Net zero economy index 2021: South Africa viewpoint

October 2021

Net zero commitments are good – now we need action to support them.

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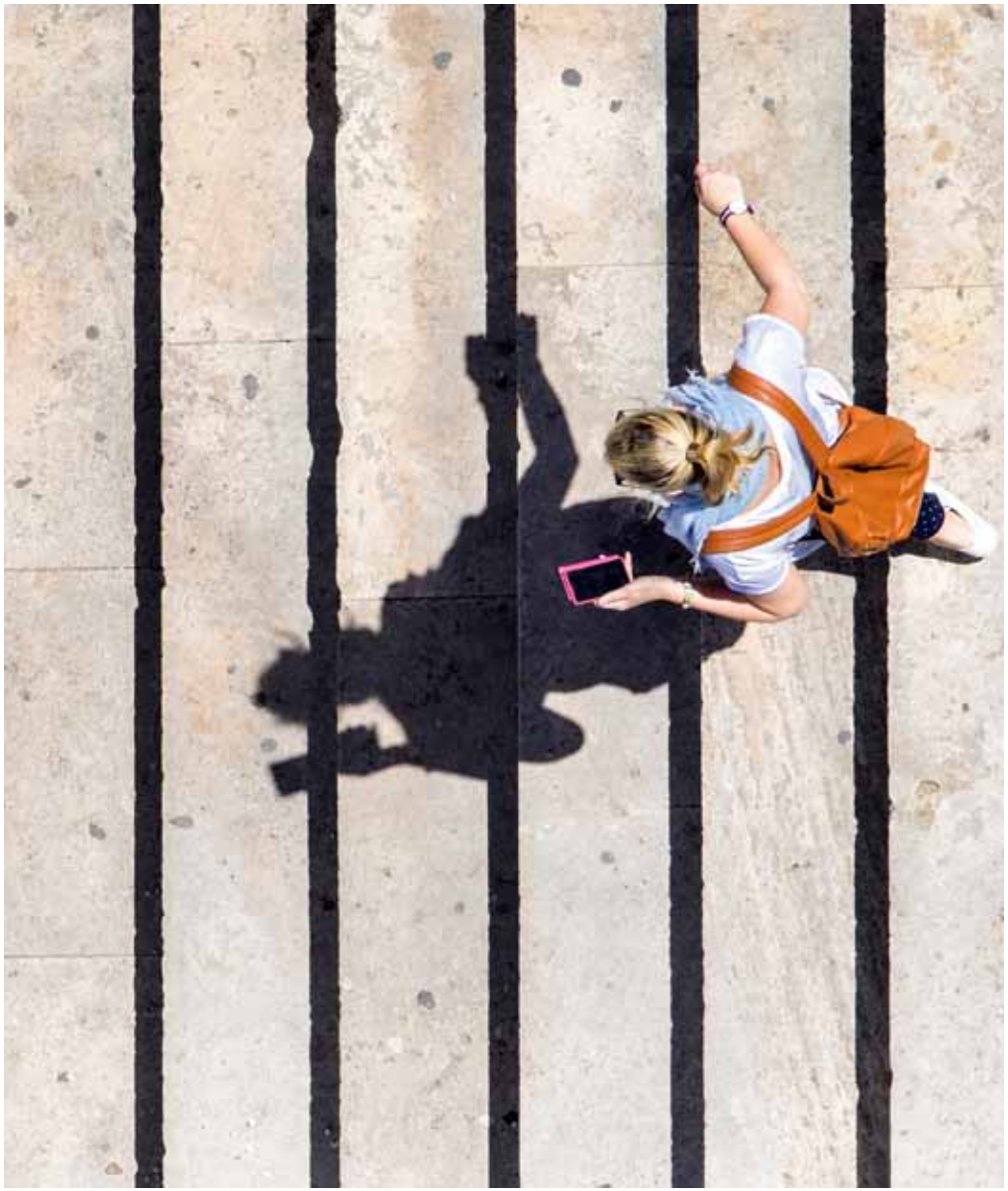
South Africa failed to reduce its energy intensity in 2020, but opportunities to improve are increasing

Climate change impacts are already here

The latest study from the Intergovernmental Panel on Climate Change (IPCC) definitively links human influence on the environment as a result of greenhouse gas (GHG) emissions to the warming of our atmosphere, ocean and land.[1] This paints a clear picture – there is an urgent need to move towards action, specifically as the 2020s have been dubbed the decade of action.

Globally, we have seen some progress in mitigating additional GHG releases in the last year, with global carbon intensity decreasing in 2020 by 2.5% from 2019. This is largely a function of changes in energy-related emissions due to national lockdowns caused by the COVID-19 pandemic. This decrease was in part driven by the contraction of the global GDP by 3.3%, but the decrease in energy-related emissions was still larger at -5.6%. However, while there was some decoupling in intensity, the annual average change in global energy intensity for the last 20 years has been -1.5%, which is still not enough to meet the decarbonisation rate of 12.9% per annum needed to limit GHG-related warming to the Paris Agreements goal of 1.5℃.

The stark reality is that even with the global lockdowns and expected reductions in GHG emissions, the world still did not achieve the annual required decarbonisation rate to limit global warming to 1.5℃, falling short by more than 10%. This highlights the magnitude of systemic change needed to decouple economic growth from carbon emissions.



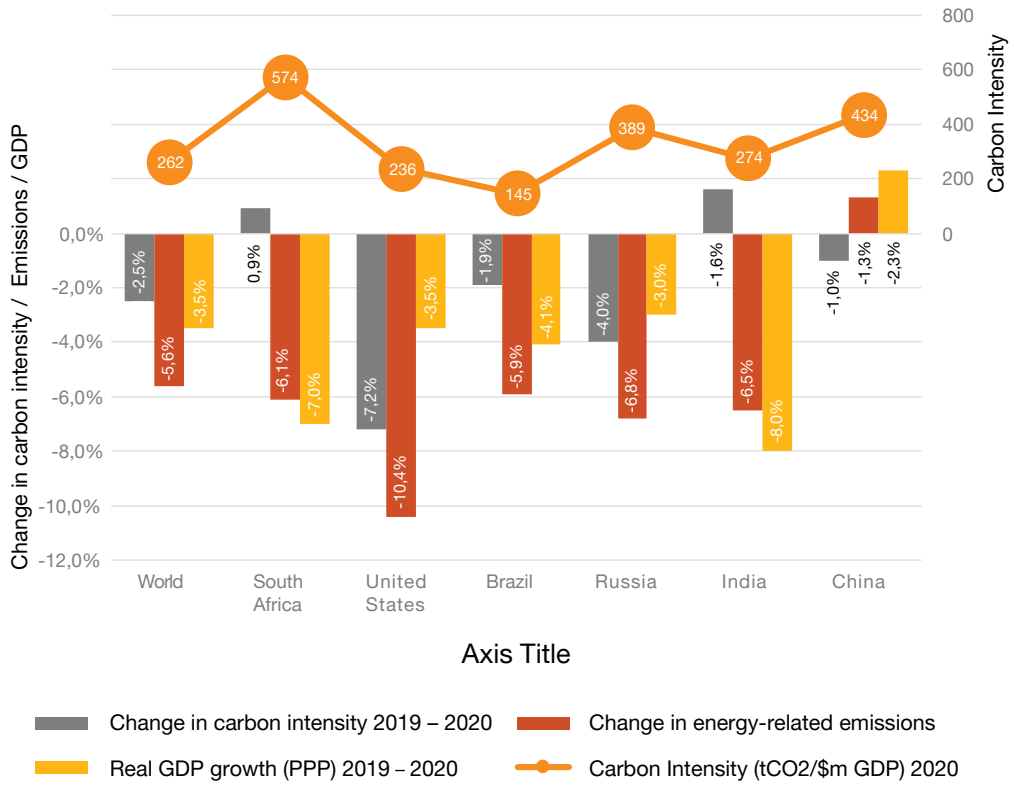
[1] Intergovernmental Panel on Climate Change. "Summary for Policy Makers." Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Last modified 2021.

South Africa's 2020 intensity performance

South Africa is still struggling to decouple economic growth from carbon emissions.

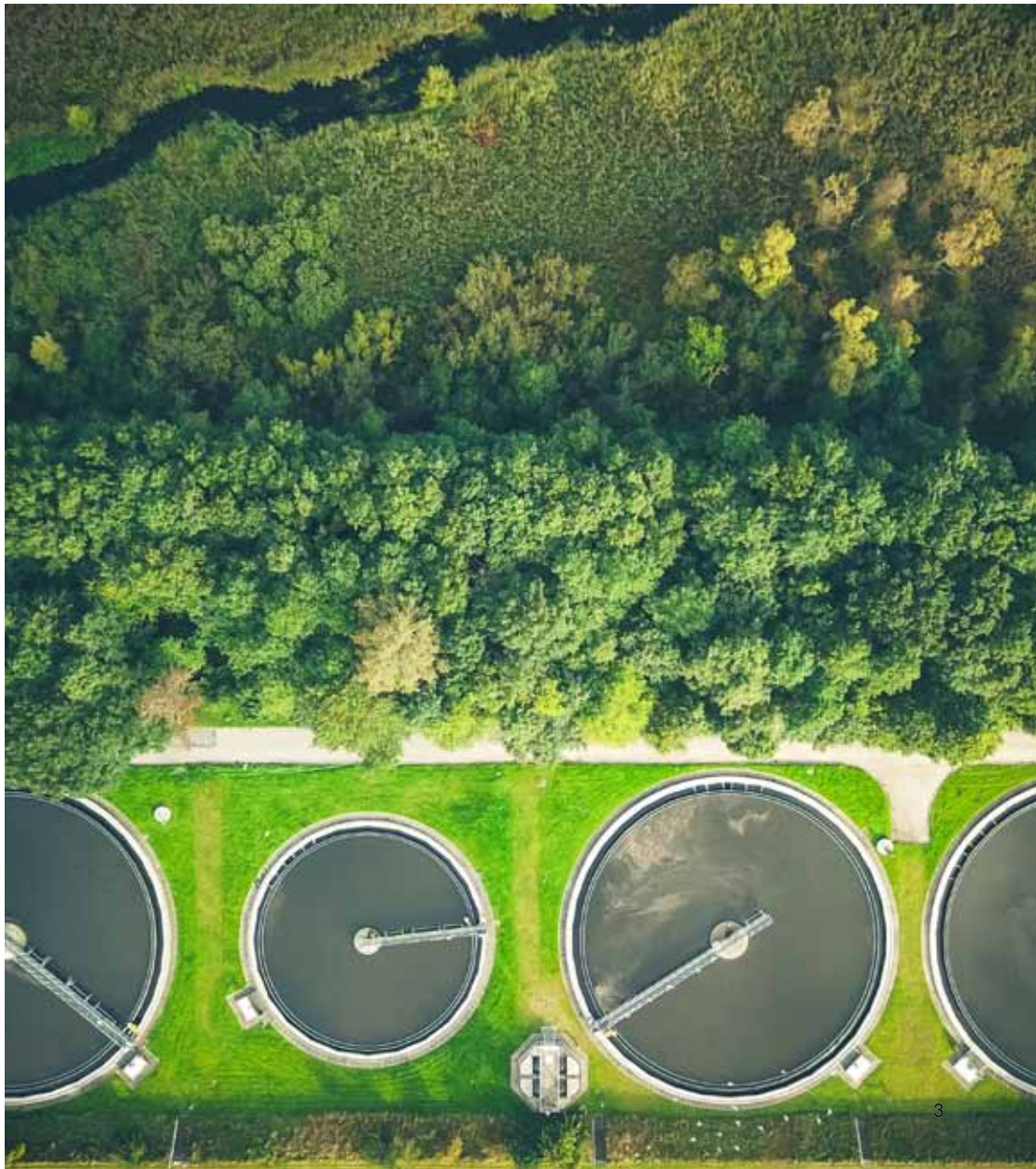
For the third consecutive year, and contrary to what was seen globally, South Africa's carbon intensity saw an increase (0.9% in 2020) even with the hard lockdowns experienced across the country. The increase in carbon intensity was driven by the larger decrease in GDP in 2020 (-7.0%) versus the slightly lower decrease in energy-related emissions (-6.1%). This highlights that the reduction in economic activity did not lead to the same or greater reduction in energy-related emissions, as seen elsewhere in the world.

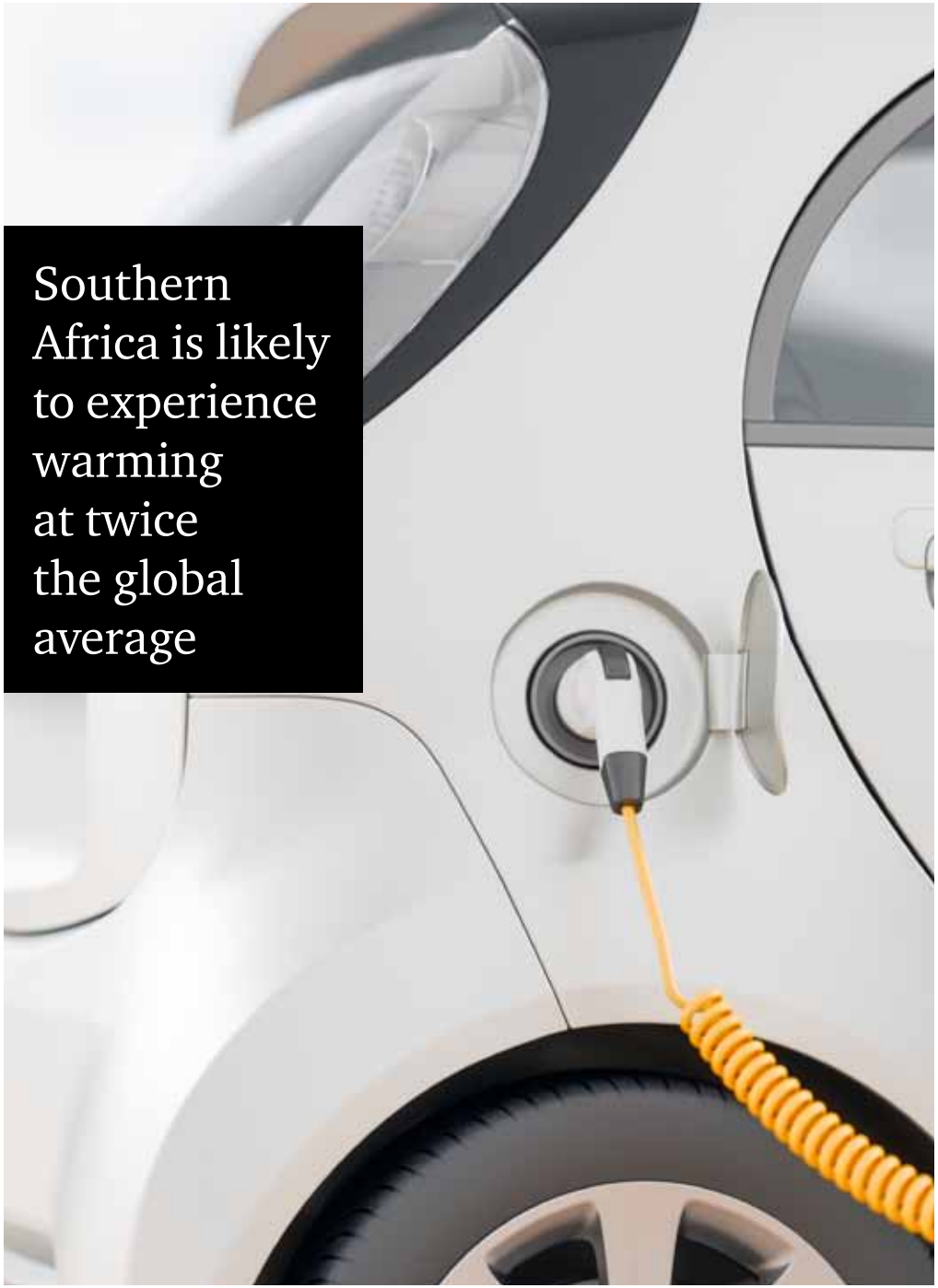
Figure 1. Selected G20 countries for comparison across changes in carbon intensity



Source: PwC analysis

Only three other countries in the G20 (India, Saudi Arabia and Argentina) saw their carbon intensity increase in 2020, with the rest all seeing decreases. This inability to decouple economic activity from energy-related emissions therefore needs to take centre stage for policymakers who are designing South Africa's response to meeting the Paris Climate Accord, while at the same time working to ensure that any transition to a greener economy is fair and just. The longer we delay taking action to reduce emissions, the greater the costs will be for society, the economy and the environment.





Southern Africa is likely to experience warming at twice the global average

The economic costs will be significant

A transition to a green economy will see job losses in carbon-intensive sectors such as coal, oil and gas. The coal industry alone currently supports an estimated 113,000 direct jobs and an approximately 320,000 indirect and induced jobs.[2]

This is often used as the reason for slow to no decarbonisation, along with South Africa being a developing country and the argument around 'fair share', which takes into account the historic emissions and development needs of countries to determine how quickly they should decarbonise.

However, taking too long to react to the changes in the global market by relying on these arguments means we risk losing out on the early-adopter advantage of transitioning into new markets such as green hydrogen. Andre de Ruyter (GCE of Eskom) backed this thinking when he recently stated that 'we cannot allow the thinking of us being a developing economy to fuel our planning as we will be hit harder'. South Africa being harder hit by climate change is backed up by research that shows temperatures in South Africa are rising at twice the global average.[3] De Ruyter further stated that 'research by Eskom and other research bodies suggest that through significant investment in solar PV and wind power, a net of 300,000 direct, indirect and induced jobs could potentially be created in the country over the next decade'.[4]

Either way, there will be economic impacts and likely job losses whether we transition or not. However, the failure to transition sooner is likely to result in larger impacts. Research by the Swiss Re Institute draws a link between increases in temperature as a result of climate change and decreased GDP in relation to a world where climate change does not exist.[5] The research highlights that even if the goals of the Paris Agreement are met, (a world well below 2°C) South Africa is projected to experience a 6.9% decrease in GDP as a result of rising temperatures, relative to a world without climate change (0°C increase).

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2 "What a 'just transition' means for jobs in South Africa." PwC, 2021. https://www.pwc.co.za/en/assets/pdf/what-a-just-transition-means-for-jobs-in-south-africa.pdf

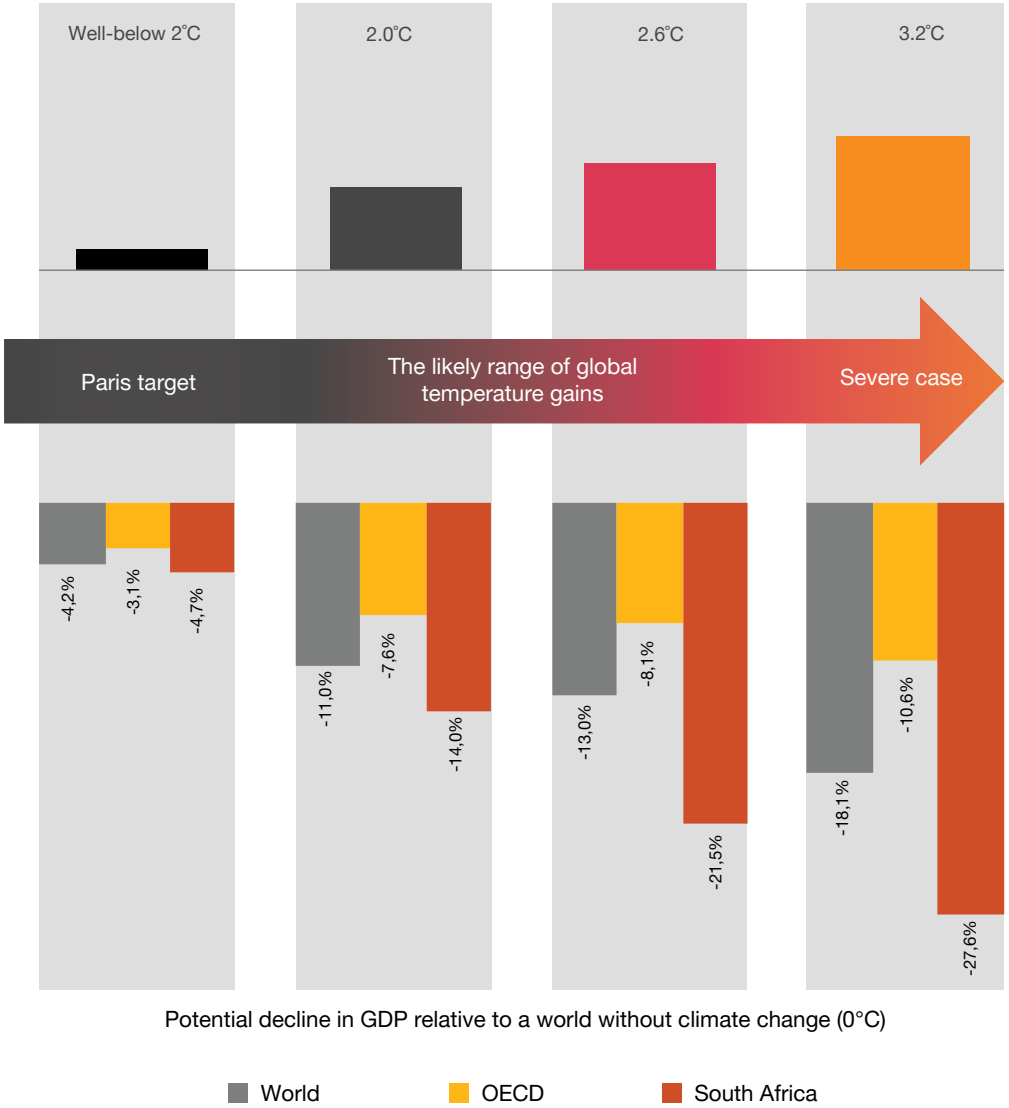
3 Quiggin, De Meyer, Hubble-Rose and Froggatt (2021) Climate Change Risk Assessment 2021. https://www.chathamhouse.org/2021/09/climate-change-risk-assessment-2021

4 Pombo-van Zyl, Nicolette. "De Ruyter's views on a greener Eskom and cleaner energy industry for SA." ESI Africa. Last modified August 18, 2021. https://www.esi-africa.com/industry-sectors/generation/de-ruyters-views-on-a-greener-eskom-and-cleaner-energy-industry-for-sa.

5 Guo, Jessie, Daniel Kubli, and Patrick Saner. The economics of climate change: no action not an option. Zurich: Swiss Re Institute, 2021. https://www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf.

In the 'likely range of global temperatures', (based on current commitments) this reduction in GDP could be as extreme as 17.8%. A stark realisation that arises from this is that, even if we achieve the most ambitious targets, the economic impacts will be on par with those of COVID-19 and significantly worse with each additional temperature increase scenario.

Figure 2. Potential impacts of temperature increases on the GDP of selected regions under four scenarios



Source: Swiss Re Institute 2021

In South Africa it is therefore important to consider these economic impacts in line with the effects they will have on unemployment. Job losses will need to be managed in a just transition, but the negative impacts of a transition that is too slow may be larger. Hence, the cost of not transitioning to a low-carbon economy should be equally considered, as continued reliance on coal and fossil fuels exposes the country to increased physical and transitional risks associated with climate change.

Physical risks will likely manifest in impacts such as increased droughts and extreme weather events. This is already being seen in the sharp rise in weather-related events in South Africa such as the drought in the Western Cape in 2018, the Knysna fires in 2017 and increased flood events around the country. The Knysna fires alone led to insurance claims of around R2bn, which excludes the potentially greater losses suffered by the uninsured.[6]

Transition risks for the country will likely manifest through increased investor pressure to move to greener technologies and global markets favouring less carbon-intensive products. For example, the EU has ratified an agreement that will see importers taxed on carbon-intensive products, potentially making South African products, such as steel, uncompetitive, which could lead to further job losses.

These physical and transition risks from climate change are already here and will only worsen unless the country can follow a rapid and just decarbonisation strategy. The final decarbonisation goal for many countries and companies is to achieve net zero, or a state where a company or country's greenhouse gasses emitted are balanced, through the removal of greenhouse gases from the atmosphere.[7]

[6] Donnelly, Lynley. "Heat is on Insurance Companies." The Mail & Guardian. Last modified June 7, 2019. https://mg.co.za/article/2019-06-07-00-heat-is-on-insurance-companies/.

[7] Net Zero Climate (2021) What is Net Zero? Net Zero Climate. Last modified April 29, 2021. https://netzeroclimate.org/what-is-net-zero/.

Net zero is a key step in the world's climate change response journey

In both the public and private sectors there has been an explosion of net zero commitments to meet the needs of decarbonising economic growth across the globe.

In the space of 11 months, the number of companies that had made commitments against the Science Based Targets initiative (SBTi) almost doubled from 991 in November 2020 to 1,878 in September 2021. These recent commitments from both public and private sectors have been made by some of the biggest emitters in the world such as China and oil and gas company BP. However, a lot still needs to be seen in terms of the practical strategies and actions that support these commitments and ambitions.

South Africa has included net zero commitments and ambitions in a number of its national policies and plans. The National Development Plan (NDP) specifically references the need for a 'low carbon, resilient economy and a just society', while the Low-Emission Development Strategy (LEDS) echoes this need and extends the ambition for South Africa to be net zero by 2050. Presently, the Nationally Determined Contribution (NDC) plan, which sets the targets for reducing carbon emissions, has been accepted by cabinet ahead of the COP26 conference in November 2021 and have come in more ambitious than in the draft version – paving the way for South Africa to set its ambition closer to the 1.5℃ mark.

Mitigating and adapting to climate change is not only necessary for countries, but also for companies and organisations. Business has a role to play in responding and adapting to the changes necessary in a low-carbon economy, in a way that prioritises job retention. A brief review of companies in South Africa that have committed to a Science-Based Targets Initiative (SBTis) reveals only a handful of companies have approved targets, while an increasing but still small number have made commitments.[8]

However, net zero commitments, specifically in developing countries, will require substantial climate funding to convert ambitions to actions. All eyes will therefore be on COP26 in Glasgow to see what new commitments and actions will be made around climate finance, one of the key themes of the talks, specifically because previous talks and commitments have not been supported by decisive action. For example, developed nations previously committed to providing $100bn a year by 2020 to developing nations to fight climate change. However, a recent study found that the actual funding required fell far short each year, with the closest being $20bn shy of the annual goal[9].

[8] "Companies Taking Action." Science Correct ref Based Targets. Accessed October 11, 2021. https://sciencebasedtargets.org/companies-taking-action?country=South%20Africa#table.

[9] OCDE (2021), Financement climatique fourni et mobilisé par les pays développés : Tendances agrégées mises à jour avec les données de 2019, Éditions OCDE, Paris, https://doi.org/10.1787/68a276c9-fr.

From a local funding perspective, a number of European envoys have been in talks with the South African Government recently regarding R1.8bn concessional finance for grid and renewable investment, provided nine coal-fired power stations are decommissioned by 2035.[10] Additionally, the National Treasury's Sustainable Finance Initiative has put out its Green Finance Taxonomy draft paper. The Initiative aims to create a classification system for green, social and sustainable finance initiatives for the South Africa financial services industry for the financing of green projects, with the intention of generating additional funding in this space.

While there has been some progress, with a lot of commitments, the real work to achieve the changes required is just beginning and will take substantial effort to achieve. Nonetheless, the potential benefits of a faster and just transition to net-zero far outweigh the benefits of a slow, unjust transition.

PwC's commitment

PwC has made a worldwide science-based commitment to reach net-zero emissions by 2030, building on our 2018 global environmental commitment and raising our ambition even further. This forms part of our Global Strategy, The New Equation, where we have committed to transforming our business model to decarbonise our value chain, increasing transparency, and supporting the development of robust ESG reporting frameworks and standards. Out Net Zero commitment has been validated by Science Based Targets initiative at its most ambitious level of 1.5℃ and will see us working to decarbonise our operations, working with our clients to take action and engaging in policy and advocacy of the need to take action for a just transition to a net-zero economy. We have already begun working on the substantial task of achieving this target, with some way to go before we meet this commitment.

[10] Paton (2021) Climate deal could save treasury billions and solve Eskom crisis.

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