# "The elites don't care"

## People on the frontlines of Coal, Covid and the Climate Crisis


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The groundWork Report 2020

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**Cover: 26 November 2020 - Members of the Khuthala Women's Movement with freshly picked spinach grown at Khuthala Park. They aim to create environmental awareness among the youth through a programme called Operation Catch Them Young.**

**Cover Credit: James Puttick/New Frame**

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*For Ma Fikile Ntshangase*

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# Acronyms

| | |
|---|---|
| **AbM** | Abahlali baseMjondolo |
| **AfDB** | African Development Bank |
| **AIDC** | Alternative Information and Development Centre |
| **AMD** | Acid Mine Drainage |
| **AsgiSA** | Accelerated and Shared Growth Initiative for South Africa |
| **CBM** | Coal bed methane |
| **CER** | Centre for Environmental Rights |
| **CNOOC** | China National Offshore Oil Company |
| **CoP** | Conference of the Parties |
| **COSATU** | Congress of South African Trade Unions |
| **DBSA** | Development Bank of Southern Africa |
| **DEA** | Department of Environmental Affairs – subsequently |
| **DEFF** | Department of Environment, Forestry and Fisheries |
| **DM** | District Municipality |
| **DMRE** | Department of Mineral Resources and Energy |
| **DTIC** | Department of Trade, Industry and Competition |
| **DWS** | Department of Water and Sanitation |
| **ECA** | Export credit agencies |
| **EIA** | Environmental impact assessment |
| **EU** | European Union |
| **EMSEZ** | Energy and Metallurgical Special Economic Zone (see also MMSEZ) |
| **FGD** | Flue gas desulphurisation |
| **GDP** | Gross Domestic Product |
| **Gt** | Giga tonnes (Giga = billion) |
| **GUMP** | Gas Utilisation Master Plan |
| **HEJN** | Highveld Environmental Justice Network |
| **IDC** | Industrial Development Corporation |
| **IDP** | Integrated Development Plan |
| **IEJ** | Institute for Economic Justice |
| **IEP** | Integrated Energy Plan |
| **IMF** | International Monetary Fund |
| **IMO** | International Maritime Organisation |
| **IPL** | International poverty line |
| **IPP** | Independent power producers |

## Acronyms

| | |
|---|---|
| **IPPO** | Independent Power Producer Office |
| **IRP** | Integrated Resource Plan (for electricity) |
| **LM** | Local Municipality |
| **LNG** | Liquefied natural gas (so called) |
| **MCEJO** | Mfolozi Community Environmental Justice Organisation |
| **MCWAP** | Mokolo Crocodile West Augmentation Project |
| **MES** | Minimum emission standards |
| **MFD** | Maximising Finance for Development (according to the World Bank) |
| **MMSEZ** | Musina-Makhado Special Economic Zone (see also EMSEZ) |
| **MPRDA** | Mineral and Petroleum Resources Development Act |
| **Mt/y** | Million tonnes per year |
| **Nedlac** | National Economic Development and Labour Council |
| **NEMA** | National Environmental Management Act |
| **Nersa** | National Energy Regulator of South Africa |
| **NDP** | National Development Plan |
| **NGP** | New Growth Path |
| **NPC** | National Planning Commission |
| **PASA** | Petroleum Agency of South Africa |
| **PIC** | Public Investment Corporation |
| **PLAAS** | Institute for Poverty, Land and Agrarian Studies |
| **PMBEJD** | Pietermaritzburg Economic Justice & Dignity |
| **PPE** | Personal Protection Equipment |
| **RBIG** | Regional Bulk Infrastructure Grants |
| **REDZ** | Renewable Energy Development Zone |
| **RFI** | Rapid Financing Instrument (of the IMF) |
| **SASSA** | South African Social Security Agency |
| **Saftu** | South African Federation of Trade Unions |
| **SARB** | South African Reserve Bank |
| **SAWC** | South African Water Caucus |
| **SDCEA** | South Durban Community Environmental Alliance |
| **SEA** | Strategic environmental assessment |
| **SIP** | Strategic Infrastructure Plan |
| **SWOP** | Society, Work and Politics Institute |
| **TERS** | Temporary Employer-Employee Relief Scheme |
| **UCG** | Underground coal gasification |
| **UIF** | Unemployment Insurance Fund |
| **UNEP** | United Nations Environment Programme |
| **Unctad** | United Nations Conference on Trade and Development |
| **VEJA** | Vaal Environmental Justice Alliance |
| **VEM** | Vukani Environmental Movement |
| **WTO** | World Trade Organisationgical Organisation |

# Foreword

The year 2020 was brutal. But this was nothing new for the millions of South Africans who are unemployed, who go without the basics needed to live well, and who are excluded from meaningful participation in our post-apartheid South Africa.

Covid struck and time stood still for many of us. But for the majority it did not. It intensified their suffering and people continued to ‘hustle’ as many community activists told NGOs in the dialogues of the C19 People’s Coalition. This civil society coalition seeks to ensure that “South Africa’s response to the Covid-19 crisis is one that is rooted in social justice and democratic principles” prioritising the most vulnerable. For the majority, locking themselves in their homes behind walls to keep safe was not an option. They had no choice but to defy the legal command to stay at home. The result was increased police and state violence against the poor.

Like many in South Africa, groundWork had to work differently in 2020, and the report reflects this. Our report is based on dialogues with community researchers from organisations on the coal fields. They observe that coal is far from dead as the elites are still pushing to extract more of it. The report ends with their reflection that activism will increase in response to the brutality of the economy and the system, especially as people experience intensified climate change impacts. Covid and 2020 has presented society with what the future is going to be under increasing climate change impacts, so change has to happen.

In this context I reflect on Bolivian activist and ex-diplomat Pablo Solón’s new year musings: “2020 wasn’t the worst year, it was just one of the beginnings of the systemic crisis. Hope is not in the year that begins but in our ability to change and subvert the ‘normality’ that brought us here. The year 2020 brought to the fore with clarity the reality that system change is needed." Like Solón, my hope lies in our ability to change and subvert the old normal and start creating a new normal, and we do this first by stopping the foolishness of the past, and through this creating the justice for the future.

Creating a future that is just is no easy endeavour. Despite the year of gloom, we won some telling victories and we need to build on them. Our report as always is a collection and analysis of cutting edge information that I implore community activists, movements, NGOs, those in government who want change, and funders to use to collectively work for a new tomorrow. Already there are some possible spaces for intervention.

The moves towards a just transition continue to be pushed from various quarters and President Cyril Ramaphosa has finally appointed the Presidential Climate Change Coordinating Committee. The Commission's work will only be a success if the positive steps taken by Environment Minister Barbara Creecy, to pursue the criminal prosecution of Eskom in respect of air pollution by its Kendal Power Station, are taken to the logical conclusion of holding industry accountable. It is the first step in getting Eskom to become transparent and democratic – void of self-interest and political interference – and become a renewable energy giant answerable to the people of South Africa and not to vested interests.

After years of calls for a basic income grant (BIG), and urgent demands for cash grants in response to the pandemic and lockdown, Ramaphosa established the Covid-19 Social Relief of Distress grant. Yes, there is much about it that must be criticised, not least that it is ending just as a new round of deprivation and hunger is kicking in. Nevertheless, as civil society we need to take this as a victory and push for a stronger, more meaningful and permanent BIG.

The just transition remained high on the agenda despite the pandemic. We know Eskom can ditch coal. Today, Eskom even has a Just Energy Transition office, which would have been unthinkable just a year ago. Two years ago, the ANC promised to reposition Eskom to play an active role in the renewable energy sector and promote public ownership in renewable energy infrastructure. What this actually means is yet to be seen. Is it going to be just a push to ditch coal for gas, or is it going to be an urgent shift away from fossil fuels?

The call for a just transition is spreading to fossil fuels hotspots other than Eskom. Two of South Africa's rusting and poorly maintained oil refineries exploded in 2020, resulting in the death of workers and severe pollution and trauma visited on their neighbours. The Engen refinery has admitted that it may close shop and there is speculation that others will follow. This is not a surprise. The oil refinery industry is an expensive one and for too long it has been profitable only because peoples' lungs and health have subsidised their operations. But now there is talk of abandoning these sinking hulks by 2023. But there is no talk about a just transition in this sector. The unions have been quiet. It is the fenceline communities that are preparing the charge, starting in south Durban, where Shell and BP run Sapref and Petronas runs Engen.

It seems, as this report is released, that the call for a just transition has been taken up by big corporates and governments as well as labour and climate justice organisations. Although they mean very different things by it, this shifts the ground of engagement and the challenge now is how we work with people to ensure that there is delivery in order that people can live well with each other. It is going to be on the fencelines of abandoned coal mines, oil refineries and Eskom's power plants that the future will be built, not in parliament and in committees. Parliament and committees must come to the people, to talk and work with them. These are going to be difficult dialogues but only through these approaches will there be a just transition and a response we can learn from.

During the pandemic, we have been cut off from working, talking and planning face to face with people on the fencelines of destructive industries. We had to find a new way of working. The face-to-face approach of working with people and building movement through ongoing dialogue ended abruptly. Or so we thought. But working with people to respond to the crisis on the ground, found social justice organisers building stronger ties. The movement for just transition, for a new world order, has grown and solidified. Today I feel closer to those in struggle than I did a year ago.

Finally, 2020 was brutal, as the Somkhele community had to face ongoing violence against those who do not want mining in their area. Ma Fikile Ntshangase, of Somkhele, mother and grandmother, was shot down in her house where she lived with her grandchild on Thursday the 22nd of October. Ma Fikile was opposed to the operation of the Tendele colliery that wants to mine through her land and her family home. Bridget Pitt writes that, when Ntshangase was killed, "she became yet another martyr in the increasingly ruthless global fight to force rural communities to allow mining on their doorsteps".

It is here that the future is being forged. On that evening that I learnt of Ma Fikile's death, a hollowness and pain settled in me, which I believe can only be responded to by pushing for justice: to see that those who committed this murder are caught and held accountable; and for us to continue the fight for justice, for system change and to 'subvert the normal' that brought us here.

***Bobby Peek***

***Director of groundWork***

# Introduction

The 2020 groundWork Report (gWR) was initially conceived as a follow on to the 2019 report on a just transition. It was intended to track and update transitional developments on the coal fields, and explore some issues more deeply while also broadening out from the focus on coal to take in oil and gas.

The Covid-19 crisis has upended – or transformed – these plans. It is no longer possible to make field visits or hold workshops as intended. This means that certain lines of enquiry – in particular, a deeper exploration of labour migrancy to the coalfields – are not possible. groundWork's international coal exchange on the topic of the just transition has also been indefinitely postponed. So here we report on the work of community researchers from the coal fields who paired with academic and NGO staff in what we called the 'corona watch'.

Anticipated public processes have also not happened. In 2019, the National Planning Commission (NPC) planned a national summit on a just transition and also proposed that the Highveld be taken as a focus area for social dialogue and action. The NPC process, however, has stalled. Other processes are nevertheless going ahead in the absence of any state led process of dialogue. They include Eskom's recently announced but unformed plans for repurposing three Eskom power stations and an industry led renewable masterplan process.

At the same time, the Covid-19 lockdown has drawn Eskom deeper into the 'death spiral' at the centre of the actual energy transition in South Africa. Demand dropped by a third and left a large hole in Eskom's already depleted revenues. Hence, Eskom declared force majeure on power purchase agreements with renewable independent power producers (IPPs) and on contracts with colliers for coal deliveries. Coal miners also lost exports as the Richards Bay Coal Terminal closed and then reopened to a slump in international coal prices offset by a fall in the currency, so they got more Rand to the dollar. The DMRE is nevertheless reasserting the coal agenda outlined in gWR 2019 – along with its deranged devotion to nukes and the Grand Inga project.

Oil and gas prices crashed through the floor, with Brent trading at record lows while West Texas Intermediate went negative.[1] South African policy and plans are nevertheless set on expansion with a new Upstream Petroleum Resources Development Bill in draft and various infrastructure and project plans in process. Sasol, meanwhile, has joined Eskom on the ropes of the chaotic transition.

The environmental authority has proved adaptable to the requirements of the fossil economy. It has relaxed the minimum emission standards for sulphur dioxide to accommodate Eskom and Sasol. And, when it comes to project approvals, the draft Upstream Petroleum Resources Development Bill mimics the existing Mineral and Petroleum Resources Development Act (MPRDA) in relegating the Department of Environment, Forests and Fisheries (DEFF) to the side lines. The DEFF, meanwhile, was supposed to be leading the country to a new and more ambitious 'nationally determined contribution' (NDC) for the 2020 climate negotiations, now delayed and due to culminate in the Glasgow Conference of the Parties (CoP 26) in November 2021.

The CoP is postponed, the DEFF's NDC process is postponed, but the climate crisis is not. With something like a third of the global economy shuttered and year-on-year greenhouse gas emissions for the month of April down by a record 17%, a 7% decline in global emissions is forecast for 2020. However, for global heating to come in under 1.5°C, that decline rate must be sustained for 2021 and then must increase to 9% in 2022 and to 14% year after year thereafter – all the way to zero. For the 2°C target, on UNEP's reckoning, a decline rate of 4% rising to 5% would be needed year after year through to 2100. These calculations do not take account of climate feedbacks. Carbon concentrations in the atmosphere are rising inexorably by about 2.5 ppm a year, reaching the annual peak of 417 ppm in May compared with 415 ppm in 2019. The average for the year will be over 412 ppm.[2]

1 See Chapter 5 for what happened.

2 https://www. globalcarbonproject. org/carbonbudget/20/index. htm

In 2007 we remarked: "That depression is the best hope of credible emission reductions in the elite future is the ultimate expression of the meaning of unsustainable development." At that time, a still daunting 3% decline rate would have been enough to make it under 1.5°C (not counting feedbacks). Looking forward, if business as usual is restored following the corona crisis and the economy and emissions 'recover' to 2018 levels, emissions from 2026 must drop to zero in three years to make the 1.5°C target.[3]

In 2019, we emphasised that the climate crisis is part of the broader ecological crisis created by global capitalism and its devotion to profit and growth. The corona crisis emerges from the rent in the web of life and, while climate change is a slow motion wreck, it demonstrates the impact, synchronised across the world and compressed into weeks, months and a year or two, of nature's 'revenge'. It does not merely foreshadow climate change. It is an instance of the disruptions that follow from widescale ecological disturbance – including climate change. And the baleful fires of the pandemic have illuminated and widened the fault lines of the global economy – exposing rank inequality, poverty and hunger.

But the implosion of the global economy was not just about being torpedoed by the virus. The economy has long been maintained by bubbles which primarily function to inflate 'asset prices', that is stocks, shares and securities on the global money markets. The bubbles imploded in 2008 and were re-inflated with trillions of dollars pumped into global financial institutions. The virus lanced a gassy economy ripe for collapse, bringing on the next and most severe stage of a long depression. In November, the IMF forecast a global contraction of 4.4%, less than the 6% previously anticipated, while the Treasury forecast South Africa's economy to shrink by 7.8%. Millions of jobs will be lost. Anticipation of a rapid V-shaped recovery in the post-Covid world will be disappointed. Treasury forecasts 2021 growth at 3.3%, implying less than half a recovery.[4]

3 Zeke Hausfather, ***UNEP: 1.5C climate target 'slipping out of reach'***, Carbon Brief, 26 November 2019; David Roberts, ***The sad truth about our boldest climate target***, at vox. com, 3 January 2020.

4 National Treasury, Medium Term Budget Policy Statement, October 2020.

This groundWork Report opens with the unnatural history of the coronavirus on the frontiers of global capitalism and then looks at how it followed the money down the globalised routes of production, trade and tourism. Chapter 2 considers the worldwide economic hit as countries around the world went into lockdown. The rich world did not escape, which is no doubt why it registers as a global crisis, but the impacts are uneven. The poor world and the poor of the world have seen their slender means of livelihood cut off and have no cushion. Elite policy responses, in South Africa as elsewhere, have been about maintaining the system.

Chapters 3 and 4 report from the fencelines of the coal economy. Community researchers describe the local context in 10 coal affected communities and their experience of the harsh disciplines of lockdown on the one hand and state failure on the other. Chapter 4 turns the focus onto the shock to people's economies and livelihoods. The questions raised in these chapters include the health system that barely caters for poor people in 'normal' times, air pollution and health, access to health care and the role of community health workers. They also look at municipal services, land, water, food, energy and waste. People's security and violence are key concerns: domestic violence, state violence, the structural violence of inequality and elite deployment of informal violence. People were also concerned about the closing down of the political space of resistance to corporate and political elites and of participation in defining a just transition. The gendering of impacts and responses is threaded through these themes.

Chapter 5 returns to elite agendas and fossil fuel economies. It looks at the extreme turbulence on oil markets, and at state subsidies and bailouts for big oil. In Southern Africa, the big deal of the decade concerns the exploitation of large fossil gas finds off Mozambique and the construction of 'liquefied natural gas' (LNG) plants by Total and ENI. Off South Africa, Total has struck gas. Government sees the prospect of becoming a petro state as a 'game changer' and claims gas as the 'bridge' to a low carbon economy even as it hangs onto coal. Eskom's government guaranteed debt remains the biggest threat to South Africa Inc., but this is only one of several nested contradictions that haunt the post-apartheid settlement.

Three different facets of those contradictions are explored in Chapter 6. In south Durban, people have lived with petro pollution for 66 years. Following yet another explosion and fire at Engen refinery, they are calling for it to close and for a just transition to be planned with the full participation of the people. On the coal fields, Eskom's historic disdain for the environment now leaves the state looking for a way out of applying the law on minimum emission standards.

Water is essential to life and to the Covid hygiene regimen but provision has been deteriorating for many years. The Amathole district in the Eastern Cape is symptomatic. Under the lockdown, water activists nationwide responded with outrage and solidarity to the arrest of 10 people in Amathole for attending a meeting to address the failure of water services. This section unpacks the layers of state failure – at the local and district municipalities, at the Amathola Water Board and at the national Department of Water and Sanitation – that have left the taps dry. Water is also at issue in the madness in Makhado where political leaders – from the president to the provincial premier to the local mayors – appear spellbound by a Chinese led mega project for the so called Energy and Metallurgical Special Economic Zone. This is a project primed for looting. If built, it will stand as a monument to climate and environmental injustice and it will trash the Musina Bushveld and suck the local region dry before failing.

Something is shifting at Eskom. It has recently established a just transition office and its leadership is sceptical about coal and nukes, although not about gas. It also wants to avoid the costs of decommissioning old power stations and, in March 2020, it put out a call for proposals to repurpose them. Of course, it wants partners with deep pockets but, having witnessed the chaotic transition in process around Hendrina and Arnot, groundWork put in a proposal to repurpose them as just transition centres. This is part challenge to Eskom and part thought experiment, anchored in the community agenda reported in 2019, about how to go about a just transition on the Highveld. It is included as Chapter 7.

The community researchers get the last word in Chapter 8. Given the experience of Covid, what should people expect as the climate crisis intensifies? There are local differences in people's experience of government's Covid response, but the overwhelming conclusion is that government is not there for us and will not be there for us through the climate crisis. It is likely that systems that are failing now will not be fixed. So the people must be ready to prepare their own climate response but, since government controls the people's resources, they must also build the movement to demand accountability and open democracy.

The corona watch was a partnership between groundwork, Earthlife Africa and the Society, Work and Politics Institute (SWOP) at Wits University on the one hand, and 10 local organisations in coal affected communities on the other. As the lockdown started, groundWork campaign staff could not travel to see the community groups. The corona watch started as a way of keeping contact and structuring it with a set of questions about what was happening and what support people needed. At the same time, SWOP was already engaged with three community researchers on the Highveld, aiming at strengthening community voices in Just Transition debates.

These initiatives combined and then morphed into a virtual substitute for the groundWork Report's usual field work process as well as being a project in its own right. With Earthlife joining the project, it was able to cover the active coal mining areas of the country: four locations in the coal centres of the Highveld at Arbor, Phola, eMalahleni and Ermelo, and a fifth area under threat of mining at Mabola near Wakkerstroom; the industrial locations of Sasolburg in the Vaal and Newcastle in KwaZulu-Natal; the rural locations of bitter struggle in northern KZN at Somkhele and Fuleni; and the rural area of Shongoane outside Lephalale in the Waterberg.

Each of the community researchers was paired with an academic or NGO staff worker for a series of telephone conversations around a prepared set of questions. We also had variously composed group discussions along the way by teleconference and zoom. The groups discussed the questions and the process, amongst other things. And the first full team meeting enabled people to see their struggles in relation to each other. The process ended with a zoom webinar with the community researchers giving their conclusions.

This was hardly the perfect process. In part, it was cobbled together as we learnt together how to do virtual, online processes. Everyone had technical problems at different times, but the rural groups were worst affected. It took time to ensure that community groups would have access to appropriate communication equipment and, of course, some people were technically more adept than others. Nevertheless, it created a much greater reliance on the community partners and stimulated thinking about deepening participation in future research – virtual or not.

The team members from the 10 community organisations were: Promise Mabilo of the Vukani Environmental Movement in KwaGuqa; Yvonne Sampear of the Greater Phola-Ogies Women's Forum; Elizabeth Malibe of Guide the People in Arbor; Linda Magagula of the Khuthala Environmental Care Group in Ermelo; Jabulisile Makhubu of the Mabola Alternative Committee; Nduduzo Dlamini of the Newcastle Environmental Justice Alliance; Moleboheng Mathafeng of the Vaal Environmental Justice Alliance; Zanele Gumede and Zamapho Ndimande, both of the Mfolozi Community Environmental Justice Organisation; and Leseka Shongoane of Matjoba in Shongoane, Lephalale. The 'office based' researchers were Jacklyn Cock and Dineo Skosana of SWOP; Bongi Matsoha of Earthlife; Robby Mokgalaka, Thomas Mnguni and Avena Jacklin of groundWork, together with ourselves, Victor Munnik and David Hallowes.

We'd like to thank all the team members. Thanks too to Gill Addison and Bobby Peek at groundWork and Thabo Sibeko and Makoma Lekalakala at Earthlife for their support, to Bathoko Sibisi who organised the teleconferences and to Jane Harley for proofing and layout. Finally, thanks to Richard Worthington, Kaamilah Joseph and Hubert Schillinger, of the Friedrich Ebert Stiftung (Johannesburg) who supported the community based research and hosted the final webinar.

# 1 Corona

## Unnatural history

The coronavirus came out of the ragged tatters in the web of life. The virus appeared in the Chinese city of Wuhan but its exact origin is obscure: from a bat or a pangolin or from a bat via a pangolin; originating in China or sold into the Wuhan wet market from a world away in the tropical forests of West Africa or South East Asia.

It is known to be a zoonotic pathogen – transmitted from other animals to people – and it follows an increasingly regular succession of other viral and biotic pathogens that have jumped species: HIV, ebola, nipah, zika, some 12 variations of flu including bird flu and swine flu, and its coronavirus predecessors, SARS-CoV-1 – severe acute respiratory syndrome coronavirus – and MERS-CoV-Middle East respiratory syndrome coronavirus. Covid-19 stands for the coronavirus disease of 2019.

For the most part, such viruses live harmlessly with their wild host populations. But they can get nasty when they spill over into other species. As habitats shrink and species are driven into extinction, spill over becomes increasingly common. As science writer David Quammen puts it:

> We invade tropical forests and other wild landscapes, which harbour so many species of animals and plants – and within those creatures, so many unknown viruses. We cut the trees; we kill the animals or cage them and send them to markets. We disrupt ecosystems, and we shake

> viruses loose from their natural hosts. When that happens, they need a new host. Often, we are it.[5]

But this cutting up of nature is an unequal enterprise. 'We' are not driving it together.

## Extractives frontier

Oil and gas corporations cut millions of kilometres of seismic lines each year, clearing all vegetation from the path in a straight line. The lines are up to eight metres wide and many kilometres long and parallel lines are cut at intervals of 400 metres or so. They then set off a series of explosions along the line to create an echo from geological strata below. And where the prospects look good, they drag heavy drilling equipment through the terrain. Wherever they do get to pumping oil and gas, they also get to flaring it and spilling it. The physical assault is thus followed by a toxic chemical assault carried on the air and in water across a much broader terrain.

Large parts of the enormously productive Niger Delta ecosystem have been destroyed, along with people's livelihoods, over the last six decades. People have suffered a similar fate in the Amazon region of Ecuador. In May 2020, just as the country was put under lockdown, a massive spill contaminated the Coca River and rapidly spread downstream, killing the fish on which people depend. The spill was in turn caused by the impact of another big energy project: a hydro-electric dam. Severe erosion in the river bed caused by the dam resulted in a landslide that broke two oil pipelines.[6] Come October, the corporations, Petroecuador and OCP, declared the cleanup complete, but the river banks and adjacent fields were still contaminated, says Amazon Watch.[7]

Mining corporations are as destructive as they seek to extract minerals, often from remote regions. They drive roads or rail through to get heavy earthmoving equipment in and ore out. Where possible, they favour open cast mines and

5 David Quammen, ***We Made the Coronavirus Epidemic***, New York Times, 28 January 2020.
6 Antonio José Paz Cardona, ***Massive erosion likely due to hydropower dam causes oil spill on Ecuador's Coca River***, Mongabay, 6 May 2020.
7 Amazon Watch, ***Demand a full cleanup of this spill***, 8 October 2020.

strip the earth from large areas, covering more land with spoil and surrounding land with dust. Acid mine drainage frequently follows the exposure of rock to oxygen and the pollution of water may continue for decades after the ore body has been mined out. They also leave behind massive mine dumps – officially known as tailings dams – containing more or less toxic residues, including a range of metals and radioactive particles, which may be leached into water or blown as dust in the air. Periodically, the dams burst. At Vale's Brumadinho iron ore mine in Brazil, a dam burst on the 25th of January 2019. It released a torrent of toxic liquid mud which drowned 270 people, swept away part of a village, cleared a wide valley of vegetation and smothered and poisoned the local river for many kilometres downstream. Where coal is burnt, equally large ash dumps add to the long term toxic legacy and are also prone to failure. In April, the ash dump at a power station in central India collapsed. It buried six people and smothered fields over a distance of six kilometres in fine ash laced with heavy metals.[8]

Loggers are driving roads deep into the world's forests and simultaneously opening the way for bushmeat traders. Having cleared much of the northern hemisphere temperate forests in the last two centuries, the major plunder is now in the tropical rainforests. In some cases, the loggers and bushmeat traders follow tracks opened by oil corporations, as with the Chad-Cameroon oil pipeline completed in 2003 after cutting a wide path through hundreds of kilometres of forest. The people of the forest were dispossessed as "in-migration and social upheaval … left them with little to survive on and under severe cultural attack" while forest reserves, created to 'offset' the pipeline project, were taken under management by conservation authorities [Caruso et al 2003: 68].

A large proportion of logging is illegal, but for forest people this may make little difference. Legal logging is authorised by the state and mostly not by them. Legal or illegal, the loggers invade the forest and take trees of value on the international markets without reference to forest people. It may be that legal logging is less careless than illegal logging, but the real difference is likely

8 Sudarshan Varadhan, ***Two dead, four missing after India power plant dyke gives way***, Reuters, 10 April 2020.

to lie in who gets paid how much along the way – the state in fees and taxes, local officials in bribes, logging companies, sawmills, smuggling rings, shipping companies, manufacturers, marketing agents and investors, and others. The forest people are unlikely to feature.

On the other side of the continent, Total and the China National Offshore Oil Company (CNOOC) plan a 1 500 kilometre heated pipeline from Lake Albert in Uganda to the port of Tanga in Tanzania. And they will clear a 30 metre wide corridor all the way, as Fred Pearce reports. Total will sink wells inside the Murchison Falls National Park while, at the other end of the lake, CNOOC's pipelines and roads will rip through the Bugoma Forest. The pipeline will pass through several more protected areas on the way to the sea. It also hugs the shore of Lake Victoria in an area prone to earthquakes. Finally, it requires the dispossession of tens of thousands of people. At Lake Albert it threatens the people's fisheries and has already forced the removal of at least 7 000 people, taking land and access to water sources. Something like 100 000 more will be forced out of the way of the advancing pipeline.[9] South Africa's Standard Bank is an investor.

## Gangster agribusiness

Big agriculture is behind the largest part of forest destruction. In 2019, vast areas of the Amazon forest burned. The fires were lit on purpose both to clear land for beef and soya bean farming and to appropriate it from small forest farmers and indigenous people. In August, over 70 000 wildfires were burning across the Amazon basin, with 40 000 in Brazil, 19 000 in Bolivia and nearly 7 000 in Peru. For the year 2019, 900 000 hectares of forest was lost. The 2020 fire season appears even worse with 10 000 fires burning in Brazil alone in the first days of August.[10] The smoke plume spreads south east. A report from Human Rights Watch documents a sharp rise in hospital admissions for

9 Fred Pearce, ***A Major Oil Pipeline Project Strikes Deep at the Heart of Africa***, Yale Environment 360, 21 May 2020. At https://e360. yale. edu/features/a-major-oil-pipeline-project-strikes-deep-at-the-heart-of-africa; Amis de la Terre, France, ***Total Nightmare***, October 2020.

10 Dom Phillips, ***Brazil experiences worst start to Amazon fire season for 10 years***, The Guardian, 13 August 2020; Adam Voiland, ***A New Tool for Tracking Amazon Fires, Nasa Earth Observatory***, 16 August 2020.

people suffering from respiratory illness across the Amazon region [Carvalho and Téllez-Chávez 2020]. It notes that:

> Healthcare providers and officials fear that medical facilities already struggling with the Covid-19 pandemic in 2020 will face further stress caring for people affected by fires, potentially collapsing the health system in parts of the Amazon region. The smoke may also aggravate the virus symptoms, resulting in more serious cases and deaths. [3]

The extent of deforestation is such that the Amazon rainforest may collapse into a dry tropical savannah in the next two or three decades. This in turn will impact the water cycle over half the South American continent, drying out the Parana River basin that stretches south from Brazil to the Rio de la Plata.[11] Already, reduced river flow and rainfall has started to dry out '*la isla*', the vast Parana floodplains around the Argentine town of Rosario. This is common land appropriated by commercial ranchers who are running ever more cattle on it and burn old grass to stimulate new growth. In this year's drought, massive fires have burned out of control since February. By August, over 8 000 fires had been counted and 90 000 hectares burnt.[12]

The forests are also burning across the world in Indonesia, being "deliberately razed for commercial agriculture, primarily oil palms". These forests grow on moist tropical peat soils which can be several metres deep and "are among the densest stores of carbon dioxide in the world". The soils are drained of water before the forest is set alight. The fires then burn deep into the soil releasing vast stores of greenhouse gases. In 2019, carbon emissions from the Indonesian fires were double those from the Amazon, although a much smaller area was burnt.[13]

Those emissions were also about equal to Germany's, a fact that is steeped in irony. The expansion of palm oil plantations into the forests of Indonesia

11 Camilla Costa, ***Amazon under threat: Fires, loggers and now virus***, BBC, 21 May 2020.
12 Uki Goñi, ***'Everything is burning': Argentina's delta fires rage out of control***, The Guardian, 30 July 2020; and https://en. wikipedia. org/wiki/2020_Delta_del_Paran%C3%A1_wildfires at 31 August 2020.
13 Hans Nicholas Jong, ***COVID-19 may worsen burning and haze as Indonesia enters dry season***, Mongabay, 6 July 2020.

and Malaysia was massively stimulated by European policy that requires the use of 'biofuels' to supplement fossil fuels. In 2003, the European Union (EU) required that diesel should contain 5.75% biodiesel by 2010 and, in 2009, upped the target to 20% by 2020. In 2019, two thirds of palm oil imported into Europe was burnt for energy. This was supposed to reduce Europe's carbon count as biodiesel was held to be 'carbon neutral'.

The policy was criticised from the start, as reported in the groundWork Report 2007 [97 ff], for driving deforestation, dispossessing indigenous people and diverting food into energy. In 2019, following nearly two decades of intensive campaigning by European civil society, the EU decided to phase out subsidies to palm oil biodiesel over the next decade. However, the decision maintains subsidies to biodiesel from other crops, including soya and rapeseed.

In response, Indonesia has lodged a grievance with the World Trade Organisation (WTO), claiming that the phase out measure is discriminatory. It is thus defending 'access to markets' within the free trade regime imposed by the Northern powers. At the same time, it is relaxing environmental protections to encourage investment while nevertheless proclaiming its commitment to reduced deforestation.[14] One might conclude that, between the EU and Indonesia, there is a balance of hypocrisy.

There is no ambiguity to Brazilian President Jair Bolsonaro's promotion of gangster capitalism over forest protection and the rights of indigenous people and small forest farmers. He dismantled environmental regulations, defunded forest protection agencies and broadcast his support for local elites who direct the assault. When the fires lit up in 2019, he first denied that the Amazon was burning, then sacked officials who showed that it was and finally said environmentalists were burning the forest to embarrass him. Facing criticism from European leaders, he loudly defended Brazil's sovereign right to 'develop' the Amazon as it pleases and accused them of wanting to shackle

14 Hans Nicholas Jong, ***Bring it on,' EU MP says of trade fight over palm biofuel phase-out***, Mongabay, 15 October 2019; Nico Muzi, ***Almost two-thirds of palm oil consumed in the EU is burned as energy – new data***, Transport & Environment, 26 June 2019; and https://ec. europa. eu/jrc/en/jec/renewable-energy-recast-2030-red-ii at 4 September 2020; Palm Oil Monitor, ***WTO Moves Ahead with Indonesia's Complaint Against EU***, 29 July 2020..

Brazil's economic development for their own commercial advantage. The rhetoric in the eight other Amazon countries is less toxic but most are backing agriculture and extractive industries while paying lip service to protecting the forest.[15]

Bolsonaro's ecocidal attitude to the Amazon is matched by his genocidal response to Covid-19. By the 9th of September, there were more than four million Covid-19 recorded cases and 127 000 deaths. Frei Betto, a veteran of the struggle against Brazil's military dictatorship in the 1980s, notes that most of those who die are old, vulnerable, indigenous and/or poor – that is, people who Bolsonaro sees as a drag on money making and wants dead.[16]

Yet money making – the accumulation of capital – already puts Brazil's supposed sovereignty in question. The ecological damage is precisely the mark of Brazil's subordination within the orders of global capital, as Wallace et al [2020] argue:

> Unequal ecological exchange – redirecting the worst damage from industrial agriculture to the Global South – has moved out of solely stripping localities of resources by state led imperialism and into new complexes across scale and commodity. Agribusiness is reconfiguring their extractivist operations into spatially discontinuous networks across territories of differing scales. A series of multinational-based 'Soybean Republics', for instance, now range across Bolivia, Paraguay, Argentina and Brazil. The new geography is embodied by changes in company management structure, capitalisation, subcontracting, supply chain substitutions, leasing and transnational land pooling. In straddling national borders, these 'commodity countries', flexibly embedded across ecologies and political borders, are producing new epidemiologies along the way.

15 Manuella Libardi, ***Leaked documents show Brazil's Bolsonaro has grave plans for Amazon rainforest***, democraciaAbierta, 21 August 2019; Dom Phillips, ***'Chaos, chaos, chaos': a journey through Bolsonaro's Amazon inferno,*** The Guardian, 9 September 2019, and ***Dramatic footage fuels fears Amazon fires could be worse than last year***, The Guardian, 17 July 2020; Camilla Costa, ***Amazon under threat: Fires, loggers and now virus***, BBC, 21 May 2020.

16 Frei Betto, Letter to my friends abroad, July 2020.

And, while Amazonian beef may be offered up in European hamburgers by McDonalds or Burger King,[17] the soybeans are likely destined for North American factory farms where animals with limited genetic diversity, and hence compromised immune systems, are crowded together in conditions that might have been designed for breeding pathogens as much as for fattening cattle or pigs. This trough is not a discrete agribusiness preserve. The lords of finance capital have their noses deep in it. Following the 2008 meltdown on Wall Street, and having been bailed out – indeed, fattened – on the US Fed's programme of quantitative easing, "Goldman Sachs took 60 percent stock in Shuanghui Investment and Development, part of the giant Chinese agribusiness that bought US-based Smithfield Foods, the largest hog producer in the world" [Wallace et al, 2020].

## Climate feedback

Climate change is now also tearing at the web of life and will soon displace habitat destruction as the main driver of species extinction. Unlike in the Amazon, the Australian environment is adapted to fire. Driven by drought and extreme heat, however, the 2019-2020 fire season was unprecedented in its duration and ferocity. Nearly three billion animals – reptiles, birds, frogs and mammals – were affected, most being burned, dehydrated or starved. Local scientists called it "one of the worst wildlife disasters in modern history".[18]

Fire is also part of the natural ecosystem in the US state of California. Over the last decade, however, the fires have got bigger and more dangerous. The 2018, 2019 and 2020 fire seasons each set new records for scale, intensity and duration. This year, many fires were started by an unprecedented lightning storm with "10 849 lightning strikes … tallied in three days" in the San Francisco

17 Andrew Wasley, Alexandra Heal and André Campos, ***Leading burger supplier sourced from Amazon farmer using deforested land***, The Guardian, 17 September 2019.

18 Graham Readfearn and Adam Morton, ***Almost 3 billion animals affected by Australian bushfires, report shows***, The Guardian, 28 July 2020.

area. And the lightning struck a land scorched by an extreme heatwave with “unheard-of” temperatures in the upper 40s and over 50°C in places.[19]

Fire is not natural in the frozen north but, in the new abnormal, there is now an Arctic wildfire season and the 2020 season has broken the records set by the 2019 season. A prolonged heatwave in the Russian province of Siberia took temperatures into the high 20s and low 30s when they should have been around zero. In June, the temperature in the normally frigid Arctic town of Verkhoyansk hit 38°C. Over 600 fires were burning and, by late August, 245 million tonnes of $CO_2$ had gone up with the smoke. Moreover, the fires are now burning into previously frozen peat soils with a carbon density comparable to the tropical peat soils of Indonesia. Melting permafrost is also releasing carbon and methane directly into the atmosphere at an ever increasing rate. As it melts, the frozen earth turns to slush and the foundations of towns, roads, pipelines and other infrastructure becomes unstable. Norilsk is a notoriously polluted nickel mining town located just to the east of the West Siberian oil basin. In late May, the ground gave way beneath a large storage tank which spilled 20 000 tonnes of diesel into the Ambarnaya River.[20]

## Transporting Covid

### Up in the air

“The coronavirus may have first appeared in China, but the ensuing spread and crisis also belong to the global assemblages of commerce, tourism and supply chains erected by powerful interests in the 21st century,” says historian Andrew Liu.[21] Before Covid, airlines accounted for about 2% of global carbon emissions – 915 $CO_2$ Mt/y – more than Germany, which is sixth in the country

19 Alastair Gee and Dani Anguiano, ***The climate crisis has already arrived. Just look to California’s abnormal wildfires***, The Guardian, 21 August 2020; Andrew Freedman, ***California endures record-setting ‘kiln-like’ heat as fires rage, causing injuries***, Washington Post, 7 September 2020.

20 Tobi Thomas, ***Arctic wildfires emit 35% more $CO_2$ so far in 2020 than for whole of 2019***, The Guardian, 31 August 2020; ***Siberian heatwave of 2020 almost impossible without climate change***, at World Weather Attribution posted on 15 July 2020; Mark Serreze, ***100 degrees in Siberia? 5 ways the extreme Arctic heat wave follows a disturbing pattern***, The Conversation, 25 June 2020.

21 Andrew Liu, ***Blaming China for coronavirus isn’t just dangerous. It misses the point.*** The Guardian, 10 April 2020.

rankings at 750 Mt/y. Over the last four decades, the industry has grown exponentially at 5.4% a year, well ahead of efficiency gains, and emissions have increased by 2.2% a year.

The industry ignored that – taking advantage of cheap fuel, exemption from tax and the exclusion of international flights from national emission inventories – until 2013, when the International Civil Aviation Organisation (ICAO) set new standards for fuel efficiency and carbon emissions. Beyond efficiency, however, the industry relies on two false solutions: biofuels and offsets. Public relations is perhaps the third solution. In 2019, KLM launched an ad campaign to 'fly responsibly' but, notes Samanth Subramanian, "it came after years of the industry exhorting us to fly irresponsibly".[22]

The airline industry is at the centre of capitalist globalisation and, for the most part, the virus travelled by air and so circled the earth in a matter of weeks and, as Liu points out, "illuminated economic linkages long hidden from view". Already in February, passenger numbers were in rapid decline, particularly on domestic routes in China and international routes connecting the major economic hubs – East Asia, Europe and north America. At the same time, demand for private jets soared as the very rich wished to avoid mingling with the crowds at airports.[23]

With the lockdowns in March, the industry was more or less grounded and the planes were parked in serried ranks along empty runways or sent to the 'boneyards' – parking lots in dry desert regions. The International Air Transport Association (Iata), started lobbying for government bailouts as income collapsed and profit turned to debt. By April, Iata warned that 25 million people would lose their jobs if travel restrictions were maintained for three months. It said that 65.5 million people worldwide depended on aviation, with 2.7 million airline jobs and the rest engaged in travel and tourism.[24]

Government support, particularly in the richer countries, delayed job cuts but, by June, the airlines' hopes for a quick recovery were fading and they

22 Samanth Subramanian, ***Inside the airline industry's meltdown***, The Guardian, 29 September 2020.
23 Paul Waldie, ***Coronavirus panic gives a boost to private jet operators***, The Globe & Mail, 11 March 2020.
24 Rebecca Campbell, ***International aviation body warns of huge job losses due to Covid-19***, Engineering News, 8 April 2020.

announced plans for deep cuts: 22 000 at Lufthansa, 12 000 at British Airways, 7 500 at Air France, 5 000 at KLM. The bailouts in Europe, in the form of loans, loan guarantees and capital injections, amounted to €32.5 billion by September according to Greenpeace. Most came without conditions, a few forbad payments of dividends, and only France imposed some 'weak climate conditions' with no legal sanction.[25]

The knock-on effects were also felt in manufacturing industries. In May, Rolls Royce, maker of jet engines, said demand had collapsed and set about cutting 9 000 jobs from its civil aerospace business. Its defence business, by contrast, suffered no losses. Airbus, the European manufacturer, similarly lost on its civilian business but gained on defence.[26]

In the US, $46 billion of bailout funds were reserved for the airlines and for Boeing. The latter is regarded as a national security asset and got $17 billion free of strings despite suffering no loss on defence. But the biggest gift to Boeing – a company already deep in trouble over the failure of its new 737 Max, the plane that suffered two catastrophic crashes due to manufacturing faults – came through the US Fed's guarantee of corporate debt. This enabled it to borrow $25 billion on the financial markets and avoid a direct loan from government with conditions that included the retention of workers. "Boeing did not fail to exploit its new advantage, immediately announcing that it would cut 16 000 jobs" [Brenner 2020: 18].

In South Africa, SA Airways was already in business rescue, having lost money for going on two decades in addition to being looted by its management. SAA has received successive bailouts from government – amounting to R57 billion since 1994 – and effectively subsidises business and middle class travel, including the travel of government and trade union officials, academics and NGO workers. With high operating costs, inflated staff numbers and loss making destinations dictated by government, there never was much hope of

25 https://storage. googleapis. com/planet4-eu-unit-stateless/2020/08/de579819-airline-bailout-tracker_27_august_2020. pdf

26 Rebecca Campbell, ***Covid-19-induced civil aviation crisis forces Rolls-Royce to restructure, cut jobs***, Engineering News, 21 May 2020; and ***Airbus reports big impact on first-half results from Covid-19***, Engineering News, 31 July 2020.

it turning a profit. The unions have fought a rearguard action to save jobs at the carrier. The minister of Public Enterprises secured a further R10.5 billion to 'relaunch' a slightly slimmed down version. But this remains a perverse diversion of resources from developing a public transport system to serve the majority of the people. In September, it was reported that Treasury would take the money either from Prasa, the commuter rail service that carries working class people, or from the Covid 'mass employment' budget.[27] In the event, money was also taken from health, education, human settlements and just about everything else.

But "the real trade-off is much bigger and is happening by stealth," says BusinessLive editor Carol Paton.

> It is the steady and continuing shift at every turn away from investment spending into consumption as programmes for economic and social infrastructure are whittled away. Since 2017, there has been a precipitous fall in public investment in infrastructure. Projects such as housing, school building and electrification have been hacked away at or postponed. Budgets for municipal and provincial infrastructure have been fundamentally compromised.[28]

Prasa, meanwhile, has been pillaged. Left with skeletal security during the lockdown, metal of all sorts has been taken and sold for scrap: palisade fences, security gates, station roofs, electric switches, overhead and underground electric cables, and even railway lines. How much was the work of syndicates and how much was done by local men who found no better way to put food on the table, is not clear. One group digging out cables, reports Bheki Simelane, "boasted about having their fair share of the 'eating' of the infrastructure, yet seemed concerned that there was nothing left to steal".[29] This provides a ground level mirror of 'radical economic transformation' in the boardrooms.

27 Ray Mahlaka, *The poor will pay for SAA*, Business Maverick, 27 September 2020.
28 Carol Paton, *Spending on SAA take-off yet another trade-off*, BusinessLive, 23 September 2020.
29 Bheki Simelane, *Stripped bare: Looting till there is nothing left of Gauteng's rail network*, Daily Maverick, 29 September 2020.

With the lockdown, private airlines were grounded alongside SAA. Comair, the leading private airline and local British Airways operator, went into business rescue in May and was rescued through a deal with a company formed by its management. It started flying again in December but with about half the planes and 20% of the workers.

At SAA, the unions say workers have been abandoned and are losing their houses and cars and do not have the money for school fees. They have not been paid since April 2020 and have been living on the Covid Temporary Employer-Employee Relief Scheme (TERS) grant during the interminable negotiations around business rescue and retrenchments. Of the R10.5 billion bailout, R2.2 billion was allocated for 'voluntary severance' but, by year's end, it seems that workers were still to be paid out. Meanwhile, the pilots were locked out over a dispute over conditions of reemployment at the yet to be launched new SAA, with the two sides not even agreeing what the dispute was about.[30]

The future of aviation in the climate crisis has not been a part of any of these processes. Hence, the question of a just transition has not been raised. Retrenchments are taking place strictly in line with business as usual.

## All at sea

As with the airlines, emissions from international shipping have grown exponentially as trade exploded with globalisation. Greenhouse gas emissions are now at 1 056 Mt $CO_2$e a year – just a little more than the airlines – and have increased by 10% in just the last six years. Methane emissions have increased by 150% as more ships are fuelled with 'liquefied natural gas' (LNG) in poorly adapted engines. Black carbon emissions from dirty fuels have increased by 12%.[31]

Like the airlines, international shipping is not included in national accounts and is exempt from the international climate treaties. The International

30 Lyse Comins, *Retrenched SAA staff are left up in the air*, The Mercury, 3 November 2020; Mwangi Githahu, *SAA locks out pilots over business rescue deal disagreements*, Cape Argus, 18 December 2020.

31 The International Council on Clean Transportation, *New IMO study highlights sharp rise in short-lived climate pollution, press release*, 4 August 2020; University College London, *Greenhouse gas emissions from international shipping increasing*, Phys. org, 6 August 2020.

Maritime Organisation (IMO), formally a governmental body but effectively the representative of the industry, reached agreement in 2018 on a 50% reduction in carbon emissions by 2050. This is patently insufficient even by comparison with the low bar set by 'nationally determined contributions', but perhaps seemed like a major advance on the IMO's previous assumption that emissions would at least double. However, the IMO relies almost exclusively on energy efficiency improvements and, given that it expects an expansion of trade and shipping, it will miss its own target – let alone any target compatible with limiting global heating to 2°C.[32]

Even this, however, appears too much for the shipping industry. In October 2020, an IMO Working Group on Reducing Greenhouse Gas Emissions from Ships effectively recommended that the industry renege even on energy efficiency as it removed "all clauses that would create consequences for non-compliance". Hence, the future emissions pathway is little different from business as usual and leads to a 150% increase by 2050.[33]

The coronavirus stalled trade. The United Nations Conference on Trade and Development (Unctad) estimated a 3% decline in the value of trade in the first quarter to be followed by an unprecedented 26% decline in the second. Not only were ships sailing empty, but Covid regulations on shore prevented crew changes, leaving "400 000 seafarers stuck at sea [and] another 400 000... unable to join ships", according to the IMO.[34] By mid-year, some 11% of the global fleet had been idled and the shipping lines were cancelling around 20% of scheduled sailings for the third quarter.[35]

This was not only the result of ports closing or limiting trade to essentials. Global production networks (GPN) account for 80% of trade, shipping components hither and thither across the world until they are brought together for assembly, often in China, and then re-exported to consumers everywhere but particularly in north America, Europe and Japan. As factories shut down

32 University of Manchester, ***New efficient ships won't be enough to curb shipping sector's environmental damage***, Phys. org, 11 June 2020.

33 Eoin Bannon, ***IMO fails to implement its own greenhouse gas reduction plan***, Transport & Environment, 23 October 2020.

34 IMO press briefing, ***400,000 seafarers stuck at sea as crew change crisis deepens***, 24 September 2020.

35 Greg Knowler, ***Alliances outline extensive blank sailings for Q3***, JOC, 3 June 2020.

in China in January and February, much of this flow was interrupted and it was interrupted again from March when the GPN lead corporations, mostly headquartered in the North, went into lockdown along with consumers. The vulnerabilities exposed at different links in the chain have led some within the Northern elites – beyond the circle of Trump's Republican cronies – to question globalised just-in-time production and call for 'reshoring', that is, bringing global production networks 'home' to whichever Northern location. However such a project may work out, Shamel Azmeh of the Global Development Institute at Manchester University comments: "For developing countries that are integrated into this system, but have little influence or control over its strategic organisation, such a shift can have serious implications on jobs, exports and trade and fiscal balances."[36]

The cruise line industry has grown even faster than merchant shipping since the 1980s and has built bigger and bigger ships with more and more amenities designed to extract money from the punters. Ahead of the Covid crisis, it emitted 21 Mt $CO_2e$ per year.[37] Cruise ships carried the virus around the world at a more sedate pace than the airliners but with spectacular effect as successive ships-of-fools were stranded at sea with thousands of 'guests'.

Lines owned by Carnival, the largest cruise company, seemed particularly susceptible, as Rowan Moore reports. The Diamond Princess was quarantined off Yokohama with 700 cases and eight deaths; the Ruby Princess disgorged 2 700 passengers in Sydney and "became the single largest source of Covid-19 cases in Australia", the Grand Princess was quarantined off San Francisco, the Coral Princess was quarantined off Florida and the Zaandam was shut out of ports all around the Americas. The Caribbean Princess, meanwhile, has repeatedly hosted a different virus, "the vomiting bug norovirus".

While serving up a confined population to the virus, the cruise industry is none too precious about its environmental impact, notoriously damaging prime destinations such as Venice and invading more remote places such as

36 Adnan Seric, Holger Görg, Saskia Mösle and Michael Windisch, ***Managing COVID-19: How the pandemic disrupts global value chains***, UNIDO, April 2020; Shamel Azmeh, ***Covid-19 and the Future of "Made in the World"***, Global Development Institute, University of Manchester, blog 20 July 2020.

37 Griffith University, https://www. tourismdashboard. org/explore-the-data/cruise-ship, at 21 October 2020.

the Polar regions, dumping waste, including sewage, at sea and burning cheap and dirty fuel. With profits in the billions, the odd fine is treated as a cost of doing business.[38]

Thousands of merchant and cruise ships have been laid up, many of them sitting at sea outside ports. A queue of cruise liners is heading for the ship breakers' beaches in Southern countries where labour is cheap, the work is dirty and workers are not protected. The richer merchant lines, hoping for a rebound, have sent their idled ships for retrofitting with sulphur scrubbers following 'IMO 2020' regulations, introduced in January, that put a global limit on sulphur emissions for the first time. This is a cheap option, according to Jan Tiedemann of Alphaliner, and merely moves sulphur oxides from air to water as scrubber effluent is dumped at sea.[39]

Very Low Sulphur Fuel Oil is the very cheap option. This is a highly toxic mix of heavy fuel oil and jet fuel, reports Nishan Degnarain, and the IMO rushed through the approvals for use to meet the January deadline. But it did not carry out proper safety checks and a spate of engine failures has been attributed to the new fuel. This was the fuel driving the Wakashio when it ran aground on a coral reef off Mauritius. The spill caused the death of an unusually high number of whales and dolphins and tens of thousands of Mauritian people have been exposed to this toxic chemical brew. The fuel was supplied by BP. Degnarain reports evidence that the IMO, in collusion with BP and the MOL shipping line, took control of the investigation in order to cover up the cause of the disaster and obstruct a proper assessment of the damage.[40]

38 Rowan Moore, ***Is the cruise industry finally out of its depth?*** The Observer, 19 April 2020.

39 Jan Tiedemann, Alphaliner Container Ship Market Review and Outlook 2020.

40 Nishan Degnarain, ***Special Report: Explosive Documents Reveal BP Behind Toxic Mauritius Oil Spill***, Forbes, 6 January 2021.

# 2 Economy

The 2008 meltdown on Wall Street resulted from the extraordinary inflation of 'asset values'. That is, global capital was riding high on bubbles produced by multiple derivatives that disconnected asset values from anything like the underlying value or what traders like to call the 'fundamentals'. This reflected the financialisation of capital – both the dominance of finance capital over production capital and the ever growing role of trading and speculation in creating profits even for non-financial firms.

Ultimately, this reflected a crisis of 'over accumulation' of capital on the world markets: since about 1980, there was more money available for investment than there were safe and profitable investment opportunities to soak it up. Put differently, production could not provide the return on capital necessary to sustain economic growth – without which capitalism dies. To manage the crisis, the global elites contrived two complimentary strategies.

## Making wealth

First, the financial markets started to operate like a giant Ponzi scheme. Central bankers, led by the US Fed, blew up one bubble after another to absorb surplus capital, pump up Northern (and Southern elite) consumption, and sustain the bullish sentiment on stock markets. The big banks meanwhile clamoured for deregulation and the rules of prudent banking were abandoned. As one financier declared, "What used to be a conflict of interest is now a synergy."[41] 'The market' then created the illusion of value in the incomprehensible array of derivatives that, in 2008, came to be known as 'toxic assets'. Financial

41 Jack Grubman, Citigroup executive, quoted in Brenner 2003. 'Towards the precipice'. London Review of Books, Vol. 25, No. 3.

services took an ever growing proportion of wealth – officially represented as their 'contribution' to Gross Domestic Product (GDP) – globally and in most national economies, starting with the US and including South Africa. Those at the top of the pyramid, including their representatives within the state, thus managed a massive transfer of wealth from poor to rich.

Second, this was complemented by intensified dispossession and more overt aggression in the transfer of wealth from poor to rich on a global scale. Northern transnational corporations relocated production to low cost Southern countries, which competed for this foreign direct investment (FDI) by lowering labour and environmental standards in a 'race for the bottom'. Economic growth was thus accompanied by growing inequality of incomes globally and in most countries both North and South, intensified pollution and carbon emissions and large scale dispossession of those who stood in the way of 'development'.

## Crash …

As the markets crashed in the 2008 meltdown, a satirical headline in *The Onion* read, 'Recession-plagued nation demands new bubble to invest in'.[42] The world's leaders provided it on an unimaginable scale – in the order of tens of trillions of dollars in bailouts and cheap money pumped into the financial markets – scaling up on the depleted logic that gave rise to the crisis. As philosopher Slavoj Zizek [2008] observed:

> Saving endangered species, saving the planet from global warming, finding a cure for Aids, saving the starving children... All that can wait a bit, but `Save the banks!' is an unconditional imperative which demands and gets immediate action.

And proposals that they bail out the people trapped in debt to those banks were "laughed out of court" [Brenner 2020: 6]. Following the initial bailouts and for the next several years, the Fed created new money to the tune of $85 billion a

42 . Quoted by Paul Krugman in his op-ed column in ***New York Times***, 18 July 2008.

month through the process dubbed 'quantitative easing' and set interest rates so low that banks could borrow from it at no cost. The advertised purpose was to enable lending to 'real economy' firms – those that make or distribute goods – which would then expand their businesses and hire more people.

But, since the returns on production remained below what investors expected, the money found two other destinations. First, it went back into the bubble of global stocks, bonds, derivatives and other financial 'assets', which boomed despite stagnation in the material economy, notably in wages.[43] Second, it went into the 'carry trade': money borrowed at zero interest in the US, Europe and Japan was invested in bonds and stocks in Third World countries at relatively high returns for a guaranteed profit with no commitments. This was 'hot money' that could be instantly withdrawn at the first hint of trouble.

Effectively, it sucked resources from the South while also inflating Southern currencies, notably the Rand, which has been made particularly vulnerable to hot money by South Africa's open market policies. International investors were correspondingly tight fisted about long term investment in productive capacity, while high currency values deter exports. Thus, the neo-liberal policy prescription for open financial markets, foreign direct investment and export led growth, handed down by such as the World Bank, ended in contradiction.

## … and bubble

Globally, meanwhile, the logic of the bubble remains: there is no other viable basis for growth – which is to say finally that there is no viable basis for growth. By 2019, with lacklustre profits from productive investments and growing debt, it was widely anticipated that the bubble must burst sooner rather than later. On Adam Tooze's account, "it was highly networked global manufacturing that felt the recessionary pressure. For global manufacturing hubs such as South Korea or Germany, the outlook was bleak" [2020]. For "true conservatives", he continued:

43 Michael Roberts, ***The Scarring***, 2 May 2020, https://thenextrecession. wordpress. com/.

> … It was time for a purge, time to slim down the businesses that had gorged on too much cheap funding, time for a return to discipline. This, they believed, was the way out of the weird alternate reality created by monetary stimulus since 2008. Instead, in the summer of 2019 the central banks once again stepped into the ring.

But when the virus burst the bubble it was more like a torpedo than a pin. In January 2020, the global elite thought the virus was a Chinese affair. Their key concern was that the Chinese shutdown was interrupting global production networks. In late February, it dawned on them that Italy was the new centre of contagion. It was followed in short order by most of the rest of Europe and, within a week, by the US.

In South Africa, the first case was reported on the 5th of March. The patient was part of a group returning from a skiing holiday in Italy and several others in the group subsequently tested positive. On the 15th of March, government declared a 'state of disaster' and this was followed by the lockdown at midnight on the 26th of March. On that day, there were 218 new cases, bringing the total number of cases to 927. New cases peaked at nearly 14 000 a day in July and declined to between 1 000 and 2 000 a day in September.[44] Under dismal leadership, meanwhile, the US, Brazil and India saw case numbers and the death toll escalating. For its part, having survived a first peak in March-April, Europe faced a second and higher wave of cases from August but with a lower death toll.[45] In December, a second wave started to gather momentum in South Africa. At year's end, confirmed cases added up to a million and 30 000 people had died.

With much of the world under lockdown, the global economy all but shut down. It was, says Indian economist Jayati Ghosh, a simultaneous supply and demand shock, worse than 2008, worse than the great depression of the 1930s: all except essential production and distribution was closed down while consumption contracted to the bare necessities – for those who could afford

44 https://sacoronavirus. co. za/.

45 https://covid19. who. int/region/wpro/country/

them – and it affected the whole world all at once.[46] Now billions of people have been thrown out of work – whatever that work was worth – and much of it will not come back. Hunger stalks the land, it echoes through empty office corridors, it is as a ghost in the factories.

In the US, Congress and the Fed contrived to engineer a repeat of the bailout of 2008 as Robert Brenner recounts. With no hesitation, and taking care to enable corporations to evade any conditions, they lavished $4.5 trillion on "the 'care' of the country's biggest and best-off companies. By contrast, as unemployment soared, just $603 billion in total was allocated for direct cash payments to individuals and families ($300 billion), extra unemployment insurance ($260 billion), and student loans ($43 billion)" [Brenner 2020: 7]. Consequently, "top managers and stockholders would be free to line their own pockets via share buybacks, dividends and executive salary increases, while reducing employment and investment – very much as they had routinely been doing with their companies' earnings and borrowings throughout the previous decade" [13].

Effectively, the governing elites guaranteed corporate debt – thus socialising risk – and reinflated the 'asset price' bubble central to the logic of global economic management since 2008. They "grasped the extent to which money making has been de-linked from profitable production" [20] and recognised that the only way to ensure the reproduction of top corporations and the political economic elite, "is to intervene politically in the asset markets and throughout the whole economy, so as to underwrite the upward re-distribution of wealth to them by directly political means" [22].

Thus, in the middle of the most severe contraction ever experienced in the history of capitalism, the stock markets across the world boomed to record heights. Yanis Varoufakis argues that this marks a new phase of 'post-capitalism': "speculators – for the first time in history – don't actually give a damn about the economy". The summer of 2020 is the moment "when financial capitalism finally broke with the world of real people, including capitalists antiquated enough to try to profit from producing goods and services".

46 Jayati Ghosh, *The Pandemic and The Global Economy*, Dissent Magazine, 24 April 2020.

Instead, we have "socialism for the very, very few (courtesy of central banks and governments catering to a tiny oligarchy) and stringent austerity, coupled with cruel competition in an environment of industrial, and technologically advanced, feudalism for almost everyone else".[47]

## Making poverty

In this context, it is telling that the international agenda to eliminate poverty relies "ever more heavily on private sector funding", as Philip Alston, outgoing UN Rapporteur on extreme poverty, observes. "The central strategy is 'to use public funds more sparingly [and] ensure a better mobilisation of private capital'" [2020: 11]. The quote is from literature produced for the International Finance Corporation (IFC) and reflects the view of its parent body, the World Bank, and of the 'international community' – a phrase that we take to represent imperial capitalism as it would like to be seen.

Alston is scathing of the "self-congratulatory message, proclaiming progress against poverty to be 'one of the greatest human achievements of our time'" and paying "tribute to the role of economic growth and capitalism in lifting a billion people 'out of dire poverty into something approaching a decent standard of living'" [3].

The first problem with these claims is that they rely on the World Bank's international poverty line (IPL) – the local equivalent of US$1.90 a day – which in most countries is enough to slowly starve on. As Alston observes, "The line is set so low and arbitrarily as to guarantee a positive result …" [5]. And, amongst other things, it ignores:

- gendered inequality within households, so removing millions of women from the count; and
- various marginal groups including homeless people, refugees, migrant workers, shack dwellers and victims of armed conflict.

47 Yanis Varoufakis, ***Something remarkable just happened this August: How the pandemic has sped up the passage to postcapitalism***, Lannan Foundation virtual talk, 21 August 2020.

Moreover, most of the supposed 'lifting out of poverty' is done in China. In our view, this claim itself is questionable and leaves out the extent to which Chinese people were forced to rely on a money income. As observed in the 2014 groundWork Report:

> Yet the rural migrants who stream into China's coastal cities looking for work at miserly wages are driven to it because local elites have grabbed their land and extracted multiple rents, fines and taxes while the national elite enacts policies that have the effect of transferring wealth from country to city. The poor journey in desperation, not in hope, and most are left worse off. And if enough workers do not appear at the factory gate, they may be press ganged.[48] Elsewhere in the world, millions of people are thrown out of work as local industries crumple under the pressure of cheap Chinese imports leaving much of the rest of the South dependent on resource extraction. [14]

Despite the criticisms, the World Bank's line is used as the Sustainable Development Goals' (SDG) measure of poverty. SDG 1 "calls for a rate of zero under the IPL by 2030". Even this will not be achieved. On the Bank's optimistic pre-Covid forecasts of economic growth, there would still be half a billion people living below that line while, under a more credible line, 2.35 billion people (a third) would be living in poverty [Alston 2020: 8]. Covid-19 has already punctured these projections. It is, says Alston, "a pandemic of poverty, exposing the parlous state of social safety nets for those on lower incomes or in poverty around the world" [9].

> Moreover, climate change will make a mockery of these projections since few governments are taking the drastic steps needed to address emissions or their impact on poverty. As of 2016, climate change was projected to push 100 million people below the IPL by 2030. If forecasts used a more realistic poverty line and fully priced in the

48 For different strands in this analysis, see amongst others, China Labour Watch [2012], Yang Lian [2005], Hung Ho-fung [2009], and John Bellamy Foster and Robert McChesney [2012].

> counterproductive impact of carbon emissions, the future would look even grimmer. [Alston 2020: 9]

SDG 1 targets "do not actually seek to eliminate poverty" [10] while the SDG 10 targets on reducing inequality "are weak by design. They set an agenda of 'shared prosperity,' focusing on inclusive growth rather than actual reduction of inequalities" and ignore "questions around wealth redistribution, elite capture of economic gains, growth achieved through carbon emissions, and inequitable fiscal policies" [11].

The predictable failure of the SDGs is echoed in South Africa's National Development Plan (NDP) published in 2012. Its headline goals are to eliminate poverty and reduce inequality by 2030 and, like the SDGs, it chooses very modest measures. But it has only one strategy for achieving these goals: "the economy must grow faster" – by at least 5.4% a year from 2010 to 2030 – "and in ways that benefit all South Africans" [NDP 24]. In the 2014 groundWork Report, we noted that this was not just unrealistic, but unreal. It was, and is, "symptomatic of a global order that pedals illusion" [10].

Alston similarly observes, "Economic growth is at the core of the SDGs, the engine relied upon to lift people out of poverty" on the "simplistic" assumption that "growth is good for the poor" [14]. This assumption is contradicted by the evidence from extractive economies where people are displaced and impoverished by growth in "commercial agriculture, mining and other land-intensive industries" [14]. Further:

> The argument that pro-market policies automatically benefit the poor is likewise at odds with the evidence. Traditional pro-growth policies, such as lower corporate tax rates, labour 'reforms', deregulation, austerity-driven cuts to services and privatisation can have devastating effects on the well-being of poor people and the state's capacity to reduce poverty. [15]

Alston anticipates that post-Covid austerity policies will accelerate the "dramatic transfer of economic and political power to the wealthy elites that has characterised the past forty years" [10]. He concludes, "The failure to take the necessary steps to eliminate [poverty and inequality] is a political choice and one that leaves firmly in place discriminatory practices based on gender, status, race and religion, designed to privilege certain groups over others" [14].

## North and South

While the Northern powers created vast sums of money, notably to support their business elite and to reinflate equities, but also to compensate people for loss of income, the response of Southern countries has been "underwhelming", as Jayati Ghosh puts it.[49] Yet these economies, or rather, the people in these countries, are most vulnerable to the economic shock of Covid.

The reasons for this failure vary according to country. Most Southern countries need 'hard currencies', a euphemism for imperial money, to pay for imports including for plant and machinery, infrastructure and vanity mega projects. And they must earn them through exports – mostly commodities – tourism and remittances from global labour migrants. With Covid, exports shrank in volume and value, tourism shut down and remittances from workers abroad to their families dried up.

Ahead of the pandemic, as the Unctad shows, yet another Third World debt crisis was brewing. The primary cause of the crisis was not "economic mismanagement at home" but "economic and financial mismanagement at the global level". As countries were pressed to open their capital markets, public funding from Northern countries dwindled and the carry trade boomed, they were drawn into the vortex of deregulated "international financial markets, including the so called shadow-banking sectors, estimated to be in control of around half of the world's financial assets" [2020a: 3].

As Covid kicked in in March, the hot money was pulled out of Southern countries, resulting in their currency values crashing and, consequently, their hard currency debt inflating. At the same time, earnings plunged as commodity prices, on the slide since 2015, hit the big dipper down. "Predictably," reports Unctad, "developing countries will be facing a wall of

49 Jayati Ghosh, ***Inequality manifests in stimulus***, Mail & Guardian, 21 May 2020.

debt service repayments throughout the 2020s, and in the context of deeply distressed economic circumstances. In 2020 and 2021 alone, these amount to between $2 to $2.3 trillion in high-income developing countries, and to between $700 billion to $1.1 trillion in middle-and low-income countries" [7].

Unctad called for a $2.5 trillion Covid crisis package for Southern countries including the write off of $1 trillion of debt and repayment holidays on remaining debt. People's organisations in Africa, meanwhile, call for the cancellation of all African debt.[50] Thus far, however, the response of the 'international community' has been indifferent. The International Monetary Fund (IMF) cancelled $250 million of debt owed to it by the poorest countries. G20 countries declared an eight month moratorium, from May to the end of the year, on debt servicing for the poorest countries. But this merely delays payment and provides no actual relief as interest not paid in this period will be added to the debt. And it applies only to public debt owed to G20 member countries, not to the growing pile of private debt.

Debt has proved a powerful means by which imperial capitalism keeps a hold over some ex-colonies and ensures the continued extraction of cheap commodities.

Other countries are not trapped by external debt but by fear and ideology. So they have stopped short of following the Northern example of quantitative easing, or printing money, on the scale needed to respond to the crisis. First, they fear capital flight. By May 2020, more than $100 billion of hot money had been withdrawn from Southern countries – including debt issued in their own currencies but held by foreign institutions and speculators. They then fear being downgraded by the Wall Street credit rating agencies. And finally, they fear the devaluation of their currency followed by rampant inflation.

"In this self-imposed climate of neoliberal fear," says Ghosh, "the very idea of instituting capital controls is dismissed as crazy, on the grounds that it would frighten away foreign investors". Thus, the means of limiting the damage from

50 *Call for total and unconditional cancellation of Africa's debt!* Sign on statement issued by Womin African Alliance and CADTM Afrique, July 2020. At https://womin. org. za/call-for-total-and-unconditional-cancellation-of-africa-s-debt. html.

hot money investors is renounced in what is, effectively, an act of homage to the imperial overlords. But, if they do not scale up public spending, Ghosh argues, economies will be "completely devastated" and hence not attractive to foreign investors – except "those keen to snatch up assets on the cheap".

## South Africa

South Africa is not constrained by dollar debt and, although rising, its overall debt is comparatively low. Treasury and the South African Reserve Bank (SARB), however, have adopted a 'self-imposed climate of neo-liberal fear'. In March, at the start of the lockdown, a group of 76 economists called for an intervention proportionate to the economic shock. They observed, "There is a significant risk that millions in poverty will fall into destitution; millions more, currently in work, will be driven into poverty and become unable to meet their basic needs; and thousands of businesses will be forced to close due to falling demand as a result of the lockdown …".[51]

They called for measures to:

- **Support households and communities:** through expanded and additional grants; food distribution; tax and rent holidays; and support to women for care work.
- **Protect workers:** guarantee wages during lockdown; provide unemployment benefits to casual and informal-economy workers; and ensure health and safety provisions for essential workers and for when workers return to work.
- **Sustain businesses:** expand access to low-rate emergency loans, including through the SARB; and provide tax, rent and debt servicing holidays.
- **Strengthen public health interventions**: increase health system resources including for community health care; pool resources of

51 Open letter to President Ramaphosa and the Cabinet from South African economists, economic and business analysts and economic justice advocates, ***Over 75 economists say government can do more to mitigate the economic harm of COVID-19***, at https://iej. org. za/wp-content/uploads/2020/03/PDF-Download-Open-economist-letter-COVID-19-Final. pdf

private and public healthcare providers; scale up local production of critical health products; and ensure greater access to water and sanitation with safe ablution in all communities.

- **Strengthen the economy:** institute measures to prevent capital flight, manage the exchange rate, ensure affordable credit and sustainable government bond rates; do a 'helicopter drop' of money to all households in addition to grants; review Treasury budget cuts, including to healthcare and public service wages.

While they appreciated government "efforts to mobilise funds outside the fiscus", they argued that, "the scale of interventions required will necessitate additional fiscal and monetary expansion by the Treasury and SARB respectively, as has been the case worldwide". In short, they called for quantitative easing but intended that the money be used for purposes other than blowing bubbles on Johannesburg's already inflated stock market. David Masondo, deputy finance minister, briefly supported the idea but was quickly rebuffed. As Ghosh put it,

> In South Africa, the deputy finance minister created controversy for making the perfectly reasonable suggestion that the central bank should buy government bonds directly.

Government's response was given the appearance of scale with a relief/ stimulus package from Treasury of R500 billion, or 10% of GDP, and a monetary policy package from SARB which, said Finance Minister Tito Mboweni, "takes our total economy wide measures over R800 billion".[52] In late April, the Treasury published 'Economic measures for Covid-19' which outlined Treasury's package, shown in Table 1. The Supplementary Budget Review (the official 'Covid budget') followed on the 24th of June. It kept the outline but made significant changes.

52 Remarks by Minister of Finance, Mr, Tito Mboweni, During the media briefing to outline R500bn economic support package, Ministry of Finance, 24 April 2020.

***Table 1: COVID-19 fiscal response package***

| | |
|---|---|
| Credit Guarantee Scheme | R 200 bn |
| Job creation and support for SME and informal business | R 100 bn |
| Tax holidays & deferrals | R 70 bn |
| Support to vulnerable households for 6 months (grants) | R 50 bn |
| Wage protection (UIF) | R 40 bn |
| Health interventions | R 20 bn |
| Municipalities support | R 20 bn |
| Total | R 500 bn |

**Source: National Treasury: Economic Measures for Covid-19**

This is not all Treasury money. The credit guarantee scheme is off budget. It is merely meant to make it easier for firms to borrow from commercial banks. Wage protection is also off budget, being funded by the Unemployment Insurance Fund (UIF). On budget, the tax breaks reduce government income by R26 billion, the remaining R44 billion being delayed rather than reduced payments, and R95 billion is in loans from the IMF, World Bank and New Development Bank (the BRICS bank). Most of the rest is taken from the budgets of national departments, provinces and municipalities and reallocated.

The appearance of scale thus proved illusory. Rather than providing a stimulus to the economy by spending new money, observed economist Duma Gqubule, government would likely spend less than before. On the 1st of September, "National Treasury said it had allocated R122.4 billion towards the Covid-19 response. But R109 billion of this allocation was financed through budget cuts. Therefore, the new money in the budget was only R13.4 billion or 0.3% of GDP". Nor would the large and controversial loans from the IMF and the New Development Bank bring in new money, since they were merely covering some of the loss in state income.

Nor had the R200 billion loan guarantee, meant to encourage banks to lend to businesses, put new money in circulation. "By 29 August, the banks had lent only R14.5 billion … allegedly because businesses were reluctant to take on new debt in such a weak economy." And, since the banks did not ease their lending criteria, they would probably have lent that money anyway. So the government guarantee made no difference, says Gqubule. Indeed, it appears that the banks are simply round tripping. Hilary Joffe of the Sunday Times observes that the banks "can borrow from the Reserve Bank at 3.5% and earn 9.5% or more on government long bonds without much effort at all".[53] In short, they borrow from government to lend to government at 5% net profit – like a domesticated variation of the carry trade.

Meanwhile, between April and June, 'support to vulnerable households' had shrunk from R50 billion to R40.9 billion. The R100 billion allocation to small businesses and job creation all but evaporated to R6 billion and, by September, only R1.1 billion of that had been spent. In the end, argues Gqubule, only the R40 billion to be paid out by the Unemployment Insurance Fund (UIF) "will be real".[54] This is the Temporary Employee/Employer Relief Scheme (TERS), initially due to end in October but since extended to January.

In the changes from April to June, the police and army got an additional R6 billion between them to police the lockdown. Austerity was imposed on parts of the budget that serve poor people. As a civil society statement noted: "funds that were previously allocated to land reform, food security, rural development and small-scale fisheries have been redirected to military and police spending".[55] Cuts to the Department of Mineral Resources and Energy (DMRE) fell exclusively on the energy side, perhaps an indication of the pecking order within the newly reunited department. The bulk of the cuts were to the national electrification programme aimed to increase access for energy poor households. Treasury warned that budgets would not necessarily be restored in subsequent budgets. Other cuts fell on human settlements, education and transport.

53 Hilary Joffe, Pretoria's hunger for borrowing is crowding out investment, Sunday Times, 4 October 2020.
54 Duma Gqubule, *SA lockdown failed on multiple fronts*, New Frame, 18 September 2020.
55 Civil society statement on the Supplementary Budget and the implications for food security and land reform: summary, 2 July 2020.

**Box 1: Borrowing from the IMF**

South Africa has, since 1994, avoided borrowing from the International Monetary Fund (IMF). There were two good reasons for this: First, there was no real need for it. The IMF typically lends to countries suffering a balance of payments crisis – that is, they don't have enough 'hard currency' to pay for imports and service foreign debt. To date, South Africa has not faced such a crisis. Second, the IMF has the reputation "of pouring oil on the flames of a crisis, behaving like the collection committee of international creditors and bailing out the banks and not the people," as Duma Gqubule puts it.[56]

Since the 1980s, acting on behalf of the US Treasury, it has imposed structural adjustment programmes on 'developing' countries, requiring cuts in public sector wages and essential services – such as education, health and environmental protection – while insisting on foreign investor rights, privatisation and production for export. It thus (re) imposed the logic of extractive economics to ensure that natural resources would be exported at low cost from the Third World to 'the market' defined by rich countries. Effectively, it reasserted the imperial relationship intrinsic to capitalism in which, as Acosta puts it, "extractivism has been a mechanism of colonial and neocolonial plunder and appropriation" [2013: 63].

In April, the IMF established a "Rapid Financing Instrument (RFI) … available to all member countries facing an urgent balance of payments need stemming from the outbreak of the Covid-19 pandemic". The South African Treasury applied, and its 'Letter of Intent' says "a temporary external financing need of about US$10.5 billion is likely to emerge in 2020".[57] This is apparently enough for the IMF to declare that the loan – for US$4.3 billion – is "to meet urgent balance of payments needs …"

This loan was not needed and is dangerous. "The IMF's motivation for the loan is plainly untruthful and nonsensical," says Dick Forslund, an economist at the Alternative Information and Development Centre (AIDC).[58] South

56 Duma Gqubule, ***Is SA's IMF loan about economics or politics?*** New Frame, 2 July 2020.
57 Tito Mboweni, Minister of Finance, and Lesetja Kganyago, Governor of the South African Reserve Bank, Letter of Intent, to Ms. Kristalina Georgieva, Managing Director, International Monetary Fund, 15 July 2020.
58 Dick Forslund, ***Tito needs the IMF, South Africa doesn't***, Mail & Guardian, 1 August 2020.

Africa's balance of payments is actually in surplus – imports dropped more than exports – and it has ample foreign currency reserves.

It is dangerous because, even at the very low interest rate of 1.1%, a drop in the value of the Rand to the dollar will escalate the cost of the loan just as much as a high interest rate. The Rand is notoriously volatile and has suffered repeated crashes over the last two decades.

The IMF has claimed that it would not impose policy conditionalities on RFI loans. This is not in fact true. 'Fiscal consolidation', code for prioritising debt repayments over social spending, is written into "a significant number of the IMF's Covid-19 emergency financing packages" for poor countries. And it is the poor in poor countries who bear the consequences in poor education, poor health systems and collapsed services.[59] The World Bank, meanwhile, is pushing an approach titled Maximising Finance for Development (MFD) – complete with capital letters and acronym – which promotes private investors as the Bank's leading "partners in development". As the Bretton Woods Project observes, this approach stimulates "the regulatory race to the bottom caused by the struggle to attract private investment …"[60]

South Africa's Letter of Intent is thick with conditionalities. This letter was already negotiated with the IMF before sending but it is clear that Treasury volunteered the conditionalities – including some which would not have been required – before they were asked. The letter emphasises fiscal consolidation in the post-Covid period. It says "temporary relief measures" – the Covid grants – will end but budget cuts made "to make room for the relief measures will either become permanent or be replaced by other cuts". At stake is the R109 billion in budget cuts used to fund the Covid response programme. Other measures include:

59 Civil society statement issued ahead of the IMF and World Bank annual meetings in October 2020: ***We, the undersigned, call on the IMF to immediately stop promoting austerity around the world, and instead advocate policies that advance gender justice, reduce inequality, and decisively put people and planet first***. The statement is signed by 306 organisations and 198 academics.

60 Bretton Woods Project, ***Annual Meetings 2020 Preamble: IMF and World Bank front load austerity and privatisation in Covid-19 recovery, while the world calls for more inclusive multilateralism***, 12 October 2020.

- A proposed debt ceiling: if adopted, this will limit future policy options to austerity.
- Zero-based budgeting for all government entities: an intensely bureaucratic process of constructing budgets from scratch each year. This will increase Treasury's control not just on spending but on effective policy too.
- Reducing the public sector wage bill. This follows from massive cuts announced in the February budget, starting with reneging on an increase for 2020 previously agreed with labour.
- Removing "structural constraints to growth" which appears to take a leaf out of the World Bank's MFD playbook for privatising 'development'. It includes: "modernising and reforming network industries" (electricity, telecommunications, road, rail and ports) "so that lower costs and increased efficiency can improve business competitiveness"; boosting exports; making it easier to do business; and supporting labour-intensive sectors.

Forslund concludes that Treasury's real intention in taking the IMF loan is to secure "outside political leverage" to force through a structural adjustment programme aimed at austerity and prevent any democratic process from changing it. In particular, he calculates that the Treasury plan to cut R160 billion from the public sector wage bill in the three years from 2020 means that "more than 300 000 public sector workers will have to be fired by 2023". This includes teachers and health workers and is to be imposed despite "the official 37 000 vacancies in the public health sector acknowledged at the 2018 Presidential Health Summit". And, beyond that, Treasury plans another R230 billion in budget cuts.[61]

Gqubule observes that, "Since he became president there has been a disturbing trend whereby Ramaphosa makes big announcements when he is under pressure, which Treasury later cancels."[62]

61 Dick Forslund, op cit.

62 Duma Gqubule, *Ramaphosa not quite as good as his word*, Business Live, 3 August 2020.

## Hard times

Meanwhile, in South Africa the number of working age people without employment reached 53% – 16.5 million people – at the peak of the lockdown in April, up from an already catastrophic 43% – 13.7 million people – pre-Covid in February, and was not reduced with the easing of lockdown in June, according to the National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) [Spaull et al 2020: 1].[63] Employment, on the other hand, dropped from 53% in February to 40% as three million people lost their livelihoods in April and recovered only to 45% in June. Most of those who returned to work had been furloughed (laid off) without pay but not retrenched. In April, 8% were furloughed and this number fell to 3% in June. White men did best, bouncing back into employment fastest. Permanent workers fared better than casualised workers. Black women, rural people and shack dwellers were hit hardest and many have not recovered their livelihood.

In this context, people relied heavily on grants to survive. Like the TERS, the R50 billion addition to grants was limited to six months to October. It went to top up pensions and the child support grant and to provide, for the first time, a grant to working age (18-59) unemployed people. Both grants had a miserly edge, as Gilad Isaacs of the Institute of Economic Justice (IEJ) observed. Whereas the child support grant is R440 a month for each child, a R500 a month top up was for each caregiver. So the top up for a woman caring for four children was no more than if she was caring for one child. "This leaves an estimated two million more people in extreme poverty," says Isaacs.[64]

The Covid-19 Social Relief of Distress grant was for R350 a month and was administered by the Social Security Agency (SASSA) as if the purpose were to limit access. Criteria included that anyone receiving any other income

63 The Corona crisis highlighted the anomalies in official employment statistics. StatsSA Quarterly Labour Force Survey found a decline in unemployment during lockdown. This was because it counted 5.6 million people who lost their jobs as 'not economically active' and therefore outside the labour market. Clearly, this is absurd. If that 5.6 million is added to 2.5 million 'discouraged workers' plus 4.3 million 'unemployed', we still get 53% unemployment. Note, NIDS-CRAM use different age brackets for working age adults and count people 'not employed' rather than 'unemployed'. So the numbers are different although the proportions are similar.

64 Gilad Isaacs, ***Covid-19: The lockdown is being torn apart on the rocks of fiscal miserliness***, GroundUp, 12 May 2020.

whatever, or receiving any other form of support, was not eligible. Hence, someone who found casual work for a day was not eligible. And mothers who got a grant to support their children could not get the Covid grant to support themselves. SASSA's priority to prevent ineligible claimants was such that in May only 10 people received the grant.[65] The next month, some 11.3 million people had applied, but only two in five (4.5 million) people received it. Most of them were in the bottom 20% of households by income but many were "in the middle of the household income distribution" pre-Covid and had dropped down the ladder [Spaull et al 2020b: 10].

StatsSA [2019] calculates three poverty lines: the food poverty line of R561 per person per month, calculated as the minimum necessary to afford basic nutrition; the lower bound poverty line at R810 takes account of other needs but assumes households are sacrificing some food needs to meet them; and the upper bound poverty line at R1 227 assumes that people can meet basic food and other needs. On official figures, over 55% of people fell below the upper bound in 2015 [StatsSA 2017].

Thus, the temporary grants and top ups fall well below the official food poverty line. But this line is itself inadequate. Pietermaritzburg Economic Justice & Dignity (PMBEJD) does a monthly survey of what poor people actually buy in the places where they shop. Ahead of Covid, its January survey [PMBEJD 2020a] showed that "it cost R652.75 to feed a small child aged 10-13 years a basic nutritious diet per month". For adults, it cost R686 and for pregnant women and very active men, R757. This does not include other essentials at R680 per household in January, or core expenses including electricity at R599 (350 kWh) and transport for work or shopping at R1 232.

But most households cannot afford a nutritious diet. PMBEJD's 'household food basket' is based on what women actually buy. In January, for a household of seven, it came to R3 340 – 28% below the cost of a nutritious food basket. Nor did the plate look good. "When the nicer foods (meat, vegetables, dairy) are finished, they are finished – they don't get replaced until the next month.

65 Jan De Lange, ***Only 10 out of 2.6 million unemployed received Covid-19 allowance***, City Press 24 May 2020.

For two weeks out of four, we eat horribly. There is very little diversity and very poor nutrition" [2020b: 4].

Hence, most South Africans are under nourished and, on official statistics, 30% of boys and 25% of girls under five years old are stunted. And women eat last.

> The bodies of women have been used for several years as a buffer and to absorb the economic crisis. Women eat last so that their children and families eat better. Women forgo all the good nutritious food in the home. It means that women's health is very poor. It is the reason why so many women suffer from non-communicable diseases. With Covid-19, it is women who will care for their sick: women whose bodies are weak. [2020b: 5]

As the lockdown started, food prices rose sharply. For the household food basket, the month on month increase from March to April was 5%. Brown bread was up 14%. Vegetable price rises were steepest as street traders were closed down and women had to buy poor quality produce at supermarkets: cabbage up 11%, potatoes up 38%, onions up 43%, carrots up 50% [2020b]. Thereafter, the rate of increase slowed and, from March to August, the household food basket increased by 7.8% or R250. The annual increase from August 2019 was a hefty 13.2% [2020d]. Meanwhile, in July the electricity tariff was increased by 8%, raising the monthly cost for 350 kWh from R599 to R648 and transport costs were also up.

Millions of people in South Africa were going hungry before Covid. In 2018, 21% of households ran out of money for food during the year. In April 2020, the first month of lockdown, 47% – nearly half – of households ran out of money for food during the month. And 22% of adults and 15% of children suffered hunger [Spaull et al 2020a]. By June, the numbers were reduced a little: 37% of households ran out of money while 16% of adults and 11% of children suffered hunger. Rural people and urban shack dwellers suffer most [Spaull et al 2020b].

"Households have not been able to absorb the shock of Covid and the lockdown. Covid has broken people ..." observes PMBEJD. The additional grants and top ups did make a difference. They "have partly absorbed high food and domestic and hygiene product price escalations … but they have not been enough … to protect families from the negative impact of the lockdown regulations or Covid" [2020d: 6]. The difference is made up by borrowing from Mashonisa (loan sharks) at 40% interest a month – up from 30% pre-Covid [2020c]. The household debt crisis is thus gathering force.

It is critical that the temporary grants and top ups be extended. Otherwise, "millions of households will be plunged into a depth of poverty that this country has not yet seen", from which it will be difficult to recover. PMBEJD call for grants to be increased, for the minimum wage to be increased and for a Basic Income Grant [2020d: 7].

## Reprise

Treasury and the SARB have flatly rejected the appeal of the group of economists. The existing policies had "enabled the country to respond to the pandemic in the first place", claimed SARB economist Chris Loewald.[66] Printing money – by the SARB lending directly to Treasury – would "push today's economic costs to future generations, either through higher taxes, higher inflation or even lower growth" and is "likely to be inflationary – potentially massively so".

Effectively, this was a rehearsal of neo-liberal orthodoxy, lost in the numbers, dedicated to austerity and oblivious to the lives of the people and particularly of women.

The economists responded that the present generation is paying the costs of the austerity that "strangled the economy in the post-apartheid era".[67] Besides, while the SARB denied it, the R200 billion loan guarantee scheme was itself 'printing money' but to the benefit of the banks, not the people. What's needed

66 Chris Loewald, ***Depression risk a bad reason to jettison macroeconomic policy frameworks***, Business Live, 31 May 2020.

67 ***The Responsibility of the SA Reserve Bank***, 7 June 2020. Statement posted at http://aidc. org. za/the-responsibility-of-the-sa-reserve-bank/

now is “much greater investment in this generation’s education, healthcare and basic-needs infrastructure”.

> The rights of future generations are to enjoy the fruits of an economy that should now be radically retooled to address existing deep socioeconomic problems, lower $CO_2$ emissions and establish long-lasting public infrastructure that (aside from empty soccer stadiums and other white elephants) this government has neglected.

Following Treasury’s tabling of the ‘Covid budget’ in June, the economists – now called the Economists’ Initiative – called on Parliament’s Standing Committee on Finance to reject it. They said it “betrays the rescue package announced by the President and threatens the viability of our economy and the lives of millions, in the short and medium term”.[68]

## The recovery plan

The latest version of government’s recovery plan, announced by President Cyril Ramaphosa in October 2020,[69] incorporates a plan agreed by the ‘social partners’ in the National Economic Development and Labour Council (Nedlac). The council is composed of government, business and labour with a shrivelled appendix for ‘community’. And the labour caucus excludes the South African Federation of Trade Unions (Saftu), which was founded on unions expelled from Cosatu in 2014 and is now the second largest federation. The proceedings of Nedlac are behind closed doors.

The plan itself is reminiscent of the Accelerated and Shared Growth Initiative for South Africa (AsgiSA) from 2005, and the New Growth Path (NGP) from 2010. Both sank. Also carried over is the Strategic Infrastructure Plan (SIP) from 2012 as well as the NDP, also adopted in 2012, which remains the official overall framework despite being founded on evidently false assumptions as

68 120 Economists and Researchers Say the Supplementary Budget Reneges on the President’s COVID-19 Rescue Package, 30 June 2020. Posted at https://iej. org. za/120-economists-and-researchers-say-the-supplementary-budget-reneges-on-the-presidents-covid-19-rescue-package/

69 Address by President Cyril Ramaphosa to the joint sitting of parliament on South Africa’s economic reconstruction and recovery plan, 15 October 2020.

discussed above. The recovery plan centres on: a jobs stimulus; an “aggressive infrastructure programme”; re-industrialisation through localisation and export promotion; policy reform to remove regulatory ‘barriers’ to business; and action on crime and corruption.

The plan did include an extension of the R350 Covid grant to January 2021. It did not include an extension of the R500 care givers’ grant, which is claimed mostly by women. Because women claimed the care givers’ grant, they were not eligible for the Covid grant. Given the bias within SASSA, it seems unlikely that they will be able to claim it now. They will still be collecting the child support grant, but that is meant for the child, not the carer. The campaign for an unconditional Universal Basic Income Grant, paid to all at the upper bound poverty line, must clearly intensify, first to avert a social catastrophe of immense proportions and second, as a first step to eradicating poverty.

The recovery plan prefers creating jobs, or rather, ‘job opportunities’. In doing so, it repeats the productivist bias – privileging production over reproduction – that was embedded in economic policy, and in the structure of Nedlac, from 1994. Thus, responding to the call for a BIG in 2002, the Mbeki administration “rejected ‘hand-outs’ to the poor in favour of the ‘dignity of work’”, as Ivor Chipkin and Jelena Vidojevic observe.[70] This was a wilful misreading of unemployment as temporary rather than structural, a misreading that underlies the failure – or belies the intention – of all the subsequent plans. Thus, the public works programmes to date have circulated temporary job opportunities, often as patronage by local politicians, without giving anyone a stable income. The recovery plan says there will be 800 000 public works jobs including Working for Water, Working on Fire and a programme for maintenance and construction of municipal and rural infrastructure. There will also be ‘opportunities’ for school assistants and community health workers. All this work is very necessary but, as Treasury cuts at the public wage bill, Saftu comments that these temporary precarious jobs will likely

70 Ivor Chipkin and Jelena Vidojevic, ***Universal Basic Income Grant: When nothing is affordable, we had better choose the best unaffordable solution***, Daily Maverick, 29 April 2020.

displace actual jobs.[71] Ramaphosa says that recruitment will be "fair, open and transparent" and hints at people's participation in defining the work, but there is nothing about how these programmes will be managed and by whom.

The 'aggressive' infrastructure programme is claimed to have a pipeline of 276 "catalytic projects". A list of projects issued by Public Works looks just like that – a list of projects. Several have been around for the last decade with little progress. Several are destructive, unnecessary and wasteful. They include the Mokolo Crocodile West Augmentation Project (MCWAP), which recently received an environmental authorisation in the teeth of local opposition and despite its rationale diminishing to vanishing point [see Chapter 6]. This was a key project in SIP1 from 2012, 'unlocking the mineral wealth [coal] of the Waterberg'. The other project required to 'unleash' a bushveld coal rush is the expansion of the coal line. In 2013, then Transnet CEO Brian Molefe said the 2.3 Mt/y capacity would have expanded tenfold to 23 Mt/y by 2018. It hasn't happened and does not appear to be a focus of the present plan set out in Transnet Freight Rail's 2020 report. In contrast, the doubling of the Overvaal Tunnel to expand capacity on the main Ermelo to Richards Bay coal line remains a Transnet priority.

Six years ago, state owned enterprises were given a prominent role in infrastructure investment plans. Now government wants to "encourage private sector investment in infrastructure through IPPs, rail and ports concessions, strengthen PPP Framework …".[72] Such participation will come at a cost, with private profits guaranteed by public risk. Investors remain the singularly privileged stakeholder, with Ramaphosa now holding annual investor conferences to elicit investment pledges. Over three years, government says that R774 billion has been pledged. However, little of this was new money as corporates lined up to pledge projects that they were already planning. The 2020 conference was, unsurprisingly, a subdued affair with pledges adding up

71 Zwelinzima Vavi, ***SAFTU is simply disgusted with the President's attempts to pull the wool over the eyes of the public, pretending his new plan will lead to recovery and reconstruction – when so much of it reflects a Build Back Worse mentality***, Saftu, 16 October 2020.

72 Cabinet presentation, ***The South African Economic Reconstruction and Recovery Plan***, EISEID Cluster, 7 October 2020.

to about a third of the previous years. Meanwhile, some projects from previous rounds have been cancelled as investors see demand vanish.[73]

Ministers are also judged on how much investment they attract. Gwede Mantashe, for minerals and energy, is clearly in the pound seats as he anticipates an offshore oil rush following Total's announcements that it has found gas condensate south of Mossel Bay. Those finds evidently inspire Ramaphosa's vision of "our country's enormous untapped potential in upstream oil and gas reserves" just waiting to be 'unlocked'. We look at the prospects for the petrostate below.

The plan also calls for a stable power supply and Ramaphosa says, "we are accelerating the implementation of the Integrated Resource Plan …". Thus far, the pace has been lethargic. We discussed the IRP in gWR 2019 and give an update below. Outside the IRP, somewhere in LaLa Land, the Musina-Makhado Special Economic Zone (EMSEZ) is claimed to be ready for lift off with the Presidency cheering it on.[74] We also discuss this in Chapter 6.

The plan looks for industrial localisation, primarily through government and business procuring locally made goods and promoting a buy local campaign. There is clearly potential for local manufacture of renewables and associated goods provided that the renewables build-out is implemented and sustained. Several makers of solar PV panels and a company making masts for wind turbines were shut down when Eskom refused to sign power purchase agreements with independent power producers in 2015 and so shuttered the renewables programme. And a section headed 'green economy' calls for waste recycling and a transition to circular economy together with waste picker integration and the revitalisation of buy-back centres. While this sounds positive, it includes toxic wastes such as coal ash and slag in the substances to be recycled. Further, as in previous iterations of industrial policy, the green

73 Ray Mahlaka, ***President Ramaphosa's investment drive gets a R109-billion shot in the arm***, Daily Maverick, 19 November 2020; Lynley Donnelly, ***SA's big investment hopes may turn out to be hype***, Business Live, 14 August 2020.

74 SA News, ***Limpopo SEZ readies for lift-off***, 14 December 2020, at https://www. sanews. gov. za/south-africa/limpopo-sez-readies-lift

economy appears as a niche addition to the existing dirty economy. Rather than 'building back better', the plan is 'anything and everything goes'.

And 'anything goes' looks to get even dirtier. Ramaphosa says, "We are fast-tracking reforms to reduce the cost of doing business and lower barriers to entry". The first up is this: "The current time frames for mining, prospecting, water and environmental licenses will be reduced by at least 50% to facilitate new investment."

This is the recurring trope of failed development strategies since GEAR was imposed. From 1999, President Thabo Mbeki and his ministers kept up a verbal barrage to the effect that environmental impact assessments (EIAs) were holding up development. In 2005, EIAs were duly 'streamlined' as AsgiSA was being put together. In 2010, the New Growth Path (NGP) aimed to "slash red tape" and EIAs got another round of streamlining. Next, the NDP noted several "binding constraints on growth" and included "licensing for water, minerals and environmental permits" on a list of the most urgent examples [119].

The NGP saw building infrastructure as the quick starter for growth. In 2014, the Infrastructure Development Act was intended to remove any impediment to any project declared a 'strategic infrastructure project' (SIP), including overriding objections from municipalities or local people. And it required another round of streamlining for "any approvals, authorisations, licences, permissions and exemptions" relating to such projects. Also in 2014, government introduced the 'one environment system' (OES) to streamline mining applications for environmental and water authorisations and to ensure that the Department of Mineral Resources (DMR), and not the Department of Environmental Affairs (DEA), retained control of environmental authorisations.

As Alex Lenferna of the Climate Justice Coalition observes, "Communities across South Africa are already protesting against the fact that harmful mining projects often steamroll over their right to say no". The recovery plan is heading in the opposite direction to any conception of a just recovery.[75]

75 Alex Lenferna, ***Ramaphosa's plan: Economic recovery for the few, ecological devastation for many***, Daily Maverick, 25 October 2020.

Finally, the plan promises action on crime and corruption. Measures include providing law enforcement agencies with adequate resources to investigate and prosecute corruption and fraud, and preventing public office bearers from doing business with the state. The plan is also alert to private sector corruption and the offshore flight of capital in the form of transfer pricing and other 'illicit financial flows'.

As expected, Treasury's Medium Term Budget Policy Statement (MTBPS) entrenches austerity. As IEJ observes, it "does not seek to advance, or even consider, the realisation of socioeconomic rights".[76] Departmental budgets are slashed all round. Education and health are cut, public transport is cut, human settlements is cut, even Treasury is cut. And, it seems, law enforcement and the South African Revenue Service (SARS) will not get adequate resources to go after corruption, including tax evasion.

This doubles up on contradiction. Treasury's rationale is that, if it does otherwise, the country will spin into a fiscal crisis of unpayable debt. To the contrary, Unctad argues that austerity could choke off any recovery and lead to a double-dip recession, with further declines in tax revenue and rising unemployment [Unctad 2020b]. Even the mainstream Presidential Economic Advisory Council argues that it is "patently not possible to stabilise the debt over the medium term" and, even if it were, "it may not be desirable to force a drastic contraction of spending" on an already depressed economy. Whereas Treasury views austerity as the foundation of its credibility, the Council warns that its credibility will be eroded if it does not recognise this situation and consistently fails to meet its own targets [PEAC 2020: 12]. They argue that, in a context of low inflation, the SARB should put more money into the economy both directly through the Treasury and indirectly through the banks.

Ultimately, however, the PEAC recommends a less austere version of Treasury austerity. Amongst other things, it supports Treasury's squeeze on public sector wages and it opposes the call for a basic income grant. Jaco Oelefsen and Dominic Brown of AIDC argue that "pay freezes and budget cuts will not

76 IEJ press statement, ***MTBPS: Mboweni moves us backwards***, 29 October 2020.

only worsen the living conditions of many, but also further suppress economic demand on a massive scale".[77]

And the resources are there to pay for it. They observe that something between US$10 and $25 billion (R150 – R375 billion) is drained from the country into offshore accounts each year. Transnational corporations operating in the core of the minerals energy complex are routinely engaged in such scams to the benefit of bosses and international investors and to the cost of as much as R100 billion in tax revenues. It is also at the cost of workers, since corporate revenues are made to appear lower than they really are when it comes to negotiating wages.

Further, there is a massive legal outflow of capital taken in interest and dividends paid out on bonds and shares. This follows from government deregulating financial markets and exchange controls and reducing corporate tax rates from 50% in 1990 to 28% now, in order to attract investors. The investments came – mostly in the form of hot money – and legal dividend payments now make up one of the largest flows of money out of the country. This creates a substantial drain on the balance of payments and makes for a highly volatile currency. It is a key vulnerability for the economy.

More than closing loopholes and tightening capital controls, this calls for a fundamental shift in the economic order.

77 Jaco Oelefsen and Dominic Brown, ***End budget cuts, stop the bleeding – and crack down on illicit financial flows***, Daily Maverick, 26 October 2020.

# 3 Lockdown

## Flatten the curve with a hard lockdown

In South Africa, government imposed a hard lockdown to 'flatten the curve' – to limit the spread of Covid-19 and to protect the already ailing health system from being overwhelmed. The president declared a state of disaster on the 15th of March 2020 and, on the 23rd of March, announced a 21 day lockdown with strict rules – some of the strictest in the world.[78] No one was allowed to leave their homes, except to perform essential services – which included policing, medical services, and the generation of electricity and running the mines to supply power stations with coal – or to acquire food and medicines or draw money. Interprovincial and airplane travel was banned. Funerals could be attended by up to 50 people, but 'social distancing' had to be enforced. A curfew was put in place as well as a ban on buying and selling alcohol and tobacco. The army was deployed alongside the police, to enforce this.

Accounts of police and military brutality towards citizens emerged as soon as the first lockdown weekend,[79] and continued. Sibusiso Amos in Vosloorus, who was followed home by police from a shebeen, and Collins Khosa in Alexandra, who was seen by members of the armed forces drinking alcohol in his own yard, were allegedly beaten and killed.[80] Nathaniel Julius, a teenager living

78 Smart, Broadbent and Combrink, described the SA lockdown as "some of the strictest in the world", https://theconversation. com/lockdown-didnt-work-in-south-africa-why-it-shouldnt-happen-again-147682? fbclid=IwAR3R2B6sMzlAgmc3ITzNXMw50ivZbJMyAYT167XAEKv5jECbFgV0tXK22Jc

79 https://mg. co. za/article/2020-04-16-covid-19-police-abuses-reveal-systemic-flaws/

80 https://ewn. co. za/2020/04/12/alexandra-family-want-justice-after-man-dies-allegedly-at-hands-of-police

with Down's syndrome who was unable to answer police questions, was shot dead, allegedly by a police officer.[81]

In Tshwane, two waste pickers, Justice Shabangu and George Mphotshe from the informal settlement Mushroomville, were arrested for breaking lockdown regulations, and spent three months in jail before being released, following an intervention from Lawyers for Human Rights. Shabangu's wife, Mamosioua Kao, explained in an affidavit that "out of desperation to make some money for food and other essential items we needed to replenish," the two had "ventured out into Centurion to collect recyclable materials to sell".[82] In Centane, in the Eastern Cape, 10 water activists were arrested on the 14th of April while in a meeting to discuss how to resolve water issues for 600 households in their communities. They were released later the same day.[83] Their arrest contributed to fuelling a large civil society mobilisation for water rights [see Chapter 6.]

Activist and researcher Leonard Gentle explains: "The strategy was about prevention – hygiene, hand washing and masks, social distancing – and mitigation. And what was made abundantly clear was that the lockdown was to flatten the infection rate curve so that the healthcare system could be prepared and therefore not swamped when the infection rates peak." He comments that this meant abandoning poor communities in a very unequal health system, where around 80% are dependent on a faltering, under-resourced health system, while the privileged 20% with health insurance are accommodated in a private health system whose companies such as Netcare, Mediclinic and Life Healthcare were so profitable that they had become "major players in private healthcare in Britain, Switzerland and the UAE... and the biggest Medical Aids business, Discovery, moved on to launch its own bank."[84]

When the health scientists were put in the driving seat, argues Gentle, they confined themselves within the bounds of neo-liberal austerity and focused

81 https://mg. co. za/opinion/2020-08-28-police-brutality-in-south-africa-exposed-once-again/

82 https://www. groundup. org. za/article/covid-19-three-months-prison-collecting-waste-recycling-during-lockdown/

83 https://www. dailymaverick. co. za/article/2020-05-14-eastern-cape-water-activists-free-after-lockdown-arrest-and-they-vow-to-continue-the-fight/

84 https://www. dailymaverick. co. za/opinionista/2020-06-24-covid-19-health-scientists-caught-between-a-rock-and-a-hard-place-as-government-abandons-the-poor-majority

on the narrow issues of Covid. They went quiet about "the state of public healthcare, about the social determinants of health, about the need for universal healthcare, about the National Health Insurance".

The strategy was obstructed by other state actors, through incompetence and greed. Local government failed to provide a crucial ingredient – clean water for hygiene – and there was large scale corruption in the provision of Personal Protection Equipment (PPE).

Did the lockdown work? Did it flatten the curve and protect the health system? Yes, says South Africa's chief Covid-19 scientist, Professor Salim Abdool Karim. South Africa's health-care service was able to cope, with the exception of the Eastern Cape, which "struggled for a short while. … We had political authority that quickly understood the challenge, the importance and the magnitude of the threat, and were deeply committed to fixing it... They were not afraid to take difficult decisions … with minimum information we had at the time." [85] In fact, the Eastern Cape did not 'struggle for a short while', but was declared a hotspot on the 3rd of December 2020 with a curfew, restrictions on the sale of alcohol and reduced numbers allowed in gatherings.

Epidemiological research ongoing at the University of Johannesburg has so far found no evidence that lockdown regulations had significant positive health impacts. The lockdown was wrong and should not be repeated, argue Broadbent, Combrink and Smart [2020], because it was not developed taking the specific South African context into account:

> It is striking... how little consideration was given to the specifics of its circumstances by the South African response strategy. The youth of the population would tend to make it less susceptible to lethal Covid-19; poverty and insecure income would tend to make it more susceptible to health impacts of economic hardship; and overcrowded living conditions with inadequate sanitation would significantly modify both the effectiveness of a given regulatory measure at achieving reduction in social contact and the feasibility of implementing such a measure.

85 https://www. timeslive. co. za/sunday-times/news/2020-09-20-did-sa-get-it-right-when-tackling-the-coronavirus-pandemic/

> Locking down with 10 other people in a small dwelling 200 metres from the nearest ablutions is both less effective and less pleasant than doing so in a suburban house occupied by a single family. 18.7 million people (roughly 30% of the population) rely on social grants... and thus need to travel and queue to receive these grants, and non-grant relief measures (e. g. food parcels) also commonly involve queuing. [2020: 2]

Why did this happen? The authors quote Stefan Peterson, the chief of health at Unicef, who argues that Covid scared the elite, because it could "affect the people with power … the people who communicate, rather than the poor people who have always been dying."[86] They also point out that "states unable or unwilling to maintain accurate public health records cannot benefit from local epidemiology and will be forced to rely on imported models for projection and policy."

The strict lockdown had high economic costs:

- The net number of South Africans in the workforce dropped by 5.2 million during the second quarter of 2020.
- The poorest 50% of workers – those who live hand-to-mouth – were affected ten times worse than the richest.
- GDP dropped by 16.4% between the first and second quarter,
- In April, 47% of respondents to a national survey indicated that they had no money for food by the end of the month.
- Businesses all over South Africa closed their doors for good, as lockdown restrictions made operations impossible, forcing them into bankruptcy.

> In addition to the economic costs, significant damage was done to South Africa's existing health programmes. Despite valiant efforts from the Department of Health to maintain the availability of free HIV testing throughout the country, there was a huge reduction in HIV testing of 57% from 1.6 million in March to 590 000 in April as travel restrictions

86 https://mg. co. za/article/2020-04-08-is-lockdown-wrong-for-africa/

> put strains on community testing. As a result of interruptions to testing and to the availability of chronic medications, deaths from HIV and tuberculosis are projected to increase by 10% and 20% respectively over the next 5 years. That's 63 000 excess TB deaths, alone, exceeding any reasonable estimate of lives saved by the ineffective lockdown. [Broadbent et al 2020].

The lockdown also hit poorer communities hard, including the 10 coal affected communities that participated in an action research project intended to keep contacts alive between these communities and NGOs working with them – groundWork and Earthlife Africa – as well as to track and learn from the lockdown experience. In the rest of this chapter, we focus on lockdown conditions in these ten communities as the Covid experience unfolded, how the health system responded on the grassroots level in these communities, whether they experienced any break in pollution, and the general health impacts of pollution in these communities. Chapter 4 takes this further in terms of the Covid shock to local economies, jobs and incomes, food insecurity, municipal services, decision making and the space for activism under lockdown. In Chapter 8, we share the community researchers' perspectives on the future, based on their Covid experiences.

## Coal affected communities

The ten communities from where we draw perspectives and experiences for this report are affected by coal in different ways. On the Mpumalanga Highveld, KwaGuqa, Phola and Ogies, Arbor and Ermelo are all situated on the long worked coalfields of the Central Basin, which have been mined for more than 120 years and provided the energy for gold mining and industrial expansion. They are surrounded by mines, old and new, producing and abandoned, and power stations. Somkhele and Fuleni are in northern KwaZulu-Natal, and are engaged in resistance to the current pollution and future expansion of coal mines there. Both are members of the Mfolozi Community Environmental Justice Organisation (MCEJO). Shortly after our research was completed, one of the Somkhele leaders, Ma Fikile Ntshangase, was assassinated at her home.

Her killing is part of a growing pattern of violently denying communities the right to say no to mining [see Box 4 in Chapter 4]. Both Newcastle and Sasolburg are industrial sites, in addition to the coal mining that takes place there. Shongoane in Lephalale is 70 kilometres from Lephalale and its two big coal-fired power stations, Matimba and Medupi, but still subject to the broader impacts, and watching with dismay as new coal mine proposals come their way. Activists in the Mabola Alternatives Committee, near Wakkerstroom, on the border between Mpumalanga and KZN, live on farms in a white farm environment. They are observing the impacts of the existing small Loskop mine nearby, and are wary of the plans for the much bigger new Atha mine in the Mabola protected environment area.

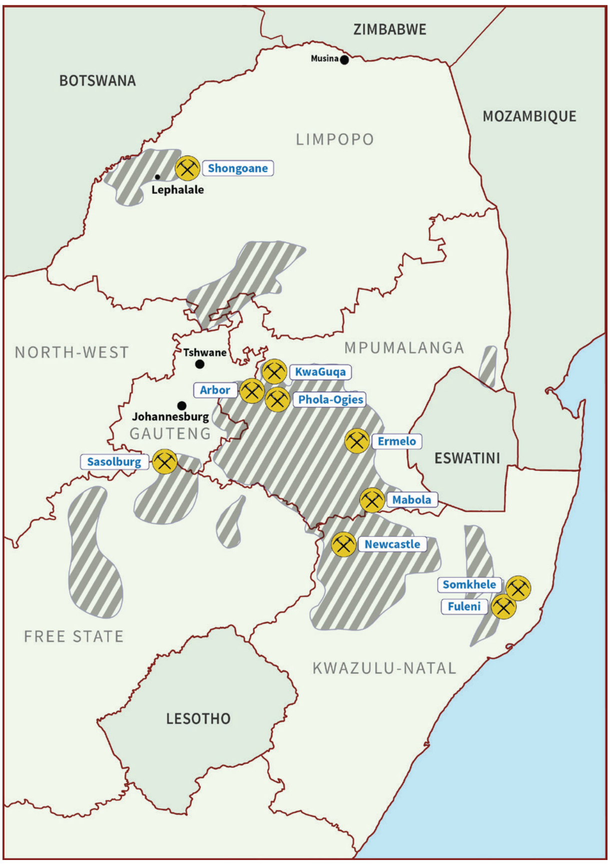


**Fig 1: Location of 10 coal affected communities, map by Toni Olivier. The areas in slanted lines are coalfields, and the pick-axe symbols with names behind them indicate the 10 communities.**

## KwaGuqa, eMalahleni

KwaGuqa is the main township in eMalahleni. It is at the centre of a coal mining area in which there is heavy industry, a coal-fired power plant and more than twenty collieries. Surrounded by the legacy of a history of intense coal mining over 120 years, including the abandoned Transvaal and Delagoa Bay mine which is still burning underground, KwaGuqa looks across the valley to the big metallurgical plants, including Vanchem, Ferrometals, Rand Carbide and Transalloys. Highveld Steel, which went bust and closed in 2016, is just across the freeway.

In KwaGuqa, our researcher was Promise Mabilo, the co-ordinator of Vukani Environmental Movement (VEM), which she founded in 2016. Vukani is part of the Highveld Environmental Justice Network (HEJN), which was formed with the help of groundWork in 2011. Before Covid, VEM used to meet weekly with the emphasis "on popular education because the learning process is what makes us activists". The mines and industries are sources of air pollution which has serious health impacts: "In our area a lot of young and old are suffering from respiratory illness". Her neighbour's two daughters have respiratory and sinus problems, though not as severely as her son, who is dependent on asthma sprays.

## Phola and Ogies

The people in Phola, not far from eMalahleni and close to both Ogies and Arbor, have been moved from other coal mining areas to make way for coal mine expansions, but find themselves again surrounded by mines encroaching on their new homes, and with the newly built Eskom power station Kusile right next door. In Phola, our researcher was Yvonne Sampear, who is active in the Greater Phola Ogies Women's Forum. She grew up at the Tweefontein mine, which is part of Ogies. When her father retired, she relocated to Witbank with her parents. Seventeen years ago, she returned to Ogies, settling in Phola township with her partner and their children.

> Phola is a new place where people were moved from coal mines that were taking the land they were staying on. It is part of Ogies. For many things we have to go to Ogies. When I came there were mining operations about four kilometres away. Currently … the mines are very close to Phola. We are in the hub of coal.

Sampear explained the impacts on the community:

> The environmental impacts include dust from the mines, our houses are cracked, and no one wants to take responsibility for that. It is always someone else's fault. People are confused about where to complain. People suffer from respiratory illnesses that are caused by the air quality. Most people in Phola have affected sinuses, some have TB. The last time when we were busy with Benchmarks research, house to house research, we found that most people are coughing because of poor air quality.

More broadly:

> Most of the community is unemployed and suffering. Especially young boys are on drugs because they can't find jobs. We have lots of immigrants staying nearby [by that she means South Africans from other places]. We are facing a high rate of criminal cases, house robbery, cars have been stolen. When we check on the high rate of robberies, we find that when these people came here from KZN etc., most of them have illegal shacks. Most of them [are] drug lords, stealing cars, in the informal settlements … We talk about this as a community.

> When we speak about women's lives, there is a huge impact, because most of the women are not employed. Some they say they are old, some they say they don't have the skills. They need to give sexual favours or bribes to get jobs. There are unplanned pregnancies, you get a guy working at the mine, wife in KZN, and at the end of the day he goes back home. The local woman he lives with in Phola, she thinks life will be better because he is working at the mine, and then she ends up with

three or four kids, without a father. Most guys come with their own illnesses like HIV.

## Arbor

Elizabeth Malibe was our community researcher in Arbor. She is active in the local organisation "Guide the People", an HEJN affiliate, and works in a collective with a group of women sewing clothes, including clothing for miners.

Arbor is a largely informal settlement that developed next to a railway siding on the coal line that runs from Delmas to Ermelo. Elizabeth and her husband live next to the Ntshovelo coal mine, where she runs a spaza shop that provides food, tea and snacks to coal miners and coal truck drivers. They originally come from Mokopane in the Limpopo province, then settled in Iraq, a settlement in nearby Phola, from where they moved six years ago to Arbor: "The shacks in Iraq are small and the space too. Arbor is bigger. We bought a stand here because it is spacious."

The coal mine, together with a constant stream of trucks to the mine as well as the railway siding (at both places coal is constantly loaded and off-loaded), leads to pollution of the air and of the soil, as well as noise. Arbor is also between Kendal and Kusile power stations. The air pollution is intense and many people have pollution-related health problems.

Arbor residents can vote for municipal councillors, but do not receive municipal services such as water, electricity or waste collection. They fall under the authority of a traditional leader who used to work for a coal mine.

## Nomzamo, Wesselton, Ermelo

Our community researcher Linda Magagula, covering Ermelo, has been with the community based organisation Khuthala Environmental Care Group for 20 years, since 2000. Khuthala has various teams – advocacy teams on water, climate, rehabilitation and air pollution, and teams for the gardens and garden services. They are fighting for their environment. Says Magagula:

> I love environment and nature, so I joined the struggle. We fought the Imbabala mine … People were already fighting the mine from before, so I joined that struggle. We do lots of things, as Khuthala: community-based work, donations, organising in wards … Our struggle in Ward 3 is dealing with education, water, and we have introduced Agricultural Development Committees (ADCs). As ADCs, we go to the Department of Agriculture. They provide seeds for people's gardens since about five years ago. We can talk on behalf of community [in the ward committee]. We even talk with some businesses, where we organise for local youth to get job opportunities, even if it's only for two or three months.

Magagula lives in Nomzamo, an informal extension to Wesselton, at what was Nomzamo Agrovillage owned by the provincial Department of Agriculture.

> We are waiting for a development there, municipal service and RDP houses. The municipality (Msukaligwa) should be doing that. Many informal settlements are waiting to be formalised.
>
> At Nomzamo, there are more than 200 shacks. People are moving into the neighbourhood every day. There is no other land available and this area is about three kilometres to town. We can walk to town – to work, to hospital, to school. Most people are unemployed. Many people in Nomzamo are from backrooms in Wesselton – children or grandchildren of people who have homes there. I moved from my grandmother's place in Wesselton about four years ago, because there were too many people there – nine in all with my sisters and brothers and their children.
>
> I now have my own place – living with my wife and two kids – both girls. There is just one room. There is no water, no electricity, no sewage, no rubbish collection and no roads. We fetch water 500 metres away. For fuel, we use wood and coal. The coal is from the abandoned Golfview mine. There are no *zama zamas* at Imbabala mine – it is just too dangerous with constant collapse of ground. Golfview is also dangerous and still burning underground [it has been burning for at

least five years]. Two people died there about two months ago – from inhaling gas, not from land slumps.

Nomzamo is next to Imbabala mine. It is an abandoned open pit mine. Some time ago, we [Khuthala] talked to the mine boss to give us the land. There is lots of space there but also lots of sink holes and now parts of the cliff face are falling in. We have been fighting him since long before because the mine is too close to the community – causing the usual problems of dust and cracked houses.

But they ran away and left it abandoned. We looked for the mine owner to return to rehabilitate the mine – but he could not be found. We have talked to the provincial departments of agriculture and environment and requested the land. Amongst other things, we took a petition to Parliament and approached the DMR (Department of Mineral Resources). We want it rehabilitated for human settlement as there is no other land.

The municipality does not want people there. They still want the mine to work. Last week another mine company was sniffing around. They have a prospecting right from DMR – so they are saying people must move. But even if people do move, it is still not safe to mine. Before this, we were in talks with DMR for rehabilitation. This confirms that DMR is not about rehabilitation but about mining.

Another source of pollution is Eskom's Camden power station. It is on the other side of Ermelo, but we do feel the impacts. We already feel the climate impacts – the climate is erratic and unpredictable. It is hotter than it used to be but can also be colder. And we can smell Camden when the wind blows from that side. We also have the coal rail yards – when the wind blows this way we get the coal dust.

The municipal rubbish dump site smells bad and there are lots of fires burning there. People from the neighbouring suburb in town are selling up and moving out. Golfview is burning so we also get that smoke. We are surrounded by pollution. There are too many abandoned mines.

## Somkhele

Fuleni and Somkhele are neighbouring communities, both affected by the Tendele anthracite mine established in 2007. The mine pollutes the area and affects their water source in the Mfolozi River. Activists in both areas belong to the Mfolozi Community Environmental Justice Organisation. Our community researcher in Somkhele was Zanele Gumede who has lived there for the past 25 years. The community has problems with access to water, with air pollution and with mine blasting. And they are feeling the effects of climate change. In Gumede's family, two members suffer from asthma, and they know about another woman with the same problem.

> The mine in our community has been affecting us a lot instead of bringing good change. We are graduates but still suffering without jobs because of empty promises. They just keep on promising. We don't have a problem with companies who bring change and job opportunities in our community as long as they will do the right thing and follow the good procedure. We have many problems. Even our roads are damaged because of the trucks that transport coal from the mine. The impact on the community increases due to an increase in concentrations of greenhouse gases in the atmosphere caused by human activities. We have been without water in our community. Even if it is raining, we cannot use water from our roof due to coal dust that is all over our roof from the mine. In our community, the municipality failed to provide us with water. We have to buy water from people with water tanks. But a lot of people are living on social grants and struggle to buy water.

## Fuleni

The researcher in Fuleni was Zamapho Ndimande. She was born in Fuleni and joined MCEJO in 2017. The community is facing a proposed coal mine by Ibutho coal company. "Currently we have no coal mine in our area but are suffering the impacts of the Somkhele coal mine just over the Mfolozi River.

The impacts include pollution of the air, water and soil, lack of water due to abstractions by the mine of the Mfolozi River, and crime."

New mines and mine extensions are planned in both areas, and community activists are under constant pressure from mine management and traditional authorities which support the expansion of mining.

## Madadeni, Newcastle

Both Newcastle and Sasolburg are industrial sites as well as centres of coal mining. Newcastle, in KwaZulu-Natal, is dominated by the operations of the steel giant ArcelorMittal. Activists are organised as the Newcastle Environmental Justice Alliance, of which our community researcher, Nduduzo Dlamini, is the chairperson. She holds an honours degree in development studies from the University of Zululand but is currently unemployed.

She has been living in Madadeni for the past two years, since moving from a farm in Dannhauser after her parent passed away. She came to stay at her uncle's place and he too has since died. Madadeni was founded back in the apartheid era when black people were moved away from white towns. It is next to the ArcelorMittal steel factory formerly known as Iscor. Many people moved into the township because of work at Iscor. They used to walk to go to work. The local sources of pollution in Newcastle are coal mines, namely the Springlake Colliery, Ikwezi Mining's Kliprand Colliery, and MC Mining's Uitkomst Colliery. The polluting industry is ArcelorMittal. Dlamini reported:

> The impact of the coal mines and industry are toxic air pollution, that people in the community end up inhaling and which results in health impacts. There are dust particles from mine dumps and trucks moving in and out of mines. Blasting sometimes results in houses cracking. People who used to farm lost their livelihoods. The area that was used for animal grazing in Kliprand is now where the Ikwezi Mine is located. Therefore, there is no grazing land and those who depended on having cattle to sell and generate income are affected.

## Zamdela, Sasolburg

Sasolburg suffers the pollution from the Sasol chemical complex, Natref refinery and a cluster of downstream chemical industries. Sasol also has big coal mines supplying the feedstock from which it produces chemicals. Sasolburg is part of the Vaal Triangle industrial area, with Eskom's Lethabo power station close by and ArcelorMittal's giant steelworks in Vanderbijlpark just across the river. It is organised as part of the Vaal Environmental Justice Alliance (VEJA). In Sasolburg, our researcher was Moleboheng Mathafeng, an activist in VEJA, which she joined in 2012, motivated by her opposition to the air pollution from Sasol. She lives in Chris Hani township in Zamdela, Sasolburg, only a few kilometres from the Sasol refinery, close to the graveyard and the arts and culture centre, shopping centres and schools. She moved, at age 12, from Lenasia South in Johannesburg to Zamdela after both her parents passed away. Her grandmother passed away when she and her twin sister had turned 15.

The local sources of pollution are the Sasol coal mine, chemicals plant and refinery, the Seriti coal mine which supplies Lethabo, and trucks that are busy in the area. There is a stream with pollution from the old refinery and from rubbish dumping. People burn tyres at night, which also creates pollution.

## Shongoane, Lephalale

Shongoane in the Waterberg is 70 kilometres from Lephalale town and its two big coal-fired power stations, Matimba and Medupi, and Exxaro's massive Grootegeluk coal mine, but still subject to the broader impacts. The community watches with dismay as new coal mine proposals are made, the closest being the Lephalale coal mine now under construction. Shongoane is part of the largest concentration of people in the Lephalale district, one of the settlements that was part of the Lebowa homeland under apartheid. The traditional authorities are still prominent in community life here. The community researcher, Leseka

Shongoane, was born and has lived all her life in Shongoane,[87] a village on the banks of the Lephalala River.

Shongoane reports that the Lephalale area has high levels of air and water pollution. There is a high incidence of TB, heart disease, cancer and asthma, which are understood to be linked to air pollution. The area also struggles with water and residents often report not having running water from their taps. Unemployment is also rife. Despite promises of jobs, not enough residents in the area have been employed at the local mines and power stations. In their view, 'foreigners' (whether from outside the province or the country) receive these jobs. Those locals who have found work at the coal mines and power stations typically leave with some form of illness. Indirect effects of high unemployment, especially amongst the youth, include alcohol abuse, which often goes hand in hand with car accidents, the spread of HIV and teenage pregnancies. Young women typically fall into the trap or culture of having "sugar daddies".

Shongoane is the vice treasurer at Matjoba (Sepedi for 'flowers'), which equips its members, all female, with personal development and craft skills. It is also an organisation that has joined in the fight against climate change. She joined the organisation in 2017.

## Kromhoek, Wakkerstroom, Mabola

Mabola is on the border between Mpumalanga and KZN, near Wakkerstroom. Local activists are from families living on white owned farms. They have observed the impacts of the existing small Loskop mine nearby, and are wary of the plans for the much bigger proposed Atha mine in the Mabola protected environment. They are organised in the Mabola Alternatives Committee – which is organising for alternatives to coal mining. Our researcher, Jabulisile Makhubu, lives on a farm in the Kromhoek area between Volksrust and Piet Retief.

87 Her surname and the name of the settlement is the same, indicating that the traditional authority is clan-based.

Makhubu was born at Kromhoek and has lived here all her life. This is a farming area with scattered households about one kilometre apart. There is a high dependency on natural resources like wood for fire and grass for thatching. People depend for their livelihoods on livestock, mainly cattle and goats. At present, most of the pollution comes from the farms when they use pesticides, which not only affects people but livestock as well, through grazing. The closest school is 30 kilometres away and people rely on school transport for kids to get there. Employment is mainly on the farms. A mobile clinic visits the area once a month.

The existing Loskop mine is about 25 kilometres away. It has been worked on and off over the years and is currently not operational. It is also not rehabilitated and is thus releasing acid mine drainage into a river that is used by locals. It also exposes people to dust. The Loskop mine has created social conflict as they promised people jobs but didn’t deliver on their promise. When work has stopped, contract workers at the mine have been left stranded without being paid. This has happened repeatedly.

The community’s biggest concern is around the proposed and heavily contested Atha mine. The process for the environmental impact assessment and mining right application is not transparent. This has created conflict as the affected community has not been consulted and the municipality and the mine proponents have not made any efforts to inform them. But they have managed to inform and engage people who live 70 kilometres away, in Volksrust, who have been mobilised to support the mine on the promise of jobs.

Mabola is part of the upper Assegai catchment and has been declared a protected environment because this is one of 21 strategic water resource areas. These are South Africa’s ‘water towers’ which together cover 8% of the country’s land surface but produce 50% of its water.

## Overview of process and themes

This chapter now turns to a number of themes in more detail, based on the observations and analysis of the community researchers during a research project consisting of six dialogues between office and community researchers, three focus group discussions online, a teleconference, a zoom meeting and a closing webinar, between April and October 2020. In the early days of the lockdown, these were individual accounts – at times very personal accounts – but as the project progressed community researchers were able to interact with the community around them and with the organisations that chose them to participate in this research.[88] In Chapters 3 and 4, we deal with the following themes:

1. lockdown disciplines;
2. the health system's response to Covid;
3. a brief break in pollution in some places;
4. the severe impact on local, largely informal, economies;
5. issues around food security;
6. what happened to municipal services, particularly water;
7. decision making processes by government and corporates; and
8. the space for activists to organise. This is where we pay tribute to Ma Fikile Nthangase and explore the background to her assassination.

At the end of each thematic piece, community researchers give their views about what lies behind the difficult conditions that coal affected communities were experiencing under lockdown. Why, for example, are food prices rising under lockdown? Why are there problems with municipal services? They also reflected on the difference between the experiences of men and women under lockdown, and what this tells us about gender roles in these communities.

The final section – in Chapter 8 – explores these experiences and perspectives in the light of what we can expect from climate change impacts, as well as what the implications are for the positions activists should take in fighting for a Just Transition.

88 Seven of the ten were chosen in this way, three were part of an existing SWOP project.

## Lockdown disciplines

Our first reports were done three weeks after lockdown, in April 2020,[89] with the researchers from three townships on the Mpumalanga Highveld. In KwaGuqa, at first people did not take the lockdown seriously and did not stick to the rules. People were drinking alcohol in public. That stopped because of strongly visible enforcement: soldiers and traffic officials. Mabilo reported that:

> People are staying in their homes and moving around their yards. They only get out when they need something from the shops.... Now everybody is on his or her own with their families. It is very sad that as neighbours we used to help each other in difficult times, but now that is hard to do. You ask yourself, "How are those people coping in these sad times, not being able to go out there and do something to help themselves to put food on the table?"

In nearby Arbor, the yards are big enough to self-isolate. Police focused on patrolling around the taverns and it was rumoured that they had beaten a child. In Phola, waste pickers and traders disappeared off the streets, as they did in other places, and it would take a while for them to return.

Our next round of dialogues came after 85 days, in mid-June, and engaged all ten community researchers. They were followed by two more rounds in July. These dialogues were primarily concerned with the experience of lockdown. By then, restrictions had been eased to level 3, and some people stopped taking the virus and the restrictions seriously. By July, in Arbor, people had stopped social distancing, but some at least were wearing masks.

In Ermelo's Nomzamo informal settlement, people stayed home as they were forced to, and had no money to go and buy food. People found it difficult to get used to the new discipline, which was harsh, reported Magagula:

> At the start, the police beat and shot people in the name of enforcement. They used rubber bullets and *sjamboks*. It was really bad. One guy was badly injured with rubber bullets – they hit his face and his back. He

89 They form the basis of our first explorations of the Covid experience, until 10 reports start in June 2020.

> did go to the clinic but just got pain killers. These incidents took place mostly in town but also in our immediate vicinity. Since level 3, the police were not too much in the location, but still in town. They were checking shops and that people are wearing masks. They can take you to jail, but they are not harassing people now.

In Sasolburg in the Vaal, after 100 days the streets were back to normal. People no longer stayed at home but walked around. According to Mathafeng:

> Poor people had to go out and find food and piecework. Only a few were wearing masks – they say that it is difficult to breathe while wearing a mask. They did not wash their hands regularly. Some didn't believe the virus exists. Others were scared to be tested in case they would be shunned if they test positive. Some places could control people and force them to sanitise – at clinics, supermarkets, spaza shops and other businesses. But not all places had sanitiser available, and you don't know if you can trust the sanitiser. There was no social distancing in taxis. In Sasolburg, there were police and army on the streets. They were friendly and polite.

In the other industrial town, Newcastle, people were not staying home either. They were always out on the street, standing around at spaza shops doing nothing, reported Dlamini. "They only practised physical distancing when queuing to buy food or at the clinics, police stations and post offices. Even then, there are those who need to be reminded to do so even when they see the social distancing marking on the floor." There was no police or army to enforce the lockdown rules.

In the rural areas of Somkhele, people were confined to their homes at level 5. As Gumede observed, people obeyed the rules and there was no need for police or army intervention. However, after 100 days there was no longer much physical distancing, and many places had re-opened. In nearby Fuleni, reported Ndimande, people at first stayed indoors without any need for police to enforce it. "Staying indoors, people get hungry and eat too much out of boredom. Not everybody observes the discipline, some play soccer and touch each other, it is only at shops that people are forced to observe it."

**Box 2: Gender-based violence under lockdown**

Nationally, there were many reports about gender-based violence (GBV) under lockdown. It was a difficult topic to engage people on. As one community researcher explained:

> There is this lady, one of the members of the group, we suspect she is undergoing abuse, I tried to talk to her, she said she can't discuss her marriage affairs, as she is Ndebele and Ndebele people must keep such issues in the household. She must bottle it up, she doesn't have a right to call the elders. There are women support groups, she said she wants to stay anonymous, what we discuss between me and you. The abuse is physical sometimes, but the most that she suffers is emotional abuse, like swearing… you are not enough of a woman, you did not do traditional things you should have.... and then I spoke to another young lady who said that with this lockdown she went to her boyfriend's place, spent time with him, because she is not working. She agreed on two months. What she experienced was also some kind of an abuse. He told her she is finishing his food, then when she packed her bags, he locked her up for the whole weekend and went to go and party with his friends. Young women are dependent on boyfriends, because of the money they earn, and the pandemic is making it worse.

In rural Mabola, life carried on as normal, getting wood, taking care of livestock. There was no police or army to be seen. By late July, the most visible police enforcement of lockdown discipline was at funerals, which were under strict rules.

In Shongoane village, at the original lockdown level 5, people did stay home, reported Shongoane. The military was present, and harsh: they punished some people by "making them do push-ups or hop like frogs". They also came to funerals, returning every hour to see whether people were wearing masks and practising social distancing. At lockdown level 4, police were still present, but people were more relaxed, "going about their business as they wish".

## The health system – not coping with Covid

The main reason behind the lockdown was to stop the spread of the virus and to protect the health service. Evidence from the 10 coal affected communities reflected a health service not coping with Covid, made worse by new difficulties in getting transport to access health care. Mabilo reports from KwaGuqa, by April 2020:

> Since the lockdown started, we have never seen any health official around Empumelelweni (in KwaGuqa). We got no information about Covid except from the national Covid WhatsApp. We didn't receive any masks, gloves or sprays and we are unable to buy them by ourselves.

By early August, the number of Covid cases in Witbank was growing. The local clinic no longer allowed chronic patients to queue at the clinic, but said they would call them to collect their medicines. In some cases they did, and in others they did not. Home based carers had disappeared. They used to play an active role. For example, they could phone ambulances on behalf of community members and the ambulances would arrive. The carers had a hard time:

> They are doing their work out of love and patience because they are not paid every month end, but after two or three months, by their bosses.

Mabilo concluded:

> The South African health system is not working for everyone. They will say our clinics provide 24 hours services but when you get there after 18h00 they will say that is for pregnant women. When you need help for someone who is struggling to breathe, suffering from asthma, they will tell you to go to the hospital. Sometimes you don't have transport, but they won't call an ambulance for you.

In Phola, community health workers did not get any additional support to deal with Covid and did not have PPEs to protect them. There is a nearby clinic, but to get proper treatment people needed taxis to go to the hospital in

Witbank. By the 12th of April, there had been no testing. By the 21st of July, 27 community health workers had signed permanent contracts, apparently with the province. However, they had to write a letter to government to ask for food parcels for themselves as they were not getting paid. By early August, Covid cases were increasing in the area, reported Sampear:

> People who are working in mines are telling us that the cases are increasing as a result of mining. People are coming back from other provinces.... A cousin of mine got this virus – he was quarantined at a lodge in Witbank by his employer. After 14 days he was released. With this sickness, after you have taken your loved one to a government hospital, you can't visit, you have to go to security and give them the food meant for your loved one.
>
> Three streets from me a lady had an asthma attack. They took her straight to the hospital, not wanting to wait for an ambulance. At hospital they only wanted to allow the patient in, not her sister. While they were still opening a file, the patient died... even if it is an emergency … that is the way they are. It is obvious her asthma is the result of pollution. There is no special programme from the health department for asthma. Only the mines do TB awareness for the community. Glencore is the mine that I saw do this. They also do cancer awareness.

In nearby Arbor, reported Malibe, it was difficult to access clinics and hospitals even before Covid. The mobile clinic comes to Arbor only once in two weeks, with one doctor. "We have community health care workers – seven in total – but they do not have support. They do not have protective gear. They have no uniform. They volunteer and do not get paid. And because they do not have protective gear, they have not been working." By August, there were reports of miners contracting Covid, but nobody in the settlement was reported as contracting Covid. The care did not improve: "They should build a clinic here which operates on a full-time basis. They should also train and support home based care workers. There are not many home based care workers in our area unlike in the townships. The government does not care about us."

In Ermelo, lockdown made it more difficult to access health care. At the clinic, measures were strict. Magagula observed:

> Up to 80 people may be queuing outside from 6 o'clock in the morning, but only about 40 would be processed per day. If you get to the clinic after 9 o'clock, you won't get to the front of the queue. And they closed down the optician and dental care sections. Community health care workers were recognised as Covid-19 front line personnel when the health minister, Zweli Mkhize, introduced the screening programme in Ermelo and Wesselton. They were given sanitisers and PPE. But that was not replaced when it ran out. Still, they are looking after the grannies and provide their own sanitiser now.

At the 100 day mark, about 13 cases of Covid had been reported in Ermelo: a shop owner and his staff; a police officer tested positive and the whole police station was closed; and some cases in the Transnet offices also forced them to close. Parents and teachers were fighting for their children not to go back to school. By August, there were reports of Covid infections among teachers, nurses, police and politicians.

In Sasolburg in the Vaal, health care used to be easily accessible before lockdown. Now, 100 days into the pandemic, Mathafeng observed that three clinics were closed because people had tested positive for Covid-19. The hospital, where 11 people tested positive, was shut down by workers who demanded to be tested too.

> Now people are getting medication from Pick n Pay, Dischem, churches and community halls. Some community health workers are working, using lists from the clinic of people they need to attend to. They have PPE, they go door to door in areas within walking distance from the clinics, they ask people questions and do limited diagnoses so that these people can collect medication from the centres. On the community Facebook page, we could see that the clinics were closed, but not all health workers were tested, including the ones who were continuing to go door to door. As far as we know, nobody in the neighbourhood

> has been tested for Covid-19. People are mostly cared for at home, by women. People don't want to go to hospital because of mistreatment. Nurses are rude to them. They are left for hours without getting help and told to come back the next day.

The Newcastle township of Madadeni hosts a provincial hospital and in almost every section of Madadeni there is a clinic, reported Dlamini. However, in the rural areas outside, people have to walk far to access the clinics. Here, community health workers were getting support such as PPE. Women are the carers, as many people prefer to be home rather than in the hospital when sick. Most people are complaining about the poor service, especially in public hospitals and clinics. Community health workers play an active role in the community and they seem to be paid by government. They assist those who are sick at home and cannot take care of themselves.

In Somkhele, Gumede explained, it has always been much easier to access clinics rather than hospitals, which are far away so patients must catch taxis to get there. It became worse under lockdown:

> For hospitals it is not easy because, even if you feel sick, you have to call emergency medical rescue service, which takes a lot of time to arrive or does not arrive at all. If you don't have your own transport it is really a problem. What is really bad is that most of the clinics are not operating at night.

Community health workers in Somkhele, Gumede reported, were not provided with PPE and were hardly ever seen. But late in July there was an improvement: the municipality started delivering water to the community tanks, which made it possible for people to adhere to hygiene practices. Covid was getting closer. In Mtubatuba, schools were reporting cases of infection, and essential workers were being infected.

In Fuleni, Nzimande said that one clinic serves five big villages and the hospital is a 45 minute drive away and expensive to get to. After 100 days, there were no known Covid infections. Women health workers were visiting homes to inform people about Covid-19. If someone gets sick, it's their family's responsibility to take care of them. Community workers help where they can and local nurses do help if it's necessary. At all levels, the carers are women. Community workers are paid by the Red Cross.

On the farms at Mabola, it has always been difficult to access clinics and hospitals because they are far away, noted Makhubu. Since lockdown, the mobile clinic has failed to arrive on the expected day and therefore people have to travel to clinics. The mobile clinic comes only once a month, so people who got their chronic medication there now have to travel to a distant clinic. Community health care workers have not been seen since lockdown. The Amajuba Hospital in Volksrust was closed for a couple of days after the hospital manager tested positive. The screening process also takes a lot of time and people get less medical attention as a result. People here don't like to discuss their Covid status. The police station was closed for a few days and people speculated that one of the police must have been infected.

In Shongoane, more health professionals were sent to the area since the lockdown. Shongoane explained:

> In Lephalale municipality there are two hospitals – Lephalale and Witpoort. To access them from Shongoane by taxi would require one to pay R28 and R25 respectively, and by car hire this amount is R80. Areas like Shongoane, Marapong and Abbottspoort have clinics, while in the town of Lephalale there is also a private medical clinic. Despite this, community health care workers were not getting enough support. At the Marapong Clinic, two nurses tested positive for Covid-19 and, although Lephalale residents and the infected nurses asked for the clinic to be sanitised and shut down for a period, this did not happen and the clinic continued its services to the public as usual. In another instance, there was one doctor who also tested positive for Covid-19 at Lephalale hospital and the response was different: the hospital was subsequently sanitised.

Shongoane comments:

> The South African health system does not work for everybody. Public health facilities do not give good service while private health facilities provide good service to the rich because they have money. This means that the poor people are suffering compared to rich people. Some areas still don't have even clinics. Once a week they send them mobile clinics, but not to every community. The health conditions are made worse by the current water crisis experienced in many communities.

After the first 100 days, nobody in Shongoane had tested positive. However, 40 soldiers, deployed from Cape Town to Lephalale, tested positive at the SANDF camp. On the 13th of June, nine of those who had been infected were reported to have recovered. Also, 13 mineworkers were reported to have contracted Covid-19. The last case reported was of an Edgars employee. At this stage, no deaths had been reported. An isolation camp was erected on a farm in Lephalale. This was where people who were suspected to have the virus were sent. Others may have been self-isolating.

Two weeks later (still in July), in Shongoane, home based care workers had been trained to screen for Covid-19 patients and supplied with PPE and sanitiser. These workers had only visited the area once to screen the community. Since then, people who suspected they may be infected with the virus typically self-isolated or went to the clinic. But health care access quickly became more difficult, as most local clinics and hospitals were full with non-Covid cases, such as accidents and women giving birth. As a result, the hospitals in Lephalale were transferring ICU Covid-19 patients to the hospital in Polokwane. Covid was coming closer: two teachers at the local Matshwara Secondary School tested positive and the school was closed for another week. Six workers at Matimba power station tested positive and had to go into self-isolation.

## An uncaring and cruel health system

Community researchers gave their opinion on the health care system. According to Magagula:

> The health system works for the rich, not for poor people. We stay home and take some herbs. When you want to go to the public provincial hospital, they refer you to clinic first, and the clinic refers you to the hospital. They do treat you, but not the same as at the private hospital. Private hospitals are for people with medical aid. People working for private companies and Eskom can get medical aid. People have to take care of sick people inside their families, rather than through the health care system.

Community health care workers are volunteers: "they do it out of love and are irregularly paid". In Somkhele, they are paid by the Red Cross. In eMalahleni this system has broken down: "The health system is not as active as before the lockdown, as now there is lack of community health workers around the area who can assist patients to go to the clinic and hospitals. Most carers around our area are women." This is another example of the unpaid, or lowly paid care work that women perform in coal affected communities.

In Phola this may be changing for home based care workers, reported Sampear:

> They are still doing the screening, and others are looking for people like those with HIV who can't go to the clinic. They visit those households… They get a stipend … it is paid by an NGO. Last time I spoke to this lady, she said they had signed contracts with the department of health. Before it was a hassle to get the pay. They now work for the department of health. She says it will be permanent because they are now going to work from the clinic. Every morning, they have to assemble at the clinic, decide what to do today, check on the patients – why is this one not coming to collect chronic medicine? Questions like that. Those ladies are home based carers. They have a map of the township and they know who has got what disease.

What can be done to improve health services? Clinics must be located in places that will make them easily accessible. Ambulances must be available in emergencies. Clinics, where people first seek help, should be open 24 hours per day. Arbor has a clinic only once every 14 days. It should have a permanent, well-stocked clinic. Home based carers should be integrated into the system, be trained and be paid properly. One community researcher discussed the proposed National Health Insurance,[90] pointing out that her community had not been consulted and had not had an opportunity to put their concerns to the NHI planners.

## A small break in pollution

Did the slowdown in the economy, particularly the interruption of production, improve air quality and so improve people's health? The evidence in the coal affected communities points to some relief, but it was temporary and only underlines the everyday reality of pollution and the health problems it causes.

In eMalahleni, reported Mabilo, the lockdown interrupted production and reduced pollution, and after heavy rains the sky was a clean blue.

> The reduced operations of coal burning industries (e. g. Ferrometals and Transalloys and mining companies) have reduced the levels of pollution. During this lockdown operation the air quality improved a little. I am not suffering as usual from sinuses. Also the dust is lower as fewer trucks are driving up and down.

It made some difference to the people in the area. Mabilo's son, who suffers from asthma, was better. During the night he now had fewer breathing difficulties than before and was using his asthma spray only once a day or not at all. She said the break in pollution was a relief for her; she wished it could always be like this, "if government enforced pollution controls on industries".

But there was no relief in Phola. "Phola is in the hub of coal," said Sampear, "and the mines keep getting closer". There are five power stations close to Phola: Kusile, Kendal, Matla, Kriel and Duvha. There was no difference in air quality, the mines never stopped, the power station never stopped. There were no differences in people's health. In fact, "With this lockdown, the flu is

90 www. health. gov. za/index. php/nhi#:~:text=NHI The National Health Insurance (NHI) is a, Why does South Africa need national health insurance%3F

worse. Why? I think it is simply because now it is winter and people get sick. There is a lot of air pollution which makes our sicknesses worse. It's the same every winter."

Arbor experienced some relief, but it was temporary. Arbor is in between a coal mine and a railway siding, where black dust escapes from loading and unloading. And it is within sight of the Kusile and Kendal power stations. In Arbor, during the first stage of lockdown, air quality did improve. Blasting, coal transporting and mining slowed down, but did not stop completely. As soon as the lockdown was eased, air quality went back to bad. Both people in Malibe's household suffer from bronchitis. It eased up under the initial lockdown but is back again. There are many people in her community who suffer from breathing problems and bronchitis.

In Ermelo, Magagula reported, the abandoned Golfview mine was being worked by zama zama. As noted above, it is burning underground and two people died there from breathing toxic gas. On the other side of town, Camden power station shut down at the end of April, not because of Covid, but because its ash dump was overfull and at risk of bursting. In April and May, the big mines and Transnet coal trains also stopped or slowed down, so there was less coal dust. "You could smell the difference in the air." From June, the mines and trains were back at full capacity. And Camden restarted in August after 800 000 cubic metres of ash had been removed and used as backfill in a disused mine.

Sasolburg in the Vaal saw no difference in air quality during the first 100 days of lockdown, including at the very start, reported Mathafeng. "The industries have not stopped polluting. Sasol did not stop, but the worst was Natref, which had a huge flaring and pollution incident. Natref did shut down part of the plant during lockdown for maintenance. It is not complying with emission standards."

The pollution takes its toll. Mathafeng's younger brother has difficulty breathing, especially when there is smoke. He has been diagnosed with TB and has moved to a less polluted area. He has battled to get access to his medicine but has had access now for the last two months. Mathafeng observed that:

Lockdown

> Possibly 60 to 70% people suffer from respiratory illness – most people at the clinic are there to collect respiratory medication such as for TB and asthma. Two women close by suffer from asthma. It is worse for women than for men. Women have difficult pregnancies and births when they have asthma. They cannot access the correct medicine, and when they are unemployed they have to cook with paraffin and they then inhale the fumes which makes their asthma worse. Young men gather and burn tyres to get warm in the early morning. It creates a lot of smoke.
>
> Sasolburg is part of an air quality priority area, but this is not functional. During lockdown the ITT [Implementation Task Team] was not operational, and communities could not access the MSRG [multi-stakeholder reference group] meeting via internet to complain about the Natref flare.

The other industrial area, Newcastle, saw a positive difference in air quality after the lockdown was implemented and the polluting industries were closed, reported Dlamini. However, with the re-opening of industries and mines, the air quality is slowly going back to what it was before the lockdown. "For instance, before everything was closed the smoke from polluting industry was made visible at sunset." That stopped under lockdown but, at the 100 days mark, it was back to normal again.

In Somkhele, a difference in air quality was visible at the start of lockdown, said Gumede.

> There was no blasting at the Somkhele mine during level 5 lockdown, so we saw an improvement in air quality. But when level 4 started, they started blasting every week, more now than before, so we are now experiencing a lot of air pollution. Our local roads are worse because they are gravel and used by mine trucks. Since it is the dry season, there is a lot of dust that affects us as a community. Mobile sources of pollution such as cars, buses and mine trucks, were stopped during lockdown – there were no trucks and local buses were also not working. In my family, two members suffer from asthma, and we know about another woman with the same problem.

In nearby Fuleni, Ndimande also reported a big difference in dust pollution as cars, buses and mine trucks stopped working. Even in July, these pollution sources were less busy.

Shongoane saw no difference in air quality since the lockdown:

> All polluting operations have continued throughout the lockdown: the power stations, Medupi and Matimba, as well as the trucks that transport ash from Matimba to a site at the back of Medupi, which often are a cause of dust pollution. The dumped ash is not covered and on windy days the ash is blown to a nearby residential area called Steenbokpan, where residents often complain about fly ash pollution.

## Causes of bad air quality

In eight out of ten areas, researchers identified the causes of pollution as mines, power stations and industry burning coal or, in Sasolburg, all of these plus chemical industries. The exceptions are Shongoane village, which is 70 kilometres from Medupi in Lephalale, and Mabola. In both areas, coal mining is threatened. Both Somkhele and Fuleni feel the impacts of Somkhele anthracite mine on air quality.

In addition, air pollution stems from local burning of waste, mentioned in Arbor, Somkhele and Fuleni, because local government does not collect waste and households then burn waste to prevent pests. In Sasolburg, there is pollution from tyre burning: young men burning tyres to stay warm when they gather at 5 o'clock in the morning. In the Mabola area, commercial farmers burn biomass waste after the harvest, also adding to air pollution.

In Nomzamo, the informal settlement near Ermelo, the causes of bad air quality were described in detail by community researcher Magagula:

> - abandoned and unrehabilitated mines are terrorising our community with heavy and dirty dust daily;

- wild and uncontrollable fires are the order of the day since it's the windy month of August, including the burning of tyres in street corners;
- burning of coal during this cold month has contributed negatively since everyone is reliant on coal stoves and really don't have renewable alternatives considering the easy availability of coal in the abandoned mines;
- scrapyard dealers are located between the CBD and Wesselton township, and continuously burn the plastic off electric wires to get at the copper;
- the neighbouring farmers have started turning the soil, so all that dust comes back to the community.

Community researchers put responsibility for bad air quality on the shoulders of:

- the coal mines;
- Eskom power stations;
- The absence of regulation of these sources by government departments, particularly DMR whose duty it is to regulate the mines, and the DEFF, which regulates industry including the power stations;
- municipal air quality officers who don't do their jobs properly;
- in some places there are no air quality officers, for example the Ermelo municipality;
- local municipalities which do not pick up household waste;
- farmers who burn biomass after harvesting;
- households that burn coal, especially in winter. For example, in KwaGuqa in winter "more households are burning coal to warm their houses… we can't even see our neighbours because of the mist of the burning of coal";

- Young men burning tyres, for example in Sasolburg.

What would improve air quality? In Phola, Sampear argued that "mining companies, in their CSI programme should build more clinics, make more doctors available, and medical care should be free" because it is the mines that are responsible for people suffering from sinusitis, coughing and other respiratory diseases. The problem would be reduced by the reduction of blasting and burning. However: "I can't say that mines should close but there should be some kind of regulation for air pollution". But there were differences about this among the community researchers. In Ermelo, for example, Magagula argued that mines should be closed and rehabilitated. Meanwhile, monitoring and regulation is important, said Mathafeng, and minimum emission standards should be enforced!

Community researchers argued for better waste management. People should recycle rubbish rather than burn it, said Malibe. Shongoane added several more elements: "Plant more trees, recycle, use more public transport, use less electricity, have renewable energy installations, i. e. solar panels." Renewable energy was generally endorsed: "The only thing that will improve our air quality in this area is to shift from coal-fired power stations and shift into clean energy from the sun that will be sustainable and be community owned."

In the next chapter, we continue the dialogues with community researchers on the shock to local economies, food and hunger, municipal services, and exclusion from decision making under cover of Covid.

# 4 Shock

Lockdown had very serious economic impacts on both the formal and informal economies. In Chapter 2 we gave an overview of some of the impacts on the broader economy, to recall: the number of working age people without employment reached 53% – 16.5 million people – at the peak of the lockdown in April; and was not reduced with the easing of lockdown in June [Spaull et al 2020: 1]. Employment dropped from 53% in February to 40% as three million people lost their livelihoods in April and recovered only to 45% in June. White men did best, bouncing back into employment fastest. Permanent workers fared better than casualised workers. Black women, rural people and shack dwellers were hit hardest and many have not recovered their livelihood.

This chapter continues our report on the observations and analysis of the community researchers. We start with the severe impact on local, largely informal economies in the 10 coal affected communities. The economic shock led to growing food insecurity. Covid and the lockdown, in most places, reduced even further the already weak capacity of municipalities to deliver municipal services like water, electricity and the removal of waste. Communities and activists were excluded from participation in government and corporate decision making processes – including established forums to manage water and air pollution, for example in the Vaal. The chapter concludes with activists' observations on new and growing restrictions on the space for civil society to organise and act.

## Shock to local economies and households

The research provided very personal insights as the community researchers themselves were battling with the impacts of lockdown, starting with the economic aspects. In KwaGuqa, Promise Mabilo reported: "No one in my household lost income due to lockdown, as no one is working." Around her, the streets emptied: waste pickers stopped reclaiming and street traders stopped trading.

In Phola, people in Yvonne Sampear's household had lost income and could not replace it with other sources. Her neighbours who were working on a mine did not lose their income. It was not clear what was happening to the Covid social relief grant. Her sister applied for it by phone. She just had to provide her ID number and she got SMSs saying the application went through. But by October she had not yet been paid.

In Arbor, Elizabeth Malibe and her husband had to close their tuck shop next to the mine. They lost a lot of money but were able to reopen when it became legal. Other tuck shops and small businesses in the area also closed, except those that could keep going because their owners had other, full-time jobs. Malibe was still working as a tailor, sewing clothes for coal miners. Taverns in Arbor had a hard time. The police patrolled around the taverns and they lost all their income. Street traders disappeared. Most of them sold to school children and schools had closed. Social grants were being paid, and on time.

In Ermelo, all of the adults in Linda Magagula's household lost income. Magagula himself could not continue with informal work like garden services, communal garden work and everyday hustling. His sister, who works for a retail shop in town, also lost income. A lot of their neighbours, some of whom were working in the Central Business District in Ermelo, lost jobs. According to Magagula:

> The lucky ones are working for companies, but they are still suffering with loss of their regular payment. Some are retrenched. Taxi drivers have big losses, because they have fewer working days, and only carry passengers at 50% of capacity to minimise social contact. The losses remained, because even at Level 3 only about 40% were back at work. Some people at Shoprite are temporarily laid off. People are trying to get UIF payments, but there is too much bureaucracy to get that money.

## Shock

Waste pickers and street traders disappeared from the streets of Ermelo, although the traders were soon back. Social grants – only child support and pensions – were being paid on time, but the dates were changed to avoid crowding. Magagula and others registered online for the Covid special grant but did not receive an answer. "They say they'll send a message, but nothing comes."

In Sasolburg, most of Moleboheng Mathafeng's neighbours were able to keep their jobs. Some people (mainly men) in the larger neighbourhood stopped working during lockdown and some returned to work as the lockdown eased. During lockdown levels 5 and 4 there were no waste pickers. After 100 days, only a few were back, and they were wearing masks and gloves. Before lockdown there were many street traders, selling mainly vegetables and other food. During the first two lockdown levels they were absent. At level 3, a few of them were returning and building shacks from which to sell *vetkoeks (magwenya*) and the like.

In Newcastle, people in Nduduzo Dlamini's household lost income when lockdown started: "two of my cousins stopped working and they had no income. One is working for the steel manufacturing industry and another is in the informal fast food sector. They were back to work during level 3." Social grants were being paid, and on time. After an initial break, waste pickers and street traders were back on the streets.

In Somkhele, Zanele Gumede did not know of anyone who had lost income as a result of lockdown. Social grants and pensions were being paid as usual. There are no waste pickers in Somkhele but street traders were back at business after a break. In nearby Fuleni, people close to our researcher, Zamapho Ndimande, had lost income. Her cousin lost her employment – as well as a neighbour who worked at the same company. Social grants were being paid as normal, except for a change in pay-out times to deal with the pandemic.

At Mabola, researcher Jabulisile Makhubu's brother, who works in Gauteng, had to return home during lockdown and was without an income. Three of her neighbours lost income, but then returned to work. Social grants were being paid, and on time.

In Shongoane, Lephalale, Leseka Shongoane reported that her mother was the only employed person in their household and, at level 5, was no longer receiving an income. Around her:

> Many people in the neighbourhood lost their income. Many of the social grants are not paid on time: old age and disability grants usually paid on the 1st of the month, are now paid on the 3rd of the month. The child grant is now paid on the 6th. The Covid-19 relief grant was first paid on the 7th of July, after people had registered in May. However, not everyone has been approved for the grant. People must also go to the Post Office to get the R350, although it was initially communicated that people would receive this money through ewallet or bank account.

## Who lost jobs?

Was there a pattern in who lost jobs and who kept their jobs? And did it have a gender bias? Community researchers responded that during lockdown it was the short term or short contract jobs that disappeared first. More women than men lost their jobs. This is because they are employed as domestic workers or nannies. Now people pay to get jobs, around R1 500 in the Vaal, and sometimes these jobs are not real, they are just scams. Women are coerced to sleep with men to get jobs.

In Arbor, Malibe reported that the mine did not discriminate between hiring men or women “as long as you are not over forty”. In Ermelo, Magagula said that gender discrimination was not visible. Most jobs that were lost were in the informal sector, and casual jobs. “Formal sector workers are back at work at level 3, although in retail it’s not 100%. Taxis are working fewer hours because of the curfew, so income is being lost there too.”

In Newcastle, according to Dlamini, the most notable job losses were in restaurants and accommodation, while those working as security guards kept their jobs. In Fuleni, Ndimande said, “Most women focus on farming or home gardening and street selling for a livelihood while men also do farming but mostly do formal jobs.” In Shongoane, reported Shongoane:

> Under lockdown, domestic workers are no longer employed, small businesses are suffering, a majority of temporary workers have lost their jobs, and anyone who is above 50 has lost their job. Permanent employees seem to have kept their jobs and so have those who work at supermarkets, in radio, social and health workers, policemen and soldiers... Men have always had more opportunities for employment than women. Women are seen as inferior or weaker and unable to work certain jobs. For example, women cannot drive buses or work in mining. Typical jobs for women include jobs in health care, education and supermarkets.

There seemed to be a general improvement over time in people getting grants, including the UIF and COVID grants. But the UIF TERS grants were difficult to get as it required co-operation from employers. Mabilo, reporting from KwaGuqa:

> A lot of people around here are depending on the social grant. Further numbers are now added by the Covid grant from SASSA, even though they don't get it on accurate dates. Some get and others just see it happening and have to wait until they get it. About the TERS grant from the UIF, not many of them get helped. Most of those I know were denied approval on their applications because their papers are not complete from their workplace [or] they failed to register.

## Hunger

Loss of jobs and income, loss of opportunities in the informal economy, the disappearance of street traders, interruptions in food chains as well as profit taking by both big and small retailers, all led to food insecurity. It was made worse by a lack of transport to allow people to compare prices. In KwaGuqa, Mabilo observed:

> Yes, we can get to shops to buy food by taxis, but we have to get up early as 05h00 to join the queue and come back before taxis stop at

> 10h00, unless you are prepared to come back at 16h00. There are also spazas that are opening, but you can't get all you need from spazas. Because there are no gardens and no street traders, you are forced to go to Shoprite in the mall.

At the start of lockdown, many people in Phola went hungry. Sampear said that they could not afford food because they did not have incomes, or those who had incomes have many people to look after. People could not access food parcels.

> The food parcel online phone number goes straight to message. Shops are open but it is expensive. They have added 10%, 15%, especially the Pakistanis who are the majority of traders. There are other sources of food in the neighbourhood. I have a food garden; it helps me every time. It gives me tomatoes, peppermint tea, spinach. I have had this garden for two years now. I was part of a programme on agroecology gardening.

Some community researchers reported that spaza shops owned by South Africans are more expensive than the so called 'Pakistani' spazas. On the other hand, one researcher suggested that communities should "reclaim the space from the Pakistanis". There was general criticism that foreign shopkeepers sell expired or poor quality food, although it may be doubted that South Africans would not do so. Even before lockdown, in the context of widespread hunger, spaza shops had become the focus of conflict. The Citizen newspaper reported in 2018, based on Facebook posts and not revealing the locality, that people were waging war against foreign owned spaza shops.[91] Yet, in other communities, under Covid similar shops were protected by residents because they are "part of the community" and help people with credit, as reported from Port Elizabeth.[92]

We recall too the response of Abahlali baseMjondolo (AbM) to xenophobia in 2008: "A person is a person wherever they may find themselves. If you live

91 Gopolang Chawane, ***War declared against 'my friend' spaza shops selling expired products***, The Citizen, 22 August 2018.

92 Mkhuseli Sizani, ***Covid-19: Township residents protect spaza shops from looters***, GroundUp, 15 April 2020.

in a settlement, you are from that settlement and you are a neighbour and a comrade in that settlement." AbM also noted that "money and rich people can move freely around the world while everywhere the poor must confront razor wire ..."[93]

Food has a clear gender dimension, argued Sampear:

> Food is seen as a woman's responsibility. Yes, it brings stress. It affects the gender dynamic at home. The woman is supposed to take care of the household, so you must wake up early in the morning, sell *vetkoek* etc, then come home – maybe you were selling to an infected person, you don't know what you are bringing back home.

After the first 100 days, buying food went back to normal in Phola. The "crazy buying", stocking up in case food runs out, came to a stop. Now food could be bought from the same places as before lockdown, namely Spar and Checkers in Ogies. Local spaza shops were open, but their prices were marked up, bread that was R13.50 is now R16.00. They operated with strict hours at first, but now it is back to normal hours ... they never stopped under lockdown.

In Phola, Sampear was aware of a number of hungry people. It was mostly elderly people, but community members from the business side were trying to provide food parcels. These are businesses, with owners living in Phola and Ogies, that serve the mining industry, such as security companies, machinery and supplies. She never saw any food parcels from government.

Malibe in Arbor confirmed the hunger:

> Yes, many are going hungry. We also live from hand to mouth. There are food gardens, but we need to add good fertilisers because the soil in Arbor has been damaged by coal mining. Many people live on social grants. We can get to shops to buy food, but the transport is scarce, so we get lifts from those who work in town if we need to shop for groceries. Local spaza shops – the Pakistani spazas – are open, but their prices have increased. All the street traders have stopped working because

93 Abahlali baseMjondolo, Statement on the xenophobic attacks in Johannesburg, 21 May 2008.

> they can't afford to buy stock and people are not buying much so it is a loss.
>
> We buy food in Delmas or Ogies. Transport is scarce in Arbor. To Delmas a taxi is R50 return and Ogies costs R44. The food prices from local and town stores have escalated. For example, bread is now R15; it was R12 before. We have the school garden which still operates. The school has a water supply – this makes it possible to grow food. We grow spinach and tomatoes. There were food parcels: the chief, the mine, the local councillor, and the farm owner have contributed. The ward councillors were responsible for identifying families who are in need. Food parcels were delivered once only.
>
> Food is a source of conflict because food is expensive. The prices have gone high. For instance, Cremora was R40; it is now R50. Bread was R12 and it is now R15. It is very difficult to eat three times a day or have a balanced diet. Food comprises of pap and a vegetable and sometimes meat.

In Ermelo, according to Magagula, at first it was very difficult to get food:

> We had to go to town to buy anything – even one loaf of bread. Also, you had to avoid both police and soldiers on every street, even if you are looking for basic needs. It's OK to get food now – if you have the money. Most local spaza shops were entirely closed because they don't meet the conditions of the Health and Safety Act – including that they did not have work permits and are operating out of containers where they are also sleeping. They are still closed. These are Somali shopkeepers.

Back yard gardens were the main alternative sources, and much needed help was offered by NGOs, such as groundWork and community organisations. Magagula continued:

> All food prices increased and the cost of living made people go to bed on an empty stomach. Bread, tomatoes – everything. The price went

> up by 50% on some items. A lot of people are hungry, and some are heavily affected by malnutrition – you can see that by talking to your neighbours. Khuthala has been helping with food parcels. People come to us for help, because of our communal garden where we had spinach and cabbage. There was a big problem with food parcels from government – they didn't arrive. People from SASSA just came and collected names. Prices are still going up and people only buy what they can afford.

In Somkhele, people were using public transport to buy food in town. Local spaza shops were open, but their prices increased. Community researcher Gumede knew one family that was going hungry. "NGOs came to our community to provide food parcels. They selected homes with no income. It was once off. The social grants are really helping to keep people from going hungry." In Fuleni, reported Ndimande, people also continued to go to town to buy food:

> It normally costs R37 per trip. People have to change what they eat. For example, most people can no longer afford rice. It used to be R90 for 10kg, now it's R140. Local spaza shops remained open, and people could access food from their own gardens. But there are no street food traders. Food prices have increased since the pandemic started. Many people are going hungry; they have lost their jobs and have no income to buy food. Food parcels were given, once off, to people in the community by NGOs such as Womin, groundWork and our community lawyer and her family. The selection was for families where there is no one working, or they were receiving no income.

In Mabola, people use public transport which is only available on specific days – Monday, Wednesday and Friday – to get to shops in town to buy food. There are three 'local' spaza shops open, but they are almost five kilometres away. People do have food gardens and do buy from each other. Food prices increased: "The price of flour increased overnight and we noticed as most families will buy flour to make fat cakes, buns as replacement for bread. But also maize, which is a basic need, increased sharply." In the Mabola food gardens, people were growing spinach and were planning to plant potatoes, onion, beetroot, tomatoes and maize – if they could afford the seeds.

In Shongoane village,

> … we can get to taxis to buy food. Local spaza shops are open, but people are not allowed to enter. Sold items are handed over through an opening. These shops have been operating right through the lockdown. They only closed at 6pm during level 5 of the lockdown.

The community researcher Shongoane made a list of notable increases in food prices in the area, including at Shoprite: Rice (10kg) used to be R110, now R167; Chicken Mixed Portion (5kg) used to be R139, now R158; Pap (mealie meal 12,5kg) used to be R90, now R95; Pap (50kg) used to be R480, now R550. Shongoane reported:

> Yes, people are going hungry. Many people have lost their jobs, and subsequently registered to receive food parcels. However, many people did not receive these because you need to have political connections. If you have ANC links, you often were shifted up the list of people to receive food parcels. In particular, Melville residents (where the councillor resides), always are first choice for receiving government support and jobs. The parcels were delivered once.
>
> Some people have started growing their own food, only one of the four people I interviewed has a vegetable plot where they grow food for their own consumption. They are currently growing onion, beetroot and spinach. In spring they have plans to grow watermelon after the rains.

How did the community researchers see the food systems they live with? The majority of their food comes from supermarkets, which are part of national chains. Food to KwaGuqa, for example, is trucked in from other provinces where it is grown. Spaza shops generally play an important role, being close to people and convenient, but expensive. They seem to buy their supplies from wholesalers. Poor people buy food from spaza shops in small quantities, as they need it, while richer people can buy in bulk. In Fuleni, people cultivate their own vegetables and buy only meat in supermarkets, although rich people don't cultivate, they just buy. In Ermelo, it seems people have developed more small businesses that prepare food. They go to where their potential customers work and sell to them.

In Fuleni, it falls to NGOs to look after hungry people, although government should fulfil that role, says Ndimande. Government should be regulating food prices that are rising sharply. In Newcastle, reported Dlamini, "no one" looks after hungry people. But civil society, broadly speaking, contributes most and is sometimes not very visible. In Sasolburg, Mathafeng observed that a group of three women, who are not clearly part of an organisation, distribute food and clothes to the needy every Saturday. They ask for donations from within the community. In Shongoane, there is normally a non-profit running an old age centre that feeds the elderly, if they are registered with them, from Monday to Friday, with meals twice a day. Another NPO feeds orphans and has an afterschool programme. However, both centres were closed at level 5.

Some researchers said that providing more jobs would deal with poverty and food insecurity, and the production of food should be localised. In general, the community researchers were in favour of people growing more of their own food. Most reported some local food growing but argued that it should increase and should be supported by government. People growing their own food in Arbor are constrained by a lack of water, Malibe pointed out. In Ermelo, Magagula reported that the organisation Khuthala plays an active role in providing food from its communal garden and encouraging people to grow their own.

### Box 3: Food insecurity under lockdown

By the 1st of April, in the first week of the lockdown, the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape made an impassioned argument that providing food parcels and food vouchers was not an adequate response to hunger and a Covid cash grant was needed.[94] PLAAS reported that:

1. Street food traders have been locked down and lost their markets. “This is devastating to the livelihoods of the vast number of people involved in this economic activity: the sector supports an estimated 500 000 livelihoods nationally, and accounts for 40% of the informal township economy. It is also having an immediate and dramatic impact on what people buy and eat, with evidence from the first week under lockdown suggesting a dramatic decline in fresh vegetables and fruit. A large proportion of food sold and consumed in townships is from street traders – surveys suggest that it is up to 70%.”
2. Spaza shops were being closed down because of uneven enforcement of lockdown regulations. In theory, spaza shops should not be shut down, said PLAAS. Our researchers later reported outrageous increases in food prices at spaza shops as well as supermarkets.
3. Spending on food moved to supermarkets, where people in long queues did not adhere to lockdown discipline.
4. Small farmers were locked out of whatever limited markets they had, including street traders they were supplying, and so were small scale fisherfolk.
5. Already severe hunger among farm workers was now increasing.

PLAAS argued for urgent amendment to lockdown regulations, “to allow any supplier of food items to operate”.

94 https://www. plaas. org. za/food-in-the-time-of-the-coronavirus-why-we-should-be-very-very-afraid/

- Cash from government rather than food vouchers would better protect the buying power of poor people and allow them their own decisions about food.
- Informal street traders should not be outlawed under the lockdown but assisted to conduct their businesses safely.
- The Solidarity Fund should provide cash to keep small scale food producers going – again providing them with PPEs for safety, but not interrupting production.
- Supermarkets should source food from local producers.
- The logistics chains of big supermarkets and other big producers (like liquor distributors) should deliver food and food parcels.
- The informal economy should not be burdened with difficult registration requirements.

## People can't depend on municipal services

Municipal services are a necessary support to people's lives and livelihoods. Researchers in the 10 communities painted a picture of people who mostly cannot depend on municipalities to provide services to them. This included water, a crucial ingredient in the fight against Covid, as well as the most basic necessity of life. From KwaGuqa, Emalahleni, Mabilo reported:

> The municipality is also on lockdown. There is no collection of rubbish, and we are not surprised as it was their habit not to collect rubbish before the lockdown. We have been without water since September last year. They sent water tankers once in November. Until now we have been relying on a nearby stream, even though we know that the stream is not clean enough for people's consumption, but we have no choice. Since the lockdown started, we have electricity. The on-and-offs have stopped. Many of us in the area are using pit toilets, not a flushing system. We are struggling to get water to drink or wash our hands.

In Phola, Sampear observed that municipal services continued. Rubbish was collected normally in some places but not in others. By July, more than two months of rubbish had piled up in some areas. Water was available – "it's not an issue these days" – and sanitation was fine. Phola has electricity too – and there had been no loadshedding for the past three weeks. There were no tariff increases.

The municipality has never collected rubbish in Arbor, said Malibe, so people must make a plan for themselves. Water continued to flow – from the communal tap near the school where you have to fetch it. That water is clean. There are no municipal sanitation services in Arbor. People "who can afford cables" have electricity. Those with electricity use the prepaid system, but do not pay rates. Most people use coal to cook. The mine normally delivers coal once a week, but the lockdown interfered with that.

From Ermelo, Magagula reported that in the informal settlement of Nomzamo rubbish is not collected by the municipality, but it was being collected as usual in the formal Wesselton township. For water services, nothing has changed:

> People living in Nomzamo donated money as a community to connect to municipal lines in Wesselton to bring water to the people of Nomzamo. We put in the pipe and the tap. It's about a 500 metre pipe. We get water at the tap. To date, no JoJo tanks were ever delivered to any informal settlement in Ermelo. There is no municipal sanitation service – every household has its own pit.
>
> There is no electricity in Nomzamo at all, but in the formal township of Wesselton there is what is called Loadshedding Plus or a Schedule of Electricity cuts. It's a municipal problem (not Eskom), but we don't know what the problem is because they don't tell us. They say people are not paying. In Nomzamo we are using coal. Paraffin is too expensive. Some people, including me, have a solar panel for TV and a light and charging phones. Now it is winter and these panels are not getting enough sun. For those who pay a tariff – in Wesselton – municipal tariffs were raised without proper consultation. We just heard a brief

> item on the local radio station. They took no questions, no comments and no consultation.

In Sasolburg, Mathafeng reported that:

> There was no rubbish collection under level 5 lockdown. Municipality workers were not working. At level 4 they started working again. Now [June 2020] rubbish is collected regularly. Water is available from a single yard tap. Before lockdown there was no problem with supply. During lockdown, we had a water pipe burst, and no notification of no water. The water was out for three days. No tankers came and we had to walk to find water in other areas using buckets and drums. It has been repaired now. The cost of electricity has gone up since lockdown. Before Covid, I only bought electricity once a month (R100). During lockdown we had to use R200 and a top up of R50 because the municipality put up the price. I am now buying more than double, twice a month, although I am using energy the same way as before. Gas also went up from R200 to R250... Since March we haven't received any letter or bill from the municipality. Before lockdown we received a bill every month. Now we cannot see what changed. People have not been informed of increases. The counsellor does not engage with people and does not tell them of any changes. He mainly communicates with people who are close to him in his circles.

In Newcastle, Dlamini reported that the weekly routine of municipal rubbish collection had been interrupted since 2019, and it has got worse under lockdown.

> For instance, this week on Wednesday waste was not collected. There has been no problem of water access even during this time when we need it the most. In Newcastle, people are getting electricity, but there are challenges, such as frequent loadshedding. At night there is often no electricity. We do not receive any notice to inform the community that it will go off, it just goes off. The municipality raised electricity tariffs in this period without consulting the community.

In Somkhele, reported Gumede, rubbish was never collected by the municipality and lockdown did not change this. The municipality sometimes delivers water, but not often. Households buy their water from people with water tanks. The electricity supply has remained as usual. Municipal decisions were not made behind people's backs – anyway it would be done through consultation with the traditional authority.

In Fuleni, said Ndimande, "We have people who clean streets and lockdown has affected their salaries and as such the work was affected". Covid interrupted the water supply: "We used to receive water every day but now we get water three times a week. We also receive electricity – nothing has changed and we don't have loadshedding anymore."

In Mabola, Makhubu reported that there is no rubbish collection. People get water from boreholes. Since lockdown, a truck also delivers water to the farms. People here don't get electricity; they normally use candles and solar panels for lights and charging batteries. Sanitation is from pit toilets that are cleaned by the municipality. Tariffs were not raised because there are no payments to the municipality in this area.

In Shongoane, Shongoane reported that rubbish is collected by the municipality. There is municipal tap water and, every Tuesday, water is delivered by water tankers. There has been no loadshedding since the lockdown, but prices have gone up, R1 for every R10 spent. The tariff increases for 2020/21 have only just been approved. Residents of Lephalale will only know of increases in the coming weeks/months.

## Activists' views of municipalities

How do activists view service delivery in coal affected communities? Service delivery in KwaGuqa, according to Mabilo,

> ... is just a mess as waste is dumped all over the place and the municipality seems not to care about it. Electricity also is an issue because we don't even know whether it's loadshedding or what, because it cuts anytime and anyhow without us even getting informed. Also, water is a big

> problem. We were only taken care of on the level 5 lockdown.[95] After that we are back to the streams. Nobody from the municipality is saying a word. Even the water tanks they have placed in some areas are always empty … We are not informed about anything from the municipality. Even in their Facebook page, nothing informs us about anything that concerns us.

In Arbor, Malibe reported:

> The municipality used to deliver water for us maybe once a week, but they don't anymore. You need to walk a hundred metres or more for water. Both men and women here go out looking for water. Because this area has men who work at the mines and rent rooms, men as well go looking for water. The municipality does not communicate with us at all. The municipality does not service us. This was a problem even before the lockdown.

In Sasolburg, Mathafeng reported that municipal service delivery has become worse.

> The waste trucks are broken and waste is not collected. They will have to hire trucks from Gauteng province. Loadshedding occurs without notification. What is new is that municipal workers do not respond when you call them to report the electricity. The tollfree number is worse now – to get your problem solved you have to know the individual official and call him or her directly.

In Shongoane, in the Lephalale municipality, and as a major exception among the 10 coal affected communities, the community researcher Shongoane reported that:

> We have a good councillor who updates communities about the relevant services. There is regular delivery of water by tankers. We hear reports

95 A water tank was delivered but only after the CER wrote to the water affairs minister.

> about officials using the emergency to make profit, but that is not the case in our community … The municipality's office workers don't seem to be coping with Covid conditions. Electricity and driving licence departments are working slowly because either the system is slow and/or there are not enough people at work.

In Somkhele, reported Gumede, there is an improvement in water delivery by the municipality – they now deliver water in tankers. There has been no loadshedding. There is still no waste management – people deal with waste in their homesteads. However, in Fuleni Ndimande said there is no water delivery, lots of loadshedding and no collection of waste.

In Nomzamo informal settlement in Ermelo, Magagula reported: "Our communities (informal settlements) don't have access to clean and sufficient water despite fake promises of JoJo tanks. All our natural springs and rivers are contaminated by AMD (Acid Mine Drainage) and sewage which has resulted in the contamination of the Vaal River."

Most community researchers thought that municipal officials and local politicians were taking advantage of Covid for profiteering.

## Decision making and activist space

Lockdown discipline meant that some decision making spaces were no longer accessible. This included spaces where regulation by the state faced some accountability. In air quality priority areas, some formal structures did not meet or were not accessible to communities. Water catchment management forum meetings were no longer taking place.

Discussions among activists and within their organisations have continued in seven of the 10 coal affected communities after lockdown. The exceptions are Phola, Shongoane and Newcastle.

Activists are still claiming their political space in these communities but are being confronted with restrictions. From Sasolburg, Mathafeng reported, "We wanted to picket in front of the police station last month against gender-based violence. We spoke to the councillor. We got a letter. The police told us not to picket, even though we had a letter for a Section 4 meeting with the company we are protesting against. Police intelligence officers always tell us what to do when we get to the picket spot. They changed the route. They told us not to sing certain songs. They are restricting what we are able to do."

Mathafeng had a strong sense that people were being excluded from participation:

> We heard that the IDP meetings took place, but we don't know where and when. Last year in October we saw site notices about Seriti's coal mine expansion plans, but there are none now. We are not aware of any EIA processes – we should be informed via e-mail. ITT meetings are not taking place. Corporates are using the lockdown as cover for suspect activities – such as the non-compliance [with pollution regulations] of both ArcelorMittal in Vanderbijlpark and Natref in Sasolburg. They must be held accountable.

Mathafeng experienced a threatening situation in a meeting about Sasol's non-compliance when a worker came up to her and asked for her name and address, claiming it was for an incident report, and pointed a finger at her in a meeting. She understood this as intimidation intended to stop her from sharing information about a pollution incident.

In Nomzamo, Magagula observed: "No one is allowed to gather for any reasons, meaning even politicians cannot hold their conferences, so it is worse for us as activists to organise or mobilise for any grievances." In Phola, consultation for local government's Integrated Development Plan (IDP) went online. People did not participate because most do not have internet, noted Sampear. There was also a consultation regarding a new mine, and a relative went to that consultation.

In Arbor, which is fairly new and 'not formalised', there have been no processes requiring participation under lockdown, reported Malibe. But it has become difficult to speak about climate change – and the end of coal that it implies – because people simply want jobs.

In Ermelo, Magagula reported that mining companies were getting on with their exploration and prospecting without EIAs. They sometimes spoke about their plans on the radio. "Big corporates talk to the municipality, not the people. They intimidate you when you try to talk, they use gangsters for that. Even as the organisation Khuthala, they don't want us to talk. There is a war every day. They don't want to argue with us about expanding the Imbabala mine, they just want us out of the way."

The municipality in Ermelo also just talked about the IDP process on the radio, but they were not talking to the people, said Magagula. "We are fighting with the municipality so that they can use local companies to build RDP houses, not companies from Johannesburg. But when you talk against these companies, you risk being assaulted. These companies are politically connected, and they have their local connections too."

In Mabola, it was clear to Makhubu that participation in public decision making processes was being limited. An ongoing process to deproclaim the Mabola protected environment area does not include public gatherings in the affected area, limiting the community's capacity to make an input. Informal violence is being used to advance corporate and elite agendas. "With the Atha mine process, the community people had a conflict between those who support and are being supported by Atha against those who insisted on being properly engaged to understand the process. This led to a lot of intimidation and threats."

In Newcastle and Shongoane, no intimidation was reported. In Shongoane, the IDP process also went online.

Two neighbouring communities in KZN, Somkhele and Fuleni, continued with discussions around water problems and loadshedding that preceded the lockdown and new issues that had arisen concerning food parcels, and the problem of losing jobs and "how we can help people as they lose their jobs". But they were increasingly concerned about their safety and surveillance of their activities. In Somkhele, reported Gumede, activists were wary of being spied on: "Whenever we organise something in our community, we have to make sure that we are in a good space with good people because some people just come to collect information and send it to our local traditional leadership who most of the time are always against our plans to fight the mine and wishes as a community." Activists were affected by a tense political atmosphere, including "the recent attacks in one of the villages in our communities where the mine sows division. It is strongly alleged that the attacks were made by the pro-mining groups. They are targeting the families that are fighting against the mine."

At the National level, meanwhile, several processes went forward with limited consultation under cover of Covid. They included the draft Upstream Petroleum Resources Development Bill, the SEA to develop a gas pipeline network, Total's EIA for exploration drilling offshore, Rhino's EIA to explore for sites with potential for coal fracking, and Nersa's consultation on the minister's determinations for new generation capacity, discussed in the next chapter.

### Box 4: Death of an activist: Ma Fikile Ntshangase

In the early evening on the 22nd of October 2020, 63-year-old Ma Fikile Ntshangase was assassinated in her house by three men. Six bullets hit her, one when she was already down. The three men had asked her 13-year-old grandson to look after the family dog while they "greeted" his grandmother. When the shots rang out, he ran to the neighbours to ask for help.

Ntshangase had been an outspoken opponent of the Tendele anthracite mine in Somkhele, serving as deputy chairperson of the steering committee of the Mfolozi Community Environmental Justice Organisation (MCEJO). She was a retired teacher, a very religious and very outspoken person, said her daughter Lungelo Xakaza.[96] She loved singing, especially choir music, baking and designing her own clothes. She was also a feminist in a difficult setting, according to lawyer Kirsten Youens. Youens is representing MCEJO in court challenges to the Tendele mine which has operated without proper permits, including a waste permit.

The assassination comes in the context of increasing local tensions, as well as intimidation and assassination of environmental rights defenders nationally and internationally. Internationally, according to Global Witness [2020], 212 land and environmental defenders were murdered in 2019, the highest number yet in a single year, and an average of more than four people a week.

In South Africa, the 2019 report, *We Know Our Lives Are in Danger: Environment of Fear in South Africa's Mining-Affected Communities* [Rall & Pejan 2019], describes various extra-legal tactics used by mining companies, municipalities, state officials, police and traditional authorities to deny communities the right to say no to mining, or to protest mining company abuses of people and their environments. This includes intimidation, the wilful misunderstanding of the law, SLAPP suits and assassinations. For example:

96 Orrin Singh, *'My mom, my hero': daughter of slain KZN anti-mining activist*, Sunday Times, 1 November 2020.

> In March 2016, activist Sikhosiphi "Bazooka" Rhadebe was killed at his home after receiving anonymous death threats. Bazooka was the chairperson of the Amadiba Crisis Committee, a community-based organisation formed in 2007 to oppose mining activity in Xolobeni, Eastern Cape province. Members of his community had been raising concerns that the titanium mine that Australian company Mineral Resources Commodities Ltd proposed to develop on South Africa's Wild Coast would displace the community and destroy their environment, traditions and livelihoods. More than three years [in 2020, four years] later, the police have not identified any suspects in his killing. [Rall & Pejan 2019:1]

Before Rhadebe was killed, he told other leaders about a hit list with his name on it. His successor as chair of the Amadiba Crisis Committee, Nonhle Mbuthuma, has received numerous death threats by phone.

Ntshangase's assassination followed several threatening phone calls. About a month before her death, she started feeling uneasy and wanted to erect a fence around her property. Several activists in the area have, over a number of years, experienced threats, physical attacks and damage to their property in response to their opposition to Tendele coal mine, as detailed in *We Know Our Lives Are in Danger*. In April 2020, two other families were attacked. Sabelo Dladla and his family were tied down at gun point and Tholakele Mthetwa's home was sprayed with bullets. Dladla was on MCEJO's executive committee and an applicant in the court cases brought against Tendele. In August, he met privately with Tendele mine CEO Jan du Preez and agreed to withdraw from the case. He and six other committee members then signed an MoU with the mine agreeing that they wanted to ensure the survival of the mine and would seek a mandate from MCEJO, withdrawing all cases against the mine. The MCEJO leadership has refused to give them that mandate.

Ntshangase personally refused compensation to relocate to make space for an extension to the mine. She was at the head of one of 19 families in Somkhele who Du Preez says are standing in the way of the mine. The mine wants the coal beneath their land and will have to close in two years' time if it doesn't get it. It employs 1 600 people, including sub-contractors. In June, Du Preez said 24 out of 140 households were refusing to move and threatening those jobs. Now it is 19. He also suggests that they are to blame for the violence which will stop when they get out of the way.[97]

Du Preez finds it unreasonable that the families do not want to move. According to Bridget Pitt,[98] Du Preez's calculations are that "the payouts to directly affected families in the Ophondweni and Emalahleni villages areas were double, and in some cases, 10 times more than the market value of their homes... If you have a one-square-metre shack, you get a R200 000 upset allowance, and then we changed that later in the day to say that the minimum an old house can get is R400 000," said Du Preez. However, Pitt reported that some settlements in Somkhele were as low as R10 870. The reference to shacks is also misleading. This is not a shack settlement.

Du Preez claimed the average payout was now R750 000, and added, "I can tell you the Zulu king and the Office of the KwaZulu-Natal premier go berserk. It's mind-boggling how much we pay. It's close to blackmail."[99] More willingly, the mine pays an annual fee to the Ingonyama Trust for leasing the land. The Trust was formed at the end of the apartheid era and gave the Zulu king power over the land holdings of around five million people and is meant to be for their benefit. The mine's dealings with the Trust are secret and the benefits are not visible.

Patrick Bond from the University of the Western Cape observes, "Since Tendele mine began operations in 2007, easily R12 billion worth of coal has been dug, reaching a peak of nearly R1.7 billion worth in 2018. Over the past seven years, Petmin boasted an average net profit rate of nearly 10%, in part because royalties and taxes are so low – only around 15% of revenue."[100]

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97 Fred Kockott and Matthew Hattingh, ***High stakes at Somkhele: Mine relocation row puts lives on the line***, Roving Reporters, 3 June 2020; Tracey Davies, ***Of mining, ethics and murder***, Financial Mail, 29 October 2020.

98 Bridget Pitt, ***The struggle for Mfolozi and the murder of Fikile Ntshangase: Who is blackmailing who?*** Daily Maverick, 19 November 2020.

99 https://www. dailymaverick. co. za/article/2020-10-23-violence-on-border-of-imfolozi-hluhluwe-game-park-linked-to-fears-of-mass-retrenchments/

100 Patrick Bond, analysis posted on CJN-SA list serve (amongst others), 30 December 2020.

Petmin (the owner of the Tendele mine) balance sheets up to June 2020 reflect that it has lost R505 million due to Covid-19 shutdowns and lower demand from the South American Iron Ore Sinter market, in particular Vale in Brazil, and, in South Africa, loss of sales to Glencore Ferrochrome and Samancor Ferrochrome during April and May 2020. Of that, it claimed R100 million was lost because the mine could not expand into easily mineable coal under the community's houses.

Tendele's perspective on relocation and compensation is based on mistaken assumptions about what counts as valuable, argues Dineo Skosana of the SWOP Institute at Wits: "Tendele disregards that compensation is given in recognition of loss and... is not given to improve the lives of mining-affected communities, nor does it restore life to what it was before the changes brought about by mining. It is a mitigation cost and for this reason communities have the right to negotiate what they deem adequate for the disturbance of their lives."[101]

She writes that, in its application to the high court in May 2020, Tendele revealed their thinking on what they see as replaceable structures and items. This included "... among other things, an 'upset allowance' of R200 000 per household; R2 000 per household for trauma in uncovering and relocating graves; R15 500 for the graves of each household, plus a cow and goat; R5 000 for ritual purposes; and R2 750 for the kraal *(isiBaya)*."

This completely misunderstands the deep meaning of the sacredness of both land and graves as a connection to the ancestors. It denies the value of living in a community and the solidarity in such a community. It is blind to the informal and non-monetary economies already in place. It also forces all participants to adopt a narrow, arrogant Western view that everything can be translated into money, and that those with money can make all the decisions. And it entrenches the principle that communities cannot say no to mining.

101 Dineo Skosana, ***Mine, not yours: When will mining companies realise ancestral land cannot be valued in rands and cents?*** Daily Maverick, 2 December 2020.

On the 27th of October, groundWork called on President Cyril Ramaphosa and Minister Bheki Cele "to deliver justice for Fikile Ntshangase, her family, and the people of Somkhele. We believe, for the law to be effective, it must be implemented swiftly to ensure those responsible have little time to cover up their actions. We call on the Minister of Police to give this murder the urgent attention it deserves. It is critical that the Minister is seen to be acting for the safety and in the interest of the community, as people currently are living in fear."[102] The letter called on the Minister of Police to ensure

- that police swiftly investigate the murder and other violent threats in the Somkhele area, to prevent further loss of life;
- that the necessity for a referral to the Directorate for Priority Crime Investigation ('the Hawks') is assessed;
- that increased protection is provided for other community people who have challenged the operations and expansion of Tendele's Somkhele mine; and
- that a report on the progress of the investigation is made public.

102 https://www. groundwork. org. za/archives/2020/gW_Letter_to_Pres_&_Min_re_Fikile_Ntshangase_271020. pdf

# 5 Carbon kicks

The call to 'build back better' after the Covid crisis might suggest that it is time to kick the fossil fuel habit which produces intense pollution on the ground, in the water and in the air, as well as driving climate change. The industry has had a torrid year but it is a major beneficiary of Covid bailouts. And big money is going into big gas. In South Africa, government's vision is shackled to the fossil fuel era as it dreams of becoming a petro state.

## Fossil Fuels

Burning fossil fuels produces the major part of $CO_2$ (only) emissions, "with record emissions of 36.7 Gt" in 2019, according to the Global Carbon Project. In early April 2020, when the Covid-19 lockdowns were most severe, daily emissions were about 17% lower than in 2019. However, this was about equal to emissions in 2006. "This fact highlights both the steep growth in emissions over the past 15 years and the continued dependence of the global economy on fossil sources for energy."

By June, daily emissions were rising and just 5% lower than in 2019. Emissions for the whole of 2020 will likely be between 4% and 7% lower than in 2019. This is the scale of reduction needed every year "to limit global warming to 1.5°C, and well below 2°C, in line with the objectives of the Paris Agreement".[103]

103 Global Carbon Project, in United in Science 2020 report compiled by World Meteorological Organisation for the UN General Secretary, published in September 2020. Available at: public. wmo. int/en/resources/ united_in_science.

## Oil & gas

Oil prices have been extraordinarily volatile over the last 15 years – more or less since the peak of 'easy' oil production in 2005, but also symptomatic of global capitalism in crisis. The price of Brent crude hit a peak of over $140 a barrel in 2008, as investors sought refuge in commodities from the meltdown on Wall Street, before collapsing to $30 in 2009. It recovered to around $110 from 2010 to 2014 but then started a long slide down to $33 in 2016. It again recovered to briefly touch $80 in 2018.

At the start of 2020, it was trading at US$70. It slid from there and then crashed in the last week of February to $50. On the 9th of March, it crashed even more spectacularly, losing 30% in a single day to land at $33. A month later, the price of Brent had dropped further to $19. Meanwhile, the US benchmark West Texas Intermediate (WTI) went negative, hitting minus $38 a barrel on the 20th of April – that is, US producers had to pay for oil or gas to be taken away and still found no buyers. Prices then recovered somewhat, with Brent trading at around $40 from June.

At the end of February, the price reflected the first recognition that Covid would not be confined to China. As the planes were grounded, ships stopped sailing and commuters stayed at home, demand was already in decline, with more expected. In early March, Russia refused to join the Organisation of the Petroleum Exporting Countries (OPEC) in cutting production to defend the price. Saudi Arabia responded with a price war – pumping more oil to flood the declining market. A month later, on the 12th of April, Russia and OPEC agreed to cut 10 million barrels a day (mb/d) of production, the biggest cut ever. By then, however, the storage depots were full. Even the pipelines were full and, as in 2009, the global tanker fleet was converted to floating storage.[104] With nowhere to put new oil, the US price went negative. Surplus gas was flared.

Global demand recovered somewhat in the northern summer as the rich countries eased their lockdowns. With winter approaching, the second wave

104 Sharon Wood, ***Stock markets tank as oil joins a toxic economic mix***, Business Maverick, 9 March 2020; Tom Stevenson, ***Oil below Zero***, London Review of Books Blog, 22 April 2020; IANS, ***Oil prices plunge again, WTI down 20 per cent on supply glut***, Economic Times of India, 28 April 2020.

of Covid cases is again cutting into demand. For the year, the International Energy Agency (IEA) projects 2020 demand at 91.7 mb/d, down from 100.1 mb/d in 2019.[105]

Since 2005, costly unconventional oil production has filled the gap left by declining conventional oil production, notably from tar sands in Canada, fracking oil and gas in the US and ultra-deep offshore oil such as in US waters in the Gulf of Mexico. Shale oil production led to a massive expansion in overall US oil production to make it the largest producer in the world at 13 mb/d. But shale companies must keep drilling because production is highest in new wells and falls sharply from day one. And they generally borrow heavily to drill the next well to produce the oil to pay for the debt on the previous well. Indeed, the banks take big profits from fracking and are amongst the core interests driving the industry. Many shale companies were already failing in 2019 and, in the first nine months of 2020, 40 shale companies, including industry leader Chesapeake Oil, had gone bust with debts of $53.7 billion.[106] In October, US production was down to 10 mb/d.

Many more shale companies would be going bust but for the Fed's bailout of corporate America.

The Fed's Covid bailout scheme allows businesses to replace high interest debt with low interest debt. Treasury Secretary Steve Mnuchin said it would help all businesses, small and big, but big corporates and stock market investors are the primary beneficiaries, as reported by Friends of the Earth (US), Public Citizen and BailoutWatch [Ross et al 2020]. The Fed itself bought $355 million in bonds (debt) from 40 fossil fuel corporations – at lower rates than it lends to state and municipal governments – including BP, ExxonMobil, Chevron and ConocoPhillips. As with Boeing, the biggest gift came through the Fed's guarantee of corporate debt, leading private finance houses to buy $100 billion in fossil bonds since March.

105 IEA, Oil Market Report – October 2020.
106 Haynes and Boone, Oil Patch Bankruptcy Monitor, 30 September 2020; Jessica Resnick-Ault & Arathy Nair, ***U. S. oil producers on pace for most bankruptcies since last oil downturn***, Reuters, 1 October 2020.

ExxonMobil is, or was, the granddaddy of the supermajors and the biggest corporate in the world by market capitalisation. It has been on a slide since about 2010 and recently "it has dropped out of the S&P 500 top ten stocks and been removed from the Dow Jones Index" [Spedding 2020: 3]. In a report for Carbon Tracker, Paul Spedding shows that it was pulled down by its north American investments in unconventional oil and gas: In the US, profits from the shale boom disappeared as costs escalated while prices dropped due to the over-supply "to which Exxon contributed"; In Canada, tar sands investment "also saw a collapse in earnings, almost entirely due to a tripling of costs" [17]. Moreover, these investments in "high cost, high carbon projects" failed to deliver on Exxon's basic strategy to increase production [2]. It is now focusing on its new oil field in deep water off Guyana, where it cut a very advantageous deal with an under-resourced government.[107]

The other supermajors were not really doing much better, as a pre-Covid briefing from the Institute for Energy Economics and Financial Analysis (IEEFA) shows [Hipple et al: 2020]. Since 2010, the five supermajors have "generated sufficient cash to cover their operating expenses and capital expenditures (capex)" but not enough to cover dividend payments to shareholders [2]. The shortfall for the period 2010-2019 came to $207 billion and they made it up "primarily by selling assets and borrowing money" [1]. Put another way, the return on investment is too low to satisfy the expectations of investors so oil bosses are, so to speak, selling off the firm in slow motion. However, the strategy of paying out increased dividends at any cost will not survive the price collapse of 2020 and BP and Shell have already cut dividends.

Before Covid-19, public money was already propping up the fossil fuel industries, as Tucker and DeAngelis show [2020]. After signing the Paris Agreement in 2015, major G20 countries were still pumping $77 billion a year into funding oil, gas and coal through their export credit agencies (ECAs), national development banks and the multilateral development banks led by the World Bank. In the energy sector, fossil fuels got 57% of funding from these institutions while renewables got only 18%. They argue that Covid-19

107 Andrew Fawthrop, ***Charting Guyana's whirlwind ascendancy to the brink of oil superstardom***, NS Energy, 13 April 2020.

recovery packages should not bail out fossil fuel companies but should fund a just transition. However, the industry lobbyists were quick to line up for "new subsidies, regulatory rollbacks, and public finance" [7]. The US precedent does not augur well.

Meanwhile, big oil has bet big on plastic in anticipation that its chokehold on climate policy may be slipping. Plastic provides another market for petrochemicals and the US industry has spent $200 billion on chemicals and plastics plants over the last decade. Foremost among them is Sasol's Lake Charles investment, of which more below. As plastics run into increasing resistance from consumers, and as China stopped imports of plastic waste, this strategy is pushing up against the limits. The industry's solution, revealed in emails and documents turned up by investigative journalists at Unearthed, is to dump on Africa.

The American Chemistry Council (ACC), which includes all the petrochemical supermajors as well as Sasol, has been pushing US trade officials to put the screws on Kenya as they negotiate a new trade deal. Kenyan environmentalists have recently won a ban on plastic bags and limits on other plastics. The ACC wants that reversed. And, in the words of a senior ACC official, it wants Kenya turned into "a hub for supplying US-made chemicals and plastics to other markets in Africa through this trade agreement". This reflects a strategy to use bilateral deals to circumvent an agreement reached in 2019 under the Basel Convention, which the US has not ratified, to regulate trade in plastic waste. The industry has also pulled out the standard industry response to frame the issue as being about waste management and not plastic.[108]

## Mozambique gas boom

In Africa, public and private funders have swarmed around the very large gas find offshore of Cabo Delgado province in northern Mozambique. Three projects are, or were, in progress and all are intended to produce 'liquefied

108 Hiroko Tabuchi, ***Big Oil is in trouble. Its plan: flood Africa with plastic***. New York Times, 30 August 2020

natural gas' (LNG) to be shipped for export.[109] The smallest is the Coral South Floating LNG (FLNG) project led by ENI and ExxonMobil, projected to cost $8 billion. ENI is the operator. Construction started in 2018 and ENI says it will produce 3.4 million tonnes per year (Mt/y) of LNG from six sub-sea wells, starting in 2022. BP has already signed up to buy the lot and it will be exported from the FLNG without making landfall in Mozambique. Funding is backed by ECAs from China, France, Italy and South Korea. Commercial funders include Standard Bank.

Total's much larger 'Mozambique LNG' project, originally developed by US transnational Anadarko, is intended to produce nearly 13 Mt/y and to cost $24 billion and has mostly East Asian buyers lined up. The gas from offshore wells will be piped onshore to an LNG plant on the Afungi peninsula. Local people have already been removed and cut off from their fishing grounds. Total wrapped up a $15 billion funding deal in July 2020.

Development bank funders include the African Development Bank (AfDB) and South Africa's Development Bank of Southern Africa (DBSA), both of which have previously brushed up their climate credentials by declaring that they will no longer fund coal. South Africa's Industrial Development Corporation (IDC) is also invested and has no serious climate policy. ECAs from five Northern countries are backing the deal with direct loans or guarantees: the US, Britain, Japan, Italy and the Netherlands. Two Southern country ECAs are also backing the project: South Africa's Export Credit Insurance Corporation (ECIC) and Thailand's Export-Import Bank. ECAs generally require a share of procurement from firms from their countries. Their participation also assures private investors that it is safe to dive in.[110]

The World Bank now claims that, in line with the Paris Agreement, it does not invest in any fossil fuel projects. In Mozambique, however, it has lent the government $87 million for 'technical assistance' to 'improve governance' so as

109 Natural gas is more properly called fossil gas and is composed mostly of methane. It liquefies at minus 160°C and its volume is reduced to 1/600. An energy intensive plant is required to reduce it to such 'cryogenic' temperatures and uses a substantial portion of the gas. It is then shipped in LNG ships with heavily insulated tanks.

110 Global Fossil Infrastructure Tracker at https://www. gem. wiki/Mozambique_LNG_Terminal#Cost_and_Financing downloaded 11 November 2020.

to attract investment in the gas projects. The laws written under this tutelage include that procurement will not favour Mozambican companies – thus leaving it open to ECA requirements – and that oil and gas companies should be treated to tax concessions. Effectively, the advice paid for by Mozambique was designed to be to the advantage of big oil and the international investors and to structure an extractive industry to get the gas out to the 'global market'.[111]

Some 20 private banks, with ECA guarantees, are invested in these projects. South Africa's Standard Bank is a significant and boastful investor in both the ENI and Total projects. Absa, FirstRand and Nedbank are invested in the latter. All have developed rather vapid policies on funding coal power and mining – and adopted them a mere 28 years after the United Nations Framework Convention on Climate Change was agreed and only after they were driven to it by civil society shareholders.

Standard, Absa and Nedbank have no climate policies limiting oil and gas investment. Nedbank, however, says it will adopt an energy policy "consistent with low-emission and climate-resilient development" by April 2021. It will also measure and disclose its exposure to climate related risk, including how far it is invested in fossil fuels. Absa also says it will disclose its climate risk including how much it has invested in "carbon-related assets" but has said nothing about phasing out such investments. In contrast, Standard is amongst the largest investors in oil and gas in Africa but baulked at disclosing its exposure in these sectors. It said shareholders had no business demanding such policy as it "seeks to usurp the powers of the board". Standard inherited this argument from Sasol, in which it is heavily invested and with whom it shares three board members. This is patently a tactic to exclude public interest questions from publicly accessible forums but it nevertheless got a nod of approval from the premier business media. In December, it produced a new policy statement which actually commits to further oil and gas investments in Africa. FirstRand has also avoided any commitment to disclosing its fossil fuel exposure but it does exclude funding for projects in 'high conservation value'

111 Eric Toussaint, ***Climate and environmental crisis: Sorcerer's apprentices at the World Bank and the IMF***, CADTM, 23 December 2020.

areas and says it will exercise 'enhanced due diligence' on coal, biofuels and fracking.[112]

The South African banks are in the company of Northern banking TNCs from France, Italy, the Netherlands, Portugal, Britain and Japan. They include Crédit Agricole and Société Générale, which are credited, by the Fossil Fuel Financing Report 2020, with leading divestment from coal. However, they have nothing much to say about offshore oil and gas or LNG. BNP Parabas is in the top three of global investors in offshore oil and gas and was the largest global investor in 2019. It gets a low score for its climate policies on oil and gas but is nevertheless the top-rated bank – so its peers are doing even less [Kirsch et al, 2020].

ENI and ExxonMobil are also the lead partners in the third project, Rovuma LNG, but with Exxon as the operator. This is the largest project, planned to produce 15.2 Mt/y and to cost $30 billion. As with Total's project, the LNG plant would be onshore and supplied from offshore gas fields. However, Exxon has 'delayed' the investment decision on the project. Platts Analytics believes it has shelved the project "until the economics are more favourable", with first production likely pushed back from 2025 to 2030.[113]

Each stage in the development of these gas projects, from seismic surveys in the late 2000s to offshore test drilling to onshore construction, has disrupted local livelihoods based on fishing and agriculture in this poor and hitherto remote part of Mozambique. On the other side, Mozambique's ruling Frelimo elites have been "siphoning off increasing amounts of money", while secretly putting the country into massive debt, as veteran journalist Joseph Hanlon observes. A local insurgency has now blossomed into "a civil war in Cabo Delgado driven by growing poverty and inequality". Islamic State has opportunistically put its branding on it, and appears to be supplying arms, but this is where Frelimo's anti-colonial insurgency started 50 years ago and for much the same reasons. "Too many young people now view Frelimo in

112 Just Share: https://justshare. org. za/investor-hub/shareholder-resolutions-agms, at 28 November 2020; https://justshare. org. za/media/news/standard-bank-board-fossil-fuel-ties-brought-to-light, posted on 8 June 2020; Tracey Davies, Landry Ninteretse, Diana Nabiruma, Ilham Rawoot and Ryan Brightwell, ***Investors and activists push Standard Bank to clean up its climate act***, Daily Maverick, 1 July 2020; Business Day, ***Editorial: Has the climate justice lobby gone too far?*** 9 June 2020.

113 S&P Platts, ***ExxonMobil's Rovuma LNG production may be postponed to 2030***, Ports & Ships, 17 April 2020.

the same way that their grandparents saw the colonial administration." The international community, together with international finance, is however "now firmly backing the Frelimo leadership", despite the insurgency and the debt scandal, as they prioritise profits from gas.[114]

The French government has been complicit in the secret debt scandal, according to Friends of the Earth [Marchand 2020]. France benefitted from exports of various equipment, including fast patrol boats and other arms, but its primary interest was in securing a leading role for French transnational corporations in the gas fields. It is now also supporting the militarisation of the conflict which, by mid-year, had claimed over 1 100 lives and driven 100 000 from their homes. Other powers are also being drawn in, including South Africa, which sees major opportunities for South African business. FoE concludes that the gas find is creating a windfall for industry and funders but "is already proving a curse for the population of Mozambique, especially for local communities" [2].

## South Africa: locking onto gas

Having no other ideas, government evidently hopes to hit the jackpot with gas and so pull the economy out of recession. On coming into office as minister of mineral resources in 2018, Gwede Mantashe was already punting shale gas as having "the potential to transform the national energy economy of South Africa".[115] In the DMRE Covid budget speech in July 2020, the minister said, "The Gas Amendment Bill will be tabled in Parliament soon. This Bill prioritises infrastructure investment by, among others, constructing infrastructure to import liquefied natural gas and increasing exploration to find domestic gas feedstock to diversify the energy mix and reduce carbon emissions."[116]

114 Joseph Hanlon, ***Isis is not driving the Cabo Delgado war***, New Frame, 25 August 2020.

115 Address by Honourable Minister of Mineral Resources, Mr Samson Gwede Mantashe on the occasion of the debate on vote 29: Mineral Resources, 15th May 2018, Cape Town

116 Budget Vote Speech of the Minister of Mineral Resources and Energy Hon. Samson Gwede Mantashe (MP) Delivered by Minister Kubayi-Ngubane on the occasion of the tabling of the Budget Vote 34, to The National Assembly, 21st July 2020.

Following sustained industry lobbying, the DMRE has published the Draft Upstream Petroleum Resources Development Bill, giving oil and gas extraction its own legislation separate from mining other minerals. It puts the Petroleum Agency of South Africa (PASA) in charge of both promoting and regulating exploration and extraction. And it appears that it is already exercising regulatory functions for which it has no mandate. For the mid- and downstream sectors, a Gas Utilisation Master Plan (GUMP) has remained in draft for several years but nevertheless appears to be shaping action. It is managed from the Independent Power Producer Office (IPPO) in the DMRE.[117]

### The Upstream Bill

The objectives of the Upstream Petroleum Bill include: "[to] encourage and promote national development of petroleum resources through acceleration of exploration and production"; "promote economic growth and petroleum resources development in the Republic"; and "give effect to section 24 of the Constitution by ensuring that the nation's petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development." Amongst other things, it requires a 10% black economic empowerment (BEE) interest and it gives the state, through national oil corporation PetroSA, a 20% 'carried interest' in all exploration and production rights.

Significantly, there is no mention of climate change. It therefore "stands in contradiction to section 24 of the Constitution", as the Centre for Environmental Rights (CER), Earthlife Africa (ELA) and groundWork commented.[118] Since the carbon content in coal, oil and gas in existing mines and wells is several times greater than an optimistic 'carbon budget' for limiting global warming to 1.5°C, they argued that, "Legislation governing petroleum resources must only be put in place to ensure a just transition from fossil fuels to clean renewable energy".

117 https://www. ipp-gas. co. za/#:~:text=The%20GUMP%20is%20a%20roadmap, how%20this%20could%20be%20achieved.

118 CER, groundWork and ELA, Submissions on the Draft Upstream Petroleum Resources Development Bill, 21 February 2020.

As with the existing Minerals and Petroleum Resources Development Act (MPRDA), it seems that control over environmental authorisations is intended to ensure that the industry is protected from environmental regulation. This Bill seeks to take that further, expanding the powers of the Minister of Minerals and Energy at the cost of Environmental Affairs. The bias for industry is also evident in that the minister 'must' grant permits and rights if an applicant has fulfilled certain conditions. On the other hand, the Bill provides for a truncated public consultation process, with limited time and limited access to the actual application. It is seemingly written in opposition to the principle of free, prior and informed consent advocated by civil society.

## Offshore

South Africa's exclusive economic zone offshore has long since been parcelled out into concessions for oil and gas exploration from one end to the other. PetroSA has small and depleted offshore gas condensate wells, originally developed by Soekor in the 1980s and'90s, to supply the Mossel Bay gas-to-liquids refinery. PetroSA is on the rocks. Shortly after its founding, the ruling ANC milked it for R18 million to fund its 2004 election campaign.[119] Things went downhill from there. Governance aside, it no longer produces enough gas to feed its refinery and says the cost of imported condensate is high. It is also liable for "rehabilitation and decommissioning of its offshore and onshore facilities" at an estimated cost of R9.8 billion but has only R2.4 billion set aside for it. It hopes to be rescued by getting the state's carried interest in upstream production rights.[120]

PetroSA does in fact already have a minority stake in several upstream blocks. This includes the Ibhubesi gas field off the west coast, where Sunbird Energy is the operator with a majority stake of 76% and Petrosa has the balance of 24%. Ibhubesi is the only new prospect off South Africa that has certified reserves

119 See the groundWork Report 2005 [73]. The amount was originally reported as R11 million. Sandi Majola, who organised the scam, claimed it was R18 million in a letter written shortly before he was found dead, presumedly by suicide, in a hotel room. See Sashni Pather, ***Majali's ghost haunts ANC***, Times Live, 18 September 2011.

120 PetroSA Annual Report 2019, p. 36.

and a production right. As yet, however, it has no market and the size of the reserves scarcely justifies the infrastructure to get it to market. Hence, it is still to be developed.

As in Mozambique, Total is busy in South African waters. In February 2019, it announced that its Brulpadda well had struck gas condensate in Block 11B/12B. Total has a 45% share in the block and is partnered with Qatar Petroleum 25%, Canadian Natural Resources 20%, and Main Street 1549 10%. Total resumed drilling at the adjacent Luiperd well in August 2020 and, in late October, announced a "significant gas condensate discovery … which proves the world-class nature of this offshore gas play". This does not mean that future production is secure, although Total seems confident. The field is south of PetroSA's old gas field, 175 kilometres off the south Cape coast and in the path of the tempestuous Agulhas Current. An earlier attempt to drill this well failed as the rig was battered by heavy weather and getting the condensate out will be costly and will come with a high risk of spills and leaks. Nevertheless, minerals and energy minister Gwede Mantashe hailed the Luiperd discovery as 'game changing' – just as he said of Brulpadda.[121]

These are the first of 10 wells already covered by an exploration right. Total is now proposing to drill a further 10 exploration wells and has applied for environmental authorisation to PASA. In comment on the draft scoping report, civil society organisations noted that the legal mandate for environmental regulation stems from the National Environmental Management Act (NEMA) which does confer this power on the minister in respect of mineral and petroleum resources – or the DMRE acting for the minister – but it cannot legally be passed to PASA. They also challenged the legitimacy of a public participation process that effectively excluded most of the potentially affected people.[122]

Drill cuttings are simply dumped on the seabed. With 20 exploration wells and production wells to follow, substantial cumulative impacts must be expected. A major spill or well blowout will likely have far reaching impacts affecting

121 Marleny Arnoldi, ***Total finds gas at Luiperd prospect***, Engineering News, 28 October 2020.

122 Comments were submitted by Green Connection, groundWork and the Wildlife and Environment Society of South Africa, amongst others.

the flourishing ecologies of several marine protected areas, including critical nursery areas such as the Agulhas Banks, which link with fisheries all the way up the east coast as far off as Mozambique. Oil spill modelling will be included in the environmental impact assessment (EIA), but oil spill and blowout contingency plans are not. They are left to Total and are apparently not open to public scrutiny.

ExxonMobil and Equinor have dumped exploration rights in South Africa, respectively selling out 40% and 35% in three blocks to minority partner Impact Oil & Gas. Hence, Impact acquired 100% exploration rights in the Algoa block south of Port Elizabeth, the Transkei block which stretches all the way up the coast from about Port Alfred to Port Edward, and the Tugela South block off the coast from Durban to Richards Bay and encircling the Tugela Banks, another critical fish nursery and spawning ground. It has since brought Shell in as a 50% partner on the Transkei block. It has also entered into an agreement with Silver Wave, which holds the exploration rights to 'Area 2'. This is a very large area seaward of the Transkei block to the boundary of South Africa's exclusive economic zone and in very deep water.

Further, Impact has established an interest in Total's 11B/12B block through Main Street, a BEE company with a 10% share in the block. Main Street was held by Arostyle (51%) and Africa Energy (49%). Arostyle's participation was funded by a loan from Impact and this loan has now been converted into shares in Africa Energy, giving Impact a 34% holding in Africa Energy, Arostyle about 5%, and Africa Energy the full 10% of Main Street's holding in 11B/12B. This gives Impact a seat on Africa Energy's board. However, the two companies already had one director in common. Both companies also have exploration rights off the west coast and further north in Namibian waters. Neither has an environmental policy that goes beyond piety and legal compliance. Neither mentions the climate crisis.

Sasol and ENI, the Italian oil major, have exploration rights in an L-shaped block with its foot all along the KZN south coast. It stretches eastward into the deep ocean and then turns north and again meets the coast just off St Lucia. Impact's Tugela South block lies inside it. Sasol has the major share at 60%, but ENI is the operator. They ran a seismic campaign in 2016 and planned to follow up with exploration drilling in 2019. The DMR does not require an EIA for seismic testing, despite evident harm. In 2016, record numbers of marine mammals were beached and this is just the most obvious impact. DMR does require an EIA for exploration drilling and ENI initiated this process in 2018 under the regulatory authority of PASA.

The EIA met with a storm of protest led by the South Durban Community Environmental Alliance (SDCEA). This was the first time an offshore project met such resistance in South Africa and it set the scene for the subsequent opposition to Total's 2020 application. Nevertheless, the DMR issued an environmental authorisation in September 2019. That decision has been taken on appeal by numerous organisations to what is now the Department of Environment, Forestry and Fisheries (DEFF).

The resistance raised detailed issues of both substance and process. Critical issues of substance included that:

- Further exploration is not compatible with any reasonable response to climate change. Carbon 'budgets' are exhausted and the question now is which mines and wells to close, not how many more can be opened.
- The damage from the seismic testing that preceded drilling has not been adequately assessed – either before or after the event. Oil companies consistently understate impacts from all stages of exploration and extraction and this is carried over into the EIA.
- There is a high probability of incidents in the fast moving Agulhas current and pollution from a spill or blowout will spread very quickly. Big oil corporations have a history of covering up incidents while the South African government has little capacity – or will – to adequately monitor their offshore activities or to deal with any large scale incidents.
- There would be little benefit to coastal communities from jobs but a high risk of the destruction of existing jobs and livelihoods consequent on the pollution of the marine and coastal environments. The profit

> would be extracted and taken offshore, by hook and by crook, without benefit to the local or national economy.

On process, they observed that it simply failed "to ensure the participation of all interested and affected parties" or to provide them with the information necessary to understand the project and its implications. Further, the authorising agency had more interest in promoting these activities than in regulating them. In this respect, PASA's role in the process had no legal basis (as argued above).[123]

In December 2020, the environment minister Barbara Creecy published her appeal decision. It identified 14 grounds for appeal and dismissed all of them, confirming the environmental authorisation with some amendments. Meanwhile, ENI has slashed its capital spending plans by about a third while Sasol's value has collapsed. In May, ENI said that no decisions on drilling had been made.[124]

South Africa has one onshore fossil gas project. Renergen has already drilled several exploration wells at Virginia in the Free State and claims 40 billion cubic feet (bcf) of proven reserves with another 98 bcf probable reserves.[125] But the real value lies in a high helium content amounting to a proven reserve of 1 bcf. Helium is used in various high tech processes as well as for party balloons. Renergen is building a mini LNG plant for the methane gas and exploring a number of market options including for power generation, industrial use and as a substitute for diesel in buses and trucks. In partnership with Total, it plans to install LNG fuelling bowsers at truck stops on the N3 from Gauteng to Durban.[126]

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123 SDCEA, Exploration Drilling Within Block ER236, Offshore of the East Coast of Southern Africa: Submission of objections, 5 March 2018; Appeal in terms of the section 43(2) of the National Environmental Management Act, 106 of 1998, against the environmental authorisation granted to ENI South Africa BV & Sasol Africa Limited, 21 October 2019: Wildoceans, Appeal, 21 October 2019.

124 ENI reply to shareholder questions, 13 May 2020, at https://www. eni. com/assets/documents/governance/2020/eng/minutes--shareholders-meeting-13-may-2020/Questions-and-answers-before-the-Shareholders-Meeting-2020. pdf

125 Proven reserves can be shown to be there and extractable at present market prices. Probable reserves are claimed to be likely. 1 bcf = ~170 000 barrels of oil equivalent. So 40 bcf is around 7 million barrels.

126 https://www. renergen. co. za/investor-update-august-2020/

## Onshore fracking

Gas can be extracted from shale and from coal, given the right geology. The prospect of shale gas in the Karoo had government officials talking as if they were about to win the lottery. A 'scientific assessment of the opportunities and risks', undertaken as part of a strategic environmental assessment for the DEA, was less excitable: "The total quantity of shale gas … is uncertain, as is where exactly it may be concentrated. There may be no economically extractable gas" [Scholes et al 2016: SPM-10]. There is a shale seam but, millions of years ago, it was scrunched up with the Cape Fold Mountains on the one side and shot through with dolerite intrusions on the other side. Consequently, much of the gas will have leaked out.

The assessment therefore identifies three gas scenarios: exploration only, which shows no economically viable reserves; small gas with 5 trillion cubic feet (tcf); and big gas with 20 tcf.[127] It compares that with 100 tcf off Mozambique [1-38]. The best prospects are in an area stretching from Beaufort West to Graaff Reinet and centred on the small town of Murraysburg [18-10].

Government tends to exaggerate the benefit and understate costs. Thus, the draft Integrated Energy Plan (IEP), published for comment in 2016 but never finalised, shows operating jobs at new gas-to-liquids plants rising to over 90 000 jobs in 2040 (Sasol employs less than 30 000) and shale gas extraction jobs arriving at over 1.4 million in 2040. This is mere fantasy. In contrast, the scientific assessment concludes:

> The 'Big Gas' scenario would be associated with approximately 2 575 direct operational jobs in drilling, trucking and power generation with residents of the study area probably able to fill 15% to 35% [390 to 900] of these positions, increasing over time as training proceeds. It should not be assumed that indirect and induced impacts in terms of

127 1 tcf is equivalent to about 170 million barrels of oil. Hence, 5 tcf equals about 850 million barrels and 20 equals about 3.4 billion barrels.

> jobs in the study area would reach the same level as direct impacts. [Scholes et al 2016: SPM-46][128]

The assessment's 'Small Gas' scenario produces only 420 jobs of which 60 to 145 are local. Moreover, a similar number of jobs in tourism could be lost because of the heavy truck traffic and associated noise and dust.

Shell is the big oil corporation in the Karoo, with its concession block covering the central spot. In 2015, as international oil and gas prices sank, it retreated from the area, citing 'regulatory uncertainty': it had waited six years and still not received an exploration drilling license.[129] Nor has there been any real movement since. This is a testament to the intense resistance from civil society and local community groups as well as by farming and tourism interests. However, government now seems intent on bringing it out of the deep freeze. The IRP 2019 calls for "exploration to determine the extent of recoverable shale gas"[130] and, in the Covid budget speech, the minister said that the Council for Geosciences (CGS) and PASA are to drill an 'ultra-deep' borehole – 3 500 metres – to get a better understanding of the resource with results expected in 2022.

Meanwhile, Canadian company Recon Africa plans to frack in the Okavango catchment in an area that straddles the Namibia-Botswana border. The drill site is inside the Kavango-Zambezi Transfrontier Conservation Area and it sits over the Stampriet aquifer system, through which water percolates across a vast area all the way down to the Northern Cape and which provides the only reliable source of water across much of it. Recon claims that a 25 year production licence follows from commercial discovery in both countries. Namibian officials say they are 'only' permitted to do exploration drilling. Whatever the permissions, they have been granted in secret with no consultation and issued on the basis of inadequate and incomplete EIAs. News of the project was revealed in the public domain only in September 2020 and, by November, communities were mobilising across borders to resist

128 Shale Gas Development in the Central Karoo: A Scientific Assessment of the Positive and Negative Consequences, Summary for Policy Makers (SPM), 2016, p33 and table on p.34.
129 Reuters, Shell pulling back from shale in South Africa, Mining Weekly, 16 March 2015.
130 DMRE, IRP 2019, p.21.

it. Organisations have also come together to establish a FrackFree Namibia campaign.

Back in South Africa, alongside shale gas, the IRP punts underground coal gasification (UCG) and coal bed methane (CBM) as ‘clean coal’ technologies. Both technologies demonstrate that clean coal is a contradiction in terms. Both have severe impacts on water and are prone to venting methane along with sundry volatile organic compounds. UCG has been banned on environmental grounds in Scotland and even in the pro-coal Australian state of Queensland. In South Africa, the IEP cites Eskom’s Majuba project as a working example, but this plant has been shuttered for several years.[131]

CBM involves fracking coal seams. It requires even more wells than fracking shale because the wells are wide bore and vertical. Moreover, groundwater lies on and even in the coal seam which must be ‘de-watered’. Contamination of water is thus intrinsic to the process of extraction. At present, Rhino Oil & Gas is leading the coal fracking push. It has put in applications to explore vast areas of upland KwaZulu-Natal and Free State, precisely in the most critical water source areas – the so called ‘water factories’. As is now common, the EIA considers only the impact of the activities undertaken during exploration. The purpose of exploration is sedulously excluded from consideration.

The real motivation for both UCG and CBM is to expand the resource. In the words of the IEP, “Since up to three quarters of South Africa’s coal may not be mineable, UCG could help to increase South Africa’s ‘coal supply’…” [46]. That would mean an extra 80 and 160 Gt $CO_2$ depending on whose estimate of the conventional coal reserve one believes. By comparison, government’s climate policy gives South Africa a greenhouse gas ‘budget’ of between 15 and 23 Gt from 2011 to 2050. The groundWork Report 2015 argued that the budget is, optimistically, 10-12 Gt from 2011 and forever after. By 2020, that is halved.

131 See gWR 2016. Severin Carrell, ***Scotland bans controversial gas extraction technique***, The Guardian, 6 October 2016; Esmarie Swanepoel, ***Queensland bans underground coal gasification over environmental risks***, Mining Weekly, 18 April 2016.

## The GUMP

The GUMP is intended as a "roadmap for the development of a gas economy", according to the IPPO. It sees the key 'challenge' as developing localised demand and supply at the same time: "Without such localised gas demand it is difficult to develop distributed gas supply and without such distributed gas supply it is difficult to develop localised gas demand." It sees gas-fired power plants as the means to create 'anchor' demand. The programme includes fossil gas in three forms – LNG, compressed natural gas (CNG) and piped gas – and three coal-based technologies – underground coal gasification, coal bed methane and integrated gasification combined cycle (IGCC).[132]

These coal-based technologies are all included in the IRP 2019 list of 'clean coal technologies'. The groundWork Report 2019 showed to the contrary that they are dirty, costly and mostly don't work [153 ff]. 'Natural' gas is represented as a clean alternative to coal or diesel. An efficient combined cycle gas plant (CCGP) emits about half as much $CO_2$ as a coal plant for the same power output. This is, of course, very far from zero. Moreover, gas (methane) tends to leak along the way from extraction well to power plant and each unburnt tonne has about 86 times the climate impact of a tonne of $CO_2$ over a 20 year time horizon. The more exotic the technology, the greater the propensity for leakage: shale gas fracking in the US has very high methane emissions; LNG production is both prone to leaks and extremely energy intensive. And, of course, pipes, joints and valves leak more as they age. Thus, the advantage over coal is rapidly lost.

The draft IRP 2018 called for 8 000 MW of gas capacity to be built by 2030. Industry insiders, however, doubted that the requisite infrastructure could be built in that time. The IRP 2019 therefore reduced the allocation to 3 000 MW for use as peaking plants. This created a different problem: these plants would not use enough gas "to justify the development of new gas infrastructure". Hence, IRP 2019 calls for the existing peaking plants, with 3 800 MW capacity, to be converted from diesel to gas.

IRP 2019 also notes the immediate risk of power shortages as Eskom closes "non-performing units" and calls for the rapid procurement of 2 000 to 3 000

132 At https://www. ipp-gas. co. za/ on 9 November 2020.

MW. The DMRE was not exactly quick out of the blocks but, in July 2020, the minister issued a determination for "2 000 MW from a range of energy sources and technologies" to be procured under its Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP). Except it was soon apparent that the department did not want 'a range of technologies'. The bid documents, produced after consultation on the determination was complete, were designed to exclude renewables. The DMRE wanted gas. It has thus increased the allocation for new gas from 3 000 to 5 000 MW. The conversion of existing peaking plants will bring that to 8 800 MW.

Three gas power plants have been proposed for Richards Bay. Eskom was granted an environmental authorisation for a 3 000 MW plant in December 2019 already. However, the minister's determinations say that all new capacity must be procured from IPPs. Eskom will be the 'sole buyer' of all electricity produced but cannot build new plant itself. It thus seems possible that it will sell this plan with the authorisation to a third party.

The other two projects are being bid into the RMIPPPP: Richards Bay Gas Power is proposing a 400 MW open cycle gas turbine (OCGT); and Phinda Power Producers is proposing a 450 MW gas plant but has not specified the technology. The plants include gas storage but assume enlarged pipeline supplies or LNG regasification plants. Karpowerships is proposing floating gas power stations of up to 540 MW at Richards Bay, Coega and Saldanha Bay. They would be supplied directly by LNG tankers and would therefore not rely on – or support – the development of a gas infrastructure. A second floating gas power station of 2 800 MW capacity – four power barges of 700 MW – is proposed for Richards Bay by Nseleni Power Corporation. The company envisages expanding to 8 400 MW – 12 barges.

A land-based 1 400 MW gas plant supplied by LNG imports was proposed for Saldanha Bay in 2016. The intention was to supply the ArcelorMittal steel plant with the surplus going to local industry and/or to the grid. The steel plant has since shut down and the present status of the power project is not clear.[133]

These proposals commonly portray gas as clean low-carbon energy by assuming that coal is the norm and they all exclude life cycle leaks along the gas production line. At the local level, each plant will produce significant emissions of nitrogen oxides, carbon monoxide and volatile organic compounds. Cumulative emissions from new plants in Richards Bay will add to the existing emissions from the coal yards and the concentration of heavy industries. To date, environmental and social impact assessments appear rushed and exclusionary.

The backbone of a gas infrastructure is a pipeline network. This has been in preparation since 2017 when the Department of Environmental Affairs commissioned a strategic environmental assessment (SEA), which was published in December 2019 [DEFF 2019]. At present, the Rompco pipeline runs from Sasol's Mozambique gas fields to Secunda. A second pipeline, operated by Transnet, takes gas from Secunda to Richards Bay and on to Durban. The SEA envisages the addition of pipelines all around the coast, linking to Namibia in the west and to Mozambique on the east coast. An inland route from the west coast through Beaufort West and connecting to Mossel Bay and Port Elizabeth anticipates the development of shale gas in the Karoo. It identifies corridors 100 kilometres wide within which a final pipeline route may be defined. Central to the purpose of the SEA is that it should "identify and pre-assess suitable gas routing corridors to facilitate a streamlined Environmental Authorisation process for the development of energy infrastructure related to gas" [19].

The SEA acknowledges the urgency of climate change but argues that gas power would save on greenhouse gas emissions by comparison with coal or diesel. It makes no comparison with renewables or with energy conservation. It gives a very narrow assessment of emissions to be expected from a well run

133 Western Cape Government, *Greater Saldanha Regional Spatial Implementation Framework*, December 2017.

pipeline but no strategic assessment of greenhouse gas emissions that would arise from developing a gas economy.

## Sasol

Sasol straddles coal and gas interests. Its coal-to-liquids process produces intense emissions of everything and makes its Secunda plant the largest single point source of greenhouse gas in the world. To run its Sasolburg and Secunda plants, it digs out 40 Mt coal a year and pipes in 1.8 Mt gas from Mozambique and 3.8 Mt of crude oil imported through Durban to the Natref refinery. It consumes 110 million cubic metres of water and produces about 22 million cubic metres of liquid effluent.

In the year to June 2020, it emitted 63 Mt $CO_2e$ along with 196 000 tonnes of sulphur dioxide, 134 000 tonnes of nitrogen oxide and 38 000 tonnes of volatile organic compounds. The figure for VOCs does not include 100 000 tonnes of methane which is counted under greenhouse gases. Overall 2020 production is down by about 1.5 Mt on 2019 as the Covid hit home, so some emissions are down too. However, greenhouse gas emissions intensity (emissions per tonne of produce) is markedly up and sulphur dioxide and volatile organic emissions have spiked up dramatically in absolute terms.[134]

Covid torpedoed an already leaking vessel. Sasol's shares crashed to a low of R21 in March 2020, down from over R312 in early January and from R480 in April 2018. The immediate issue was the oil price falling through the floor. But investors were already bailing out because of a $4 billion cost overrun and successive delays at its Lake Charles mega project in the USA. The project, a massive chemicals plant supplied with a gas feedstock from America's fracking fields, put Sasol deep in debt and, as Sasol's value shrank, so the debt loomed ever larger to reach 35 times its market capitalisation. This dollar debt was supposed to be covered by the project's dollar earnings, but construction delays resulted in Sasol raiding its South African Rand income to pay the

134 Sasol Sustainability Report 2020, year to 30 June. Sasol is now giving figures for each site as well as for the whole group. We have been calling for this since 2006 so this is welcome. The methane conversion to $CO_2e$ is on a hundred year time horizon and less than a third what it would be on a 20 year horizon.

interest.[135] Sasol thus added to the drain on South Africa's foreign exchange reserves, already depleted by the flow of corporate profits and dividends from South Africa to international investors, not to mention illicit transfers of money out of the country.

By the end of Sasol's financial year in June, it had lost R90 billion and announced a R111 billion impairment on the value of its assets – that is, on their future earning potential. By then, the share price was back up over R150 but, by November, it had retreated to around R100.

For investors, Lake Charles put in question the wisdom and competence of its leadership. But it perhaps also puts the wisdom of investors in question. In the public sphere, the Public Investment Corporation (PIC) and the Industrial Development Corporation (IDC) are major shareholders with 13.5% and 8.5% respectively. In March, the value of the IDC's holding dropped from R24 billion to R2 billion. The IDC ended the year having lost R3.8 billion of public money.[136] The PIC will have lost about R35 billion in March. Major private investors start with Allan Gray with 11%, followed by Prudential, Investec, Black Rock, Vanguard, Old Mutual and Sanlam, with between 3% and 4% each.

To pay off debt, Sasol has now been forced into a fire sale of assets aimed at raising $5 billion. The Lake Charles plant has just been completed with the last unit, which produces low-density polyethylene plastics, coming on line in November. A 50% share of this unit, together with the ethane cracker at the centre of the Lake Charles production process, was already sold for $2 billion to US chemicals and plastics company LyondellBasell. Sasol retains its speciality chemicals units, which it now defines as core business. It is also bailing from its West African oil interests and the Escravos gas-to-liquids plant in the Niger Delta. It is also considering selling off its share in the Oryx gas-to-liquids plant in Qatar.

At Secunda, it has sold its oxygen unit to French transnational Air Liquide. Also on the block is its share in the Rompco gas pipeline from Mozambique and the 120 MW gas-fired Ressano Garcia power plant located on the gas line.

135 Sasha Planting, ***Sasol's perfect storm***, Daily Maverick, 22 April 2020.
136 Siphelele Dludla, ***IDC suffered R22bn setback in Sasol rout***, The Mercury, 27 October 2020.

And it is considering selling its 64% share in the Natref refinery in Sasolburg. It is not selling its coal mines or its Mozambique gas fields which, it says, are integral to its value chain. [137]

With the completion of the Lake Charles project, Sasol is cutting capital spending with little more than maintenance spending for 2021. It is also cutting jobs. In the unctuous language of CEO Fleetwood Grobler, "Future Sasol is to deliver a Group that is streamlined, focused and positioned to succeed. It is therefore a matter of much regret that not all our employees will be able to make the journey to the new Sasol."[138]

Over the last decade, Sasol has repeatedly redefined its core strategy and restructured its organisation. It bet big on the international expansion of coal-to-liquids (CTL) as crude oil prices rocketed in the 2000s but backed out as prices collapsed and the capital costs of CTL escalated. Gas-to-liquids (GTL) then seemed like the better bet. As oil prices rose again, it planned Lake Charles as an integrated chemicals and GTL plant fed by cheap gas from the US fracking boom and profiting on the gap between gas and oil prices. Until the oil price sank again. That left chemicals, exploration and production and retail fuels as the growth drivers. At each step, Sasol has claimed climate virtue as it abandoned one form of carbon intensive production for the next.[139]

Meanwhile, the Lake Charles Mossville community, established by freed slaves after the American civil war, has been driven from the land. This area, already surrounded by polluting industries, is experiencing enhanced pollution, notably of ethylene oxide, benzene and chlorine, as Sasol ramps up production. And the plant has had its first major explosion and fire even before completion.[140]

137 See amongst others: David McKay ***Sasol has no plans to sell coal assets saying they form important part of value***, MiningMx, 26 February 2020; Bloomberg, ***A buyer's guide to Sasol's $5bn asset sale process***, Engineering News, 25 June 2020; Terence Creamer, ***Sasol confirms Rompco pipeline sale 'well advanced' as asset disposal process kicks into gear***, Engineering News, 1 July 2020; Tasneem Bulbulia, ***Final Lake Charles unit reaches beneficial operation***, Engineering News, 16 November 2020.

138 Sasol IR 2020, p.9.

139 See the 2018 groundWork Report for a more detailed account.

140 Theresa Schmidt, ***Lake Charles Sasol Complex called #2 "Super Polluter" in the nation***, 28 February 2020; Lisa Steyn, ***Sasol confirms large explosion at Lake Charles project in US***, Business Live, 14 January 2020.

Much as Sasol is a large contributor to climate change, the impacts of climate change are coming home at Lake Charles. In 2017, a succession of hurricanes set back construction and added $130 million to the cost. In 2020, six named storms slammed into Louisiana and Lake Charles took direct hits from hurricanes Laura and Delta. Storm damage resulted in a toxic fire at one chemical plant in the town and Sasol adds to the potential for a toxic soup from flooded plants.[141]

Sasol is now responding to its forced downsizing "through a strategic reset, termed Future Sasol". In Grobler's words, "Globally there is an enhanced focus on sustainability … and we want to take a leadership role in South Africa's transition to a lower-carbon economy by helping develop gas as a key feedstock and renewables as a secondary energy source".[142] The strategy is founded on incremental reductions. Its 2030 goal is to reduce emissions by 10% against a 2017 baseline. This will still leave Secunda as the world's largest point source of carbon emissions.

Sasol outlines a "potential journey" to 2050, starting with "current feedstocks and renewable energy" and progressing "to lower – and thereafter low – carbon feedstocks". The sequence is thus:

**Coal**: Sasol is looking at "clean coal technologies" and notes "carbon capture and utilisation opportunities to significantly reduce emissions". It does not elaborate on what this means and does not mention storage. groundWork has previously been given to understand that Sasol's exploration off the KwaZulu-Natal coast is for carbon storage potential as well as for oil and gas – an 'opportunity' endorsed by South Africa's 2015 nationally determined contribution to mitigation under the Paris Agreement. Sasol recently opened new coal mines with the capacity to feed Secunda to 2050. Its climate report says "mining is not considered a growth area" and suggests that Sasol will "move away from coal as a primary feedstock post 2030". After noting the 10% reduction target, its Integrated Report says:

141 Chris Bianchi, *This State Is Taking the Brunt of the 2020 Hurricane Season*, Bay News, 30 October 2020; John Schwartz and Hiroko Tabuchi, *When Hurricanes Lead to Industrial Fires, Minority Neighborhoods Can Take a Hit,* New York Times, 27 August 2020.

142 Sasol Climate Change Report 2020; Sasol Integrated Report 2020, p.8

> However, in South Africa, we are heavily dependent on coal as a feedstock and as such have to ensure that we can sustainably source and deliver coal to our operations at the lowest cost. In 2020, we obtained approval to incorporate over 9 000 hectares of additional reserves into the existing Secunda mining area, significantly extending the life-of-mine and in so doing completing our 2050 reserve acquisition initiative.[143]

**Renewables**: By 2024, Sasol says it will invest R500 million in renewables with about the same to follow in the next five years. Sasol sees an annual reduction of between 1.6 and 2 Mt $CO_2e$ along with a substantial reduction in its electricity bills.

**“Gas** is central to our new strategy,” says Sasol. It is “a bridge to a low-carbon future” to be used both for power and for gas-to-liquids as a cleaner alternative to coal-to-liquids. From 2025 to 2030, it plans an estimated R11 billion in gas conversion. Meanwhile, “We are actively engaging with key stakeholders to pave the pathway for large-scale natural gas in South Africa.” This sounds less like a bridge and more like lock-in.[144]

**Hydrogen**: Sasol is “evaluating both gas-based and green hydrogen production pathways”.

While Sasol promotes expanded gas use, production from its existing Mozambique fields will decline from 2024. It is actively exploring for gas in two concession blocks – off southern Mozambique and to the north off Angoche. Alternatives may also include pipeline gas from Cabo Delgado and/ or LNG landed at Maputo, regassed and linked to the Rompco pipeline. But these alternatives pose a substantial risk that gas will be “unaffordable”. Up to now, Sasol has done very nicely with Mozambique’s gas. According to Justica

143 Sasol, IR 2020, p.98.

144 The groundWork Report 2007 already observed that the ‘gas bridge’ was a mirage.

Ambiental (Ja!), Friends of the Earth Mozambique and groundWork's sister organisation, it has used all the tricks of the transnational corporate trade.[145]

Thus, Sasol:

- pays about a quarter of world market prices for the gas;
- understates production in its Mozambican tax returns; and
- overstates production costs by as much as three times.

So, while Sasol is draining money from South Africa to pay its dollar debt in the US, it is also draining money from Mozambique to secure an 'affordable' gas feedstock to Secunda. And nor is there any real benefit to the people and local economy in the places where it operates, says Ja!. There are few local jobs and major threats to people's environments and livelihoods. Hence, Sasol's plans to explore for gas in the shallow seas around Bazaruto, an important site for fishing, conservation and tourism, met with concerted local resistance. The community claimed a significant victory when Sasol finally relinquished its rights to the concession blocks.

Sasol's mitigation programme is rounded off with the classic false solution of offsets. Sasol's immediate purpose is to limit its liability under Treasury's less than rigorous carbon tax scheme. It has bought up "independently verified emission reduction certificates from reputable carbon retailers" and "saved in excess of R200 million in carbon tax liability".[146] That Sasol needs to say 'reputable' is an indication of the general disrepute of carbon markets. It's a little like 'Honest Harry's Used Cars'. Offsets claim credits for reductions made elsewhere – meaning that the reduction cannot be claimed where it is actually made: they pretend climate virtue even as they signal the buyer's failure to reduce emissions.

145 Ja! *The gas curse in Mozambique: Sasol's broken promises and economic robbery*, presentation 17 November 2020.

146 Sasol, Climate Change Report 2020, p.25.

But climate virtue is often claimed on both sides. In 2007, Sasol installed nitrous oxide abatement equipment at its nitric acid plant in order to claim carbon credits under the so called clean development mechanism of the Kyoto Protocol. Nitrous oxide is a potent greenhouse gas with each tonne equivalent to 310 tonnes of $CO_2$ and Sasol emitted 3 500 tonnes of it – or just over a million tonnes $CO_2$e. It sold the carbon credits for a good return on its investment while still taking credit for the reductions. Now, in 2020, it says its R200 million carbon tax offset "was directly attributed to Sasol's Nitric Acid projects".[147] So it seems that Sasol is claiming carbon credits for what it does not emit and subtracting that from what it does emit. The reputability of carbon markets – or Treasury's carbon tax offset programme – is scarcely improved.

Sasol says it supports the Paris goal of limiting global warming to below 2°C and preferably 1.5°C. This would suggest a precipitous reduction in emissions. Just to make the 2° target, Burton et al [2019] show that its emissions would need to be zero by 2040. Sasol is clearly not in the ballpark and its climate response looks more like managing perceptions than a serious recognition of just how far and how fast it needs to move.

At its 2018 annual general meeting, shareholder activists put forward a resolution asking Sasol to assess what meeting the 2° target would mean for it. Sasol's board refused to table the resolution on the basis of a legal opinion that it "refused to share", says activist group Just Share. It similarly refused to table resolutions in 2019 and 2020. But it has now cobbled together a supposedly legal reason: shareholders are not entitled to vote on it because the resolution seeks "to micromanage the company" and usurp the board. This argument is patent nonsense but has nevertheless been adopted by Standard Bank, with whom Sasol has several directors in common.[148]

147 Sasol, Climate Change Report 2020, p.29. See also Sasol media release, ***Sasol to receive carbon credits***, 23 July 2007; and Sasol Nitro presentation, ***Nitrous Oxide Abatement Project***, November 2011.

148 Andrew MacDonald, ***Sasol rejects AGM climate motion, again***, Africa Report, 18 November 2020; Tasneem Bulbulia, ***NGOs call on global investor climate initiative to intervene in Sasol shareholder issue***, Engineering News, 10 November 2020; Just Share news post, 10 November 2020, at https://justshare. org.za/media/news/ngos-call-on-global-investor-climate-initiative-to-intervene-in-sasols-ongoing-attempts-to-ignore-shareholder-voices

**Box 5: Not Zero**

'Net Zero' is the mantra for global corporates who at least want to pretend to a climate response. In February 2020, BP declared it would get to net zero by 2050. The rest of Europe's big oil corporations followed: Shell, Total, ENI, Equinor and Repsol have all announced net zero targets in what Nicholas Kusnetz calls "a rapid-fire game of one-upmanship".[149] Beyond Europe, Malaysia's Petronas, which owns Engen, has also announced its "aspiration" for net zero by 2050. And Eskom, Africa's biggest polluter, has now also declared that it will go net zero by 2050.

Big oil in the USA, ExxonMobil and Chevron, have set no targets but say that they will reduce the intensity of their pollution. In common with their European peers, however, the intensity of their advertising responds to growing public concern about the climate crisis. This may change, but not necessarily replace, the old business-as-usual of misinformation, obstruction, obfuscation, secrecy, lies and bullying that is the stuff of climate denial.

We have been here before. BP declared itself 'beyond petroleum' back in 2000 and apparently did rather well on it. Even in America, consumers wanted to fill up super-sized SUVs with environmental love before heading out to the back of beyond to bask in nature. BP sold more petroleum. A few years later, however, investors wearied of green BP and demanded that it focus on its core business – petroleum.

Since 2000, another 800 giga tonnes (Gt) of $CO_2$ have puffed into the atmosphere and investors and policy makers are again feeling the heat from the climate movement and looking for alibis. But there are big problems with the current crop of targets. First, net zero by 2050 is very likely too late for limiting global heating to 1.5°C or even 2°C. Second, as Kevin Anderson of the UK's leading climate science institution, the Tyndall Centre, says, "Net zero is not zero".[150]

149 Nicholas Kusnetz, ***What Does Net Zero Emissions Mean for Big Oil? Not What You'd Think***. Inside Climate News, 16 July 2020.

150 Andrew Simms, ***Turning Delusion into Climate Action: Prof Kevin Anderson, an interview***, Scientists for Global Responsibility, June 18, 2020

Net zero assumes that, however much carbon is emitted into the atmosphere, an equal amount can be removed. The more that is emitted, the more must go into the 'net'.

So, taking the case of BP, how much does it emit and how much must go into the net? From operations – blasting, drilling, piping, leaking, shipping, trucking, flaring, refining, generating etc – it emits 55 million tonnes (Mt $CO_2$).[151] This does not include spilling, exploding and burning out, as when the Deepwater Horizon well blew from four kilometres beneath the seabed in the Gulf of Mexico. Mixed oil and gas blasted the rig, which burned for two days before sinking under a plume of black smoke. Eleven workers were lost and at least 5 million barrels of oil gushed into the sea. That doesn't count and is not mentioned.

Rosneft also doesn't count. BP owns 20% of the Russian company and gets 40% of its oil and gas from there. Rosneft has no target for reducing emissions, even though the arctic permafrost is melting under its infrastructure of pipelines and oil tanks, and BP is not counting its share which amounts to 180 Mt $CO_2$ a year. Nor is it counting its extensive oil and gas trade associated with another 455 Mt $CO_2$.

'Scope 3' emissions are from petroleum products sold to be burned in cars, trucks, ships, planes, furnaces, power plants, and the like. Products sold by BP burn a billion tonnes a year into the atmosphere. But instead of zero, BP says it will reduce the carbon intensity of its products by 50%. So that will come down to half a billion tonnes in 2050. Unless, of course, BP successfully grows its market as it intends. If it halves the carbon intensity but doubles the market, it will end with a billion tonnes.

How will it reduce the carbon intensity? It will focus on gas power, to replace coal, and build a bit of wind and solar on the side. BP emphasises that gas emits half as much carbon as coal power. But then it doesn't have any coal power so displacing coal makes for a major expansion of its power business.

151 BP statements, *BP sets ambition for net zero by 2050, fundamentally changing organisation to deliver*, 12 February 2020; *From International Oil Company to Integrated Energy Company: bp sets out strategy for decade of delivery towards net zero ambition*, 4 August 2020.

BP also calls for carbon capture and storage (CCS) but this "requires significant upfront investment", and hence, "government funding and supportive policy will be crucial to making [it] economically viable". So that is a large subsidy for a technology that keeps failing.

On the road, the plan is to promote electric cars and biofuels produced from monocrops in partnership with agribusiness behemoth Bunge.

BP does count another portion of scope 3 emissions for the carbon in the oil and gas that comes from its own wells. That comes to 360 Mt. So, together with the emissions from operations, they'll go 'net zero' on about 415 Mt $CO_2$ out of about 1.7 billion tonnes. That 415 Mt may be reduced along with their overall carbon intensity depending on how big they go on renewables and batteries, and how much carbon they capture and pump down the rabbit hole into Wonderland.

BP does commit to cutting its own oil and gas extraction – excluding Rosneft – by 40% by 2030 and is the only oil major to do so. For this reason, it does slightly better than its peers in an assessment of the oil majors' climate plans carried out by Oil Change International. But this is scarcely an accolade for BP. It is rather an indictment of the depth of "failure across the board" of oil majors [Tong 2020].

"Net zero," says BP, means "a balance between anthropogenic emissions and removal by sinks …" These sinks are to be found in "natural climate solutions" – this is given the acronym NCS which apparently makes it sound real – which "can be delivered by restoring and changing the management or use of a wide range of habitats, including wetlands, forests, grasslands and agricultural or coastal areas".

Thus, the net of net zero is composed by restored nature, which will take back the fossil carbon that BP sucks from beneath the earth and burns into the sky. And then there's the net zero from Shell and Total, from Eskom, from every mining house, from cement and steel makers, from ships and aeroplanes. Shell alone would need to forest an area as big as Spain and that is not counting land for biofuels.

For its net, Eskom says it will invest in "NCS, agriculture and forestry projects" and will buy carbon credits from the carbon market.[152] By 2050, its existing fleet of coal-fired power stations will be closed except for Medupi and Kusile. These two plants will emit up to 60 Mt $CO_2$ a year and Eskom is also proposing to build gas plants. So that potentially makes for substantial "residual" emissions to put into the 'net'.

And beyond the corporates, there's a growing list of countries committing to net zero by 2050: Sweden, the UK, France, Denmark, New Zealand, Hungary, Japan, South Korea and China (by 2060).

In the period 1850 to 2010, emissions from 'land use change' – that is, from the all out assault on forests, wetlands, grasslands and savannas – put over 660 Gt $CO_2$ into the air. That compares with 1 340 Gt $CO_2$ from burning fossil fuels. Restoring earth is certainly necessary – but it only restores some of the carbon lost in 'land use change'. This is above ground carbon. It does not 'offset' continued emissions of fossil carbon from below. As it is, the assault on the forests is accelerating with carbon losses of some 5 Gt each year. More wildfires are burning on all continents and the permafrost melting under Rosneft's pipelines is disgorging carbon directly into the air. So 'natural climate solutions' may be hard put to keep up with the ongoing loss of terrestrial carbon as nature breaks up.

The carbon markets promoted by global business nevertheless demand the equivalence of all carbon. Everything is fungible on the capital markets. Including nature.

There are two more problems with the easy assumption that the net in net zero will accommodate all comers: First, what is meant by a forest? The record of offsets to date suggests that, if there are trees standing, it will count. But there is a world of difference between a living natural forest with diverse species and a dead land concealed beneath the serried ranks of monocrop plantations. Moreover, the trees in timber plantations will mostly be harvested and, if they are pulped, the stored carbon will be lost.

152 Mandy Rambharos, ***Eskom Just Energy Transition, Presentation for TIPS webinar***, 17 November 2020.

Second, whose land will be taken for NCS? Carbon markets have been stuttering along since the mid 2000s with zero impact on emissions. But they added impetus to the land grabs in Southern countries where the rights of peasants, pastoralists and forest dwellers are expropriated in the name of 'sustainable development'.

## Coal

Coal is in decline. It is at the centre of the minerals-energy complex that shaped South Africa's development and which is now fragmenting. The groundWork Reports have observed how things fall apart for several years now. *Down to Zero*, the groundWork Report 2019, documented the politics and economics of decline. We saw a transition but one that is unplanned, chaotic and unjust. This section provides an update.

Coal prices have followed the same pattern as oil, crashing in 2008, recovering to $130 in 2011, sliding to $50 in 2015 before recovering somewhat in volatile trade [see gWR 2019]. In January 2020, the price at Richards Bay was looking up at just over $80 to the tonne. It started slipping in February and crashed to under $50 in late April. Prices tend to rise towards the end of the year and by late November had just topped $65 before suddenly spiking.[153] Export volumes have declined over the last two years and will be heavily down this year as demand in India, which takes over half South Africa's exports, and other key markets slumped. A Chinese blockade on Australian coal, in retaliation for an Australian block on Chinese tech company Huawei, left 50 coal ships at sea but barely lifted prices. It nevertheless opened the Chinese market to Russia and South Africa.

As the dollar coal price dropped, so did the Rand to the dollar. Consequently, Rand earnings for South African exporters held up. Moreover, Exxaro reported higher export volumes in the first half of the year as importers stocked up on

153 See African Source Markets Weekly Coal Index Reports for prices;

cheap coal. The company expected reduced exports in the second half and it will get fewer Rand to the dollar even as the coal price rises.[154]

Companies relying on the domestic market have not done well. Under the lockdown, Eskom was declared an essential service together with the mines that supply it. In April, however, demand for electricity dropped by about a third and Eskom issued force majeures, first to the renewables companies and then to the coal companies. With diminished revenues from sales, it said it could not afford to honour supply contracts. The force majeure stayed in place to mid August. Exxaro threatened legal action but said there had been little real impact on its supply to Eskom. Minor company Wescoal, by contrast, says its sales were reduced even as its production increased. It is therefore stockpiling a lot of coal, no doubt at risk of spontaneous combustion, but also looking to retrench workers and reduce production.[155]

In December 2019, Eskom's incoming CEO Andre de Ruyter was promised a fiery reception by the NUM. This has not materialised. Rather, he seems to have brought a measure of stability to the enterprise along with a more realistic sense of shifts in energy markets and of the necessity of a transition from coal in response to climate change. Eskom has established a just transition office and begun to explore what to do with its power stations as they shut down. Its priority is to avoid formal decommissioning, which comes at a cost, and to bring in private partners who will fund 'repowering' and/or 'repurposing'. Repowering would substitute other generation technologies for shut down coal plants, making use of existing infrastructure. This process is being run by the Generation Division and may include solar PV but appears to favour gas-fired power. Repurposing, run by the Research and Development section, takes a more open view of power station repurposing to include manufacturing and other activities. groundWork proposed that they be transformed into Just Transition Centres [see Chapter 7].

154 Lisa Steyn, ***Exxaro braces for uncertainty after 'surprisingly great' first half of year***, Business Live, 13 August 2020.

155 Tasneem Bulbulia, ***Eskom force majeure notification withdrawn with immediate effect***, says Exxaro, 14 August 2020; ***Wescoal starts retrenchment process as low domestic***, export demand persists, Mining Weekly, 18 November 2020.

The IRP 2019 calls for 1 500 MW of coal-fired power, with 1 000 'already allocated' to two private plants – Thabametsi and Khanyisa. Thabametsi has now been cancelled. This follows years of fierce contestation by the Life After Coal campaign – Earthlife Africa, groundWork and the Centre for Environmental Rights. They challenged Thabametsi's environmental authorisation in court, because it did not consider climate impacts, and won. A climate impact assessment was then required and it found that the impacts on the climate would be severe and also that climate change would put the plant itself at risk. The minister nevertheless issued a second authorisation and was again challenged. At the same time, the campaign issued challenges to all other approvals for both projects. Meanwhile, the environmental authorisation for Khanyisa has expired and a challenge to its water use licence has been successful. It will have to start again if it wishes to proceed.[156]

With allies in civil society, the campaign also called on financial institutions to divest from these projects and from funding coal. South Africa's big four banks – Standard, FirstRand, Absa and Nedbank – finally conceded and withdrew funding for these projects. They have since declared policies on funding for coal-fired power stations. Nedbank has excluded all lending for coal plants. Standard and Absa both follow OECD export credit criteria: they will only fund ultrasupercritical plants – except in the poorest countries where dirty old plants are apparently acceptable, as if it is acceptable to trade off the lives of poor people for access to electricity and as if poor people will actually get access to that electricity. FirstRand merely requires 'enhanced due diligence', taking account of coal types and efficient burn technologies amongst other things but essentially leaving investment decisions to executives.[157]

All the banks similarly require enhanced due diligence for funding coal mines. While this leaves the door open, coal miners complain that it is increasingly difficult to get funding for projects. New coal investment has fallen from R4.5 billion in 2010 to R2.5 billion in 2018, an average decline of 15% per

156 Melissa Fourie, Bobby Peek and Makoma Lekalakala, ***SA saved from the R12.57bn environmental disaster that Thabametsi would have been***, Business Live, 30 November 2020.

157 See https://justshare. org. za/investor-hub/shareholder-resolutions-agms and the banks' own sites for policies. Also OECD, ***Arrangement on officially supported export credits***, January 2020.

year, according to the Minerals Council of South Africa.[158] This may be because investors think they will not get an adequate return or fear that coal markets are vulnerable to sudden collapse and they will be left with stranded assets. The exit of coal majors from South Africa is also no doubt both symptom and cause of this trend. One possible outcome is that, even as Eskom's coal requirement shrinks as power stations close, the coal supply will fall faster. This would force early closure of power units and add to the chaos of the transition. Alternatively, if the DMRE gets in touch with reality, it would see reason for urgency in the transition.

In this unpromising context, several new mines have been proposed for the Waterberg, with environmental impact assessments in process under cover of Covid during 2020. The viability of these mines on a difficult coal field is open to question. If any of them get digging, as we argued in the groundWork Report 2018, they are likely to do environmental damage and then go bust. Resgen's Boikarabelo project, on the banks of the Limpopo River, was to be funded by the PIC, the IDC and Noble, a private commodities trader based in Singapore. The IDC, having suffered losses in the 2020 financial year and facing more losses this year, notably from the Sasol crash, finally withdrew from this ill-advised investment in October 2020. It said it was tightening its investment criteria and, having taken another look at the project, found that the market conditions for the mine had "deteriorated materially".[159]

Eskom is now calling for the build out of renewables to be expanded from the allocation made in the IRP 2019. With up to 12 000 MW of Eskom capacity closing by 2030, much more wind and solar needs to be built to replace it because renewables have lower load factors.[160] De Ruyter observes that the 1 500 MW coal allocation will not be built by 2030 if ever: … "even if you could get the money … to build a new coal plant – and that's going to take you the better part of a decade – you then have to comply with environmental

158 https://www. mineralscouncil. org. za/sa-mining/coal at 1 December 2020.

159 David McKay, ***Resgen's R4.2bn Boikarabelo coal project on the rocks as IDC pulls financial support***, MiningMx, 28 October 2020.

160 Coal fired plants have a theoretical load factor of around 85%. Wind and solar have a load factor of around 30 to 35%. So around three times as much capacity is needed to produce the same amount of electricity. Even so, the renewables work out much cheaper per unit of electricity produced.

emissions". This would be a very tough ask. Nor does nuclear fare better in his analysis:

> If you start to look at the capital cost of building new nuclear and you look at the time associated with that, it will take you 12 to 15 years to bring new nuclear online and it will probably cost you about R1.80/kWh. So, when you compare that to new wind, at about 70c/kWh, and you look at solar photovoltaic electricity, which is about 60c/kWh, and the fact that you can bring wind and solar online in about 18 to 24 months, the decision kind of makes itself, even if you ignore any environmental considerations.[161]

The decision evidently does not make itself for the minister. At successive African ministerial forums on a clean energy transition hosted by the International Energy Agency and the African Union Commission, Mantashe has insisted that a just transition must be 'systematic' – meaning slow – in line with the IRP. He was alone in defending the building of new coal, arguing that it would give space for clean coal technologies, and he also suggested that nuclear power might be added into the mix by 2030. South Africa's "biggest preoccupation", he said, was to give everyone access to electricity.[162]

This justification rings hollow. Already growing numbers of people who are connected to the grid can't afford the electricity and are cut off. The new coal in the IRP will add around R45 billion to a least cost plan and whatever is reckoned as 'clean coal' – which remains a contradiction in terms – will come at a considerably greater cost, as is argued in the groundWork Report 2019. Adding nuclear will propel costs and prices ever higher. As it is, the price escalations since 2008 have been driven by the cost of building Medupi and Kusile – corruption included – and rising coal costs. And tariffs are still below cost – corruption excluded, according to De Ruyter. The standard tariff is now R1.06 and should be R1.30 to cover costs – a 22% hike.

161 Terence Creamer, ***De Ruyter calls for upscaling of power procurement plans as he questions whether coal IPP will proceed***, Engineering News, 24 November 2020.

162 Terence Creamer, ***Shift from high – to low-carbon must be systematic and just – Mantashe***, Engineering News, 9 July 2020; Terence Creamer, ***Surging Covid-linked borrowing costs pose threat to Africa's energy transition***, Engineering News, 24 November 2020.

The tariff is set by the National Energy Regulator (Nersa) but Eskom has challenged its decisions in a series of court cases and won. This will likely raise the tariff to Eskom's R1.30 target. But it scarcely resolves the contradictions in the power system. First, it will drive Eskom further into the 'utility death spiral', where rising prices result in falling demand and lower revenues. Big energy users are impatient to build their own RE plants in order to reduce costs and increase reliability. Gold Fields, for example wants to build a 40 MW solar plant. Many smaller projects are also contemplated but developers must get a Nersa generation licence for any grid connected plant over 1 MW and they must show that it fits in with the IRP allocations.

It is estimated that 3 400 MW would be built in short order if these regulations were relaxed. This would be the quickest way of resolving the electricity supply crisis that has resulted in loadshedding for the last 14 years [Steyn & Renaud 2020]. As things stand, this added capacity does not come at Eskom's expense since Eskom cannot make up the shortfall and its capacity will decline further as plants are closed. Nevertheless, it highlights the failure of the IRPs, discussed in the groundWork Report 2019, to conceive of integrating the poor majority into an emerging decentralised renewable system. It should be added that many townships are already dealing with the most erratic supply and, like Gold Fields, people are looking for greater reliability and control.

Second, it will intensify the crisis of municipal debt to Eskom. The utility says that 48 municipalities owed it R31 billion at the end of July, up from R20 billion in 2019. It has negotiated repayment agreements with them but only 19 are honouring those agreements. The 20 most indebted municipalities owe around R25 billion and all but one are failing to honour their repayment agreements. Eskom has had a tough ride through the courts but now seems to have established the right to impose cuts on defaulting municipalities and is doing so during demand peaks.[163]

This comes at a cost to essential institutions such as hospitals, municipal systems such as water and sanitation, people who are dependent on electricity

163 Tshegofatso Mathe, Eskom caught in debt trap, Mail & Guardian, 4 September 2020; Marleny Arnoldi, Landmark court judgment enhances Eskom's collection efforts, Engineering News, 14 October 2020.

and local businesses who do pay their bills. Maladministration is likely in play in most cases and there is a further twist that national government departments often don't bother paying their municipal bills. But the overriding issue is that Eskom is left holding the can for the dysfunctions of government. It is highly unlikely that the poorest municipalities can ever pay this debt. They are manifestations of state failure at local level and cannot deliver on basic municipal functions, let alone on the developmental local state that has been devolved to them. The debt merely entrenches their incapacity and, since most of them have a high proportion of poor people, it also entrenches poverty. The claimed debt of the people of Soweto, where Eskom itself is the distributor, is equally unpayable. Besides, the amount looks like a blind estimate of consumption with interest added.

Third, the tariff hike entrenches poverty across the country, not just in the failing municipalities. The poorest two thirds of people are being driven to choose between food and the means to cook it. And they are taking on debt not to Eskom but to the mashonisa. Fourth, government, business and labour all want cheap electricity but adequate revenues for Eskom. In December, the DMRE approved a framework for 'negotiated pricing agreements' for big industry users.[164]

The 'social partners' in Nedlac have negotiated a "Framework Agreement for a Social Compact on Supporting Eskom for Inclusive Economic Growth". The contradictions outlined above are implicit in the title. The plan calls for cheap power for industry and community and cost recovery for Eskom. And it says that everyone, from municipalities to residents, who owes Eskom money must pay it. "The Community constituency will lead the revival of the *Masakhane* campaign, which will be implemented in communities across the country … [and] must commit to working with law enforcement agencies to combat and remove illegal connections, and support the installation of pre-paid meters in all dwellings" [para. 2.4.2 & 4].

164 Terence Creamer, ***EIUG urges members to apply for relief under negotiated pricing agreement framework***, Engineering News, 8 December 2020.

Outside Nedlac, no-one really knows who the community representatives are or how they got there. What they have agreed here is directly in conflict with the Soweto Electricity Crisis Committee, one of the first wave of post-apartheid social movements that came out of the resistance to GEAR, privatisation and cost recovery in the late 1990s, and which specifically opposes pre-paid meters. It will also run into conflict with communities all over the country, particularly in shack settlements, where the only connections available are illegal connections. Already, there are high levels of conflict between communities over connections and this merely stokes it up. The agreement does say that "Government commits to reviewing the adequacy of the free basic electricity grant in light of the high cost of electricity" [2.3.5], but this is a commitment to nothing.

In respect of Eskom's R480 billion debt, more than half of which is unpayable, the agreement says "the social partners are committed jointly to mobilising adequate financial resources for Eskom" [2.8.3] but outlines no plan. It calls for a low cost of capital but "appropriate" returns to investors including pension funds. This steps back from Cosatu's earlier proposal, subsequently adopted by the other union federations represented in Nedlac, that the PIC, the IDC and DBSA should bail out Eskom's unpayable debt subject to a wide ranging set of conditions. The PIC, it should be recalled, manages the investments of the bloated Government Workers' Pension Fund, which has much more money than is needed to pay pensions, now or in the future. The surplus is a key driver of financialisation, serving to inflate asset prices on the Johannesburg Stock Exchange and to drain public money into private hands.[165]

Eskom itself seems to be exploring a second proposal, put forward by the Presidential Task Team on the debt, for the so called Just Transition Transaction. This proposal supports Eskom's ability to borrow on financial markets at substantially reduced interest but does not of itself reduce the debt. It would also provide a pot of grant money for government to fund a just

165 The Cosatu proposal was discussed in the groundWork Report 2019. In February 2020, it was adopted as a joint proposal by the unions in Nedlac: Cosatu, Fedusa and Nactu. For the over-endowed GEPF, see Dick Forslund, ***The Government Employee Pension Fund, budget austerity and the Eskom debt crisis***, Daily Maverick, 29 August 2019.

transition. In return, government and Eskom would speed up on shifting out of coal and into renewables.[166] For its part, government has not produced any plan to deal with Eskom's debt, or the debt of municipalities, or the provision of affordable electricity.

Finally, the Nedlac agreement calls for a just transition to "reduce carbon emissions in accordance with our international commitments" [2.10.1]. The only international commitment recognised by government is that given in its Nationally Determined Contribution to the Paris Agreement. In respect of mitigation, this is the wholly inadequate 'peak, plateau and decline' trajectory. The agreement makes noncommittal statements about supporting areas affected by the transition and supporting worker and community participation and social ownership of renewables.

More positively, it calls for measures to "stimulate new economic sectors" and localise production, notably in manufacturing renewable energy components, electric vehicles and batteries. Eskom's role is to "expand its portfolio of renewable energy sources, gas and other forms of clean energy …" and to "assess options for the repurposing of power stations". The inclusion of (fossil) gas as a clean energy is retrograde, though in line with the DMRE's fantasy of economic redemption. The 'other forms' probably refer to 'clean coal', which is explicitly called for in the Nedlac unions' proposal.

For all that it contains the odd spark of light, the agreement presents a truncated vision of a just transition. The invocation of 'inclusive economic growth' is mere ritual incantation. Beyond the fact that it pins inclusion to economic growth, there is nothing there – mercifully, not even the NDP version of economic inclusion based on cheap labour. The only role for 'community' is to pay its bills in line with the inverted solidarity of *Masakhane*. And the document displays no sign of climate or environmental literacy. The urgency of the climate crisis belongs in another world, outside the Nedlac chamber.

166 Terence Creamer, ***Fresh moves under way to address debt albatross at loss making Eskom, Engineering News***, 30 October 2020. We also discussed the JTT proposal last year.

# 6 Air, water and madness

This chapter explores three frontiers where elite agendas are at play.

First, air. In south Durban, people have lived with petro pollution for 66 years. Following yet another explosion and fire at Engen refinery, they are calling for it to close and for a just transition to be planned with the full participation of the people. On the coal fields, Eskom's historic disdain for the environment now leaves the state looking for a way out of applying the law on minimum emission standards.

Water is essential to life and to the Covid hygiene regimen, but provision has been deteriorating for many years. The Amathole district in the Eastern Cape is symptomatic. Under the lockdown, water activists nationwide responded with outrage and solidarity to the arrest of 10 people in Amathole for attending a meeting to address the failure of water services. This section unpacks the layers of state failure – at the local and district municipalities, at the Amathola Water Board and at the national Department of Water and Sanitation – that have left the taps dry.

Water is also at issue in the madness in Makhado where political leaders – from the president to the provincial premier to the local mayors – appear spellbound by a Chinese led mega project for the so called Energy and Metallurgical Special Economic Zone. This is a project primed for looting. If built, it will stand as a monument to climate and environmental injustice and it will trash the Musina Bushveld and suck the local region dry before failing.

## Air

The lockdowns cleared the air in some of the world's dirtiest cities. In Delhi, people expressed disbelief and delight at seeing a clear blue sky, some for the first time. In Sao Paulo and Bangkok, people celebrated clean air. And people with asthma found they could breathe. Even in First World Britain, some two million people with respiratory ailments found their symptoms easing. In China, 24 000 premature deaths were avoided in February and March, while Europe saw 2 000 fewer deaths between February and May, according to a study just out [Giani et al 2020]. In China, the factories were already starting up again in March. Europe has now gone into a second lockdown but elsewhere, as in Delhi, the dirty grey of pollution again covers the sky.[167]

In South Africa, people also saw the improvement in air quality. This was a remarkable testament to just how unsustainable 'normal' economic development is, as Rico Euripidou, groundWork's environmental health campaigner, observed. "The poor and most vulnerable suffer most from the health impacts of air pollution and climate change, and they will suffer most from Covid-19 and the economic crisis. That will be used to justify a return to normal, but it is precisely the normal economy that made them poor and vulnerable in the first place."[168]

And the benefit was partial and temporary. It was partial because, even at lockdown level 5 in April, many of the dirtiest plants, including Eskom's big power stations, Sasol's synfuels and chemical plants and Sapref, the country's biggest oil refinery, were still pumping out pollution, albeit at a reduced rate. And it was temporary because, for all the talk of building back better, it seems that the strategy of all the 'social partners' in Nedlac – government, business and labour – is to grab onto whatever they hope will produce growth as quickly as possible.[169]

167 Hannah Ellis-Petersen in Delhi, Rebecca Ratcliffe in Bangkok, Sam Cowie in São Paulo, Joe Parkin Daniels in Bogotá and Lily Kuo in Beijing, ***'It's positively alpine!': Disbelief in big cities as air pollution falls***, The Guardian, 11 April 2020; Samuel Lovett, ***Lockdown: Nearly two million Britons with lung conditions report improvement as air pollution drops***, The Independent, UK, 3 June 2020; ***Delhi's air quality 'very poor', likely to become 'severe' on Diwali night***, Economic Times, India, 14 November 2020.

168 Sharika Regchand, ***City enjoys cleaner air***, The Witness, 20 April 2020.

169 As was made clear by Matthew Parks, Cosatu's parliamentary officer, at a Naledi seminar on climate and recovery, 19 November 2020.

## Petro pollution

In the cities, the cleaner air resulted from less traffic burning less petrol and diesel. South African Petroleum Industry Association (Sapia) reported a 60% drop in demand for liquid fuels. South Durban is one of the most intense pollution hot spots in the country, primarily because it hosts the two biggest refineries – Sapref, which is owned by Shell and BP, and Engen owned by Petronas, Malaysia's national oil corporation, and BEE company Phembani. Engen and Glencore's Astron refinery in Cape Town shut down on the 27th of March as the lockdown started. Both cited the expected drop in demand. Natref, Sasol and Total's crude oil refinery in Sasolburg, shut down two weeks later and Sapref closed the next week on the 13th of April. Demand for diesel recovered sharply as the mines and major industries went back to work in May at lockdown level 4.[170]

In the neighbourhood of these plants, people experienced relief. People could breathe easier, but Desmond D'Sa of SDCEA observed that a temporary halt to pollution would make little difference to the incidence of cancers and leukaemia. Both Durban refineries were fired up in the second half of May and the respite was over. Sapref's start up was accompanied by heavy flaring, which SDCEA attributed to the refinery doing minimal maintenance during the shutdown. D'Sa noted that the Covid-19 case load was rising rapidly at this time and that preliminary findings from international research indicated links between pollution and the number and severity of Covid infections. At Engen, excessive $SO_2$ emissions almost immediately stank out the neighbourhood in late May and early June and local people reported breathing difficulties as well as headaches and nausea. In late July, the refinery leaked methyl mercaptans – a foul smelling sulphur compound. The smell permeated the neighbourhood, causing nausea and inducing asthma attacks. Engen said it was a small leak and not harmful.[171]

170 Elaine Mills, ***South Africa Sasolburg refinery to restart in mid-June***, Argus Media, 1 June 2020.

171 SDCEA media release, ***Restarting Sapref – the Shell/BP refinery – in Durban is a disaster for people, public health and climate***, 10 May 2020; Zainul Dawood, ***Engen refinery gas leak has some south Durban residents'gasping for air'***, Daily News, 29 July 2020. For Covid and pollution, see for example: Damian Carrington, ***Coronavirus detected on particles of air pollution***, The Guardian, 24 April 2020. Three papers had been published at this time but more research is needed to corroborate the results.

In Cape Town, on the 2nd of July, Glencore's Astron refinery blew as it was starting up. The explosion and subsequent fire killed two workers and injured seven. Refinery bosses immediately said there was no danger to the local community – never mind that a plume of thick smoke billowed up from the fire. The priority, however, seemed to be to maintain the supply of fuel. At year's end, the 100 000 barrel a day plant remained shuttered.[172]

In October, it was reported that Engen would close the refinery in 2023 and use the site for fuel storage. Engen said that depressed demand and low profit margins made for a negative outlook. Internationally, "the emergence of mega sized, integrated and complex refineries [resulted] in excess global fuel supply …".[173] This argument, that it is cheaper to import fuel than to refine it locally, has been repeated by the major refiners over the last decade, in part to justify not investing in refinery upgrades to meet tighter fuel quality standards.

KZN politicians reacted with alarm and immediately sent a team of officials to meet with refinery bosses. The MEC for Economic Development, Tourism and Environmental Affairs (EDTEA), Nomusa Dube-Ncube, spoke of "the abundant resources of the ocean, including fisheries, offshore oil and gas and maritime tourism". She said short term state support would be available to keep it open. "We remain determined to work with companies such as Engen to increase the participation of previously disadvantaged communities in sectors such as oil and gas …". A week later, Engen said it was considering several options for the refinery. "No decision has been made and Engen remains fully committed to operating the Engen refinery in a safe and reliable manner."

On the morning of the 4th of December, the refinery blew. The massive explosion was heard 20 kilometres away and it shook the ground for kilometres around. The blast was followed by an intense blaze with a thick plume of black smoke. Seven people were injured by breathing in smoke. A block of flats across the road caught fire. One family lost everything and some 30 people had to be evacuated. Houses in the area were damaged, with walls cracking. And people

172 Marleny Arnoldi, ***Two killed, seven injured in incident at Astron's Milnerton refinery***, Engineering News, 2 July 2020.

173 Shirley le Guern, ***Engen refinery set to shut down***, The Mercury, 9 October 2020; Gavin Smith, Engen spokesperson, ***Engen still considering options for refinery***. The Mercury, Letter, 15 October 2020.

were traumatised by the incident. D'Sa called for counselling. Engen and government promised to send in mobile health units but did not do so. He reiterated SDCEA's long standing demand for the city to develop an emergency response and evacuation plan. Many people had run out of their homes not knowing which way to turn. And the community wanted accountability both from Engen and the authorities. "We want a criminal investigation and managers of Engen, the mayor and DEFF must be held responsible for allowing it to continue operating. Engen must go."[174]

The refinery has a history of leaks, spills, explosions and fire on top of the everyday pollution from normal operations. This has made for a heavy burden of disease for the people of south Durban, with a very high incidence of respiratory disease and of cancers. But the impacts don't stop there. Both Durban refineries are located on what used to be wetlands that worked as a floodplain. Since 2008, as Shanice Firmin of SDCEA records, the area has been flooded five times, with record breaking rainfall in 2017 and that record broken again in 2019. Hundreds of people were killed in these events and, with each such event, the toxics that saturate the ground at the refineries and numerous other industries in south Durban are mobilised into the floodwaters. The increasingly extreme weather events are caused by climate change to which Engen, Sapref and their parent corporations are major contributors.[175]

On the 9th of December, hundreds of people protested at Engen's gates, calling for it to close down. Posters read: "66 years of Engen's toxic legacy: enough is enough". They demanded that the refinery managers:

- meet with the community to account for repeated serious incidents;
- immediately set up a fund for compensation for damage, injury and trauma; and

174 Desiree Erasmus, ***Engen is 'still killing us', says Durban community body after explosion at refinery***, Daily Maverick, 7 December 2020; Robert Brelsford, ***Fire temporarily shutters South Africa's Enref refinery***, Oil & Gas Journal, 7 December 2020; Lyse Comins, ***Activists seek answers after Engen blast***, The Mercury, 7 December 2020.

175 Shanice Firmin, Environmental Injustice in South Durban: Community caught between toxic polluters and climate shocks, at https://sdcea. co. za/2019/06/04/1969/

- meet with community and government to plan for closure and a just transition.

"We want them to close," said D'Sa, "but they cannot just run away." They owe an environmental debt to the community and cannot leave the people with a toxic legacy soaked into the land and into their bodies. The refinery needs to be dismantled and the whole site detoxed. groundWork director Bobby Peek points out that this process would create substantial employment. In contrast, Engen was cutting and casualising jobs even as it expanded the refinery capacity in the 1990s. This has increased the risk of incidents. Engen should be required to contribute to a just transition fund, both as reparation to the community and for long term investment in sustainable work and in people's health.[176]

And while government needs to get behind the just transition agenda, it must also take responsibility for the City's purposeful destruction, in 2010, of its own air quality monitoring network installed at considerable cost and with foreign aid from Norway. This means that it no longer has the tools to identify the levels and sources of pollutants in the air. The obvious conclusion drawn by the community is that it was done to benefit polluting industries and to the neglect of the health of local people.

## Playing with standards

Conflict over the regulatory regime is also raging on the coal fields, most particularly around minimum emission standards (MES) which limit how much pollution a plant is allowed to pump into the air. In April 2020, standards first introduced in 2015 were to be tightened. The 2015 'existing plant' standard for $SO_2$ was an extraordinarily relaxed 3 500 mg/Nm$^3$ and the 2020 'new plant' standard was to be 500 mg/Nm$^3$. Complying with it would require installing flue gas desulphurisation (FGD) on all Eskom plants. In January 2020, Eskom's environmental manager Deidre Herbst said, "If you told us today that you have

176 Steve Bhengu, ***Durban south community hands over memorandum to Engen***, East Coast Radio, 9 December 2020; Bobby Peek interviewed on SABC, 4 December 2020.

to roll out FGD on a plant, it would take us at least 10 years to get to the point where we would be retrofitting the first unit."[177]

But Eskom was not told only 'today'. Environmental justice organisations have been demanding emissions standards since 1994 because, without them, it is not possible to hold polluters to account. Standards were agreed in principle at the Consultative National Environmental Policy Process adopted in 1998. In 2000, following a series of pollution scandals, government agreed to develop a new air pollution law to replace the apartheid law that protected polluters. Emission standards were again central to the debate and the Air Quality Act passed in 2005 required that government develop them. The actual standards were negotiated for the next five years and finally published on the 31st of March 2010. Polluters were given another five years before they had to meet a first set of standards in 2015 and another five years before meeting tighter, but by no means world leading, standards.

During this 25 year period, Eskom, together with other big polluters including Sasol and the refineries, worked hard to prevent the introduction of any emissions standards whatsoever. When that failed, it worked to delay them and finally to make them weak enough to accommodate its existing emissions. But it has done nothing to meet the $SO_2$ standard. It has neither installed appropriate pollution control equipment nor has it chosen to build non-polluting renewables rather than coal-fired plants.

In 2014, it tried to get an exemption from complying with the 2015 standards and, when that was refused, it asked for and got 'postponements' to compliance. It then lobbied for the 500 mg/Nm$^3$ 2020 $SO_2$ standard to be replaced with the 3 500 mg/Nm$^3$ 2015 limit. In March 2020, the DEFF agreed to double the 2020 limit from 500 to 1 000 mg/Nm$^3$. None of Eskom's plants, with the exception of Kusile, will meet even this. So now, well after deadline for compliance with the new standards, it is negotiating 'alternative standards' to accommodate the existing emissions of $SO_2$, nitrogen oxides and particulate matter from each power station. For $SO_2$, these standards range from 2 600 mg/Nm$^3$ for Duvha

177 Bloomberg, ***Pleading for leniency, Eskom wants to slash emissions by 2035***, Engineering News, 9 January 2020; Alexander Winning, ***Eskom could need 20 years to meet new emissions rules***, Independent on Line, 28 January 2020.

to 4 000 $mg/Nm^3$ for Matimba. For the brand new Medupi station, it is also requesting a 4 000 $mg/Nm^3$ limit up to 2030 and 1 000 thereafter. Meanwhile, it has been looking for a way out of its obligation to install FGD on the plant.[178]

The doubling of the emission standard from 500 to 1 000 $mg/Nm^3$ will result in an estimated 3 300 premature deaths over the remaining lifetime of Eskom's plants, as Lauri Myllyvirta reports. If, however, "Eskom's requests for non-compliance with the MES are fully granted", 16 000 premature deaths will follow. Those deaths are just the tip of the iceberg of illness and suffering.[179]

Finally, the total impunity enjoyed by Eskom over so many decades has met a limit. In December 2019, the DEFF issued a compliance notice requiring two units at Kendal power station to shut down because they were emitting far more particulate matter than permitted. Nor were any of the other units in compliance and the DEFF required Eskom to produce a plan to rectify that. Moreover, Eskom had misrepresented emissions.

Following an appeal from Eskom, the minister, Barbara Creecy, confirmed the notice but allowed the utility some extra time to comply. De Ruyter then ordered a forensic investigation into the under-reporting of particulate emissions. The investigation found that emissions "of up to 10 times the allowable limit occurred consistently for extended periods over the past two years at Kendal Power Station". At the same time, in November 2020, the DEFF initiated a criminal prosecution on four counts which concern Kendal breaching its air emissions licence (AEL), polluting the environment and lying to the department's air quality officer. Meanwhile, in September, Eskom

178 DEFF press release, ***Cabinet approves amendment of sulphur dioxide minimum emission standards for coal combustion installations – mainly power generation existing plants***, 27 March 2020; Life After Coal, ***Objections to Eskom's applications for alternative limits to the minimum emission standards (MES) for the Medupi and Matimba power stations***, 28 August 2020; Terence Creamer, ***As Eskom rolls out boiler fixes to more Medupi units, it confirms FGD talks with World Bank***, 21 May 2020.

179 Lauri Myllyvirta, ***Air quality and health impacts of doubling the South African standards for SO2 emissions from power plants lead analyst***, Greenpeace, 3 July 2019; and ***Air quality and health impacts of ESKOM's planned non-compliance with South African Minimum Emission Standards***, Greenpeace, 19 March 2019.

suspended the station managers at Kendal and Tutuka, saying that apathetic management was contributing to ongoing loadshedding.[180]

As CER notes, the prosecution is the culmination of many years of campaigning "to end the impunity with which Eskom has been polluting the air". And nor is Kendal alone in breaching emission limits:

> In February 2019, the Life After Coal campaign submitted a detailed report to authorities showing that pollution from nearly all of Eskom's coal-fired power plants persistently and significantly exceeded the air pollution limits in its licences. U.S. coal plant expert Dr Ranajit Sahu found that, over a 21 month period until December 2017, Eskom's coal power plants exceeded its already weak licence conditions close to 3 200 times. The exceedances relate to all three regulated pollutants for coal plants, namely sulphur dioxide (SO2), oxides of nitrogen (NOx), and particulate matter (PM) – including soot and ash.[181]

## No water under Covid

Under Covid-19, water became an essential ingredient of 'non-pharmaceutical health measures', such as washing hands. In many areas, however, government failed to provide it. This was nothing new, the provision of water has been deteriorating for some time, both under local government and the Department of Water and Sanitation (DWS), while these institutions themselves are falling apart under the immediate pressure of corruption, the inherited inequalities of apartheid – the worst performing municipalities contain sizeable ex bantustan populations – and impossible and unfunded mandates.

The results under Covid were dramatically illustrated by the Centane case. Ten community leaders of the Nombanjane, Nxarxo and Ngcizele villages, were

180 Chris Yelland, ***Eskom initiates forensic investigation into its under-reporting of air pollution contraventions***, Daily Maverick, 18 May 2020; Chris Yelland, ***Eskom served with summons for criminal prosecution on charges of air pollution***, Daily Maverick, 29 November 2020; Sheree Bega, ***Eskom could be fined R5-million over pollution at Kendal power station***, Mail & Guardian, 2 December 2020; ***Eskom suspends 'apathetic' managers of power stations over load-shedding***, Business Day, 4 September 2020.

181 Centre for Environmental Rights, News post on 7 December 2020 at https://cer. org. za/news/another-milestone-as-criminal-charges-proceed-against-coal-polluter-eskom

arrested on the 14th of April, under the strict level 5 lockdown regulations, during a meeting to discuss water provision to 600 households in the Centane area. The Centane area falls under Mnquma Local Municipality (LM), Amathole District Municipality (DM) and under the Amatola Water Board. All three institutions are in a bad way, and as a result water services delivery in the area has been inadequate for many years.

This was one of the cases highlighted at a civil society webinar which brought together 17 organisations on the 17th of September 2020. The organisations presented a media briefing detailing the history and the broader water crisis under Covid. They observed:

> With nearly 1 million people dying each year from water, sanitation and hygiene-related diseases in South Africa, the lack of water access for millions of people means that the water crisis is a health crisis – one that could be significantly reduced with proper access to water and sanitation. The cumulative impacts of this crisis increase economic pressure and decrease the social quality of life, while exposing children and women to gendered violence. In South Africa the lack of water infrastructure, inefficient service delivery of water, sanitation and waste management, and lack of democratic engagement, has led to a systemic failure which severely undermines the human right to water for the essential and basic needs: drinking, hygiene, sanitation, economic activity, growing and cooking food.[182]

## Mnquma municipality's fraud and corruption.

The Mnquma LM earned the attention of Corruption Watch in September 2018, when 12 officials were arrested "in the wake of ongoing investigations regarding alleged fraud and corruption in the Eastern Cape Municipalities after they allegedly flouted tender procedures during the course of 2014 to 2016 when four tenders valued at R37 million were unduly awarded to entities they had ties to, in return for apparent gratification," according to provincial

182 https://cer. org. za/webinars/water-access-crisis

Hawks Captain Anelisa Feni.[183] Those arrested included the acting municipal manager Zonwabile Plata.[184]

Other cases of corruption include the black rubbish bags scandal, where ANC Eastern Cape regional secretary Teris Ntutu, together with business people Regis Masuku and Sive Nombembe, were accused of charging the Mnquma LM between R185 and R192 for a packet of 20 refuse bags, which usually sells for between R20 and R30 per packet.[185] In November 2020, the SCOPA committee in parliament heard that this case was still in progress.

## Amathole DM: tender fraud, money laundering and corruption

Mnquma LM is part of the Amathole District Municipality (ADM). Here, corruption is also rife. In November 2019, 13 ADM government officials and businesspeople were accused in court of tender fraud, money laundering and corruption involving more than R600 million, in a pit toilet scandal.[186] A Rhodes Business School MBA study [Snombo 2016] into the functioning of the ADM reported that the district municipality had vacancies in many key positions and few technically skilled staff, which led to outsourcing at high costs. Funds meant to fill vacancies were allocated to other expenditures, so the vacancies remained. And overstretched water infrastructure led to the suspension of projects to provide new yard taps, especially in rural areas.

The study also reports that “there was a period when the entire ADM did not have a single qualified electrical or mechanical engineer to manage technical aspects of water provision” (2016: 75), and that there was “a severe shortage of technically qualified and skilled people in a number of key functions” (2016: 74). Against this background, it is not surprising that delivery of water to communities was inadequate.

183 https://www. sanews. gov. za/south-africa/mnquma-municipality-officials-nabbed-fraud
184 https://www. corruptionwatch. org. za/mnquma-local-municipality-failure-governance/
185 https://www. dispatchlive. co. za/news/2017-05-01-hawks-pounce-on-anc-boss--ntutu-warned-to-hand--himself-over--refuse-bags-tender/
186 https://www. politicsweb. co. za/news-and-analysis/13-charged-in-amathole-district-municipality-pit-t

In addition, the Amathole District Municipality owes a large and rising debt to the Amatola Water Board. In November 2018 it was R136 million,[187] and by May 2020, it was more than R242 million. This of course makes it difficult for the water board to function.

## Amatola Water Board twice disbanded

The Amatola Water Board is responsible for the provision of bulk water supply and sanitation services, and reports to the Minister of Human Settlements, Water and Sanitation, Lindiwe Sisulu. Sisulu has disbanded the board of the Amatola Water Board twice now. In January 2020, she disbanded the board for undermining her authority and appointed an interim board.[188] Five months later, on the 2nd of May 2020, Sisulu announced that she had decided to end the term of office of the current interim board and would appoint legal administrators to manage the affairs of Amatola Water. She said she had tried for the nine months since becoming the minister to deal with "instability and infighting, which has rendered Amatola Water dysfunctional".[189] On the 22nd of May, the water portfolio committee in parliament was presented with Amatola's 2018/19 report and heard that, "Irregular expenditure increased from R18 656 million to R22 665 million. Wasteful and fruitless expenditure increased from R2 665 million to R11 334 million."[190]

## DWS: swimming in corruption and needing another R900 billion

Perched on top of this already shaky pyramid, is the DWS itself. In its Masterplan,[191] it acknowledges serious shortcomings, and states that it will need R898 billion over the next 10 years to correct course.[192] Sisulu hoped

187 ttps://www. sabcnews. com/sabcnews/residents-bear-brunt-of-water-debt-poor-infrastructure-in-amathole-district/
188 https://www. dailymaverick. co. za/article/2020-06-09-sisulu-and-suspended-amatola-water-chief-both-exposed-by-cover-up-for-union-king-maker/
189 https://www. gov. za/speeches/minister-lindiwe-sisulu-places-amatola-water-board-under-legal-administration-2-may-2020
190 https://pmg. org. za/committee-meeting/30288/
191 Discussed in gWR 2019.
192 https://www. timeslive. co. za/news/south-africa/2019-11-28-lindiwe-sisulu-unveils-master-plan-to-tackle-water-woes-in-sa/

to secure about R565 billion from the Treasury over the next decade, and the remaining R333 billion from the private sector.

In 2019, the Corruption Watch report on DWS – titled *Money Down the Drain* – was published. The author was the first director-general of the post-apartheid DWS, Mike Muller, now a professor at Wits University. He wrote that:

> The impact of corruption in the water sector is measured in dry taps, lost jobs and polluted rivers; many, particularly young children, old people, and those with compromised immune systems, have become ill from drinking unsafe water, [and] their homes and toilets cannot be kept hygienic. Corruption in the water sector has resulted in deaths. This corruption extends from taps in rural villages to the systems that supply South Africa's economic heartland. Village taps have run dry so that councillors and their friends could get contracts to truck water. Construction of a dam to provide water to Gauteng has been delayed by years, in part because a minister sought to change procurement rules to benefit her friends.[193] In the Western Cape, the raising of the Clanwilliam Dam, which would create thousands of new farming jobs, has been delayed for similar reasons. Companies have paid bribes to get business. Some companies have promoted unnecessary projects and claimed payment for work done badly or not at all, often colluding with officials who oversee their work. Others have monopolised specialist areas of work to grossly over-charge for their services.

On the 13th of May, Sisulu announced a probe into corruption in her department by advocate Terry Motau, who was responsible for bringing corruption to light in the VBS Bank, saying: "I want all reports on fraud, corruption and irregular expenditure of the department and all Water Boards to be reviewed and all recommendations implemented. Officials and service providers involved in corruption must face the consequences."[194]

193 The minister in question in Nomvula Mokonyane.
194 https://www. sanews. gov. za/south-africa/sisulu-orders-probe-department-water-and-sanitation

The probe did not deter high ranking officials in DWS from casting a greedy eye on Covid contracts. Sisulu's advisor, Thami ka Plaatjie, was allegedly recorded discussing the divvying up of water tanker contracts.[195] He has also been accused of being part of a political 'SWAT team' whose main task is not water provision but sustaining a campaign to get Sisulu elected as South Africa's president. He was put on study leave and added to the Motau investigation.

Nevertheless, to deal with the emergency need for water posed by Covid, DWS funds were redirected from Regional Bulk Infrastructure Grants (RBIGs), the infrastructure that extends access to bulk water for municipalities.

## Water tankers

Under Covid, the state of water delivery was exposed but not improved. In the light of the importance of water access in the fight against Covid, water was prioritised under the state of disaster. The emergency provision took the most expensive route: the installation of JoJo tanks to be filled by municipal water tankers on a regular basis. This type of water provision is roughly 20 times more expensive than regular water provision. Water tankers are also identified by the South African Water Caucus as well as in the Muller report, amongst others, as a prime means for corruption. The problem has been officially reported since at least 2014 and was officially acknowledged by DWS in 2018. At the core of the problem is a strategy by those making money from water tankers to sabotage the regular municipal water supply so as to create income earning opportunities for councillors and other owners of water tankers [Muller 2020].

Nevertheless, this was the chosen solution from the National Disaster Water Command Centre, established at Rand Water rather than DWS, presumably because the department is so dysfunctional. An amount of R306 million was allocated from RBIG funds in the DWS, money that was earmarked for regional bulk supply schemes. Of this money, R104 million was budgeted to hire water tankers – of 5 000 litre to 18 000 litre capacity – to fill the water tanks. This was the biggest budget line. A similar amount, R100 million, was

195 https://ewn. co. za/2020/06/04/water-dept-s-thami-ka-plaatjie-on-suspension-over-alleged-corruption

allocated to supply the water tanks themselves, which range from 2 500 to 20 000 litres, together with taps, stands and other ancillaries. Water Services Authorities (WSAs, that is, the municipalities, either local or district) would install the tanks, or procure their instalment, at R13 million, while the project management fee would be R12.5 million. Sanitisers would be provided for R21.6 million, hand soaps for R2.7 million, and PPE for just over R10 million.[196]

It was the responsibility of the Water Command Centre to procure the tanks, and of the municipalities (the WSAs) to install them, and regularly fill them with water. A total of 18 875 tanks were allocated. On the 21st of April, Sisulu told the parliamentary portfolio committee on Human Settlements, Water and Sanitation that there had been a lag in the distribution of tanks, due to municipalities facing challenges in accessing the cement and bricks needed to mount and fix the tanks in position, because hardware shops were closed. A breakdown per province and district municipality shows the installation backlog by late April:

- Mpumalanga had 651 tanks allocated, 299 delivered and 8 installed;
- Northwest had more tanks delivered than allocated, 1 285 against 1 223, with 225 installed;
- In the Eastern Cape, Amathole District had 516 tanks delivered and 251 installed, whilst Alfred Nzo had 595 delivered and only 88 installed;
- Namakwa District in Northern Cape had 18 tanks delivered and 2 installed;
- Central Karoo in Western Cape had 63 delivered and 0 installed.

It is noticeable that more than 80% of water tankers, on rough average, were quickly made available while tank deliveries and installations were slow. The DWS also undertook to sink boreholes in some areas, including Mbashe and Mnquma LMs.

196 Presentation to portfolio committee, https://static. pmg. org. za/200421COVID_19_V7_20_April_2020. pdf

## A glimmer of hope

Civil society's first response was to see a glimmer of hope in these developments. People expected that, at least now, the DWS, the minister, the command centre and the media, would be more sensitive to the plight of water poor communities. The South African Water Caucus (SAWC) made lists of communities without water, and sent the lists in to the command centre at Rand Water. The Food Sovereignty Campaign developed an extensive database as well and sent it in. The SAWC sent three letters: on the 22nd of April, 30th of April and 1st of June. The letters made the obvious demand that DWS should prioritise the provision of water tanks, tankers and sanitation packs. The lists attached to the letters contained names of communities that were without the necessary water to stay hygienic under Covid.

## Snuffed out

It was as part of these civil society processes that the Centane 10 were holding their meeting when they were arrested. Masifundise, an Eastern Cape NGO, was called to get them out of jail, which they did. But according to Masifundise's Boyisile Mafilika, the release of the activists was not going to be the end of the story. The root causes had to be addressed.

> In Ward 28 there were nine villages in which the water tanks were dry. We sat down with officials from the LM and the DM and engaged them about the situation in Ward 28. We thought they gave us a clear picture. But when we consulted with community members, we were shocked to learn that everything the officials had said turned out not to be true. And worse, the person who had been presented to us by officials as a community representative, instead confessed to us: "look I am just in Centane as a municipal worker, I am just saying what I was told to say by the senior officials".

Even the photographs provided by these officials, showing that communities had water, had been taken in other villages, but were passed off as being from Centane. “We consulted with the chief there, and he objected that these pictures were not from his village.”

> When we went back to this and many other villages, we could see old people drinking dirty smelly water, with animals. It is painful to see how people who depend on social grants have to spend their little money to buy their own water tanks. They buy a tank for close to R2 000. It costs R500 to transport, between town and village, and someone must be paid to build a platform, R500 or more. It means that whoever is getting a social grant, the amount is going to be spent only on water. And then money must be spent to get water from the river to the tank. We are told that a tractor costs R700, that is cheap, but if you see that water, you won’t drink that water, it is dirty river water. If you want better water, you must pay more than R3 000.

Masifundise then asked NGOs for donations and got six water tanks. However, the conditions for the donations were that the tanks had to be transported by the municipality from King Williamstown to Centane, that the local municipality would refill them, and that the local ward councillor would write a letter guaranteeing that this will happen. But these six water tanks are still sitting in King Williamstown. “They don’t care,” says Mafilika.

Together with a large number of community based organisations and water activists, a grouping of NGOs worked together to host a civil society webinar on the 17th of September.[197] The activists from various provinces described how their water situations were similar. Many of these situations had been discussed and shown in photographs on the SAWC WhatsApp list. Participants included the SAWC, Coastal Links, Masifundise, the Environmental Monitoring Group, Afesis-corplan, the Vaal Environmental Justice Alliance, the Cooperative and Policy Alternative Centre, the South African Food Sovereignty Campaign, C-19 Peoples’ Coalition, WoMin, Extinction Rebellion (Nelson Mandela Bay), the Centre for Applied Legal Studies, the Centre for Environmental Rights and the Legal Resources Centre. Their message was clear: it is time for civil society

197 A recording of the webinar can be watched at https://cer. org. za/webinars/water-access-crisis.

to come together and challenge, head-on, those actors that stand in the way of decent delivery of water. As the Eastern Cape province becomes the epicentre of the second Covid-19 wave in South Africa, this fight is urgent.

## Mega Madness in Makhado

In Makhado and Musina in the Vhembe district of Limpopo, Team South Africa is betting on a massive mega project which defies the logics not only of climate change, but also water scarcity, steel markets and Chinese debt politics in Africa, as they try to land an Energy and Metallurgical Special Economic Zone (EMSEZ) of monstrous proportions.

### Heavy metal

The EMSEZ, part of the bigger Musina-Makhado SEZ (MMSEZ),[198] is perhaps best described in the words of Ning Yat Hoi, chairman of the South African Energy Metallurgical Base (SAEMB) company that has been appointed by the Department of Trade, Industry and Competition (DTIC) as the EMSEZ operator. He is a controversial figure as he has been accused of fraud at the Freda Rebecca gold mine in Bindura, Zimbabwe, and pursued by Interpol. Ning declares: "Our goal is to build the world's most competitive energy metallurgical SEZ." [199]

In this zone of 60 square kilometres, there will be

> "... a 20 Mtpa [million tonnes a year] coal washing plant, a 3 300 MW coal-fired power plant, a 3 Mtpa coke plant and a 390 MW waste heat power plant, a 3 Mtpa high-carbon ferrochrome plant, and a 1 Mtpa ferromanganese plant, a 500 000 tpa silicon manganese plant, a 3 Mtpa stainless steel plant, a 1 Mtpa high vanadium steel plant, a 1 Mtpa high

198 The MMSEZ contains plans for agricultural processing plants, a coal to liquids facility as well as the coal-fired power station and steel factories (see Reboredo 2020). The distinction between the two parts of the project is not always clearly drawn. It seems that this vagueness is allowing the EMSEZ company to proceed with some projects meant for the Southern Site (Makhado), under the guise that the work is being done for the Northern site (Musina), where there seems to already be a record of decision.

199 Lei Mao Sheng, ***Build the World's Most Competitive Energy Metallurgical Base, an interview with Mr. Ning Yat Hoi***, China Reform Daily 15 May 2019.

> manganese steel plant, … a 5 Mtpa metallurgical lime plant, a 1.2 Mtpa titanium dioxide plant and a 150,000 tpa vanadium pentoxide plant.

The EMSEZ will also include:

> … a mine resource supply centre to provide metallurgical furnace materials …. [and] inputs for the SEZ project factories. The SEZ will integrate the advantages of energy metallurgy and form a coordinated process energy metallurgical production process from Coking Coal Mine, to Coal Washing Plant, to Coking Plant, to Power Plant, to Ferroalloy Plant, to Iron-making Plant, to Steel-making Plant, and give full play to the advantages of hot-delivery of blast furnace molten iron and ferroalloy hot metal for whole steel processing process… which would improve smelting recovery rate and reduce metallurgical energy consumption. The SEZ operator, South African Energy Metallurgical Base (Pty) Ltd., will provide project investors with a secure and competitive resource supply and ancillary services…

In addition, the EMSEZ is also planned to include a town, if not a city, consisting of:

> an integrated service centre (staff quarters, apartments, hotels, shopping malls, hospitals, schools, etc.) and an integrated logistics service centre for highways, railways and shipping services with supporting government administrative service centres (such as business administration, customs and taxation functions).

In other words, an enclave separated from the local community. Companies in the EMSEZ will pay a special SEZ tax rate of 15%, as opposed to the normal 28%, and be exempt from customs duties, VAT and other normal taxes to the state.

## Ramaphosa's catapult

Mega projects, by their very nature, have an air of fantasy and, for some, underlying horror. They are characterised by highly aspirational promotion or 'hype'. Mega project analyst Brent Flyvbjerg says they create "a fantasy world of underestimated costs, overestimated revenues, overvalued local development effects, and underestimated environmental impacts" [Flyvbjerg 2013: 50]. They inspire lyricism in politicians. For Ramaphosa, mega project type infrastructure, including the EMSEZ, "is the flywheel of economic growth that will catapult our economy forward".[200] His enthusiasm is explicitly based on China: "China is a prime example of how infrastructure investment has boosted its economy seven times more than it was two decades ago" [in Mbangula et al 2019]. And while Ramaphosa dreams big of smart cities and high speed trains rushing between them, Limpopo Premier Stan Mathabatha is with him, expecting "more than 20 000" jobs from this project and declaring the MMSEZ project "too big to fail".

Mega projects succeed in attracting investment and political support, because they create alliances of benefit for politicians, contractors, financiers, trade unions and designers. However, mega projects "... often destabilise habitats, communities and [even the] mega projects themselves..." [Flyvbjerg 2003: 4]. Moreover, mega project promoters "… often avoid and violate established practices of good governance, transparency and participation in political and administrative decision making, either out of ignorance or because they see such practices as counterproductive to getting projects started. Civil society does not have the same say in this arena of public life as it does in others; citizens are typically kept at a substantial distance from mega project decision making" (Flyvbjerg et al 2003: 5).

In the case of the MMSEZ, there is widespread concern about the flouting of procedures. There is very little transparency about who is investing and whether they have actually committed any money, and the decision making processes have only grudgingly involved stakeholders. This includes eight

200 https://www. sainvestmentconference. co. za/2020/11/18/dr-kgosientso-ramokgopa-head-of-the-investment-and-infrastructure-office-in-the-presidency/

tenders that are in all likelihood already awarded. One of them is for research into the feasibility of the Musina Dam. This tender flies under the cloak of the Northern Site,[201] which apparently has already had its environmental impact assessment (EIA) approved. However, the Musina Dam is the centre piece of the unlikely plans to provide water to the EMSEZ on the Southern Site.

The decision on the environmental authorisation for the Southern Site (Makhado) will be made by the Limpopo Economic Development, Environment and Tourism (LEDET), a provincial government department. The Limpopo Economic Development Agency (LEDA) is an 'implementing agency' of LEDET and also the 'project sponsor'. So there is a clear conflict of interest. In October 2019, the Centre for Environmental Rights (CER) wrote to the national environment minister Barbara Creecy to point out her legal responsibility for proper decision making in this case. In response, she stated that the DEA had already "confirmed in writing that the LEDET will be the competent authority for this application" – in short, DEA signed over responsibility – and would not intervene in the process.[202]

When questioned by local stakeholders fiercely opposed to the project about why the eight tenders are jumping the gun, Chief Executive Officer of the Musina-Makhado Special Economic Zone, Lehlogonolo Masoga, said that Ning and other investors are getting impatient. They are not the only ones.

Masoga declared at a press conference on the 14th of December 2020, that he is "of the firm belief that the MMSEZ is on the cusp of a socioeconomic breakthrough".[203] The government report on the event argued that the MMSEZ will be used to unlock "catalytic opportunities" in Musina and Makhado, in the same way that the Medupi coal-fired power station did in Lephalale.

In gWR 2018, *Boom and Bust in the Waterberg*, we show that Medupi's development led to a boom and bust cycle, overwhelmed the ability of local

201 The tender is described as "appointment of a service provider to conduct a feasibility and bankable study for the construction of a Musina dam in the Sand River to supply water to the northern SEZ site and surrounding areas".

202 Minister of Environment, Forestry and Fisheries, letter to CER, ***The proposed Musina-Makhado Special Economic ZZone infrastructure, located in the Vhembe District Municipality of the Limpopo Province***, 5 December 2019. Note that the DEA, previously the DEAT, is now the DEFF.

203 https://www. sanews. gov. za/south-africa/limpopo-sez-readies-lift

government to provide services, led to massive corruption and created a property boom followed by a crash, which has left houses, offices and shopping centres standing empty. Before Medupi, the construction of the Matimba power station and the Grootegeluk coal mine in the 1980s had a similar impact. These mega projects in Lephalale have captured all the water in the Mokolo River but still demand more. Therefore, in terms of the Mokolo Crocodile West Augmentation Project (MCWAP), a pipeline is planned to bring exceptionally dirty water from the Hartebeestpoort Dam to Lephalale. These cycles of boom and bust did not create a more capable municipality, did not stimulate local industrial development and have left Lephalale with higher levels of unemployment.

## Ning and associates

The project grew from the ambitions, as early as 2014, of Ning and his associates in the Hong Kong Mining Exchange Company and the Shenzhen Hoi Mor companies, who intended to build a coal-fired power station, in close association with Coal of Africa (CoAL), now MC Mining, an Australian company that has long looked to expand coal mining in the Makhado area [Reboredo 2020]. MC Mining is the new skin that CoAL draped itself in, after a series of battles with local and national civil society against its plans for mining coal on the doorstep of the Mapungubwe world heritage site, and next to the Mudimeli community. As a result, the EMSEZ faces an already existing resistance in civil society.

Ning and MC Mining approached the Limpopo government, which was enthusiastic for fast and big scale industrialisation and in turn persuaded the DTIC to adopt the project. It now appears in the latter's Industrial Policy Action Plan (IPAP 2018/19 – 2019/20) but has been contemplated since 2014 when the SEZ Act was passed. Another 10 SEZs already exist, including Coega, Richards Bay and the Dube trade port in Durban [Mbangula et al 2020].

Bigger Chinese companies – owned by the central government as well as provinces – came on board later, and the project was absorbed into China's International Capacity Cooperation programme, which aims to offshore excess Chinese productive capacity for "steel, railways, construction materials, non-ferrous metals, chemicals, electricity, automotive, information and communications technology, textiles, engineering machinery and aerospace and marine engineering" [Reboredo 2020: 177]. Reboredo describes the EMSEZ project as an example of the willingness, and even opportunism, of the Chinese government and big state owned corporations to join in projects that have been developed by small scale private entrepreneurs. These Chinese companies from the coastal provinces have operated for the past three decades and were created in SEZs. They form the power base for the current political elite – including president Xi Jinping [Hung 2009].

## Hard questions

But there are a number of hard questions that the EMSEZ enthusiasts in South Africa are avoiding.

First, how many of the jobs will be for unskilled local South Africans? In general experience, SEZ's are enclaves, isolated from the people and the local economy around them. These Chinese projects offer opportunities for mainland Chinese to "eat bitter": work overseas and live in hard circumstances without their families for a number of years, to amass enough money to establish themselves on their return to China [Lee 2014].

It is far from clear that the EMSEZ will make money or create jobs. In South Africa's other SEZs, the average cost per job created amounts to R1.25 million. There is also increasing evidence, for example in the case of the Dube trade port's agricultural activities, that government subsidised businesses in the SEZs merely displace other, pre-existing jobs [Mbangula et al, 2019]. SEZ also mean tax losses for the country: the preferential tax in these areas is 15% instead of the normal corporate 28%.

Another caution comes from considering the state of steel markets in South Africa, Africa and globally. The primary declared aim of the EMSEZ is to produce steel for sale to China and sub-Saharan Africa. However, there is not enough demand for the steel output of the EMSEZ. Reboredo reports that South African experts are highly sceptical about the chances of EMSEZ in the market. South

Africa's steel demand is stagnant, sub-Saharan Africa imports two thirds of its modest steel requirements, and China is producing a surplus of steel as its construction boom has slowed down [2020]. It seems more likely that the EMSEZ presents an opportunity to off-shore the carbon intensity, water use (China is also a water scarce country) and environmental pollution from steel making and related industries, to South Africa. If the experiences with Iscor and AMSA in the Vaal in South Africa are any indication, heavy pollution of air and water can be anticipated.[204] The capacity of the DWS and its Limpopo regional office to deal with the anticipated pollution is questionable.

If the investment in Makhado does make a loss, as seems likely, it could produce large scale indebtedness to China. Experiences in other developing countries inspire caution. The Sri Lankan government, after taking cheap loans from China for many years, has had to cede the strategic port of Hambantota to China in lieu of repayment. The port of Djibouti became China's first overseas military base following a similar logic.[205] The Kenyan port of Mombasa may face the same fate [Mbangula et al 2019].

The narrative of South-South solidarity between South Africa and China is tempting, especially to erstwhile liberation movements, but not true. Over the past three decades, since the death of Chairman Mao, China built its economic success on the SEZ concept and practice. The coastal provinces became the workshops of the world, enclaves of capitalist development in which Western corporations could find cheap labour to assemble their goods from parts manufactured all over the world. The Chinese miracle depends on cheap rural labour, which has surprising similarities to the South African migrant labour system, in which rural workers survive in industrial cities with very few rights and return to the impoverished rural areas when they are no longer good to work [Mbangula et al 2019, Hung 2009].

Rather than a China in the role of liberator of the Third World, and originator of a new global economic system, China has remained in the role of manufacturer for the West, dependent on US and European markets, both as consumers

204 See gWR 2006, Poisoned Spaces: Manufacturing wealth, producing poverty.
205 https://issafrica. org/iss-today/lessons-from-sri-lanka-on-chinas-debt-trap-diplomacy

and as locations to store its money. South and Southern African production of marginally beneficiated minerals would fit into this subservient pattern, rather than emerge into a South-to-South economy.

However, Team South Africa retains its faith in China as an economic liberator. All the members of the South African SEZ Advisory Board, which will be responsible for promoting and monitoring SEZs, have been sent for training in China, and another 150 officials are destined to follow them [Mbangula et al 2019]. What will they learn? One possibility is that they will absorb the Chinese attitude of indifference to corruption in other countries they do business with [Lee 2014].

## Carbon intensity and climate change

The 800 page EIA for the EMSEZ land clearing – itself a Trojan horse for getting the project as a whole approved – is supported by a further 8 000 pages of background reports.[206] The report is riddled with inconsistencies and contradictions. The carbon intensity of the EMSEZ is an important one. After the initial shock that the power station is not even part of the IRP, and that the project is proceeding in clear defiance of the global 2050 deadline to stop all burning of coal for electricity, the EIA puts forward conditions that could 'save' the coal-fired power station and the various factories.

The climate change impact report for the EMSEZ (Appendix O, done by Promethium Carbon) finds that the project could only go ahead if an ambitious set of carbon emission intensities for the metallurgical plants could be met and, even then, the project would only qualify under a less than 2°C warming scenario and not the more liveable 1.5°C scenario. For the coal-fired power station, the report also sets a precondition: "the construction of a coal-fired thermal power plant should not be approved unless the plant is fitted with a carbon capture and storage unit that can sequester ALL emissions from the combustion of coal from the starting date of operation" [Appendix O: 3]. This

206 EIA for the application for environmental authorisation and change of land use for the proposed Musina-Makhado Special Economic Zone (SEZ), Limpopo Province.

https://deltabec. com/eia-musina-makhado-special-economic-zone/

is as likely as snow in the Limpopo Valley. Appendix O also recommends a reconsideration of the carbon intensities after the first five years. According to Bob Scholes, a climate scientist at Wits University, the carbon emission intensities are unattainable, and the idea of revising carbon intensities after the first five years of operation does not make sense. The EIA report rates the impact of the project on climate change as 'high' and predicts greenhouse gas emissions to be 11% to 16% of South Africa's total carbon budget. groundWork, Earthlife Africa and MEJCON objected that it should not, therefore, go ahead.

## Not enough water

Another impossibility is that there simply is not enough water. The water report (Appendix U, by Matukane and Pretorius) for the EMSEZ EIA makes this clear but, astoundingly, this is not reflected in the main report. Two things appear to have happened: (1) the water report is not complete and (2) it hides the implications of its investigations, including that there is not enough water even for the construction phase, behind explanations that the wild ideas of the proponents for water supplies "involve complexities", rather than straight up saying that they are impossible. This is a dangerous form of scientific 'whispering truth to power' and consultant's deference, which obscures important warnings.

The water report shows clear signs of hurried delivery and incompleteness. The ECSA Registration Number for Matukane, co-author, is missing. Section 9.2, which deals with the "complexity of water sources" – in other words, the discussion of the many challenges and careless assumptions in the EMSEZ water planning – remains in note form, pointing to incomplete analysis of these challenges. This analysis is also not carried into the main report, in which the many reservations and unfounded and unscientific assumptions pointed out in the water report are ignored. The water report states, among other things:

> …the water demand is substantial if compared to the current water usage in the region. It will become clear that water demand can only be

> met by current local resources for minimal usage at commencement of the project. As the implementation progresses, the demand for further … water will grow at an increasing rate, soon to be far beyond what can be met by any possible local supply. Tapping from resources further off, becomes incredibly complex. [p. 6]
>
> The MMSEZ Southern Development site currently has no direct access to any sustainable water resources sources, apart from groundwater. As discussed, the groundwater potential of the area is very low. Over usage will lead to dewatering, with lowering water tables impacting on the environment, and the authorisations and existing commercial interests of others. For any supply for industrial use, water will need to be transferred from where available to the site. [p. 39]

Within 10 years of commencement, the EMSEZ (Makhado site) water demand of 80 $Mm^3$ will be reached. The report warns: "The infrastructure requirements to achieve this will make the supply of water to this area complex and with a high cost pertaining to both capital and operational expenditure" (p. 40). The main report announces that the impact of the EMSEZ on water resources should be seen as 'high negative' and after mitigation 'medium negative'. However, the water report contains no discussion on mitigation measures, and the table on mitigation contains remarks ranging from the need of a main stem Limpopo study still to be carried out to "compliance to Water Use License".

Nor do the water plans for the EMSEZ conform to official planning. The water report points out that the DWS-LRS 2017, the reconciliation of water supply and demand in the catchment, has severely underestimated the industrial water requirement for the EMSEZ, which is now set at 80 $Mm^3$ a year. The DWS allowed less than half of that, at 35 $Mm^3$/a. The clear implication is that the EMSEZ water demand is not provided for in the DWS-LRS 2017, and thus (1) exposes other water users to water risk as a result of inadequate planning and (2) the EMSEZ water allocation should not go ahead.

The water report argues the need for a mega project ‘supply scheme’, which would be required to supply altogether 110 Mm$^3$ to Musina town, the northern MMSEZ site in Musina[207] and the southern EMSEZ site in Makhado in the short, medium and long term, from various sources, of which few are currently in existence or ready to deliver water. In other words, they would need extra infrastructure to contribute water to this envisaged ‘supply scheme’. The somewhat speculative plans include:

- Groundwater could be drawn from aquifers on the actual northern and southern sites, but these are of low potential and completely inadequate even for the first, construction, phase.
- There are plans to use cleaned sewer water from the Vhembe and Musina WWTWs, However, these WWTWs are currently overloaded and one of them, Musina Singelela WWTW, is on the list of the 40 worst performing WWTWs in SA. Before this water could be used, there would have to be a concerted effort to improve the performance of these WWTWs.
- Some water currently not used by Musina (again a relatively small amount, 4.4 Mm$^3$) could be ceded by the municipality to the EMSEZ for a limited time period (presumably until the Musina Dam is built), and a small amount could be returned to Musina municipality from a copper mine borehole which is currently not in use.
- The Eastern Limpopo wellfield: the report argues that “a considerable volume of water is authorised from the Limpopo along the farms Vryheid, Bokveld and Malala Hoek, approximately 20 Mm$^3$/a will be drawn from this 13 kilometre stretch of the Limpopo Alluvial Aquifer to meet the SEZ requirements. The availability of this water still needs to be confirmed in the Limpopo main stem hydrological study that is foreseen…” [p. 21]

207 In this calculation in the water report (p., 10 Mm3 is for Musina town, 20 Mm3 for the Northern MMSEZ site in Musina, and 80 Mm3 for the Southern site in Makhado.

## To dream the impossible dam

However, even if all of these were workable, they still only make up only 7% of the envisaged water supply for the EMSEZ at Makhado. For the other 93% of the required volume, that is 74.49 $Mm^3/a$ during operations, the EMSEZ depends on the 'Musina Dam' [p. 29]. Even in the short term, during construction, it needs this dam. But this dam does not yet exist, if it ever will. It is merely a conceptual design. It does not form part of the DWS (the planning authority) plans and does not appear in the DWS Reconciliation Strategy for the area. It has not undergone any feasibility studies. It appears in the EIA as "an unsolicited proposal", which the authors explain could not be discussed due to intellectual property concerns. This is highly unusual, as it makes the issue immediately untransparent. In the meantime, a tender to "conduct a feasibility and bankable study for the construction of a Musina dam" was published, according to online documentation, on the 22nd of June 2020, with a closing date of the 14th of July, and no public briefing.[208] One may ask how the recipient of this tender will overcome the "intellectual property concerns" around the Musina Dam design, and how long it will take to build this dam.

There are serious concerns about the feasibility of the Musina Dam concept. It is based on a number of erroneous ideas, including that, when constructed in the Sand River, it will harvest annual flood waters in the Limpopo.[209] According to an expert dam builder and financier, floods in the Limpopo occur on a 20 to 30 year cycle, which is rare enough not to be included in normal DWS seven year planning cycles. What the proponents of the Musina Dam call annual floods are normal occurrences in the river's hydrological cycle.

The proponents claim that harvesting these 'floods' will prevent floods in the lower Limpopo floodplains in Mozambique, for which claim there is no

208 https://easytenders. co. za/tenders/bid-numbermmsez-2020-0601bid-description-mmsez-2020-0601-28292. This is one of 8 tenders, for work over 36 months, issued by LEDA in this period. In other words, these tenders were all issued before the Record of Decision on the EMSEZ EIA.

209 "Position of the proposed dam wall: Just south of the confluence of the Sand River with the Limpopo River; approximately at the position of the road bridge that links the western and eastern banks of the Sand River on the "border road". Height: 39 m, Length: 950 m, Storing volume: In excess of 200 Mme/a. There will be relied on Limpopo flood water to fill 85% of the capacity of the dam, while the remaining 15% will serve to receive possible flood water from the Sand River." (p. 21).

scientific basis. The proponents also view this as ‘extra’ water. This is not extra water and taking it would be a violation of the SADC protocol on shared water resources of the Limpopo. At a minimum, as the report points out, it would require intensive and time-consuming negotiations with other Limpopo riparian countries.

There is no explanation of the process of “harvesting the flood waters” and moving it to the Musina Dam.

There are high temperatures and high evaporation rates in the area, which are set to increase as a result of climate change. Evaporation losses from such a dam will be high, leading to the conclusion that storing it there would engineer an overall loss of water in the Limpopo system. In contrast, if the water were to remain in the alluvial aquifer, the sand would shield it from evaporation losses.

All of the above actions, including international negotiations, would have to wait for a Limpopo main stem hydrological study, involving all four riparian countries, to be completed.

Even if the dam were feasible, it would be expensive to build and result in an expensive water supply. The water report states: “with a capital loan of R13 891 615 668 … repayable over a period of 20 years, and considered at full supply volume, the capital cost portion of the supply is calculated to be R10.86 per cubic metre (including VAT)” [p. 48].

High and potentially rising energy costs would need to be added to convey this water from the Musina Dam, pumping it 50 kilometres and 260 metres uphill – if indeed that energy would be available in the national system. The water report states that electricity costs will be R193 500 188 (excluding VAT), and that the energy component of the water cost (129 000 MWh a year, at R1 500/MWh) will be around R1.67 / cubic metre. Bulk water costs would thus start at R12.43 / cubic metre. However, it is well known that costs on mega projects like this one can escalate beyond control, which would make the water completely unaffordable, and tempt the developers to turn to other water sources and, in so doing, put pressure on other water users.

## Northern options

There are also a number of ‘northern options’, that are ‘conceptual’ – meaning that they exist only on paper. This includes getting water from the Zhovhe Dam in the Umzingwani River. However, this is a sand river and water released from the dam won’t reach the Limpopo, it will be absorbed into the aquifer. Taking this water will sterilise any recovery in commercial and small scale irrigation along this Zimbabwean river.

A further two Zimbabwean options are on the Save River system. The Save River reaches the Indian Ocean approximately 500 kilometres north of the Limpopo River mouth at Xai-Xai. The Tukwi Mukosi Dam in the Tukwi River, water relayed via open canal to the Runde River, from where it conceptually can be pumped approximately 185 kilometres to Beitbridge. The Tukwi River flows into the Runde River lower down. It was estimated by others that the yield of this dam may render 175 $Mm^3/a$ to South Africa. [p. 22]

A further potential option is an envisaged dam, referred to as the Runde Tende Dam, higher up in the Runde River. Depending on the wall height, this dam may conceptually render between 215 and 500 $Mm^3/a$ to South Africa via a pipe system along the same route as the Tukwi Mukosi Dam water.

Botswana options include possibilities from the extension of an envisaged Botswana scheme to supply water from the Zambezi-Chobe River to the Maun area. The report also mentions the possibility of rerouting the Bubye and Nuanetzi Rivers [p. 9].

The long list of unlikely options seems to communicate a determination to find or pretend that there is water for this development. But there is nothing in the water report that can assure the authorities, the public and other water users that there is a feasible water supply for the EMSEZ. In light of the lack of feasibility of the plans above, it is highly likely that current water users will be prejudiced if any of the EMSEZ plans are set in motion. This includes the "diffuse water users", a large number of poor, rural and often female headed households who use small amounts of groundwater, which can disappear, as it did in Mudimeli, with even small disturbances to a groundwater level [see Munnik 2020]. It also includes irrigation farmers, small and large scale, who produce food and provide jobs, and are important to the national economy.

There is also a substantial danger that these plans could be partially implemented with detrimental effects, which will disturb current water supply arrangements on irrigation scheme, municipal, farm and rural household scale.

## An insane project

The dangers of proceeding with preliminary work for the EMSEZ become clear from considering the likely treatment of the baobabs, marulas and leadwoods. Land clearing for the EMSEZ will destroy an 8 000 hectare area of near pristine Musina Mopane Bushveld. The mopane tree is a provider of food. The protected tree survey (as part of the EIA) counted 5 656 baobab trees, 5 5875 marula trees and 1 802 leadwood trees in the area. There are also many mopane trees which weren't counted because they are not, unlike these three, protected trees. The survey recommended that juvenile and young trees should be transplanted – and the feasibility of transplanting adult baobab trees should be investigated. In their response, WESSA pointed out that the cost of relocating a baobab is between R20 000 to R100 000 per tree, with a success rate of 50%, while the success rate with marula and leadwood trees is around 10%. The fact that these costs – between R113 and R565 million for the baobabs alone – appear nowhere in the planning indicates that there are no serious plans to do this. The plans are rather to destroy this local wealth of culture and biodiversity.

**Box 6: Baobabs and mopane worms**

The WESSA objection shows how the EMSEZ EIA has ignored current and local knowledge about the value of sustainable use of baobab trees in the local economy, specifically for poor rural women. WESSA quotes the research of Dr Sarah Venter, who also established a company in Makhado, in 2005, to produce baobab products which sources directly from rural women and is an incentive to maintain natural habitats.

- Baobab trees produce a fruit that can be processed into a ‘superfood’ known for its unsurpassed nutritional makeup and becoming increasingly popular on the organic food market. A secondary product is a high value cosmetic oil, known as baobab seed oil.
- The combined value of the baobab powder and oil that can be generated from the trees on the SEZ site alone totals R2 800 000 per annum. Regional climatic conditions have resulted in the baobab trees at this site taking 200 years to grow to a size where fruit can be produced. The number of trees the SEZ plans to remove constitutes a total loss to the economy in the region of R569 700 600, much of which would have gone directly to local residents and not distant shareholders.
- The suggestion to relocate almost half the baobab trees is ludicrous for two reasons. Firstly, where would these trees be relocated to as they occupy a very narrow environmental niche. Surely the relocation area requires an EIA before it is disturbed. Secondly, the cost of relocating a baobab depends on its girth and the price ranges from R20 000 to R100 000 per tree. How would the project budget for the extraordinary cost that the proposed relocations would incur?
- A preliminary, alternative business plan for the MMSEZ area indicates that income from harvesting baobab fruit alone could potentially benefit up to 250 women per year with a total income generation of R870 000 per annum. The processing of the fruit would provide up to 40 seasonal and permanent jobs per year.

- Baobabs are ecological keystone species that provide important roosting and nesting sites for many species of bats, birds, reptiles and mammals, as well as fruit and flowers as a food source.

WESSA also objected that the EIA completely failed to mention the mopane worm, a regionally important edible insect. The economic value of mopane worms is most evident at the informal level where the poorest of the poor collect this free and nutritious food and eat it themselves or sell it on to urban markets to generate an income. Mopane worms can be found at many urban centres, including Johannesburg, Potchefstroom and Tzaneen, and are even exported.

Earthlife Africa's director Makoma Lekalakala, recipient of the Goldman prize and involved in activism in the Makhado area, commented that the uprooting of these trees would also be an uprooting of traditional systems, from food security to ancestral graves to sacred trees: "It tells me that this is an insane project that is being proposed there," she commented in a recent panel discussion.

# 7 Transforming power

Over the next two decades, most of Eskom's existing fleet of coal-fired power stations are scheduled to shut down irrespective of the climate crisis. What happens as they are decommissioned will be central to reshaping the Highveld region, its economy, spatial development, social development and environment. At the same time, climate impacts will become increasingly severe as a result of historic emissions. Hence, a just transition must build social and ecological resilience while rapidly reducing fossil carbon emissions to zero. Indeed, the impacts of coal are such that building resilience will not be possible without a rapid reduction in use.

The gWR 2019 described the unplanned, chaotic and unfair transition taking place on the Highveld. It showed how coal mine workers at the Optimum mines were abandoned as a result of the corrupt dealings between the Guptas, Eskom and government, observed the low intensity class war as trucks were set alight, and the widespread banditry including the theft of kilometres of conveyer belt, and noted the avoidance of planning for the decommissioning of power stations at the end of their life.

gWR 2019 also documented a community agenda for a just transition, developed over three years of discussion with coal affected community groups. It envisions a deep transformation to an egalitarian society, together with a concrete agenda for action rooted in the material reality of life on the coal fields.

In 2020, it appears that something is shifting at Eskom. It has established a just transition office and, in March, Eskom's Research, Testing and Development unit put out a call for 'Expressions of Interest' (EoI) in repurposing three power stations due for closure: Grootvlei, Camden and

Komati. Parallel with this, the Generation Division was running a separate process on power station repurposing, a Request for Information (RFI) which is largely about 'repowering' the same three power stations plus Hendrina. It is not clear how these processes relate or if they are mutually compatible. Eskom has also said it may extend the life of Grootvlei, Camden and Hendrina by five years, adding further uncertainty to the process.

Having witnessed the rough and unready transition on the ground around Hendrina and Pullens Hope, the Eskom village, and Arnot and Rietkuil village, as well as the calamity of Optimum, groundWork submitted a proposal for the repurposing EoI. With an anchoring in the community agenda, this enabled us to think about the just transition in a very practical, site-specific way. It was also intended as a challenge to Eskom: could it look beyond the business and technology framing of its EoI to engage with the broader meaning of a just transition? The proposal is set out below but, before we get there, a number of important principles should be stated up front:

- public, community and worker participation must be central to the power station repurposing and the just transition process. Indeed, people will assert their right to participate one way or another;
- legacy environmental issues, including old coal mines, discard heaps and ash heaps, cannot simply be disposed of or put out to the market but must be directly addressed;
- new fossil fuel projects are incompatible with a just transition; and
- livelihoods must be created within a transformed economy.

## The proposal: turning coal-fired power stations into Just Transition Centres

The proposal is to repurpose one or more of the power stations – Komati, Grootvlei, Camden and Hendrina – as Just Transition Centres (JTCs). Rather than being island facilities, they will be regional hubs responding to the broader societal imperative for a just transition and to the environmental imperative to address the legacies of mining and burning coal. The development and work of the JTCs will be informed by the just transition agenda developed by coal affected community groups over the past four years. People's participation and open democratic procedures will be baked into the design from the beginning.

Situated at the old coal-fired power plants, the JTCs will combine regional elements and on-site elements, making use of the diverse amenities and infrastructure at the plants. At the regional scale, specialist teams will support the spatial transformation necessary to a just transition. They will:

- support the reconstruction of Highveld settlements;
- support local food production and the emergence of a local food regime;
- coordinate and manage the restoration of the land at regional, catchment and mine scales;
- manage the redistribution of potable water and support regional water management;
- monitor environmental health to inform health system responses;
- monitor the changing world of work and support workers and communities in the transition.

The JTCs will also coordinate the transformation of the power stations themselves. The on-site elements will include:

- ash dam rehabilitation;
- solar PV power generation;
- innovative gravity storage pilots;
- manufacturing production lines;
- health care clinics;
- a museum of energy and climate.

Some elements must be networked or repeated across all sites. Others – such as the manufacturing lines – will be site specific. All elements create direct employment, but the real impact of the regional elements is in the livelihoods made across the Highveld and in migrant labour sending communities.

## Regional elements

Elements with regional functions will include:

### Reconstructing settlements for sustainability

Highveld settlements are, for the most part, in a bad way. People's houses are cracked from mine blasting and often badly made and badly insulated, leaving people hot in summer and cold in winter. Roads are potholed, drains are blocked, rubbish overflows skips or collects on corners, sewage runs down the road, electricity outages are more common than not, and water pipes are empty or leaking.

A settlements unit will have a brief to reconstruct people's settlements – established townships, RDP settlements and shack settlements – in anticipation of the intensified storms and droughts that climate change will bring and with full participation of the people in conception, design, landscaping and construction work. It will support municipalities to revive and restore services and work with people to create livelihoods concerned with the recreation and maintenance of social well-being. It will thus also support implementation of government's sustainable settlements policy.

Reconstruction will address:

- Housing: New housing consisting of well built energy efficient homes; existing housing repaired and retrofitted for energy efficiency; shack settlement in situ upgrades where appropriate; all housing supplied with solar water heaters with servicing after installation;
- The development of local community owned networked solar PV generation;
- The built infrastructure of roads, wires, pipes, drains, sewers and water storage;
- The soft infrastructure of terracing, storm water soaks and street planting;
- The natural infrastructure of catchments, streams and wetlands;

- Access to amenities such as schools, clinics, markets and shops with provision for walking and cycling;
- Zero waste management in partnership with local waste pickers, with strategies for avoiding waste, separation at source and either composting or biogas generation of wet waste, and land for waste picker materials recovery facilities;
- Repair / maintenance of sewerage plants and replacement with biogas plants where replacement is necessary.

The settlements unit will be staffed by architects, planners, landscapers, engineers and skills trainers. It may also employ construction teams, but its main impact will be on creating livelihoods and jobs within people's settlements.

**Agroecology hub**

The Highveld is high potential agricultural land where it has not been sterilised by mining. Most of the land is taken by commercial agriculture although some land has been redistributed. There is growing community interest in urban food gardens and smallholder production using ecological agriculture practices. This is because the present food system leaves many people hungry or malnourished and many children are stunted. Limiting factors include land and water, both of which are seen to be taken or spoilt by encroaching mines, and space for people's food markets. Skills have also been lost over time as more people are urbanised.

On site, this unit would:

- create demonstration plots, a nursery and seed bank;
- establish an agro-processing centre using solar and low energy plant and produce stores;
- establish related workshops and equipment stores.

Off site, it would:

- organise farmer / gardener exchanges and seed exchanges;
- run direct training sessions responding to requests relating to food growing, processing, safety and marketing;
- support garden and landscape design;
- support the development of people's markets for producers and consumers;
- support access to state resources intended to resource small scale producers and redistribution of land;
- link with community healthcare workers to provide information on food and nutrition.

This unit would employ people proficient in ecological agriculture and agro-processing, nutrition and food safety, demonstration and training. It would require operations and maintenance staff with basic mechanical, metal working, carpentry and construction skills and a small team of general/ agricultural workers. As with the settlements team, the main impact will be on creating livelihoods within the communities of the Highveld.

## Post-mining landscapes and mine rehabilitation

Mine rehabilitation and the remediation and/or containment of acid mine drainage is critical to the future of the Highveld region and the health of its people. If it is neglected, as is now mostly the case, while mining continues without let, McCarthy and Pretorius warn:[210]

> The rivers will run red and both river and ground water will be undrinkable. … Extensive areas of the region will have become devoid of vegetation due to acidification of the soil, setting in motion severe erosion which will strip the soil cover and eat into the backfill of the old opencast workings. The eroded sediment will choke the rivers and

210 McCarthy T. and K. Pretorius. undated. ***Coal mining on the Highveld and its implications for future water quality in the Vaal River system***. Paper for South African Environmental Observation Network (SAEON).

> all dams will be filled with sediment. In short, the region could become a total wasteland.

Rehabilitation needs to take place mine by mine, but it also needs a bioregional response in each catchment and across the Highveld as a whole. Hence, the rehabilitation of each mine must be understood in the wider ecological context and contribute to the restoration of the whole. Amongst other things, the restoration of Highveld catchments, with improved water quality, should be paralleled by a considered reduction of cross watershed transfers to restore downstream flows and usage in source rivers.

The ecological restoration unit will:

- survey the ecological condition of the Highveld catchments;
- map closed and abandoned mines in each catchment and across the region with a mine-by-mine assessment of their ecological status;
- map working mines and their remaining time to closure.

It will seek to cooperate with the Department of Mineral Resources and Energy (DMRE) to:

- facilitate mine closure where needed;
- locate mine closure funds and to test their adequacy against actual costs;
- identify outstanding mining company liabilities; and
- coordinate mine rehabilitation and wetland and river restoration by catchment.

The unit will itself undertake rehabilitation and restoration as appropriate, including for abandoned mines, and will aim to establish benchmarks for best practice. Activities start with participatory planning and design. Implementation will include landscaping; prevention, containment or neutralising of AMD; spring, river and wetland restoration; and long term recreation of soils using plant successions and/or rotations with ‘green manures’. Fibrous crops – such as hemp, kanaf and bamboo – will also be grown on the poor land left by mining and will provide the material for processing and manufacture on-site (see Manufacture below).

Finally, the unit will monitor ecological improvements / status at the various levels from mines, to catchments, to the region, including cross watershed source rivers.

The unit will require people with geo-science, hydrological and ecological knowledge and skills; biochemists; ex-mineworkers for broad scale landscaping; general workers for aquatic restoration and soil recreation of mine land.

### Potable water distribution

Water quality on the Highveld is appalling. Consequently, people use bottled water in preference to municipal water for consumption – if they can afford it. They also remark that appliances such as kettles and geysers are corroded by acid and have a short life span. This contributes to health impacts as those who must drink municipal or stream water complain of a variety of ailments starting with stomach aches. Bottled water also contributes to the plastic waste across the Highveld and to the waste of materials generated by early redundancy.

Eskom plants receive good quality water, mostly delivered by cross watershed transfers, whereas local water sources have been severely contaminated by the mines that supply Eskom, by coal washeries and by Eskom's own unlined ash dumps. Some mines have built mine water treatment plants and sell to municipalities. In effect, they charge the public for decontaminating water that they themselves contaminated. Such plants must be maintained for as long as water quality is compromised.

Eskom plants and water infrastructure, in combination with the mine water treatment plants, should be managed as public goods primarily to supplement bulk water supplies to municipalities. It should also manage a transition to reduced cross watershed transfers and local water sourcing as and when catchment rehabilitation improves water quality.

The unit should operate in partnership with catchment management agencies and water boards. They should also partner with municipalities to support them in developing and maintaining water reticulation systems.

The unit should retain present staffing levels and skills at both Eskom and mine water plants.

### Health observatory

Climate change has been identified as the most serious public health risk of the 21st Century. Heatwaves, droughts, wildfires and floods have an immediate impact on people – causing death, injury and disability – as well as longer term impacts on nutrition, on respiratory and cardiovascular systems and on mental health. It will also bring heightened threats of infectious and vector borne disease such as malaria. That includes pandemics such as Covid-19 because climate change and biodiversity and habitat loss have common drivers and are mutually reinforcing.

On the Highveld, people's health is already compromised by the high levels of pollution produced by polluted air and water. Mineworkers also suffer a very high burden of disease – primarily black lung. Hence, they are more vulnerable to climate impacts on health. However, the Lancet Commission on Health and Climate Change found that a credible climate response also presented the greatest public health opportunity because it would eliminate fossil fuel burning and the associated pollution.[211]

The health observatory will monitor pollution and climate impacts on health across the region. It will:

- collect and store health information from health care workers and institutions;
- establish a network of trained community based observers to complement health system sources;
- correlate health and environmental information;

211 N. Watts et al, 2015, ***Health and climate change: policy responses to protect public health***, The Lancet.

- continuously analyse the data to identify anomalies; and
- investigate such anomalies to assess the implications.

The observatory will produce information, currently not available, on environmental health and will identify early trends to inform health system and policy responses. The unit will staff a clinic on site for the local workers and residents. Staff would therefore include health care workers as well as environmental health specialists, epidemiologists and associated laboratory, modelling and other technicians.

**Work shift**

Before Covid-19, unemployment on the Highveld was running at over 40% (expanded definition) and was higher than the national average. There are several reasons for this:

- Local people who have grown up with Highveld pollution frequently fail medical tests for employment because their health is compromised;
- People come to the Highveld looking for jobs and inflate jobless numbers;
- People who lose jobs stay on in the hope of finding another.

On the mines, something like half the mineworkers are migrants and rely on 'homeboy' connections for jobs. Increasingly, jobs are casualised with about 43% contracted out. These vulnerable workers rarely access formal labour rights. Overall job numbers rise and fall with international coal prices, which are increasingly volatile. In 2019, about 87 000 mineworkers were employed before prices started collapsing. Of those, about 38 000 work in mines supplying Eskom. The working life of most mineworkers is shortened by ill health.

Within Eskom, 11 700 people are employed in Generation, 2 000 in Transmission and 17 700 in Distribution. A transition from coal to renewables should increase job numbers in transmission and distribution as 'smart grids' are developed. Within Generation, about 8 000 permanent workers are employed at the power stations. Rotek and OEMs also employ workers at the power stations and variable numbers of contract workers are employed, particularly during maintenance shutdowns.

Outside the mines and power stations, people – many of them also migrants – earn a living from street trading or renting out rooms to mineworkers. Formal sector businesses are also more or less entwined with the coal economy.

The Work Shift unit will be developed in consultation with unions, workers, communities and academics. It will track the fortunes of labour, both on the Highveld and in the sending communities and produce in depth information on livelihoods lost and gained in the transition. It will monitor changing skills needs and work with local training institutions to support adaptive skills development as well as mapping the distribution of productive resources. Underlying principles will be to enable diversification from the narrow industrial base created by the coal economy and to support growing economic autonomy for both Highveld and sending communities.

## On-site elements

On-site elements make use of Eskom infrastructure, buildings and related amenities and land at the power station and in its vicinity – including within the Eskom villages. These include elements for which Eskom must take responsibility, starting with rehabilitating the ash dam.

### Ash dam rehabilitation

Eskom's ash dams are unlined and represent a long term responsibility. We are aware of various proposals to sell ash for brick or road making. There are several problems with these proposals, discussed in detail in gWR 2019.

- Given the scale of the dumps, it is unlikely that more than a small fraction will in fact be sold.
- Irrespective of the recent 'delisting', the ash remains toxic, with metals including arsenic, boron, chromium, lead, manganese, molybdenum,

selenium and vanadium. At present ash clouds blow over neighbouring villages because the dumps are not capped. Loading and transporting ash will throw up a daily load of ash dust.

- Re-use in construction materials will distribute the toxic load across the environment for later release as buildings are demolished and roads crumble. This load will be imposed on the Highveld environment as transport costs will likely restrict the area of use.
- Use in mine backfills will pollute groundwater.

Hence, the ash dams must be properly landscaped and capped to prevent ingress of water and vegetated to prevent dust blowing in the wind. Percolation of water needs to be monitored and managed for the long term. And groundwater flow through the base of the dumps must similarly be monitored and managed to intercept and filter out contaminants.

Landscaping may also prepare for the siting of solar PV.

### Solar PV

The Highveld has been declared a Renewable Energy Development Zone (REDZ). The Highveld area has high levels of insolation with a particularly good winter resource. It also has the advantage of Eskom's existing grid infrastructure. Locations in the area suitable for PV may include rehabilitated mine land and the ash dam which is permanently sterilised for other use. The roof tops of the adjacent village should provide an additional site on which to pilot community owned generation capacity.

The first priority for landscaping of both rehabilitated mines and ash dumps is to manage surface water flow and runoff. Thereafter, landscapes may also be designed for the best aspect for solar PV. Once vegetation is established, utility scale solar PV could be installed across the top of the ash dam (~30 MW). The design must ensure that the ash dam cap is not eroded and that the plants get enough sun. At the same time, the siting of the PV will ensure constant monitoring for erosion and dust. Similar criteria would apply to rehabilitated mines, although this land will have a different composition and need a different management regime. Construction would be staggered by the pace of rehabilitation, hence providing job continuity for upwards of 500 people.

Rooftop solar in the power station villages would provide for piloting a community owned mini-grid which is connected to the municipal and/or main grid. This would provide for experimenting on the creation of a fractal geometry of mini, local and national grids.[212] This project would run parallel with off-site construction of community owned systems in other Highveld townships.

### Storage

Several innovative storage technologies are in development around the world. Of particular interest is gravity storage as it has minimal environmental impacts but large potential, can be deployed flexibly and using modular systems at different scales and is relatively cheap. While a variety of different designs are being developed with innovative combinations of components, the basic technology components are fairly standard.

A gravity storage unit will develop and test designs. On-site, two designs using the cooling towers suggest themselves:

- An array of turbines at the base of the towers raising and lowering weights over pulleys fixed by a reinforcing ring at the top.
- A mini-pumped storage system retrofitting the cooling tower as a tower of water for release into a lower reservoir. Additional energy storage may be obtained by using a weighted piston on top of a cylinder of water.

South Africa is, of course, well endowed with deep holes for larger scale gravity storage. A distributed generation system nevertheless invites distributed storage at different scales. While batteries are the evident option at household

212 The Engine Room, 2015, ***Distributing Power: A transition to a civic energy future***. Realising Transition Pathways Research Consortium.

level, tall buildings might be built or retrofitted with gravity storage. JTC pilots may thus pioneer such usage in South Africa.

### Manufacture

In the older plants, the turbine halls are essentially long sheds suitable for linear production systems. Three lines are proposed at different power stations.

At present, only one South African PV manufacturer has survived Chinese competition and the sudden interruption of renewable plant construction in 2015. The Highveld has been designated as a REDZ zone and will likely focus on solar PV and storage. It has a substantial industrial skills base and is also well served with transport infrastructure. There is thus good potential for local production manufacturing PV panels.

Complementary to manufacture of PV panels, frames, clamps, fasteners, cable ties and conduits and similar items are needed to construct a PV plant.

A third line of manufacture will use hemp grown on rehabilitated mines. Hemp products such as panels and coverings will then be used to insulate and/or reinforce people’s houses, as described in the settlements section above. A wide range of other products, from textiles to plastic substitutes, can also be produced, with the range being developed over time.

### Clinic

As noted above, a clinic will operate alongside the health observatory. But, whereas the observatory will operate out of one JTC, clinics will be established in each of the settlements that form the JTC network. The clinics will provide primary health care, including programmes to address pollution and climate related illness. They will also provide an on-site point of observation for the health observatory.

**Museum of energy and climate change**

Turbines, boilers and furnaces are extraordinary works of engineering. As more stations are closed, selected items can be brought to the museum to show the evolution of the technology.[213] These power stations – Komati, Camden, Grootvlei and Hendrina – were built at a pivotal time in the history of electric power. Construction of the national grid was completed at the same time and this enabled the concentration of ever larger power stations atop the Highveld coal fields.

These stations were also constructed when the power of the apartheid regime was at its height and while the economy and the demand for power was growing rapidly. Worker history is integral to industrial history. The cruelty of the apartheid labour regime, the atrocious conditions on the coal mines and the coercive hierarchies of *baasskap*, will also be shown. So too, the resistance of workers and communities and the subsequent fall of apartheid. The political transition, however, coincided with neo-liberal globalisation and the post-apartheid period has produced a compromised restructuring of labour together with growing social inequality.

The concentration of power generation also sealed the environmental fate of the Highveld. The first halting step in regulating emissions was also made in this decade with the passing of the Air Pollution Prevention Act of 1965. The APPA regime had little effect but remained in place to 2005 when, under pressure from a growing environmental justice movement, government passed the Air Quality Act. Under the Act, the Highveld was declared a 'priority area' but this has had little discernible impact on emissions. The environmental and social impacts of mines and power stations remain at the centre of social contention.

Just as the site for Komati was cleared in 1958, Charles Keeling established the Mauna Loa Observatory in Hawaii to measure the accumulation of carbon dioxide in the earth's atmosphere. Since then, the concentration of $CO_2$ has risen from 313 parts per million to over 413 in 2019. The implications for the earth's climate were soon recognised, but it took another three decades before

213 For an example, see the World Heritage Site steel museum in Germany, https://www. voelklinger-huette. org/en/voelklinger-huette-world-heritage-site/the-history/

the United Nations Framework Convention on Climate Change was signed. The convention has, however, had no more effect in reducing emissions than the AQA has had on local emissions.

The museum will be established at another pivotal moment in the history of electric power and of industry more broadly. It will hopefully record, and be part of, a just transition to clean production, an egalitarian society and the restoration of the Highveld environments.

## Coordination and governance

In its call for repurposing ideas, Eskom was looking for a conventional business concept, focused on a particular novel technology or the development of a 'low carbon industry' and associated supply chain, which returns an income from its assets and where profit is a key indicator of sustainability. This proposal follows a somewhat different logic but one which, we believe, will have a more powerfully transformative effect on the lives and well-being of the people of the region.

This approach will require a mix of funding mechanisms: traditional business investments; grant funding, including international climate funds; mobilisation of funds set aside to address corporate liabilities, including mine closure funds and Eskom's own liabilities; and direct funding by government and the support of development finance institutions entrusted with the management of public money.

It will also require a wide mix of partners for implementation. Those partners must, in our view, start with Eskom itself for the ash dump rehabilitation. We also believe that Eskom should be a party to the utility scale PV generation and the gravity storage pilots. And Eskom – or ex-Eskom workers – should be involved in skills development in support of distributed generation capacity at municipal and community levels.

The initiative to develop a post-coal regional economy will attract expertise to the region. Several elements require partnerships with tertiary education institutions, including for settlement reconstruction, for regional restoration and mine rehabilitation, the health observatory, the labour unit and the museum. The Centre for Science and Industry Research is interested in post-mining landscapes, energy transitions and energy innovation. Partners in the agroecology hub will be drawn from the network of organisations active in the field. We will look to partner with labour research organisations in the labour unit and on-site elements. Community groups will be primary partners across the board.

Relations with government will be of critical importance. Local government will have a strong interest in most elements, particularly the regional elements. National and provincial departments concerned with minerals, energy, environment, water and sanitation, health, agriculture and land, and economic and industrial development will have an interest in various of the elements. The tendency for departments to work in silos has long been identified as a barrier to development. The JTCs will look to support coordinated government action.

A just transition is about people as community and as workers. It is twinned with the idea of open democracy, of people participating in the decisions that shape their lives and holding government to account for their deployment of the people's resources. At present, people are alienated from decision making and have very little trust in government – or in many other institutions supposed to represent their interests – and see it beholden to, or the vehicle of, private interests. The JTCs must support people's capacity to hold government to account and must itself be accountable.

The work of the JTCs will be coordinated by a coordination unit. It will be responsible for facilitating people's participation in the social process of the just transition, in the overall work of the JTCs themselves and in the JTC units. It will:

- Support people's access to government or corporate information necessary for participation;
- Facilitate dialogue between people and government bodies and between interest groups;

- Support dialogue processes facilitated by other bodies;
- Establish people's JT fora to give direction to the JTCs and hold them to account and ensure participation in the direction of the units.

The JTCs will be structured as non-profit organisations and governed by a board with an appropriate distribution of skills and insight. Each board will include a member elected by the local people's JT forum.

# 8 The climate crisis and the end of coal

We conclude this report with the reflections of the community researchers as they answer the question: In the light of the community experience under Covid, what can we expect as climate impacts intensify, and what are the implications for the positions activists take in fighting for a Just Transition? The chapter is arranged around questions with a short introduction to give context, followed by the responses given by the researchers. These responses are not all of a piece as they reflect different local contexts and positions. Broadly, however, there is a strong convergence of views which testifies to the common experience of communities across the coal fields. And they produce a tough minded analysis.

## The end of coal is not visible on the ground

The activist researchers reported that the reality on the ground is that power stations are burning coal, coal mining continues, and rehabilitation has not started. It does not look like the end of coal at all. Many people in coal affected communities do not anticipate the end of coal and some who do, see it as a catastrophe. They fear the loss of jobs, serious interruption of coal careers, depressed local coal economies, including the loss of markets for informal traders and loss of other mostly informal sector activities that cater to workers in both mines and power stations. This, they fear, will lead to unemployment, crime and very difficult conditions for youth in particular. On the other hand, the prospects for local youth are as bleak if the coal economy continues.

> No rehabilitation will mean that land will not become available, for example for food self provisioning by small scale farmers, and that

> zama zamas and other poor people will continue to mine, or collect coal from waste heaps, sell it and/or burn it in and around their homes.
>
> Coal affected communities do not know enough about renewable energy to even argue that it could replace coal. Activists and community members do not see the formulation of plans in local government for strategies to deal with life after coal. We do not see that happening on the national level either.
>
> … our government is not showing any interest in shifting from coal especially in our area. I once raised a concern that more mines are coming into our area, but we keep on singing for climate action now. The response from the minister was there is nothing we can do because it's a city of coal and more people are relying on coal to survive and more people are investing in production.

While government now talks about a just transition, there is no actual planning for one. The National Planning Commission (NPC) convened a series of provincial dialogues on the just transition in 2018, followed by a national conference in May 2019 [reported in gWR 2019]. It was supposed to round off with a national summit on a just transition, but that was first postponed and then cancelled as the NPC's term expired in September 2020. It recommended that the yet to be established Presidential Climate Change Coordinating Committee (P4C) incorporate the work of the NPC and take responsibility for hosting a summit.

The P4C has a different provenance, being agreed by the 'social partners' at a Presidential Jobs Summit in October 2018. It was formally established only in December 2020 and, at year's end, was yet to meet. It includes a strong environmental justice group alongside labour, business, politicians and government. It is to advise on climate change and planning for a just transition, particularly on jobs and also on energy, water and food security, infrastructure resilience (urban, rural and coastal) and land-use.[214] Several questions are

214 The Presidency, *Terms of Reference for Presidential Climate Change Coordinating Commission*, undated but issued in October 2010.

immediately pertinent: whether this body, or the Presidency advised by it, can or will drive a sea change in government's climate response, including abandoning its dream of riches from fossil fuels; how conflicts of interest play out in this body; and how community voices and interests will be represented.

At community level, activists insist on the need to raise awareness about climate change, the end of coal, the transition and in particular what alternative pathways can protect and enhance people's livelihoods in coal communities.

## The health system is not prepared for climate change

Coal affected communities need a health system that deals with their health issues such as asthma and other respiratory diseases, provides appropriate medicine and is caring and easily accessible. Climate change will result in a heavier burden of disease with new diseases, higher temperatures and poorer nutrition. Researchers felt strongly that South Africa should have a single health system – not one that is divided into a private system that provides excellent services to 20% of the people and an under-funded public system that provides poorly to 80% of the people. It should prioritise people – according to the principles of Batho Pele. Pollution affected people should receive disability grants from government. Better qualified staff including more specialised doctors are needed.

Activist researchers were asked what would signal to them that the health system is responding to the needs of coal affected communities?

> When they start making sure that every clinic is our first step for community health attention, is well equipped for the needs of all people who visit the clinic, that proper diagnosis takes place, first aid is given and transport to hospital is arranged.
>
> Clinics must operate 24/7, and they must attend to all cases.
>
> Clinics would run more awareness campaigns and be involved in enforcing compliance with air quality regulations.

> When you enter a clinic there needs to be proof that they are aware of the dangers of air pollution to our health. For example, now we wear masks for Covid. We could do something similar for the air pollution in our area. They can also raise awareness to show people how the mines affect us …
>
> Free tests would be conducted for pollution associated ailments like asthma and cancer as well as government subsidised treatments.

The researchers expect that climate change will lead to increased deaths, hunger and diseases. It will reduce the access to potable water, and also reduce arable land. Reduced agricultural activities will affect food prices. Flooding and the contamination of water will lead to an increase of diseases such as malaria and diarrhoea. Increasing temperatures will cause heat strokes and people dying from heatwaves. There will be an increase in airborne diseases and malnutrition due to food shortages.

Is the health system ready to deal with climate change?

> The health system is by far not prepared for climate change because they are failing even now to make sure they meet the needs of their patients. They know very well that people who are living in this area are suffering from respiratory diseases, but they fail to have that medication for those people. They even say, ‘you must rush to the hospital,’ but without them providing a transport. A number of patients we know died on their way to hospital so that’s why I say they are by far not prepared. They have no plans in place to respond.
>
> They don’t even have simple cough mixture, so the health system is not ready yet.
>
> Firstly, the health system is unequal and not fair, as it serves those who have money rather than all people. Then with Covid-19 it became even more clear that we lack the capacity to deal with disasters.

> What would show that the health system is ready for climate change would be a change in their ways of treating patients, making sure they give their time to their work with dignity and love.
>
> They would hire professionals in our clinics and doctors would always be available in clinics, not once a week.
>
> There would be enough health care workers.
>
> They would have solar electricity systems in clinics.
>
> They would attend to communities affected by climate change and raise awareness in the facilities about the climate change impacts.

## The local economy will collapse

The economy is a set of institutions providing some people with profit and workers with jobs. In this process it exploits many people and imposes costs on both communities and the environment. In colonial times, capitalist economies relied on forcing people to work. They also constructed different kinds of jobs for men and women. Now they rely on an oversupply of workers to keep wages down.

Before Covid, unemployment was around 40% in South Africa. It may now be around 50% or more. People also create their own livelihoods through informal businesses, but have trouble accessing resources to start and maintain them. Covid lockdown has interfered with economic activities. Climate impacts such as drought are already affecting prices and people's incomes.

Based on the experiences during Covid of how the economy was affected, what can we expect to happen under climate change impacts, and what are the implications for activists' just transition advocacy?

> It will be very difficult to survive economically – like it is difficult under Covid – because we don't know what our government is thinking and planning to do about it. Activists are the only hope to mobilising and telling the truth to the people and making sure they push that we shift

away from corporate control to people's ownership and control of renewable energy. We need production processes which do not exploit workers or displace people and the environment.

Under climate change, local economies are going to suffer. This pandemic was an eye opener. People are still sleeping through the pandemic. I don't know when they will wake up.

Climate change will kill the local economy. It will cause the inflation of prices too. We must make demands on the government. We need to demand access to water and the land. If we can self-produce food, we will not have to close shops.

Covid has been a big stress economically. The economy has collapsed under Covid. But the big old corporations did not lockdown, they didn't have to comply like us. While people on the ground lost jobs, Covid was not a big blow to the corporations. We also saw that the government can act with determination when it comes to it. … Government has capacity and can do things when it really wants to.

We can expect that the local economy will collapse because of an increase in corruption. During Covid-19 more people have been implicated in stealing government resources that are designated to help the neediest in society. We can also expect to see more corruption allegations in tenders.

Climate change will bring poverty, losses, decreases in incomes and increases in household expenses. Activists should respond by encouraging people to start their own business on their land using their minds and hands, such as for farming, and that will put bread on the table.

Local economies will crumble especially when there is no rain. Activists need to be properly capacitated to understand climate change and its impacts, then educate the community about that so that they could plan ahead.

## Municipal services are in decline

Municipalities will be on the front line responding to climate change impacts. If Covid is a fair test of their ability and willingness to respond, they have failed – worsening their failure by corruption around food parcel distribution and corruption in PPE. Local government should in theory provide a wide range of services that make people's lives easier – including water, electricity and waste removal, but also education enrichment through libraries, and local economic development. The challenge is how to turn this theory into practice. How do the researchers anticipate that local governments will act under pressures of climate change?

> It will be as hard to receive local services under climate change as it is now. And in the local politics there will be more conflict as every individual will be fighting for survival due to shortage of resources.
>
> I personally can think that the officials are using the emergency to create opportunities for their own profit because often we have seen on our TV screens that the government is trying to help communities, but in our area it looks different because we had never seen anything of that like the food that was promised that people will get.
>
> Municipalities don't have to take the responsibility to deal with climate change on their own – they should work with NGOs and community organisations. But what they do need to do is to tell communities about the reality of climate change. I would like to see local affairs and resources not controlled by the municipality, but NGOs and NPOs must be involved in the controlling of communities' resources as they are our last hope for now.
>
> Service delivery will be poor as it has already been seen during Covid. The municipality has been over-burdened due to a lack of staff and failed to respond quickly. With regards to politics, there may be more attempts to convince communities towards a certain perspective, usually one that pushes the coal agenda and perhaps, as people become

> vocal, there may be more threats and violence exercised on people. The goal being to minimise or suppress community voices. We have had such incidences.
>
> I would like to see local resources being freely used by more members of the community. I am not saying there should not be any form of regulation, but local community must be given greater access.

## Water provision failures will get worse

Water was a crucial part of government's Covid response, necessary to achieve the main goal of limiting the spread of Covid. It failed. The failure to provide clean water to poor communities for hygiene under Covid was the latest in a long line of failures by municipalities and the DWS to supply water. It is paralleled by the failure of more than two thirds of municipal sewage works to return clean water to our rivers. Community researchers expect that under climate change this failure will intensify and become an important obstacle to dealing with climate change impacts.

> The streams that we rely on now will go dry. As we speak, we are struggling with water. There are not even water tankers that come to provide for us. It will be very hard as the rain is scarce too, so harvesting water from the rain it will be hard.
>
> Even now, it is not easy to get water from a borehole. When you dig for your own borehole, you will find next to it is a mining activity, drawing out all the water and your borehole will be dry.
>
> As we speak, people sometimes must buy water. We will end up drinking unpurified water out of desperation. In fact, under climate change water will be scarcer than it currently is, allowing only those who can afford it to access water.
>
> The municipal water infrastructure in our townships is old. People who are paid to maintain the system are not doing the job. The mains pipe supplying one section has been leaking for five years, although it has

been reported long ago. People in municipalities are employed through nepotism or through sexual favours and so on.

Given the experiences under Covid, who will get water and who won't?

The people who will get water are those in the first class because they will be able to pay the municipality to provide them with water, but those in the middle and third class will suffer.

The rich will continue to get water, and us, grassroots and middle class will suffer. People will accept it, even now, we accept things that our politicians are doing. Some of us try to make a noise, but when we make a noise some people get killed. We are going to suffer.

The water supply is currently unequal and that will continue under climate change. In the (well-off) suburbs, maintenance work is done better than in the rest of the municipality. In the Central Business District there is always water leaking. The situation with the sewers is worse than drinking water. The sewage is channelled into the stream by the municipalities, thereby polluting the source of the Vaal River.

The rich will get water and the poor will not since we will have to buy water. We will end up drinking water from the river.

Already the struggle to get water affects women more than men. Under climate change, this will get worse.

Water scarcity will stress women more because it will be adding to the unpaid jobs they are doing now and water is the source of living. We have to have water in our households. Waking up early in the morning to go and hunt for water will be an extra burden to women. Men suffer too. One man said to me: "It is not safe. You know your wife is going to the stream early in the morning, leaving the children alone. You think of many things that can happen but you have no choice as you have to go to work early, and when you come back it is dark. We really feel the pain of water scarcity.

> Water scarcity will stress women more as they are the ones who are responsible for household duties which needs water to perform them, as they clean, wash and cook. It is possible that men may feel a different stress.
>
> It will affect women the most. We women for example menstruate. We need sanitary toilets, and this is not possible without water. Women will be most affected because the gender roles in the houses require access to water. Men are affected differently by water scarcity. They spend days at work hence they are not pre-occupied with the day-to-day running of the household.

If women have a job, they do double duty.

## Food and hunger under climate change

In the light of their Covid lockdown experiences, community researchers expected the price of food to rise sharply. But their concerns extended to the whole food supply chain:

> Our local farmers are also going to have a challenge. Most of our food in Phola, fruits for example, come from Limpopo. When it is not raining, people in that community are going to suffer. They will lose jobs on those farms. There will be huge hunger, because most of the food won't grow as it is supposed to grow. In our small gardens in our yards, we won't be able to grow enough food. If I will have to sell spinach to my neighbour, I will not have enough food.
>
> We don't have land to grow our food. They will tell you, "that piece of land belongs to a mine," and you can't use it. … There is a municipal commons, but to be allowed to use it you must go through the municipality … It is a long process to apply. They have to approve you, it costs a lot of money… people rather just land grab it.
>
> We will experience hunger. Food will be scarce and more expensive.

> Already the local food supplies are not producing good food due to water scarcity in our community. It hardly rains and the water that we have from rivers is being used by the mines to clean their coal.
>
> With increased hunger in poorer communities there will be more of a dependency on government for food parcels [or] social grants.

Community researchers felt strongly that, in response, people should be encouraged and supported to grow their own food. If enough people do that, it could even bring food prices down in the townships. They also argued that food stress, like water stress, will impact much more on women than men, as they are the ones who have to prepare food for the family and make sure they eat healthily.

> Women are care givers and they ensure the day-to-day functioning of homes; this means they cannot fully assume this responsibility without access to food or an ability to provide meals. This would also affect the pregnant women. The problem is also that food is a source of conflict. Men get frustrated when there is lack or shortage and their frustration impacts on the family.
>
> Women are the ones who cook and do the communal gardens – so they will carry the biggest burden. But it is also hard for men. It's their responsibility to provide for the family, though sometimes they are not there. In single parent households it is the same stress for a man as for a woman – because they are both doing the same things.
>
> Women face a serious challenge and government tends to turn a blind eye to women's challenges. Most women in my community do not have jobs and therefore money to buy food. This makes them more dependent on their husbands or boyfriends as they must depend on the money given to them by men.

Given the experience before Covid and under Covid, what are the implications for vulnerable people under climate change?

Vulnerable people under climate change will experience something like the end of the world and will become even more vulnerable since they are not prepared to face it.

The impacts of Covid and climate change are the same for communities. We lack food and water, and our health is impacted.

The poor and defenceless (old people and children) will suffer more. Women will have an increased burden as has been the case during the Covid-19 lockdown.

## What should government do?

It is a sad thing to say, but government should do what it is already supposed to do. We need services but government is failing us. Government needs to enforce the laws that are there. We as organisations need to exert more pressure, including taking government to court to deliver on services, and to hold officials to account. Mining interests are buying the representatives – from the mayor to officials.

The government must make sure it speaks about it and prepare people to be ready for the situation and make sure they speak in a language that people will understand and also do whatever is possible to be done, especially in the water sector. Solutions that are put into action must improve the lives of the world's poorest people and those who are vulnerable. Solutions have to attend to the root causes of climate change. Business and the governments must not feed the people half-truths and lies – they must be accountable to people.

We need to demand that communities own the renewables. This will create jobs and security for communities.

A relief fund without corruption to help poor families.

Access to land so that people could farm.

> Government should listen to people to take initiatives to stop climate change. We should demand consistent supply of water to communities, and government should encourage waste recycling.
>
> We should demand water, food, jobs and basic needs. We should ask government to work out strategies on how we should pass through this with the support from the community. If need be, it would mean the mines should stop operating and save people's lives. That should happen because we need water and land.
>
> From government we need honesty and transparency. As has been seen during this Covid-19 situation, there has been a lot of corruption.

## Political space will shrink, but resistance will grow

The space for activism is guaranteed by the constitutional right of freedom of information, speech and the right to organise.[215] In practice, how real are these rights? Given the experience of Covid, do you expect restrictions on activism as climate change becomes more intense?

And what should activists do now to shape a different politics to that of the elites?

Activists say that the rights to activism are limited and were constrained even more under Covid. They expect an intensification of this under climate change.

> For me, activists rights are real. These rights are real for me because when we are organised as women and approach a certain institution, or company, saying we are here for such and such query, we have a right to know as a community. Most people know they have a right to protest and make demands.

But they are restricted.

215 Note that the discussions on which this section are based, took place before the assassination of Ma Ntshangase.

> We are told that it is against the law to picket, but we know we have a right to protest.
>
> As much as these rights exist, it often feels like they do not make much of a difference. The only time they are recognised is if one uses the legal system, and this has been more recently, where government is starting to recognise people's concerns around their health and environmental safety.

And in some places, like Somkhele, organising is dangerous:

> Whenever we organise something in our community, we have to make sure that we are in a good space with good people because some people just come to collect information and send it to our local traditional leadership, who most of the time are always against our plans to fight the mine and our wishes as a community.

Activists researchers do expect activist space to shrink under climate change:

> Eish, this government, they will impose restrictions, it will backfire on us.
>
> When climate change gets more intense, they'll come down on us like hell fire – the big guys don't like to be told what to do by little guys like us. We need protection for activists.

Nevertheless, under climate change:

> I see activism becoming stronger. We have always been clear about our demands. I do not see the intensity declining. Especially because coal is still with us.
>
> Activists know what is happening because we have learnt about climate change. We can also see that many people are suffering and cannot grow food because it is too hot and there is no water. As for the elites,

they don't care that people are suffering from climate change impacts, for what they do or want is to make money because they don't feel the impact the same way as poor people. It is important for activists to teach people about what is happening about climate change because most people have no idea, especially young kids.

# Postscript

At year's end, the second wave of infections was gathering momentum, starting in the Eastern and Western Cape but quickly spreading across the country. Amongst other things, a mutation of the virus created a new strain that was more easily transmissible. Hospitals, private and public, were full to capacity and both health systems were showing stress. Private hospitals, however, appear to be doing good business at R16 000 a day for critical cases. In June, they agreed with government that they would take patients from public hospitals at that rate if the latter ran out of space.[216]

A second wave has also been experienced in many countries around the world, including the US, Europe and even some Asian countries, like South Korea, that managed the first wave well. Several vaccines have meanwhile been produced. Rich countries have jumped to the front of the queue, buying up available supplies. South Africa is a member of Covax, which was meant to create some equality in the availability of vaccines but did not pay its dues on time. It was therefore at the back of the queue. Following scathing criticism, government evidently pulled out all the diplomatic stops to secure 1.5 million doses from India for delivery in January and February 2021.

At the World Trade Organisation, South Africa and India proposed a waiver of intellectual property rights on vaccines – most of which were developed by private corporations but at public expense – so that more could be produced more cheaply. In an extraordinary display of market values – putting corporate profits before the health of poor people – the Northern powers blocked this proposal.

216 Alexander Winning, ***South Africa government, private hospitals agree deal on COVID-19 patients***. Reuters, 7 June 2020.

# References


Acosta, A., 2013, *Extractivism and neoextractivism: two sides of the same curse*, in Miriam Lang and Dunia Mokrani eds., *Beyond Development: Alternative Visions from Latin America*, Transnational Institute.

Alston, P. 2020, *The parlous state of poverty eradication*, UN Special Rapporteur on extreme poverty and human rights, Report for the Human Rights Council, 44th session, 15 June – 3 July 2020.

Brenner, R., 2020. *Escalating Plunder*, New Left Review 123, May-June 2020.

Caruso, E., M. Colchester, F. MacKay, N. Hildyard and G. Nettleton, 2003, *Extracting Promises: Indigenous people, extractive industries and the World Bank*, Forest Peoples Programme and Tebtebba Foundation, Extractive Industries Review Volume 6.

Carvalho, A. and L. Téllez-Chávez, 2020. "*The Air is Unbearable": Health Impacts of Deforestation-Related Fires in the Brazilian Amazon,* Human Rights Watch, Amazon Environmental Research Institute & Institute for Health Policy Studies.

China Labour Watch, 2012, *Beyond Foxconn: Deplorable working conditions characterise Apple's entire supply chain*. Report of a survey of labour conditions at ten Apple supplier factories in China.

Department of Environment, Forestry and Fisheries (DEFF), 2019. *Strategic Environmental Assessment for the Development of a Phased Gas Pipeline Network in South Africa*. CSIR Report Number: CSIR/SPLA/EMS/ER/2019/0077/B.

Flyvbjerg, B. 2013. *Design by deception. The politics of megaproject approval.* Harvard Design Magazine, Spring/Summer, no. 22, pp. 50-59).

## References


Flyvbjerg, B. Brozelius N., and Rothengatter, W. 2003. *Megaprojects and risk: an anatomy of ambition.* Cambridge University Press.

Global Witness, 2020, *Defending Tomorrow. The climate crisis and threats against land and environmental defenders*.

The groundWork Reports,

- 2019, *Down to Zero: the politics of just transition.*
- 2018, *Boom and Bust in the Waterberg: A history of coal mega projects.*
- 2017, *The Destruction of the Highveld Part 2: Burning Coal.*
- 2016, *The Destruction of the Highveld Part 1: Digging Coal.*
- 2015, *Climate and Energy: The elite trips out.*
- 2014, *Planning Poverty: The NDP and the infrastructure of destruction.*

Foster, J. B. and R. McChesney, 2012, *Global stagnation and China*. Monthly Review, February 2012.

Giani, P., S. Castruccio, A. Anav, D. Howard, Wenjing Hu, P. Crippa, 2020. *Short term and long term health impacts of air pollution reductions from COVID-19 lockdowns in China and Europe: a modelling study*, Lancet Planet Health, Published Online 22 September 2020 at https://doi. org/10.1016/S2542-5196(20)30224-2

Hipple, K., C. Williams-Derry, T. Sanzillo, 2020. *Living Beyond Their Means: Cash Flows of Five Oil Majors Can't Cover Dividends, Buybacks*, IEEFA, January 2020.

Hung Ho-fung, 2009, *America's Head Servant? The PRC's dilemma in the global crisis*, New Left Review No.60, November/December 2009.

Kirsch, A., J. Opeña Disterhoft, G. Marr, P. McCully, A. Gürsöz, G. Aitken, C. Hamlett, A. Saldamando, Y. Louvel, L. Pinson, B. Cushing, G. Brown, and L. Stockman, 2020. *Banking on Climate Change: Fossil Fuel Finance Report 2020*, Rainforest Action Network (RAN), BankTrack, Indigenous Environmental Network (IEN), Oil Change International, Reclaim Finance, and the Sierra Club, March 2020.

Lee, C. K. 2014. *The Global Spectre of China.* New Left Review no. 89, September-October, pp. 29-65.

Marchand, C., 2020. *Gas in Mozambique: A windfall for the industry, a curse for the country*, Les Amis de la Terre France, Justiça Ambiental (JA! Friends of the Earth Mozambique) and Friends of the Earth International, June 2020.

Mbangula, M., D. D'Sa, E. Toussaint, L. Thompson, and P. Bond, 2019. *Shifting Sands of the Global Economic Status Quo: The Emergence of the "New" Global South developmental policy narrative and South Africa's Special Economic Zones*, Policy Paper 2 on South Africa's Special Economic Zones in Global Socioeconomic Context. African Centre for Citizenship and Democracy

Munnik, V., 2020. *Water risks of coal driven mega projects in Limpopo: the MCWAP and the EMSEZ*, Friedrich Ebert Stiftung, May 2020.

Pietermaritzburg Economic Justice & Dignity (PMBEJD), 2020a. *Household Affordability Index*, January 2020.

– 2020b. *The household food situation during covid-19 and the nationwide lockdown: Observations from the supermarket floor, the waiting lines, the street, the spaza shop, the taxi, the home, the kitchen, the plate and the stomach*. 8 April 2020.

– 2020c. *Research Report*, 26 May 2020.

– 2020d. *Research Report*, 26 August 2020.

– 2020e. *Household Affordability Index*, September 2020.

Presidential Economic Advisory Council, *Briefing notes on key policy questions for South Africa's economic recovery*, October 2020.

Reboredo, R. 2020. *A 'Bandung' View of the World: The Political Economy of Sino-South African Megaprojects.* PhD Thesis, Trinity College Dublin. The University of Dublin.

Ross, L., A. Zibel, D. Wagner and C. Kuveke, *Big Oil's $100 Billion Bender: How the U. S. Government Provided a Safety Net for the Flagging Fossil Fuel Industry*, Friends of the Earth, Public Citizen and BailoutWatch, l September 2020.

Scholes, R., P. Lochner, G. Schreiner, L. Snyman-Van der Walt, and M. de Jager, (eds.). 2016. *Shale Gas Development in the Central Karoo: A Scientific Assessment of the Opportunities and Risks*. CSIR

Smart, B., A. Broadbent, and H. Combrink, 2020. *Lockdown didn't work in South Africa: why it shouldn't happen again*. The Conversation. October 15 2020.

Spedding, P., 2020. *How the Mighty are Fallen: How chasing growth destroyed shareholder value in ExxonMobil*, Carbon Tracker, October 2020.

Spaull, N. et al. 2020a NIDS-CRAM, Wave 1 Synthesis Findings, National Income Dynamics Study (NIDS) – Coronavirus Rapid Mobile Survey (CRAM), 15 July 2020.

– 2020b, Wave 2 Synthesis Findings, 30 September 2020.

StatsSA, 2019. *National poverty lines*. Published July 2019.

Steyn, G. and C. Renaud, 2020. *Cutting through red tape: a shortcut to solving South Africa's power crisis*, Briefing Note, Meridian Economics.

Tong, D., 2020. *Big oil reality check: assessing oil and gas company climate plans*, Oil Change International, September 2020.

Tooze, A. 2020, *Shockwave: the pandemic's consequences for the world economy*, London Review of Books, 16 April 2020.

Tucker, B., and K. DeAngelis, *Still Digging: G20 governments continue to finance the climate crisis*, Oil Change International and Friends of the Earth US, May 2020.

United Nations Conference on Trade and Development (Unctad),

- 2020a. *From the Great Lockdown to the Great Meltdown: Developing Country Debt in the Time of Covid-19*, Trade and Development Report update, April 2020.
- 2020b. Trade and Development Report 2020.

Wallace, R., A. Liebman, L. Fernando Chaves and R. Wallace, 2020. *COVID-19 and Circuits of Capital*, Monthly Review, 1 May 2020. Web version at https://monthlyreview. org/2020/05/01/covid-19-and-circuits-of-capital/

Yang Lian, 2005. *Dark Side of the Chinese Moon*, New Left Review No.32, March/April 2005.

Žižek, S., 2008. *Use Your Illusions: Obama's victory and the financial meltdown*, London Review of Books, 20 November 2008.

The climate crisis is part of the broader ecological crisis created by global capitalism and its devotion to profit and growth. The Covid crisis emerges from the rent in the web of life and, while climate change is a slow motion wreck, the impact of Covid is synchronised across the world and compressed into weeks, months and a year or two. It does not merely foreshadow climate change. It is an instance of the disruptions that follow from widescale ecological disturbance – including climate change. And the baleful fires of the pandemic have illuminated and widened the fault lines of the global economy – exposing rank inequality, poverty and hunger.

This report follows on from Down to Zero, the 2019 groundWork Report on the politics of an (un)just transition, but not in the way we expected. It looks at the impact of the pandemic from global to local level, in particular reporting on the research of local community activists in each of South Africa's active coal fields. It also examines government's actual climate response, as it bets on a fossil gas bonanza to deliver economic redemption and still punts 'clean coal', even as Eskom abandons that boondoggle. The community researchers get the last word: Given the experience of Covid, what should people expect from government as the climate crisis intensifies?

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