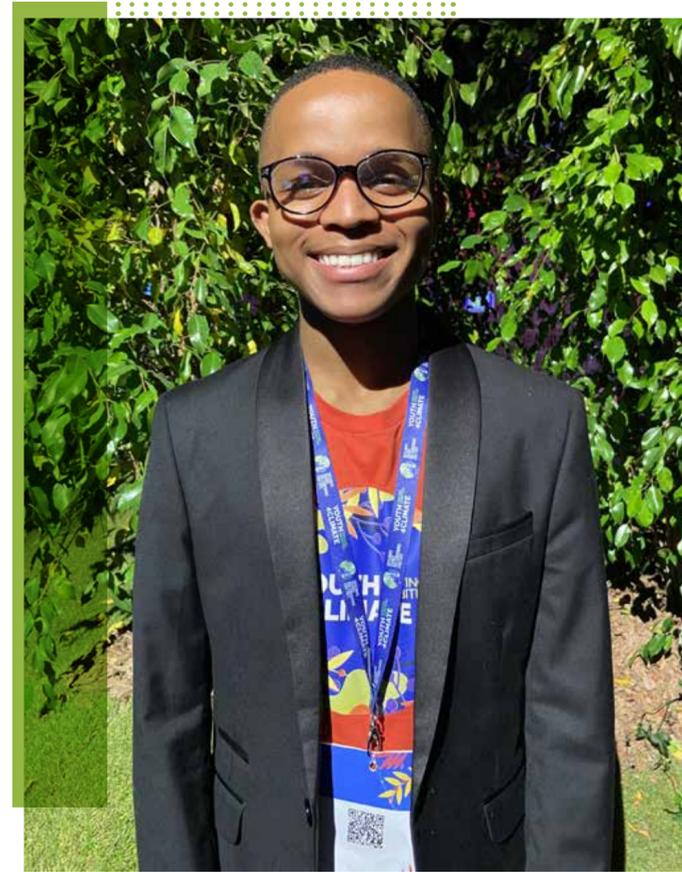
Mathebula therefore takes climate change seriously. She realises that the consequences of pollution affect her community directly — not only now, but increasingly in the future.

She regards raising her children as her proudest accomplishment. After the harrowing realisation of their declining health, Mathebula says: "I couldn't be quiet anymore as my girls were affected. I don't wish this upon any other person, so I vowed to speak up and raise awareness around my community."

Her own voice of awareness has been amplified by her involvement with the Vukani Environmental Movement (VEM). This community-based organisation was established in 2016 to address environmental issues that local communities face.

In March 2022, VEM was integral in the ruling of the #DeadlyAir case — a triumph for environmental justice. The high court recognised the poor air quality in Mpumalanga's Highveld region as a breach of residents' constitutional right to have the environment protected from pollution, and to live in an environment that is not harmful to their health and wellbeing. Mathebula advocates an uncontaminated environment and community. "I wish that everyone could play a role in taking care of the environment and change their way of thinking that coal is the solution," she says. "I wish that we [could] realise that a good life without fossil fuels is possible."

— Simon Dey



Sibusiso Mazomba

Youth advocate and student @ African Climate Alliance and Youth@SAIIA

@MazombaSibusiso

Sibusiso Mazomba

Sibusiso Mazomba's aim is to share the important connection humankind has with nature. He says: "I would like more South Africans to understand our dependence on nature — we rely on our environment for the air we breathe, the food we eat and the water we drink. Nature positivity contributes to our physical, mental and emotional wellbeing."

As a climate justice activist with a keen interest in youth participation in policy and decision-making, Mazomba is a youth policy member at the African Climate Alliance. The not-for-profit organisation aims to mobilise youth across Africa to partake in the climate change movement. Mazomba's particular focus is raising awareness about the harm fossil fuels wreak on our environment.

Currently a third-year student at the University of Cape Town, majoring in oceanography and environmental and geographical science, Mazomba is part of the Youth@SAIIA delegation that participated in this year's 27th United Nations Climate Change Conference. He returned as a junior negotiator for a second time, focusing on climate empowerment and protection of the oceans.

Mazomba imagines a world in which our relationship with nature is more considered in urban planning. We need to rekindle our connection with nature so that it can be appreciated and protected through collective action. "With or without us, nature will recover from human-induced destruction, so it is in our interest that we begin to restore and protect our natural systems."

Mazomba lives up to his words. He's been instrumental in advocating for the Johannesburg Youth Climate Action Plan, a policy that will inform the city's climate action for the next decade. He looks forward to climate organisations in South Africa becoming more collaborative in their efforts, in making meaningful climate change decisions and implementing effective action.

— Olive Klara Hodge

African Climate Alliance

@AfrClimAlliance

African Climate Alliance

@africanclimatealliance

African Climate Alliance is a driving force in getting young people involved in the quest for environmental change. Highlighting the importance of climate justice as an integral part of change, this organisation moulds the minds of future eco-warriors to understand the significance of Afrocentric socio-environmental education.

The organisation is centred around the importance of youth engagement, and its staff are continuously astounded by the engagement and vigour young people throughout the continent have in regard to actively contributing to the fight for change.

African Climate Alliance began after the 2019 protests that voiced concerns about climate injustice in Cape Town. As protests against climate change are usually approached through a Westernised lens, the organisation makes an effort to alter this constrictive framework into a redefined and innovative structure of environmental justice in and for Africa.

Afrocentric climate literacy and social inclusion are at the forefront of its adjusted metric; African Climate Alliance provides a voice for the voiceless and creates a platform for open communication and community collaboration. It strives to continue forming youth-centred climate alliances throughout the continent. One of its top achievements in



the fight for change was an open letter addressed to the African Union, voicing concerns about climate justice. From youth education to advocacy programmes, this operation provides a state of active involvement for the next generation of environmental activists and leaders.

With more than 700 young people in 21 different African countries declaring their support, this organisation is a woven tapestry of diverse perspectives coming together in the fight against climate change.

— Louise Bell



PRESERVATION OF NATURAL HABITATS.



f Kyle Lloyd **in** Kyle Lloyd

Dr Kyle Lloyd

Wetland conservation project manager @ BirdLife South Africa

Dr Kyle Lloyd is a wetlands conservationist with a strong understanding of the correlation between the protection of our environment and the sustainability of our society. Through his work as a project manager at BirdLife SA, he has been instrumental in defending regional wetlands.

As a child, Lloyd grew up on a chicken farm where he gained an early understanding of nature and how we interact with it. His curiosity and love for nature and his determination to protect it emerged as a result of his adventures with his brother and the animals on their farm. This resulted in Lloyd studying zoology, in which he now has a PhD. BirdLife SA works to protect ecosystems by supporting South Africa's indigenous bird populations and creating greater harmony between people and the natural habitats they interact with. One of his proudest achievements at BirdLife SA has been the declaration of the only confirmed breeding site of the white-winged flufftail in the southern hemisphere as a nature reserve. Lloyd asserts that conservation is not just the responsibility of the few. It's on all of us. Many of our fundamental human rights

— such as clean water and breathable air — are inextricably linked to the health of the environment. By degrading biospheres, we inhibit nature's ability to provide us with these basic "services", and it is the poorest and most vulnerable who suffer most.

He encourages people to take the time to learn about and support conservation efforts through volunteering, donating and finding ways to use their existing experience and skills outside of the conservationist paradigm to support conservation efforts. If we see conservation as our collective responsibility, we can apply different strategic and practical approaches to really enact change.

— Anita Makgetla

Thiyane Duda

Researcher @ Land and Accountability Research Centre, University of Cape Town

t @thiyaneduda **f** Thiyane Duda **in** Thiyane Duda

Thiyane Duda is a researcher at the University of Cape Town's Land and Accountability Research Centre (LARC). LARC works with citizens living in the former homelands and provides support regarding the protection of rights and living customary law. The centre works to analyse, summarise and translate the particulars of laws and policies, which are then communicated to the people concerned.

Ensuring that rural citizens are informed about these matters means that they can keep local leaders accountable and challenge decisions that do not serve them. "Parliament will draft acts without consulting those living in these areas, and without knowing how the people manage their land and resources," says Duda. "This can be a threat to both the land and people's way of living." His area of focus is on traditional governance and living customary law. He plays a key role in equipping rural citizens with the knowledge and means to hold space in

public hearings and share their experiences, opinions and grievances in both traditional and magistrate's courts. In doing so, he offers people an opportunity and a platform to fight for a life on their own terms.

He notes how it is those with a deep historical and spiritual connection to the land who hold the most knowledge about sustainable living practices. "If you are not consulting the people who live on the land, who have known it for centuries, you are saying that they are people not worth listening to. You are losing valuable knowledge." He believes that we



need to begin with consulting those living on the land directly, personally and in good faith.

"We cannot exist without our natural environment. We are completely dependent on it. In destroying it, we destroy ourselves. If we want to survive, we have to respect and preserve it."

— Natalie Fraser

Natania Botha

Content developer and partnerships coordinator @ Indalo Inclusive South Africa NPC

Natania Botha lived a very carefree life as a child. However, she then encountered great difficulties and was forced to leave high school, find a job and become the breadwinner for her family. Through hard work and determination, Botha returned to school and then graduated. "I am now in the process of completing my master's in international business," she says.

This year, Botha travelled extensively around South Africa to document the effects of climate change as part of her work as an environmental activist. Her goal is to build value-adding and sustainable relationships with social and political leaders to uplift communities and mobilise citizens to create green and inclusive spaces. "My determination and desire is to live a purpose-led life," says Botha.

Her proudest moments include being part of Mail & Guardian 200 Young South Africans in 2021, featuring in the Top 12 Females in the Corporate Social Responsibility News South Africa awards (also in 2021) and being part of the Young African Leadership Initiative (Yali Alumnus).

She believes that we need to care for the natural environment

because we are an extension of it. "Let's see things as if you are half human and half plant, because without trees and plants, we will not be able to breathe and human inhabitancy on earth will not be possible," she says. "We need to protect and nurture this connection with nature at all costs."

Botha explains that the only way we can ensure permanent sustainability is to actively support and empower the youth to innovate. "We need to unlock our minds to think beyond the Paris Agreement and create the desired world we want to not only see for our children, but experience for ourselves in this lifetime."

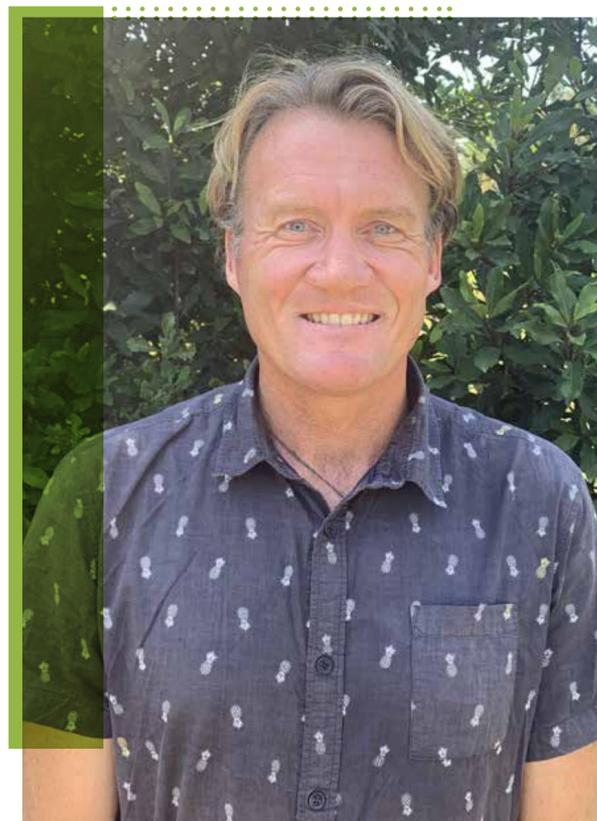
— Neumisa Lerato Kunana



f Natania Botha **in** Natania Botha



PRESERVATION OF NATURAL HABITATS.



Dr Anton Wolvaardt

Project manager @ Mouse-Free Marion Project

f anton.wolvaardt **in** Anton Wolvaardt

As a biologist in research, conservation and eco-management, Anton Wolvaardt has dedicated 25 years of his life to protecting endangered seabirds and marine life. Appointed by the non-profit organisation Saving Marion Island's Seabirds, he manages the Mouse-Free Marion Project.

The initiative aims to eradicate the house mouse population on Marion Island, located between South Africa and Antarctica, by 2024. It is believed that mice were introduced almost 200 years ago and, as an invasive species, they have become an environmental threat to the island's 28 different seabird species. The Mouse-Free Marion Project was established by Birdlife South Africa.

Islands, Tristan da Cunha, South Georgia and the South Sandwich Islands.

Wolvaardt spent time with his uncle exploring the natural world and his curiosity grew further under the tutelage of Dr Douglas Hey, the first director

“ I was lucky to be raised by a family with a love of the outdoors ... which exposed me to the beauty and magic of the natural environment ”

of nature conservation (1952-1979) in what was then called the Cape province.

"I was lucky enough to

Under his eye, the project has raised over R100 million — and counting. Wolvaardt has also worked as a conservation manager on Dassen Island Nature Reserve, an uninhabited island 55km from Cape Town in the Atlantic Ocean. He acts as the chair of the Redford Conservancy and as a non-executive director of the board of the Southern African Foundation for the Conservation of Coastal Birds.

be brought up by a family with a love of the outdoors," Wolvaardt says. "Family holidays were often spent in the Cederberg mountains or exploring the stunning coasts of our country, observing and marvelling at the varied and fascinating wildlife. We spent a lot of time hiking and camping, and I started surfing at a young age, all of which exposed me to the beauty and magic of the natural environment."

— Lethabo Nxumalo

He has also worked as an ecologist in the British Antarctic Territory, particularly in the Falkland

Dr Fortunate Mafeta Phaka

Project director, author and postdoctoral fellow @ South African Institute of Aquatic Biodiversity and North-West University

t @Green_Darkie
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Dr Fortunate Mafeta Phaka is an environmental scientist and wildlife TV producer striving to introduce more harmony into the relationship between culture and biodiversity in South Africa.

He is the author of A Bilingual Guide to the Frogs of Zululand, an English and isiZulu book that makes wildlife knowledge more linguistically accessible.

Phaka is currently working as a postdoctoral fellow in herpetology (the study of amphibians and reptiles) at the South African Institute of Aquatic Biodiversity. His efforts here are directed at demonstrating the conservation potential of South Africa's cultural practices, and how we can all work to protect the biodiversity on which we rely.

His current research focuses on understanding how South Africa's nature-based cultural practices can be used to improve conservation so that it becomes

socially inclusive while still protecting biodiversity. Since South Africa's National Environmental Management Principles encourage consideration of all people and their knowledge, this research hopes to improve environmental science's alignment with national policy and make recommendations on how to integrate traditional cultural practices into current conservation measures. His research has been successful in demonstrating that there are traditional cultural practices that protect nature.

Phaka often works as a wildlife TV producer, director and script adviser. His most recent film work was as a producer for the nature and culture programme Imvelo on SABC2.

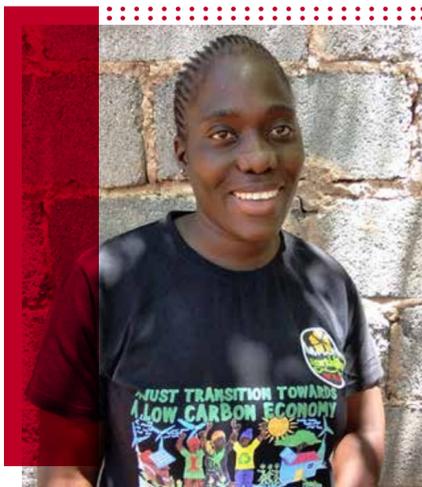


In 2017, he received the ACRS Future Leader of Conservation Award from the Amphibian Conservation Research Symposium. Phaka was also featured in Mail & Guardian 200 Young South Africans in 2016.

He is a project director at Youth 4 Africa, a wildlife NPO that helps young people

better understand how they can be part of conserving our country's biodiversity. He leads experiential conservation experiences where the youth spend a month gaining hands-on experience looking after nature reserves.

— Daniël De Jager



Pfarelo Apologise Bologo

Director @ Pepper Bark Environmental and Development

Pfarelo Apologise Bologo has gained valuable experience as a researcher for GroundWork, a non-profit environmental justice organisation; now she is now putting that into action. As director of Pepper Bark Environmental and Development, she works to educate and involve young people in sustainable grassroots development.

Bologo takes great pride in the role she played as an environmental activist for Earthlife Africa, where she took a stand against coal mining and the Musina Makhado Special Economic Zone (SEZ). Both Earthlife Africa and GroundWork fought against procedural flaws relating to the environmental impact assessments for the SEZ.

The intersection of climate change and our collective mental health has surprised and interested Bologo. She says that we must respect our position in nature and acknowledge that we are merely a cog within the bigger machine, not the master. As a society, we need to address the burning of fossil fuels and illegal dumping with great urgency. Continued exploitation of resources will cause large-scale natural catastrophes — she hopes to play a role in reducing this exploitation.

Bologo believes that we take a reductionist approach to nature by merely seeing it as a resource for oxygen and food. She says that we must always be aware of the interconnectedness we possess with nature and ecosystems, and that we must cherish and prioritise this. We coexist with each other, but it is as important that we coexist respectfully with our natural environment.

She plans on using Pepper Bark Environmental and Development as a vehicle to get this message across, to spread awareness and to hold those in power accountable.

— Albert Troost

f Pepper Bark Environmental and Development NPC

Rifumo Mathebula

Programme director @ Wild Shots Outreach

in Rifumo Mathebula

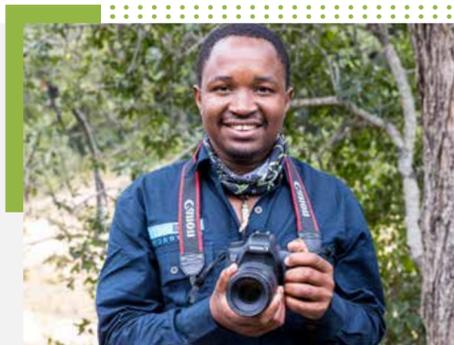
Rifumo Mathebula is the programme director for Wild Shots Outreach, a non-profit organisation and environmental education programme that teaches young South Africans from rural communities about wildlife and conservation. It also develops photography and other employment skills in the tourism and environmental sectors.

Mathebula grew up in an impoverished area near the Kruger National Park. Like many young people in his community, he had never visited a game reserve or learned about wildlife and conservation. He was introduced to the Wild Shots Outreach course and he loved it so much that he persuaded its founder Mike Kendrick to run the workshop at his high school — and organised the event himself!

This course inspired his passion for wildlife photography and conservation, motivating him to attain a certification in advanced photography after graduating from high school. Mathebula has since gone from being a part-time volunteer

at Wild Shots Outreach to becoming its programme director. He organises and leads workshops with schools and youth foundations, liaising with safari lodges to host game drives so that students can capture their experiences of seeing wildlife for the first time.

Mathebula has spoken at the international Leadership for Conservation in Africa webinar and other conservation programmes. He has also taken the Wild Shots Outreach programme to Botswana, where he worked with three local communities that live near protected areas. He has gained recognition for his photography; some of his work was featured in the award-winning short film Beyond the Fence



and in national publications.

He believes that the biggest barriers to young people connecting with the need for conservation are poverty, a lack of resources and a lack of aspiration. He strives to be a positive role model for young people — particularly those from impoverished communities — inspiring them to connect with nature.

— Robert Sam-Kputu

Caroline Thembelihle Mbokazi

Liaison manager @ All Rise Attorneys for Climate and Environmental Justice

Caroline Thembelihle Mbokazi is a dedicated conservationist, activist and advocate for environmental issues. She made history in 2005 when she became the first woman of colour to earn a Wilderness Guide certification from the Wilderness Leadership School.

Outside of her role as liaison manager at All Rise Attorneys, she has volunteered for groups such as Earthlife Africa, EcoPeace and the Wilderness Action Group, as she has always had a love for the outdoors. "My volunteer work entailed conserving and saving the environment, ecosystems and wilderness," she says.

At All Rise, Mbokazi provides communication between their lawyers and their community clients, mainly based in the rural areas of KwaZulu-Natal. She grew up in KwaMashu township in KwaZulu-Natal, and is now based in Stanger.

"I also get involved in facilitating the training and workshops that All Rise runs in the communities that we work with," she adds.

Mbokazi has become well-versed in environmental legislation — something she never anticipated learning.

Her crowning achievement came this year, when she led a

workshop on climate change for the first time in the KwaZulu-Natal town of Eshowe.

Mbokazi says that the world of conservation is still male-dominated: "They take female conservationists and environmentalists for granted, thinking that they are the only ones who are more powerful and knowledgeable in this field."

However, things are slowly but surely changing. "Now, we have more women getting into the field. I have worked with amazing female environmentalists and lawyers who are doing amazing work defending our clients who were affected by the mine in the Somkhele area in northern Zululand," she adds.

For Mbokazi, the most important message regarding South Africa's natural environment is that it should be protected and valued as a national treasure.

— Alexander Brand

f @ALLRISElegal in All Rise Attorneys @ALLRISElegal



Eric Ngugi Mwangi

Founder and chief executive @ Uganisha Cultures

f @Gugz_ngugi

in Ngugi Mwangi

t @Gugz_Ngugi

Eric Ngugi Mwangi, founder and chief executive of Uganisha Cultures, originally envisioned himself becoming a news anchor. When Wangari Maathai, a Kenyan social, environmental and political activist, won the Nobel Peace Prize and became the first African woman to do so, she inspired Mwangi to step into the climate space.

She always shared the story of the hummingbird that saw the forest burning and decided to do something, unlike [the] other animals," says Mwangi. "That changed my perspective about nature and now I understand the purity of green spaces."

Uganisha Cultures is an art-based organisation that focuses on issues of environmental crime in east Africa. Formed in 2019, with Mwangi at the helm, they aim to sensitise local communities about environmental crimes through art, and advocate for environmental policies at national and regional levels.

Through his work with Uganisha, Mwangi discovered the importance of the wealth of services the natural environment offers us — although they're difficult to measure monetarily. He also highlights that ecosystem services are integral to our functioning as a society, especially when it comes to clean air, water purification, food and medicine production, and the reduction in pollution.

His most important work with Uganisha includes a policy brief and an investigative documentary on sandalwood trafficking in east Africa, which has since empowered affected communities to launch the first sandalwood research centre in the region.

To combat the climate emergency, Mwangi believes we need to focus more on using organic raw materials for production to minimise carbon emissions.

"Let's focus on creating a balance between increasing our forest cover and food sustainability," says Mwangi. "It's painful that people in Africa are dying from hunger in the 21st century. We need to create a green and sustainable habitat."

— Cher Petersen

Jeremy Shelton

Freshwater conservation biologist @ Freshwater Research Centre

t @freshwatersa

f @JeremyShelton

in Jeremy Shelton

Jeremy Shelton is a freshwater conservation ecologist at Freshwater Research Centre (FRC), a non-profit organisation that develops solutions for balancing the human need and ecological requirements for water. His research involves understanding the consequences of species invasions and collaborating on projects that strive to protect functioning freshwater ecosystems and restore degraded ones.

Shelton is also a filmmaker and the creator of Fishwater Films, where his decade of experience and passion visually takes shape to create indigenous stories about South Africa. "My documentaries aim to tell purpose-driven stories that reveal the beauty and plight of freshwater ecosystems," says Shelton.

His love for the world beneath the water was sparked when his father introduced him to rock pools. Years later, when starting his postgraduate studies, he noticed a surplus of marine biologists in comparison to freshwater ecologists. "That's when I decided to become a freshwater conservation biologist — and I've never looked back," says Shelton.

His work at FRC demonstrates how building ecological resilience is the best way to safeguard freshwater



Witnessing a degraded aquatic ecosystem being revived as a result of a successful conservation intervention is incredibly rewarding

ecosystems in the face of climate change. He says: "Conservation is more about understanding people than animals and ecosystems."

Despite facing challenges such as matching the scale of projects to the problems they are designed to

overcome, Shelton still finds ways to stay motivated and inspired through those he educates. "Witnessing a degraded aquatic ecosystem being revived as a result of a successful conservation intervention is incredibly rewarding," he says.

Through his in-depth research and challenging films, he exposes and shares the incredible diversity of life hidden beneath the reflective surface of South Africa. "The networks of rivers and wetlands flowing through our landscapes and into our oceans carry the life-blood of our planet — water."

— Alexandra van Nieuwenhuizen

Investing in Africa energy - the carbon conundrum



Corporate and Investment Banking

MEET THE SPECIALISTS DRIVING STANDARD BANK CORPORATE AND INVESTMENT BANKING'S COMMITMENT TO SUSTAINABLE FINANCE, WITH A FOCUS ON RENEWABLE ENERGY PROJECTS ACROSS AFRICA



KENNY FIHA
CHIEF EXECUTIVE OF CORPORATE AND INVESTMENT BANKING, STANDARD BANK GROUP

Energy prices have skyrocketed since early 2022, highlighting the strategic and moral dilemma facing Europe's most industrialised economies. As Germany is heavily reliant on Russia for more than half of its gas, it has found that its renewables are nowhere near enough to sustain its population's demands for electricity and fuel power its economy. Like most of Europe, Germany is balancing its need for energy security and economic growth, even as it embarks on a decades-long transition to greener fuels and greater energy independence.

AFRICAN OPPORTUNITY

The need for Africa to follow a just transition to greener energy and advance the development of its people is imperative. The developed world has a significant head start; compare Germany and Uganda. According to the World Bank, GDP per capita in Germany was \$46 208 in 2020, while for Uganda it was a paltry \$822. In the same year, German life expectancy at birth was 81.4, while in Uganda, it was 63.7. Likewise, in 2018, Germany emitted 8.22 metric tonnes of CO2 per person, while Uganda's carbon footprint was just 0.143 tonnes per person. There are many statistics that reference this, and Uganda, like most other African countries, still has a long path ahead to catch up with the developed nations of the world.

It's against these disparities that Africa needs a multi-stakeholder and multinational approach to curb the climate crisis. Africa's growing urban populations will require a reliable and sustainable energy supply to power industrial production, electrify more households, and expand the use of transport to drive socioeconomic development. Certain countries—Nigeria, Angola, Ghana and Mozambique—produce oil and gas for international markets, thus providing foreign currency and tax revenues to develop their respective economies. It is important to objectively acknowledge the pressing need to balance all these realities as part of ensuring a just energy transition.

Having said that, Standard Bank Group's long-term goal is clear: it will achieve a portfolio mix that is net zero by 2050. This will entail reducing its financed emissions and simultaneously scaling up its financing of renewables, reforestation, climate-smart agriculture, decarbonisation and transition technologies, and supporting the development of credible carbon offset programmes. The bank is already a major funder of renewable energy projects in Africa. Since 2012, 86% of its new energy lending has been to renewable energy, and it has not financed any new coal-fired power stations since 2009.

Responsible investment means following globally accepted environmental, social and governance (ESG) best practices like those embodied in the Equator Principles (EP) and the International Finance Corporations (IFC's) best practice standards, both of which underpin Standard Bank's investment portfolio. Here, responsible investors can not only support development, but can work with carefully selected clients to ensure that carbon-based energy projects are responsibly developed with the lowest possible carbon footprint. This is how Standard Bank intends to play its role in Africa.



BRIAN MARSHALL
HEAD OF INVESTMENT BANKING

Please tell us about your journey to this position?

I am Head of Investment Banking and have been at Standard Bank for 16 years. I started my banking career at RBS, London. I also spent seven years with Deloitte, culminating with the Private Equity Transaction Services team in London.

How would you say the world of Investment Banking has changed since you began your career?

Since I started my career in Investment Banking, bankers have increasingly become more aware of the "transmission" nature of their jobs—the capital they arrange and the advice they provide has an impact far beyond the immediate fulfilment of a transaction. The current focus on ESG is the next phase of that development and will increasingly determine stakeholder perceptions, investor interest and business outcomes.

With Standard Bank closing some key deals this year, do you predict this trajectory to continue over the next five years?

ESG (Environmental Social Governance) will eventually become embedded in the way arrangers and issuers do business, and in an inclusive and sustainable manner. We plan to mobilise a cumulative amount of between R250 billion and R300 billion for sustainable finance by the end of 2026. This target includes an additional R50 billion of financing for renewable energy and underwriting of a further R15 billion of renewable energy by the end of 2024.

How does Standard Bank Investment Banking plan to boost its sustainability profile?

Standard Bank Group's purpose is to drive Africa's growth, and we are committed to do so in a move in the right direction—now we all need to get involved on both sides to ensure the implementation of a just energy transition.

What is the biggest / most complex transaction you have worked on so far in your career?

I have been privileged to work on many big transactions in my career including large leverage and acquisition financing activities, and I have always enjoyed assisting clients to fulfil their strategic objectives.

What words of advice do you have for the next generation of bankers?

Do not underestimate the importance of the role of bankers in the economy and society—don't approach matters with a short-term outlook. Understand the role finance can play in unlocking sustained growth for the benefit of all, especially in a continent such as Africa.



AADIL CAJEE
HEAD OF GLOBAL ENERGY AND INFRASTRUCTURE

Please tell us about your role?

I head up Global Energy and Infrastructure Investment Banking at Standard Bank. I started my career in leverage finance and the BEE finance space. I now lead a team that is really contributing to a purpose.

Why is it considered difficult to fund infrastructure development in Africa?

Infrastructure development is generally driven by governments and sovereigns. Investment, progress and efficient deployment of infrastructure projects are intrinsically linked to a country's macro-economic circumstances as well as its government's decision making.

With the growth of ESG across Africa, how do you expect this will shape the infrastructure finance landscape in the next five years?

As much as ESG has become a catchphrase, it was always inherent in any infrastructure investment, because of the scale of the projects and their impact on the environment and people. The energy transition is an overarching theme globally, but in the context of 600 million people in Africa not having access to electricity, is energy security a bigger priority?

This is a question we need to ask. As an African bank, we need to be thinking about this and balancing these issues with our purpose to drive Africa's growth.

When you are not doing E&I what are you doing?

I love our continent and I fully identify as African. When I'm not working on energy and infrastructure transactions, I am overlanding in my 4x4 somewhere in Africa. I have just come back from a trip with my kids to Zimbabwe and it was heart-warming to tell my family that we were part of the Zimbabwe/South Africa border project, one of the busiest borders in the NorthSouth corridor of the continent. What used to take 7-hours took us 30-minutes!

What words of advice do you have for the next generation of bankers?

You need to think about your purpose first and that you have a contribution to make. Generational gaps are real and what was important to us when we started our careers may not be as important for the next generation of bankers. We are a very small part of the population on the continent that has been privileged enough to get the right education and opportunities, and we are in a position to make a difference. Before you think about making money, think about where your passion lies, and where you can give back to our continent.



ALEX DAVIDSON,
HEAD OF THE CLIENT SOUTH AFRICA BUSINESS, GLOBAL MARKETS

Please tell us about your position?

I am the Head of the Client South Africa Business for Global Markets at Standard Bank. My job is to ensure that we leverage the full Standard Bank franchise to deliver an impactful set of solutions to our clients.

What impact has Covid-19 had on the South African market, and how have you responded?

The Covid-19 pandemic was thrust upon us and created a completely new and uncertain environment, and with it the ability to realise that "complexity is a privilege" and an incredible opportunity to co-create solutions with our clients. We've worked hard to develop and hire the right skills and also cultivate the mindset that allows us to really own and embrace complexity.

What impact has the recent focus on ESG had from a global markets perspective, especially as we've seen Standard Bank GM advise on transactions with the likes of Scatec?

As a bank we are responding to this by ensuring that all our divisions are mindful of their impact and do the right business in the right way. Funding renewable projects is a key element of our ESG strategy. As a leader in the renewables space, we not only provide the finance but also hedging and risk mitigation strategies that ensure the financial viability of these crucial projects.



RENTIA VAN TONDER
HEAD: POWER, CIB

Please tell us about your journey to this position?

I am Head of Power, CIB at Standard Bank. In this role I lead the sector strategy and approach for the power sector, through strategic enhancement, opportunity development and identification in line with group objectives and commitments.

Standard Bank has recently announced a number of renewable energy deals, can you tell us more about how these deals help with ensuring energy security across the continent?

Since 2012, 86% of the bank's new energy lending has been to renewable energy. Most notably is the Kenhardt projects in South Africa, 540MW of solar PV combined with 1.1GWh of Battery Energy Storage System. Standard Bank was the sole mandated lead arranger, hedge provider and account bank for the R18 billion project. The project reached financial close in July 2022. Also worth noting is Standard Bank's role in initiating, facilitating and advising Seriti Resources in its acquisition of wind-powered renewable energy company Windlab Africa, through Seriti Green.

What do you believe is the role of governments and regulators in enabling the speed of implementation of these renewable projects?

The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) in South Africa is a clear example of how various government departments collaborated with the regulator (NERSA) in developing a programmatic approach to procure renewables in line with government commitments and the broader Integrated Resource Plan. The programme was launched in 2011 and has successfully procured more than 9GW, of which around 6GW is operational.

How can Public-Private Partnership deals benefit skills development/transfer and job creation in Africa?

A key objective in Africa remains development, support and social upliftment through project development and implementation to ensure sustainable long-term success. Through a public private partnership transaction, partnerships can be facilitated to support skills transfer, upskilling and development with impact. It will remain important to agree the framework and key deliverables in terms of skills development and job creation up front, followed through with a diligent monitoring system to track progress and impact.

What words of advice do you have for the next generation of bankers?

Commitment to making an impact, combined with hard work and passion will translate into success.



BRYAN ANTOLIK
EXECUTIVE ADVISORY

Please tell us about your journey to this position?

I am an Executive in the Standard Bank Advisory team, with a mandate to build out and grow the Advisory team's Renewables Advisory capability. My career in Investment Banking began at Standard Bank, and I have returned to the Group because of the bank's values and culture.

How is the bank adapting due diligence and valuation processes to consider ESG?

Due diligence processes must have ESG considerations built into them. It's what we believe is an essential component of current and future dealmaking. Integrating ESG thinking helps to formulate views on risk and risk factors throughout the diligence process, and equally in formulating opportunities and upside. We believe that clients who factor this kind of thinking into their deals are poised for sustainable, long-term returns, regardless of the sector in which they operate.

How do you believe the shift away from fossil fuels will shape M&A activity over the coming years?

We especially like the emergence of integrated energy as a theme, as evidenced by our landmark deal alongside Seriti in its acquisition of Windlab's South African and East African businesses to create Seriti Green. Standard Bank was a co-investor in the equity, as well as a funder and partner to Seriti and Seriti Green. This deal delivers on our very strong commitment to the Just Energy Transition.

We have witnessed a rise in ESG dealmaking, with Standard Bank closing some key deals this year; do you predict this trajectory to continue over the next five years?

This trend is now well established and strengthening, and we believe there are huge opportunities in deal making over the next five years. Specifically, we see the emergence of several integrated energy players providing scope for multiple deal angles, from secondary asset trades to structuring and creating capital and funding vehicles to deliver on those aspirations. Permanent vehicles and fund structures are becoming prevalent as solutions to delivering substantial pools of capital and liquidity into both REIPP and C&I (commercial and industrial) projects. Changes in investment strategies away from single assets into platforms, secondary trades by sponsors out of and into assets portfolios, and foreign investment into local and African power are all themes we are seeing with our clients.

What are the biggest risks facing South African clients, and what opportunities are clients and investors seeing in the country?

Investors see that South Africa has an incredibly healthy banking and savings industry and a young, upwardly mobile population. South Africans are energetic, innovative and entrepreneurs, but our country is in desperate need of infrastructure spending. There are great opportunities in renewable energy and digitisation. We also project that South Africa's technology, media and telecommunication sectors are expected to see the most M&A (mergers and acquisitions) activity in the foreseeable future, with investments in non-traditional sectors harnessed on digital infrastructure and ESG values.

What words of advice do you have for the next generation of bankers?

There will come a time that you will need to be comfortable with the fact that you must make decisions without all the information you require. Few leaders know absolutely everything about their business, but make sure you understand the important pieces, how these come together and most importantly, where to find the information you don't know!



SHERILL BYRNE
EXECUTIVE ENERGY AND INFRASTRUCTURE

Please tell us about your journey to this position?

I am an Executive in the Energy and Infrastructure Team in Investment Banking at Standard Bank. My focus in South Africa is on the Independent Power Producer Programmes (currently the Renewable Independent Power Producer Programme and Risk Mitigation Independent Power Producer Programme).

What are the current challenges facing the power/energy and the infrastructure space that you want to talk about?

Load-shedding. South Africa has a large existing coal fleet that is mostly older than 40 years, which is beyond the useful life of these assets. In effect, this impacts the availability and consistency of power from these plants. This has led to the decline in the Eskom fleet's Energy Availability Factor. Large portions of the existing coal fleet need to be decommissioned (18 000MW in the next 10 years) and Eskom needs sufficient capacity to take some of the plants offline to do necessary maintenance work.

What would you say are the five key trends we need to look out for in the renewable energy space?

I think the five key trends in this sector include:

- Private market use of renewables—behind the metre as a means of energy security or fuel saving, as well as wheeled as a means of green electricity or as a cost saver.
- Consolidation of market players—M&A activity in the renewable sector, as well as fewer players bidding.
- Smaller projects struggle to attract appetite from traditional players and are more difficult to finance, but this may lead to the emergence of niche players that are able to generate portfolios.
- Introduction of storage technologies to better manage the generation profile of renewables. • Hydro power to potentially play a bigger role in the region, with multilateral off-takers.

What words of advice do you have for the next generation of bankers?

The thing I love about my role is that you can make a difference and what you finance is tangible—it is a power project, a road, a port. It contributes to the wellbeing and lives of people. Some media tend to portray bankers in a negative light, but you can be ethical, make money and you can contribute to society!



SA Climate Change Champs

GreenCape

How does the conversation about climate change move past simple discourse into the world of action? GreenCape has a strategy to bridge this gap with their Active Climate Change Citizenship for a Just Transition in South Africa project, known simply as SA Climate Change Champs.

GreenCape knows that for big change to happen on a national level, it is crucial not to forget those at the grassroots. When given the right tools and information, any individual can make a change in her immediate environment. Each change has a ripple effect; conversations can lead to policy change. But where to begin?

The youth are the most affected by climate change. GreenCape launched its project by sending ambassadors to schools in the Northern, Eastern, and Western Cape provinces, armed with packets of information and ideas to impart. Starting with teachers and community leaders, these ambassadors led workshops to change the conversation of climate change from one of threat to one of opportunity.

Teachers then shared what they had learned with their students, who in turn realised that they had the agency to create a real difference in the spaces they inhabit. They were shown how to strategically make small changes that reduce waste and unrenowable-energy consumption. They were introduced to virtual platforms where they could connect with others who

are passionate about climate change. They were given the tools to build clubs, which spur communities into action to create a greener future, and in doing so, alert local authorities to the importance of the cause.

The project hopes to increase active citizenship in climate change, and will conclude in 2024. GreenCape provides hope for the future of South Africa's natural environment – and its people.

— Jennifer Worthington-Smith

“When given the right tools and information, any individual can make a change in her immediate environment”

- @thegreencape
- SA Climate Change Champs
- SA Climate Change Champs

Fezile Dhlamini

Chief executive @ Green Scooter

- @feziledhlamini_
- Fezile Dhlamini

Soweto-born Fezile Dhlamini is a pioneer in the field of renewable energy innovation. He is the founder of Green Scooters, Africa's first all-electric e-hailing network and a proudly South African company, as well as Scooter Treats, a related online food delivery business.

Green Scooter is a leader in the newest developments in urban mobility and renewable energy. The business manufactures a distinctive line of electric scooters intended for both cargo and commuter use. The Zbee – an electric vehicle with three wheels – is marketed to those who want to buy an affordable electric car for short- to medium-distance travel, and regular commuters who require a last-mile ride. It can carry a driver and two passengers. The Zbee Cargo has a safe cargo compartment instead of passenger seats, and can be used for quick deliveries. Manufactured locally with a Swedish firm acting as a technical partner, the scooters are environmentally sustainable and a viable alternative to typical metered taxis or e-hail

companies, as they are charged from regular electrical outlets. This takes about three-and-a-half hours, and a full charge will give a driver a range of over 100km.

Dhlamini is intent on bringing about ecofriendly transformation in the transportation industry; he says he had the idea for Green Scooter after his numerous job applications were rejected by Uber.

Since its launch in 2018, Green Scooter has sold or leased 60 vehicles, and as fuel prices keep rising, this pace is accelerating. Dedicated to seeking unconventional solutions to challenging issues, it's no surprise that Dhlamini's motto is "nullum magnum ingenium sine mixtura dementiae fuit" –



nothing of any major ingenuity has been made without an element of madness.

— Neo Khanyile

Martin Sweet

Managing director @ Primestars

Martin Sweet is the managing director of Primestars, a majority black female-owned youth development and education organisation that supports public schools in under-resourced communities. Since 2010, Primestars programmes – including career guidance, financial literacy, leadership and entrepreneurship – have benefited over a million youths across the country.

Entrepreneurship is a major focus, and one of the organisation's main goals is to help the youth identify opportunities in the green economy by using technology. Step Up 2 A Green Start Up, a national youth entrepreneurship programme, is the initiative that is driving their vision, and it's one of which Sweet is particularly proud. "Now is the time to rethink how we live, eat, travel, do business, earn our livelihoods and educate our children," he says. "The changes we make to protect the earth can also protect and strengthen our most vulnerable and neglected communities, creating a safer and more just world for all."

The programme's objectives include using technology to enable

green businesses; to see environmental challenges as business opportunities; and to prioritise people and the planet over profit alone. "When it comes to South Africa's youth, entrepreneurship is touted as the key to combating the youth unemployment crisis in the country," says Sweet.

He adds that he's found the amazing opportunities for youth development in the green economy unexpected. He wishes South Africans understood climate change better, so they can find solutions to unemployment in the green economy. Thanks to the work he and his team are doing, the future is certainly starting to look greener.

— Shereen Goosen



- @primestarsSA
- Primestars
- @Primestars



Dennis Labuschagne

Operations director @ Khantsa Energy (Pty) Ltd

- Dennis Labuschagne

As the cofounder and operations director of Khantsa Energy, Dennis Labuschagne and his team are proud to provide access to light and solar power in the rural areas of Lesotho.

Due to the tiny kingdom's mountainous terrain, it faces unique challenges in infrastructure installation. Most efforts to provide electricity are focused on urban and semiurban areas rather than rural villages. Labuschagne and his team provide solar lighting systems, solar geysers, electrical installations, and pay-as-you-go solar kits that feature LED lighting and charging ports to areas in rural Lesotho.

Their work "was born out of connecting with the villagers and hearing about their everyday stories regarding their dire need for electrification". They have learned the importance of incorporating indigenous knowledge into their business model when working in local communities. By communicating and collaborating closely with the people they're serving, his team has been better able to provide them with what they need.

Labuschagne explains: "We need to place people first by tailoring the design and implementation of projects to the needs and capabilities of those who are supposed to benefit from them. Indigenous knowledge has allowed us to understand community needs beyond electrification. By being invited into the community-building process by the chief, councillors and general assembly, we harness the power of oral knowledge and education passed down from generations; this has led to the 100% successful uptake of renewable energy."

“We've learned the importance of incorporating indigenous knowledge into our business model when working in local communities”

The company is a recent recipient of The Mandela Rhodes Foundation Añit Prize for 2022, which supports initiatives that can deliver positive social impact for Africa's most marginalised populations.

Labuschagne wishes South Africans knew the potential of renewable energy in Africa: "The African continent surpasses all other regions in having the most potential for renewable energy. Our natural environment can provide all we need and we do not have to harm it."

— Bob Perfect



Desmond Williams

Founder and chief executive @ Green Share Energy

- @greenshare_SA
- Desmond Williams
- @desmond.williams.3152

Conversations about clean and efficient energy production are dominating global and local headlines. Desmond Williams has taken a lifelong entrepreneurial spirit and applied it to one of today's most pressing issues.

He is the founder of Greenshare, a renewable energy firm that specialises in delivering efficient energy solutions. Initially unsure of what career path he would take, he settled on psychology and philosophy – two fields that would continue to nurture his innate love of learning. After receiving his BA in psychology and philosophy from the University of Johannesburg, he pivoted into the green tech space.

As chief executive and project development and programme manager of Greenshare, Williams has assembled the technology and expert personnel that today has made the company a trusted provider of energy-efficient heating, lighting and process optimisation.

“Let's take this pullquote out, story is long enough? Derek”

His role as Greenshare head comes after many years of entrepreneurial experience that included ventures into property, recruitment and franchising. In the early years, his firm focused on efficiency and demand, with households and businesses as their primary clients, but he was soon ready for bigger projects.

Among the many accomplishments Williams has achieved in his tenure at Greenshare, one of his proudest has to be starting construction on a 100MW solar power plant for the people of the Democratic Republic of Congo. A desire for expansion led him to cast a wider net in the hope of becoming an independent power producer, and, with the assistance of local and international shareholders, Greenshare was able to get the DR Congo project off the ground.

As South Africa's energy crisis continues to unfold, it will be Williams and those like him who will be counted on to provide solutions in an increasingly uncertain future.

— Tshiamo Seape



Unarine Bridget Mudau

Project manager @ South African National Energy Development Institute

- Unarine Bridget Mudau

Unarine Bridget Mudau funnels her environmental advocacy towards her work at the South African National Energy Development Institute (Sanedi). Since graduating with a BA from Tshwane University of Technology, she has been researching, designing and testing solar systems – sourcing energy from the sun and transforming it into electricity.

The impact of her work is both clear and meaningful, as is illuminated by her proudest achievement: she was involved in the construction of a 1MW rooftop solar photovoltaic system, which has offset about 31 500 tonnes of harmful carbon dioxide emissions.

Mudau's passion for environmental protection extends beyond her day job. She positions herself against pollution because of its tragic impact on the beauty of nature and the safety of endangered animals. She also urges her fellow South Africans to be more conscious of their personal choices when it comes to protecting the environment.

“Be more conscious of your personal choices when it comes to protecting the environment”

She is an advocate of the three Rs – reduce, reuse and recycle. To this end, incentivisation is a tool she views as fundamental on the path towards a greener, more habitable world.

Before working at Sanedi, Mudau spent time researching and designing solar power systems, leading to the operations and management of four solar photovoltaic ground-mounted and rooftop plant systems.

She also has prior experience as an electrical technologist at the Council for Scientific and Industrial Research as well as in consulting, having worked with a variety of companies to share her expertise on solar photovoltaic business cases and energy management. Right now, she's wrapping up an MA in electrical engineering at the University of Johannesburg. Amid all these successes, Mudau has learned the value of managing the unexpected through careful preparation. Her advice? "Projects don't always go according to the plan, therefore it is good to have a backup plan."

— Alice Sholto-Douglas



Arvana Singh

Head of sustainable finance solutions @ Nedbank Nedbank Corporate and Investment Banking (CIB)

in Arvana Singh

Arvana Singh heads up Sustainable Finance Solutions, Nedbank Corporate and Investment Banking's (CIB) green finance business. Sustainable Finance Solutions structures and facilitates sustainability-driven financing such as green loans, sustainability-linked loans, green bonds and sustainability-linked bonds.

Green finance ensures that products and services are created in aid of better environmental outcomes: encouraging the development of green projects, minimising the impact regular projects have on the climate, or both. This year, Singh's team acted as a sustainability coordinator under a R10 billion debt package for Harmony Gold, South Africa's largest gold producer by volume. The funding package consisted of green loan facilities supporting water savings and the reduction of carbon emissions. This was one of the largest sustainable finance transactions concluded in the country.

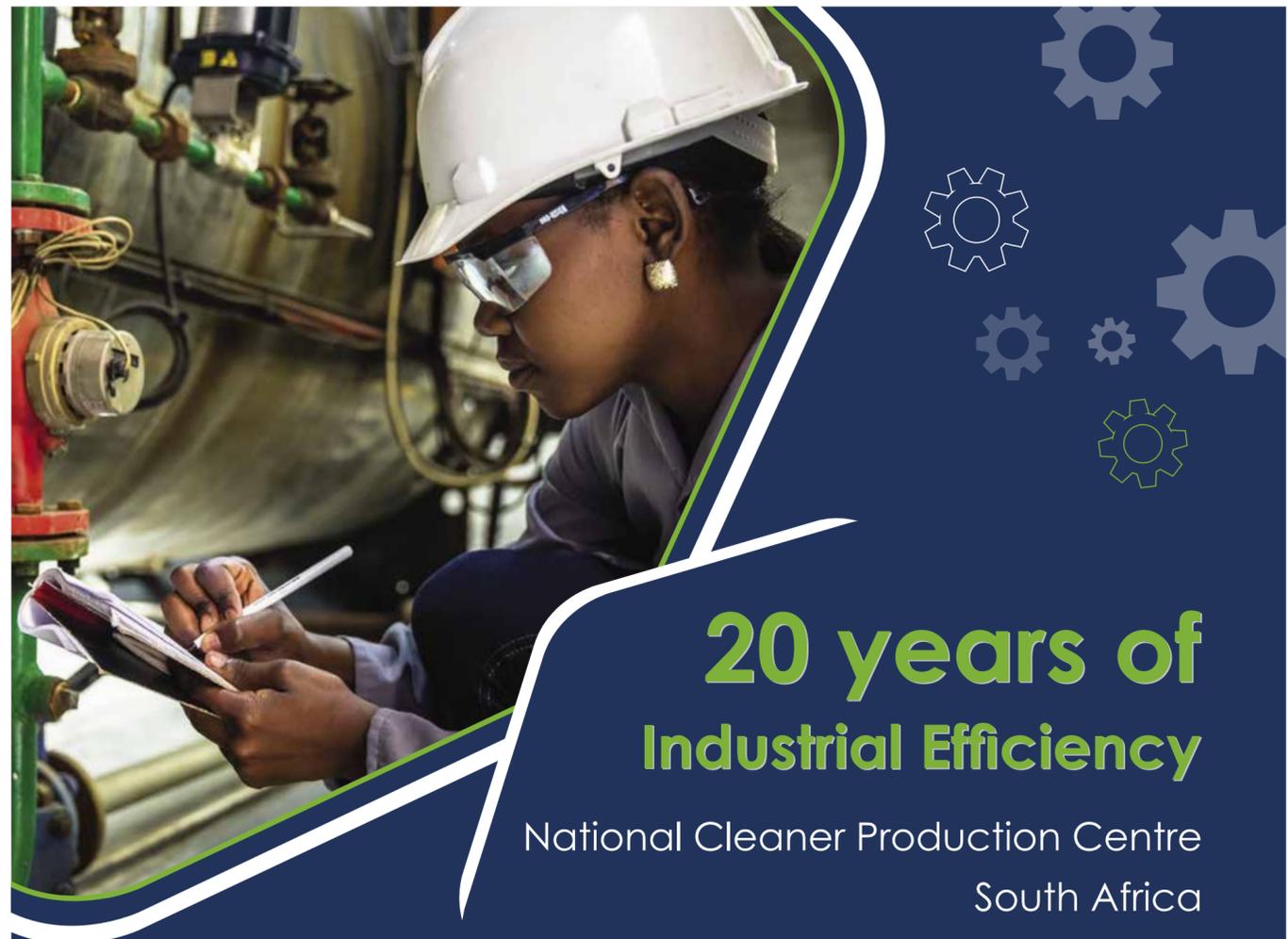
In 2019, the team structured and facilitated the first green bond for Nedbank Limited. This was part of their strategy to continue financing renewable energy projects under South Africa's Renewable Independent Power Producer Programme. Due to its success, the team continued working in green finance markets to support sustainable growth in 2020 and 2021.

Leading a team that pioneers sustainable finance and is constantly innovating and driving impact is rewarding for Singh. It requires abstract thinking and creating value-based systems to find solutions. She enjoys how interconnected the sustainable finance space is to technology, energy security, social security, economic security, inclusion and governance.

In 2022, Global Finance magazine recognised Singh as a top environmental, social and corporate governance innovator globally for structuring, arranging and coordinating a green residential bond. The R1.09 billion bond was listed on the sustainability segment of the JSE; its proceeds will fund green residential developments.

On the importance of preserving our environment, Singh says: "Our natural environment is the sustenance that we need to flourish mentally, emotionally, physically and economically."

— Shaazia Ebrahim



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Anga Mbeyiya

Founder and CEO @ Ole Blu

@Anga Mbeyiya Anga Mbeyiya

Anga Mbeyiya is Gqeberha's own aquaculture visionary. As the founder and chief executive of Ole Blu, a "sustainable seaweed start-up" seeking to revolutionise coastal farming practices across the continent, Mbeyiya has her eyes focused on her own vision of a blue new deal for Africa: "Seaweed has great potential in food, cosmetics and bio stimulants. Locally grown, locally produced, locally consumed products will change the African narrative for the good."

Trained in development studies and marketing at Nelson Mandela University and touted as a leader in African innovation after earning her master's in sustainability studies at the University of Gothenburg, she is setting the pace for her peers.

This year Mbeyiya was picked as a TECA Fellow for the renowned consulting firm BFA Global: an honour that placed her among the leading lights of young climate entrepreneurs worldwide, and which packed her off to Kenya for a crash-course in environmental strategy. "A down-up approach to climate change is needed. Being on the ground [in Kenya] exposed me to the real issues on hand. [What we are working for now is] African-led solutions for African people."

Coming home, she has a renewed sincerity about the sustainable path ahead: "The environment is not detached from us, we are one with the environment. Once South Africans understand that, it's easier to protect and care for something you are a part of."

But this conclusion was no sudden epiphany. In a recent interview for the BBC World Service, she related how her family's agrarian roots in the rural Eastern Cape placed them on the frontlines of flooding and drought. In every sense then, Mbeyiya's activism hits close to home.

— Cameron Peters



FROM ALIEN FISH TO WELCOME MEALS

Clearing a lake of an alien fish species is always good. Providing the fish to feed nearby disadvantaged communities is even better.

The Oceana Group recently linked up with the Gift of the Givers, Cape Nature and Invasive Fish Species Management to address the invasive carp fish problem that had long plagued Garden Route fresh-water lakes. They simultaneously tackled the problem of hunger amongst disadvantaged communities in the area that was exacerbated by the pandemic.

The project soon restored the ecological balance in the lake, while the harvested fish were distributed to soup kitchens, feeding schemes and disadvantaged families in the area. Each catch feeds a minimum of 400 and an average of 800 people per day. To date the

project has provided over 110 000 meals.

The partners wanted to expand the project, but there was a catch. Table-fresh fish must be stored between 1°C and 9°C, and as they are moved from source, it's difficult to maintain that temperature.

That's when Oceana stepped in with a trailer-mounted freezer to allow them to transport more fish, further expanding the reach and benefits of the project. Zodwa Velleman, who heads Corporate and Regulatory Affairs at Oceana, says the decision was an easy one.

"Food security is integral to what we do as a business and our social investment partnerships. We always like our involvement to have a multiplier effect on the work our partners do and providing a mobile freezer to this project certainly achieves that."



IN PARTNERSHIP TO POSITIVELY IMPACT LIVES



Gift of the Givers



Dr Ferrial Adam

Manager of WaterCAN

Water pollution in South Africa is so rampant that it should be declared a state of national disaster, believes Dr Ferrial Adam, WaterCAN's manager. Day Zero of no water in the taps is an impending reality facing many South African towns and cities, she warns.

Each of us must take some responsibility — stop littering, stop blocking stormwater drains with construction rubble. It is only by getting involved that we can hold the government accountable," she says. Strong action must also be taken against industrial and municipal polluters that constantly release chemical waste and poorly treated sewage into our rivers, dams and oceans.

Adam has previously worked for Earthlife Africa and Greenpeace Africa, and chaired the board of the Organisation Undoing Tax Abuse (Outa). She's now heading up WaterCAN, an Outa initiative created to build a network of citizen scientists, collate water data, and hold authorities to account through research, citizen science, advocacy and litigation.

She's proud to be building this network of citizen science activists and encourages ordinary people to test the water quality in their taps, rivers and streams. "Learning the

science empowers people to seek accountability from those responsible," she says.

She points out how the Vaal River is extremely polluted by sewage from municipal wastewater treatment works. In Cape Town, practically untreated sewage is pumped into rivers and the ocean, while Nelson Mandela Bay metro has declared its drinking water unsafe.

The government will only act if citizens demand results, she believes, by helping to expose corruption and inefficiency, staging protests, and testing water to verify government data. The country also needs to tap into private sector skills and call on retired engineers, technicians and plumbers to volunteer and share their knowledge to turn dysfunctional municipal water and sanitation systems around.

— Lesley Stones

@Ferrial_adam Dr Ferrial Adam

Ron Sabelo Luvo Memani

Conservation project manager @ Friends of the Liesbeek

Ron Sabelo Luvo Memani @memanirsl

Ron Sabelo Luvo Memani is not only an expert on environmental conservation with extensive knowledge on botany and biodiversity, he's also making an impression by expanding the green economy.

he conservation area manager for Kenilworth Racecourse Conservation Area, Memani has worked to preserve plant and animal species for almost a decade. He has worked hard to establish and confirm a Cape platanna population, an endangered frog species endemic to South Africa, and has identified at least five new plant species in the Kenilworth Conservation Area.

Memani is committed to educating and employing the youth in the green economy in order to achieve an environmentally sustainable future for our planet. He has managed an eight-month-long National Qualifications Framework (NQF) Level Two skills and development programme for the Friends of the Liesbeek volunteer organisation.

The programme trained six interns from low economic backgrounds in Environmental Management Practice. Three of the interns did a further year of training for the Liesbeek Maintenance Project. "It was a true success story," says Memani, "I am proud to have been part of a team that helped create employment and workplace training opportunities for youths to pursue a career in the green economy."

Memani acknowledges how community and local authorities play a major role in environmental conservation. "The public are our eyes on the ground. Non-profit organisations [also] play a key role in the green economy sector, because we always seek to evolve and to be adaptable to changing social climates, and not to be just environmental custodians, but



stewards for youth's socioeconomic benefit."

He stresses: "We are all connected. Continued unsustainable living impacts us all: socially, environmentally and economically."

— Sarah Irwin

Shafick Adams

Executive manager @ Water Research Commission

For Shafick Adams, the task of ensuring water security in South Africa is one that rests with us all. As the executive manager at the water research commission, and a recent appointee to the presidential climate commission, he continues to make significant contributions to securing our access to water.

He holds a PhD and MSc from the University of the Western Cape, where he was a lecturer prior to his current role, in which he manages research projects relating to groundwater, water protection and capacity development, with the goal of creating better tools from the findings.

South Africa's reputation for high-quality water may seem under threat, but Adams still believes the majority of South Africans' tap water to be of a high standard and safe to drink. However, this could change rapidly in the context of global climate change and more localised issues.

One of the potential answers that Adams offers in response to the issues South Africans face is regarding our natural

groundwater. He argues that by introducing more groundwater into usage we may mitigate the negative effects of consecutive dry seasons and climate change.

Adams remains optimistic about these challenges without downplaying the need for change. He reminds us that we do not want to find ourselves unable to drink our tap water, something that can be avoided through a concerted effort between efficient management and civic responsibility. If we are to realise the water security that is so vital to a healthy country, we need to continue to develop expertise on the subject. As a relatively dry geographic region, we cannot afford the costs of poor management and ageing infrastructure.

— Luca Stefano



@drshafickadams Shafick Adams



Centre for Environmental Rights

Centre for Environmental Rights

@CentreEnvRights Centre for Environmental Rights Centre for Environmental Rights

The Centre for Environmental Rights (CER) is an organisation committed to maintaining the constitutional right of communities in South Africa to an environment that is not harmful to their health and wellbeing.

It also recognises the importance of women's influence in decision- and policy-making roles in environmental activism. Research shows a link between climate change, women's rights and gender-based violence (GBV); the impact of climate change exacerbates systemic gender discrimination and patriarchal dynamics. Women in rural communities are often vulnerable to GBV when they have to travel long distances to retrieve resources such as water when the immediate environment is damaged.

In 2019, CER represented groundWork and Mpumalanga community organisation Vukani Environmental Justice Movement (VEM) in the #DeadlyAir case, demanding that the government clean up toxic air caused by coal mining in the

Mpumalanga Highveld region. In March this year, the high court recognised the poor air quality as a violation of residents' constitutional right to an environment that is not harmful to their health and wellbeing. The judgment passed was a triumph for groundWork and VEM, the pursuit of environmental activism for CER — and all such affected communities.

The non-profit aspires to: "A just, equitable, compassionate society which is resilient, celebrates diversity, and respects the interdependence between people and the environment, where environmental and climate justice is realised and all people and the planet flourish."

— Danielle Dowling

This Cape Town-based non-profit organisation offers environmental litigation, advocacy and activist support and training for organisations and vulnerable communities that lack access to legal knowledge or support for environmental and climate justice.

The vision of CER is to remain sensitive to South Africa's history of injustice, by shifting exclusionary structures and empowering communities and organisations towards equality and a healthy environment for current and future generations.



Tebogo Maleka

National project coordinator @ United Nations Industrial Development Organization

@TebogoMaleka_

Tebogo Maleka works as a national project coordinator for the United Nations Industrial Development Organization. Her work is part of a three-year initiative — funded by the Japanese government — that examines the feasibility of switching from conventional plastics to sustainable substitutes.

Being a member of the committee that successfully coordinated the launch and official handover of the biodegradation assessment laboratory equipment to the Council for Scientific and Industrial Research (CSIR) in Pretoria — making the CSIR South Africa's first accredited biodegradation testing facility — was one of her proudest moments. The facility will be able to verify biodegradability claims on imported and locally produced materials, leading to job creation as well as the promotion of inclusive and sustainable growth.

What she took away from this project is that waste management procedures need to specifically promote waste-picker integration to ensure that the role of waste pickers and their entrepreneurial ability is properly acknowledged and appreciated. "Waste pickers should be included in the planning and execution of municipal recycling programmes and other recycling activities that support South Africa's resource efficiency and recycling production process," she says.

Maleka wants South Africans to realise how water-scarce our nation is, and how heavily reliant we are on imports such as oil. "It's critical that we respond appropriately to avert this calamity since a resilient economy depends on access to electricity, food and water." If the problems with energy, food and water are dealt with separately, there is every chance that food and water insecurity will be added to the nation's growing list of environmental problems. "We must change how we view our natural resources and adopt a newly balanced life," she says.

— Suzan Shongwe



Murendeni Mafumo

Founder @ Kusini Water

@MurendiMafumo Murendeni Mafumo @MurendiMafumo

Murendeni Mafumo dared to find an answer to a vital question: how does one filter dirty water in an energy-efficient way so that more people can drink and make use of clean water? Macadamia nut shells — of course!

Mafumo's innovative thinking led him to become the founder of Kusini Water, a social enterprise that builds water treatment systems from nanotechnology. His company has developed a mobile and solar-powered water purification system that operates using locally sourced macadamia nut shells to filter and produce safe drinking water in rural areas.

The knowledge that he gained while studying chemistry at Cape Peninsula University of Technology is evident in his every move. Kusini is innovative not only in the way it purifies water, but also in its decentralising treatment, which ensures a more efficient local distribution of water. Kusini systems produce more water while using less energy than comparable practices.

One of Mafumo's proudest achievements was when Kusini Water entered one of the driest regions in South Africa, Griekwastad. Its technology is now being used in this community to produce 1 000 litres of clean water per hour. "People, our community and our beneficiaries are the most important stakeholders. Without their buy-in, no well-intended project will ever work," Mafumo says when asked what he's learned through his work.

The one thing that he wishes South Africans knew more of regarding their environment is that as much as we are resource-rich, we are still vulnerable — and we all need to be responsible stewards.

His philanthropy doesn't end in the environmental sector. Mafumo also owns a company called Gentle Giant, a technology company that helps the youth in townships and rural areas learn maths and science. From chemistry to calculus, this man is on a mission.

— Eva Murphy



Kyle Odgers

Director @ KleenHealth

@KleenUP_CREW Kyle Odgers - SAVING OUR RIVERS, HUMANS, BIODIVERSITY KleenHealth South Africa

Kyle Odgers is an environmental entrepreneur at heart, with a desire for success in life. He is the director of KleenHealth, an EnviroPaedia and Eco-Logic award-winning nanotechnology and bioremediation solutions social company based in Edenvale, Johannesburg.

KleenHealth creates ecofriendly cleaning products for treating businesses, homes, schools, sports grounds and communities. Odgers is as enthusiastic and passionate about growing KleenHealth as he is about the wellness of the environment.

His proudest accomplishment is the #TreatAtTheSource campaign: a drive to protect water at the source by cleaning sewage-polluted dams, rivers and wetlands with nature-based solutions. Initiatives such as this exemplify his motto, "saving rivers from ourselves", which he pushes on his social media platforms, engaging with his audience about climate change and environmental sustainability.

Another accomplishment was the unblocking of sewer networks at the source by emptying pit latrines in underdeveloped and rural school toilets, and drastically reducing Camps Bay High School's water consumption, cutting it by 2 500 000 litres over five years.

Through working at schools in this capacity, Odgers learned an unexpected lesson — that children's sense of smell is more acute than adults', so a foul odour smells worse for kids.

Odgers would like all South Africans to know that we are all connected through our groundwater, sewer networks and rivers. That means the condition of your kitchen drain and toilet affects your neighbours.

His ultimate goal is to improve the quality of lives through the development of a revolutionary range of KleenUp products that will help Africans to take good care of their environment.

— Nelisiwe Masango



Kanyisa Mancunga

Director @ Kanyisa Mawethu Pty Ltd

Every so often, someone comes along who manages to generate a proper impact on ground level. Kanyisa Mancunga, the founder and director of Kanyisa Mawethu Pty Ltd, spearheads an innovative approach to recycling plastic signboard waste.

f Kanyisa Ezile Mancunga in @kanyisa-mancunga-8b466627

Mancunga's business recycles plastic to manufacture weatherproof school and utility bags, and supplies children with recycled rice bag plastic to cover their school books. Her motivation behind the initiative is to promote awareness among fellow South Africans of our deteriorating natural environment – and the significant impact this decline has on our lives – and to help less fortunate schoolchildren. "My wish is for society to learn more ways of green living," she says.

Born in Willowdale in the rural Eastern Cape, Mancunga attended high school in Idutywa (now called Dutywa) before completing a diploma in marketing at Vaal University of Technology in 2010. She was raised by her mother, a teacher who supplied less fortunate pupils with clothing and food.

Through Mancunga's projects and interaction with employees and sponsors, she has learned the patience required to bring a project to fruition. As an entrepreneur, her marketing background features strongly in her current role.

In addition to its environmental benefits, the school bags she distributes provide big corporations with the opportunity to sponsor change in the lives of rural communities. The bag has a built-in solar torch for studying at home and walking to school in the dark, reflective tapes, a rain jacket and a sanitary towel pouch. Each corporate sponsor's logo is embroidered on the side.

In 2022, the Kanyisa Mawethu Foundation was one of the winners of the Indalogrow Programme-SiAGIA. The Indalogrow Enterprise Award and Support Programme is hosted by Indalo Inclusive and powered by Nedbank.

— Frans Meyer

Julie Hay

Founder and executive director @ Singakwenza Early Childhood Education

@singakwenza

f Singakwenza

in Julie Hay

Julie Hay, founder and executive director of Singakwenza Early Childhood Education, has carved out a unique space in the early childhood development (ECD) realm by establishing a sustainable preschool programme which requires merely a pair of scissors, a marker pen and disposable household packaging.

Singakwenza, meaning "we can do it", is situated in Hilton, KwaZulu-Natal, and was born from the desire to grant less fortunate children the benefits of early childhood learning. Hay began her career in ECD in 2000 and has dedicated herself to creating workshops, training practitioners, writing training manuals and designing toys. Singakwenza has used its key philosophy of "sustainable change" to equip parents, caregivers and practitioners on a grassroots level with the stimulating and educational tools for preschool children in 64 under-resourced crèches. The aim is to develop their basic learning skills through play, using resources made solely from recycled materials. Hay says that she has accomplished far more than she had ever aspired to: "I've learned that we have some incredible, resilient and caring women in really tough circumstances who want to make a difference for the children they care for."

When asked about what she wishes all South Africans knew about the natural environment, Hay replies: "Most people don't see the bigger picture of how one piece of rubbish or

single bin bag contributes to the massive pollution problem that we've created that affects our health, our access to clean water and our very existence." To emphasise this point, the practitioners at Singakwenza have designed their educational tools entirely from household rubbish. This sustainable approach to ECD is simple and cost-effective, and it creates ecological awareness for children in their foundational learning phase.

— Georgia Satchwell



“Most people don't see the bigger picture of how one piece of rubbish contributes to our massive pollution problem”

Empowering the circular economy through recycling

10 recyclables you should be keeping out of your bin for recycling collectors

The growth of the informal recycling sector has grown over the years. Waste is not waste if it has value: value for people, the economy, and the environment.

Covering significant distances on foot every day, collectors weave through suburbs, cities and communities to retrieve 'waste' in return for cash. Recycling ensures that valuable materials are diverted away from landfills, which are rapidly reaching capacity. These materials are sorted and sent to recycling mills and factories for conversion into usable and commercially viable products.

Recycling collectors do not take all recyclables

Several recyclables are like gold for waste collectors, but unfortunately just because it's recyclable or recycled in South Africa, does not mean a waste collector will take it. They will only take items for which they will earn money, and they will not take items that they cannot sell or which are too heavy to pull over long distances.

With a bit of kindness and thought about your own refuse habits, you can make their work a little quicker and easier.

Keeping recyclable paper clean and dry is paramount. As a raw material that can be used in new paper products, it should not be contaminated by wet and rotting food waste, liquids or pet waste.

Golden rules for recycling

1. Separate recyclables and food/wet waste.
2. Get a bin, box or bucket for your recyclables. Recycling containers don't need to be fancy or expensive.
3. Keep paper recyclables clean and dry.
4. Give plastic, glass and cans a light rinse if needed, using dirty dish water.
5. Get the family involved and make sure everyone knows what is recyclable.

10 items things to keep aside for waste collectors

1. Brown cardboard boxes
2. Food packaging such as cereal, pizza and take-away boxes (remove food residue)
3. Grocery delivery bags and take-away bags
4. Used office paper
5. Plastic milk bottles
6. PET soft drink bottles - various sizes
7. Fabric softener bottles
8. Milk and juice cartons (depending on the area)
9. Aluminium soft drink cans
10. Food cans



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WASTE MANAGEMENT PRACTICE.



Marlinie Kotiah

General secretary director @ Danone Southern Africa

f @marlinie.kotiah in Marlinie Kotiah

Marlinie Kotiah is a nutritionist, scientist and business leader with nearly three decades of experience. She holds a bachelor of science in dietetics, a postgraduate diploma in hospital dietetics and has received global leadership training in Paris, Luxembourg and Senegal. She also managed to complete an MBA while raising her two children, something she considers to be among her proudest accomplishments.

As the general secretary director of Danone Southern Africa and the vice-chairperson of the Food Safety Initiative of the Consumer Goods Council of South Africa, she provides leadership and strategic guidance on sustainable business practices. She's built a purposeful career by highlighting where food, wellness and responsible manufacturing intersect.

Recently, Kotiah's focus has been to champion the repurposing of plastic into desks and lightweight bricks to build school infrastructure. In doing so, her work encourages regenerative agriculture while reducing food waste and the overall carbon impact of the factories and brands she oversees. In 2019, Danone converted every single Nutriday 1kg tub from polystyrene (PS) to polypropylene (PP). Thanks to her leadership and sustainable business decisions, the company successfully diverted 700 tonnes of plastic from landfill.

In her 27 years in the industry, she's consistently enhanced the equity and image of the companies she's been involved with and driven their competitive advantage. She has essentially fulfilled the dual economics of doing good business while being a force for good.

Kotiah is a firm believer in the power of community and our collective responsibility to respect our natural environment, which she hopes more South Africans will embrace. She says: "Being smart does not equate to being successful. Working successfully with people drives success. Natural resources are limited; use them respectfully, nurture them and educate others to do the same."

— Neil Büchner Jr

Carmen Jordaan

Founder and director @ Whole Earth Recycling and Whole Earth Organic Farm

f Whole Earth Organic Farm

"We need the natural environment," explains Carmen Jordaan, "but the natural environment does not need us." This statement is demonstrative of Jordaan's pragmatic and balanced view on humankind's relationship with the natural world. It's a viewpoint that she honed during her time at the University of Johannesburg, where she earned a BSc in natural and environmental sciences and a BSc honours in geography. "I like to think that we can, to a large degree, live in harmony with nature," she says. "We shouldn't have to choose between us and the environment."

His ethos is the driving force behind her role as director, founder and owner of Whole Earth Recycling, which provides a hassle-free and reliable way for homes, schools and offices in Gauteng to recycle – and it creates jobs. Today, the 40-strong team includes 24 sorters, called flight hawks, who generate their income by sorting recyclables and selling those materials to buy-back centres. Whole Earth Recycling's warehouse provides necessary respite for the sorters from the elements, and ensures that the recyclables do not blow away and pollute the environment.

In July 2022, Jordaan and the team expanded with the launch of the Whole Earth Organic

Farm, which extends their recycling solutions to include organic kitchen waste composting: Johannesburg's first large-scale wet and dry recycling curbside collectors.

Jordaan derives great satisfaction from watching her two young children learn to embrace the natural world: "From picking up insects and spiders and saying, 'look Mommy, the beetle loves me, and I love it,' to teaching ouma what nocturnal means." She is also proud of her successful company: "I am so happy to be doing something that I love and to be able to help people and the environment in such a meaningful way."

— Madeleine Bazil



SUSTAINABLE DESIGN.



@theothylas

Thando Tema

Director @ Lerato Tema Foundation NPC

Thando Tema from Alexandra in Gauteng is interested in both sustainability and youth development. He is renowned in his community for making the area safer for schoolchildren by servicing a local bus stop in a sustainable, educational way.

Tema studied engineering and related design at Central Johannesburg TVET College. He has always been community-minded; he owned his own food stall, and took great care to ensure that his products were affordably priced.

He believes in an asset-based community approach, using what is already available in his area. After noting a lack of seating and safety at a local bus stop, he embarked on an ongoing project to service this high-traffic area. He sources old school chairs and tyres and has repurposed them to create seating for daily use by more than 300 children and local informal traders.

Through this initiative, Tema has been able to engage with the children in his community about the importance of sustainability, highlighting the benefits of redirecting unwanted items from landfills. "I teach them [about] the factors that affect our environment, and the benefits of reducing, reusing and recycling," Tema says.

He has created back yard gardens and nurseries, which attract

villagers and inspire conversation, especially among young children. "One can start teaching at an early age," he says. "To teach South Africans about our natural environment is to teach sustainability."

Going forward, Tema is keen to continue to spread information on the greening, recycling and manufacturing of reusable materials among locals with his hands-on approach. He hopes to draw attention to the need to reduce landfill waste in particular. "Our land has so much waste we cannot handle," he says. "Learning to care for our natural environment is essential."

— Andie Reeves

“To teach South Africans about our natural environment is to teach sustainability”

Nonhlanhla Cynthia Mhlongo

Founder and director @ Khwezi Innovations

@khwezilno f Nonhlanhla Mhlongo in Nonhlanhla Cynthia Mhlongo

Nonhlanhla Cynthia Mhlongo is the founder and director of Khwezi Innovations, a company that cultivates innovative ideas concerning sustainable and green living among the youth. She and other innovators collaborate to identify issues relating to climate change and sustainability in order to come up with creative solutions that can be easily implemented to combat these problems.

After assessing new ideas for feasibility and sustainability, Khwezi Innovations develops the product or service and then commercialises it. With this model, the company empowers young innovators and contributes towards a greener world – a win for everyone.

A perfect example of Khwezi Innovations' exciting and creative work is their latest project, a biodegradable, two-in-one glove-like hand sanitiser that dries out when applied to your hands. After use, the glove can be peeled off and dissolved in water, leaving no waste behind.

Growing up, Mhlongo always knew she wanted to be an entrepreneur, but it was during her first job, with the

encouragement of her then boss, that her interest in climate change really grew. When the Covid-19 pandemic hit, she came up with her green business idea. Since then, the business has gone from success to success, winning numerous awards. Mhlongo has also received a number of accolades, such as being a finalist for the Africa's Rising Star Awards, and the recipient of a YOUNGA 2022 delegate scholarship.

What does she wish all South Africans would understand about climate change? That there is no "planet B", and it is essential that we all work to conserve the one planet that we have. With Khwezi Innovations, she is doing just that.

— Josie Roux



“There is no 'planet B', so it is essential that we all work together to conserve the one planet that we have”



f Mighty house of soap in Thuso Motau

Thuso Motau

Chief executive @ Mighty House of Soap

Thuso Motau is passionate about her roles in local, national and global communities, and tends to them – and future generations – with a great sense of responsibility.

Her business, Mighty House of Soap, has been recognised for its work in manufacturing sustainable body soap and other detergent products that are made with recycled cooking oil collected from eateries in local communities. By assisting local businesses to dispose of used cooking oil, Motau has solved a major challenge for businesses and the municipality.

"You can drink our products and you'll be completely fine," Motau says with an assuring laugh. "It's true. We have moved away from synthetic raw materials." Her products are manufactured in her factory and currently sold in low-income communities from an onsite factory shop. She has plans to work with a major retailer to stock her products and recently signed a contract to export to Germany.

Motau is the recipient of an SAB Foundation Social Innovation Award. She has received funding and support from several

institutions, including the Industrial Development Corporation, the South African Manufacturing Technology Demonstration Centre and the National Development Agency.

"I have learned that the little that you do in your community can have a big impact, not only in your community, but around the world as well," she says. "I now live by this lesson."

During the Covid-19 pandemic, Motau was able to spot the opportunity to offer an environmentally friendly disinfectant service. This strategy proved successful, and with the increased sales, she was able to create additional jobs.

"It is our responsibility to take care of our precious and delicate environment," she says. "One of our mottos is 'from waste to value'. We live this motto by turning waste into value, and we miss no opportunity to encourage others to do the same."

— Wade Seale

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