Is the South African Climate Change Bill responsive to mitigation needs?

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CLIMATE AMBITION TO ACCOUNTABILITY PROJECT

CAN CLIMATE ACTION NETWORK South Africa

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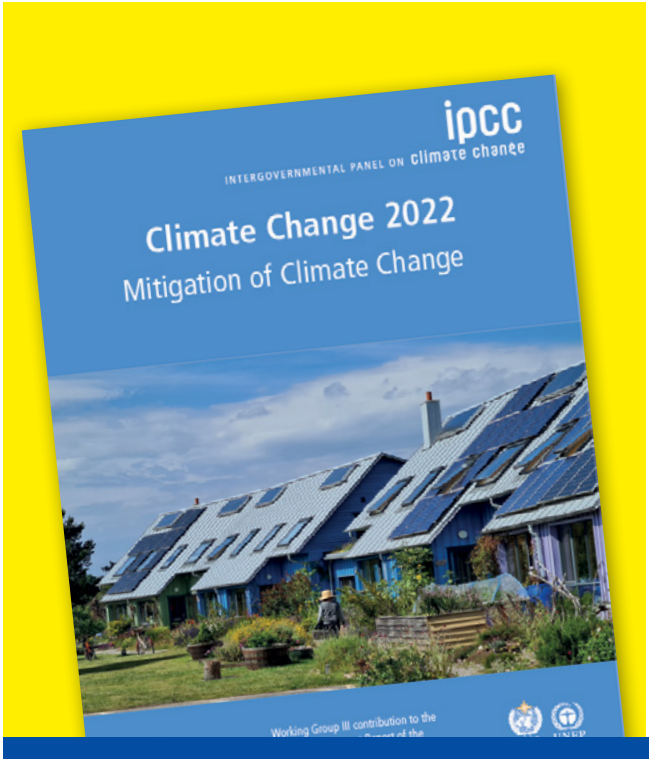
The Intergovernmental Panel on Climate Change (IPCC) is a multinational body that aims to provide comprehensive and rigorous scientific information on the causes and risks of human-induced climate change. Together with climate experts and scientists globally, the IPCC produces assessment reports that publish the latest findings on climate science. In April 2022, through Working Group III (WGIII), the IPCC released its third report, "Climate Change 2022: Mitigation of Climate Change" (the report).

This factsheet forms a part of the Climate Ambition to Accountability Project which aims to increase the capacity of youth and civil society in advocating for climate action. This document aims to summarise the lengthy and complex scientific information presented in the WGIII Mitigation of Climate Change report. The summarised IPCC report is also compared to South Africa's Climate Change Bill to assess how well the country is fairing in comparison to international mitigation standards outlined in the report.



What is the IPCC WGIII report and why is it important?

The report provides an updated assessment of global progress toward meeting climate change mitigation commitments and outlines trends and drivers of global emissions. It also points to what countries could potentially do to limit and prevent human-caused emissions. The report finds that despite a consistent increase in policies and laws addressing mitigation since 2014, the world is not on track to limiting warming to 1.5°C. It further emphasises that equitable climate action is critical to achieving sustainable development.

How does the IPCC define important concepts in the report?

➜ **ANTHROPOGENIC** Changes to the environment due to human activities, for example air pollution caused by industries burning fossil fuels.

➜ **GREENHOUSE GASES:** Greenhouse gases (GHG) are gases in the atmosphere that absorb infrared radiation. The significant anthropogenic release of these gases has created the greenhouse effect, whereby Earth's atmosphere traps more heat than it naturally would, thus increasing the planets' global temperature. Some of the most common GHGs are carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), ozone (O3) and water vapour (H2O). Most of these GHGs occur naturally in the atmosphere but are also released by human activities such as burning fossil fuels (coal, oil and natural gas). The heating effect of different GHGs is measured in "carbon dioxide equivalents" (CO2e).

➜ **MITIGATION** The IPCC defines mitigation as actions that reduce the sources of GHG emissions or increase activities that remove these gases from the atmosphere. GHG emissions or 'sources' stem from a range of anthropogenic activities that cause global warming such as energy production, transportation, industrial procedures, agricultural processes, waste management and deforestation. Removing GHGs from the atmosphere, via what are called 'carbon sinks', can occur through processes such as afforestation, reforestation or soil carbon management which absorbs carbon from the atmosphere. It can also be done through technological processes such as direct air capture which uses machinery to remove carbon from the atmosphere for long term storage. Long term storage can include injecting the CO2 deep underground into old oil reservoirs, or turning the CO2 into carbonate rocks.

➜ **NET-ZERO EMISSIONS** refers to the condition when anthropogenically released GHG emissions are equal to the GHGs being removed (i.e. sources=sinks). In other words, GHGs are being emitted into the atmosphere at the same rate as the sinks are absorbing carbon dioxide.

➜ **NATIONALLY DETERMINED CONTRIBUTIONS (NDCS):** NDCs are emissions targets by countries that have joined the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). These targets outline each country's plans and ambitions to reduce GHG emissions and adopt low-carbon pathways. These NDCs are supposed to be updated and improved every five years.

➜ **EMISSIONS PATHWAYS** Through the use of climate models, scientists can determine the level of emissions that will likely lead to a specified warming level. The current global goal is to remain on an emissions pathway that will lead to a 1.5°C increase in global mean temperatures by 2100. This is a very tight target, requiring the world to reach net zero emissions by 2050 and then net negative emissions in the latter half of the century. Limiting warming to 1.5°C will still lead to climatic risks that will need to be adapted to, with more serious impacts in developing nations. If global temperatures increase to 2°C, 3°C or even 4°C the impacts of climate change become increasingly threatening. This means that projected impacts such as melting glaciers, sea-level rise, extreme weather events and loss of ecosystem function worsen as warming levels increase. Hence, a 1.5°C (with a maximum of 2°C) warming is seen as a threshold we should not cross to limit climatic impacts.

➜ **CARBON CAPTURE AND STORAGE (CCS):** This refers to the process of capturing and storing GHGs and permanently burying (or storing) them into the ground.

What are the main findings of the report?

- **The report finds that the NDC targets made by countries will likely lead to emissions exceeding a 1.5°C warming pathway by 2030.** In combination, there is an implementation gap, whereby countries are not on track to meet their targets outlined in their NDCs. Therefore current policies will likely lead to higher emissions than those committed to in their climate pledge. While a 1.5°C pathway remains possible, it would require immediate and rapid action.
- **The report indicates that achieving net-zero CO2 emissions by 2050 and 2070 is respectively consistent with a 1.5°C and 2°C pathway.** Many of these pathways continue to net-negative CO2 emissions thereafter and require rapid reductions in all GHG emissions across all sectors.
- **GHG emissions are not distributed equally across nations at varying development stages.** Least Developed Countries (LDCs) tend to have much lower emissions (1.7 tCO2e per capita) than the global average (6.9 tCO2e per capita). LDCs have contributed less than 0.4% of historical cumulative emissions indicating that they are least responsible for the climate crisis. Households in the bottom half of income earners contribute only 13-15% of total emissions compared to households within the global top 10% of income earners who contribute 34-45% of emissions - a disproportionately large share. This indicates that the wealthy are driving emissions. In context, according to the World Bank, South Africa is a high emitting country, sitting above the global average by emitting 7.5tCO2e per capita in 2019. However, according to Oxfam, South Africa is a country with massive wealth inequality whereby the richests 10% of citizens contribute 10 times the per capita emissions of the poorest 50% of citizens.

- **The report outlines the importance of halting investment in fossil fuel infrastructure.** The current lifespan of existing fossil fuel plants is predicted to emit 850 GtCO2 whereas a 1.5°C pathway model requires emissions limited to 510 GtCO2 across all sectors. The report recommends decommissioning and reducing the use of current fossil fuel plants and/or retrofitting plants with Carbon Capture and Storage (CCS) plants.

Sectoral analysis

Limiting global warming to 1.5°C to 2°Cs involves rapid, deep and immediate GHG reductions in all sectors. The report outlines the options available for countries to halve emissions in each sector:

- **ENERGY SECTOR** This sector needs a significant reduction in fossil fuel use, drastic increases in low-emission energy sources (renewable energy) and improved energy efficiency and conservation. The report outlines the necessity of imploring CCS strategies to decrease emissions in this sector.
- **TRANSPORT SECTOR** The report emphasises the importance of reducing demand for high emitting transport. It also outlines available options for low-emission transport such as electric vehicles or public transport. The use of sustainable biofuels can support mitigation efforts in the short-medium term.
- **URBAN AREAS** Emissions can be reduced in cities by changing or reducing energy and material consumption and promoting sustainability in production and consumption. Carbon uptake and storage in urban areas (through increasing green areas and permeable surfaces) can be improved. Cities can decrease transport-related emissions by providing compact urban forms, car-free infrastructure and promoting electrification of the transport industry.
- **BUILDINGS** Mitigation efforts can occur during the construction phase of buildings including integrating renewable energy, using low-emission construction material, and recycling and reusing materials. The use of efficient appliances and optimising low-emissions energy sources can reduce emissions. Existing buildings can be retrofitted to minimise energy consumption but there is currently low ambition toward this action path.
- **INDUSTRY** Decreasing industrial emissions will be challenging. It requires coordinated action across the entire value chain and making use of all mitigation options including energy efficiency, material efficiency (products that last longer or use less material), circular material flows (recycling/reusing materials) and demand-side management (behavioural changes including decreasing consumption or minimising waste). It also includes making use of CCS in certain industries that are hard to abate.
- **AGRICULTURE, FORESTRY AND OTHER LAND-USE (AFOLU)** Reduction in emissions can occur through conservation and restoration of ecosystems (particularly forests, although other natural systems are also important) and improved livestock and soil management. Demand-side measures can be taken such as dietary shifts and reducing food wastage.
- **CARBON-DIOXIDE REMOVAL (CDR)** CDR refers to human activities that remove CO2 from the atmosphere including biological (e.g. afforestation) and technological (e.g. direct air capture plants) methods. To be effective, these measures need to include permanent storage of the carbon underground. The report emphasises that this is essential to remove CO2 from the atmosphere if net-zero is to be achieved by 2050, and significant further removals will be necessary for almost all scenarios that keep climate change below 2°C.
- **DEMAND AND SERVICES** Social, cultural and behavioural changes can reduce emissions at least 5% quicker than without these measures. Behavioural changes include dietary shifts (climate-friendly diets such as plant-based diets and other low-emissions food), reducing food waste, making use of walking, cycling, carpooling and public transport and consuming sustainable long-lived products. The percentage of emissions reduction increases with improvements to infrastructure that allow for enhanced service provision (e.g. designing compact cities so jobs and housing are in similar locations or making use of street space for active mobility)

Financial flows

The report contains findings on financial efforts to advance effective climate mitigation:

- The report finds that through innovation the costs of low-emissions technology (solar, wind etc.) have been steadily declining which has supported the adoption of these technologies leading to increased investment. Adoption of low-emissions technologies is lagging in developing countries.
- The rate of growth of financial flows towards climate action have, on average, been decreasing since 2018 and need to be scaled 3 times by 2030 to limit warming to below 2°C (or 6 times to limit climate change to 1.5°C). Capital has been flowing in the wrong direction with financial flows for fossil fuels being greater than those towards climate action. Scaling up mitigation financial flows can be supported by clear policy choices and making use of sufficient levels of global capital and liquidity to close the investment gap.
- The report emphasises that the economic benefits of limiting warming will exceed the costs of mitigation through avoided damages from climate change and decreased adaptation costs.

What do the report's findings mean for women, workers, communities and youth?

➜ **WOMEN** Women, particularly those in rural communities, predominantly provide energy for the household by collecting and burning biomass . Extreme weather events would make this harder for women to do, and will increase their share of unpaid labour. Additionally, women play a vital role in conserving natural resources and thus should be included in mitigation strategies.

➜ **COMMUNITIES AND WORKERS** The current fossil fuel-based economy employs millions of people, directly and indirectly, who are at risk of losing their jobs and livelihoods through an energy transition. The report emphasises a socially inclusive phase-out of coal known as a 'Just Transition' but there are many challenges that inhibit an equitable and sustainable energy transition. While the report outlines the possibility that low-emissions development can create more jobs, realising the potential of an energy shift, according to the International Renewable Energy Agency, will depend on smart investment and good planning and execution.

Skills transferability and employment shifts remain a challenge for workers who stand to lose their jobs. Workers in other sectors also face challenges - for example, farmers may face increasing barriers to entry as they adapt to new climate-friendly agricultural technologies. The impact on workers directly affects the communities that rely on them for income generation.

Despite the outlined transition risks, the essential function of the report is to outline the increased risks these groups face through failure to mitigate. The potential increase in extreme weather events and climate variability is likely to have detrimental impact on infrastructure, industries and agriculture leaving innumerable livelihoods at stake. Transition risks need to be addressed in an efficient and just manner in order to mainstream mitigation efforts that will ultimately minimise the potential climatic impacts on workers and communities.

The report states that the inclusion of a diversity of actors in guiding policy and climate governance is important for negotiating trade-offs and enabling synergies (cooperation between two opposing parties). Including various communities and workers in the decision-making processes can enable a Just Transition and can highlight mitigation options that will be adopted more readily or be more effective. This report therefore encourages community members to have a say in mitigation action that may directly affect them (e.g. decommissioning fossil fuel plants that will directly affect many livelihoods).

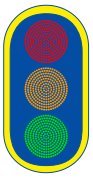
➜ **YOUTH** The youth are effectively the inheritors of the climate crisis problem. This report outlines the importance of fast-tracking climate change action and the need for youth to voice their concerns about the planet's future and advocate for immediate change to ensure that climate impact is limited and economic and social justice is accelerated.

South African Climate change Bill in light of the IPCC WGIII Mitigation report

The draft South African Climate Change Bill (the Bill) was published on 18 February 2022. The Bill aims to put in place a legally binding framework that will implement South Africa's international commitments and obligations to respond to climate change impacts by reducing its CO2 and other greenhouse gas emissions and preparing to mitigate against the effects of climate change.

The Table below rates the Bill's mitigation mechanisms against the findings of the IPCC's latest report on mitigation. It does so on the following grounds: Mitigation concepts and addressing the urgency of meeting 1.5°C; Transparency and accessibility of mitigation measures; Mitigation strategy; Transition risks and time-frames; Accountability in mitigation measures.

The ratings indicate the Bill's responsiveness to the IPCC findings:

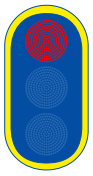


Red indicates highly insufficient or lacking

Orange indicates insufficient

Green indicates sufficient

MECHANISMS OF A GOOD BILL	RATING	COMMENT
Mitigation concepts and addressing the urgency of meeting 1.5°C.		**The Climate Change Bill (henceforth the "Bill') defines mitigation as: "human intervention to reduce the sources or enhance the carbon sinks of greenhouse gases".** This aligns with the IPCC report's definition of mitigation. The Bill also recognises in its Preamble that climate change will contribute to "increased frequency and intensity of extreme weather events, will affect, amongst other things, human health, access to food and water, biodiversity, habitats and ecosystems, the coast and coastal infrastructure and human settlements". However, the Bill needs to declare a Climate Emergency in its preamble. The declaration of a climate emergency will reflect global calls for the declaration of a climate emergency that stem from a recognition that to avoid dangerous climate change and to keep temperature increases within the 1.5°C temperature rise deemed necessary to survive, a rapid and ambitious transformation is needed..
Transparency and accessibility of mitigation measures		**The Bill states that "The Minister must in consultation with the relevant Ministers responsible for each sector or sub-sector..... determine.....the prescribed framework and the sectoral emissions targets for sectors and sub-sectors".** ➜ This is important for transparency as it sets the targets for the sector and sub-sector emissions targets. However, the provision does not disclose the purpose of the prescribed framework nor does it set the basis upon which this prescribed framework is to be determined, which is important for guiding well-informed and cohesive climate action. This can be guided by sectoral analysis in the IPCC report. ➜ The use of the words 'in consultation with' has been flagged as problematic by many Civil Society Organisations as it requires sign off and consensus from all other ministers, which will both slow down and water down mitigation measures. It is important that this be changed to "after consultation with", effectively ensuring that the mitigation decision-making remains with the Minister. ➜ The prescribed framework must also include measures to ensure a just transition associated with decreasing sectoral emissions

MECHANISMS OF A GOOD BILL	RATING	COMMENT
Mitigation strategy		**The Bill sets the interim national Greenhouse Gas (GHG) emissions trajectory at between 398 MtCO2e and 614 MtCO2e for 2020-2030 as specified in Schedule 3.** This is an outdated target pledged by South Africa in 2016 that is misaligned to the country's recently approved NDC by Cabinet that was submitted to COP26 in 2021. The Department of Forestry, Fisheries and the Environment (DFFE) has made commitments to update this emissions trajectory to align with the updated NDCs of 350 Mt CO2e - 420 Mt CO2e2. Regardless, this target needs to be improved in order to fully align with a 1.5°C pathway
Transition risks and time-frames		**In terms of carbon budgets, the Bill states that a "A person to whom a carbon budget has been allocated....must prepare and submit to the Minister, for approval, a greenhouse gas mitigation plan".** This provision is important to ensure that persons are taking steps to reduce their carbon emissions. ➜ Another provision is needed that stipulates that mitigation plans must also contain just transition plans for workers and vulnerable communities directly affected by the actions taken to reduce emissions. These just transition plans must be negotiated with the workers and vulnerable communities directly affected by the reduced emissions. ➜ The Just Transition plan must include details of the timelines and stakeholders that must be involved in implementation.
Accountability in mitigation measures		**The Bill states that, "When determining the sectoral emissions targets, the Minister must take all relevant considerations into account including, amongst others, the following— (a) the socio-economic impacts of introducing the sectoral emissions targets; and (b) the best available science, evidence and information."** While this is a good first step, the Bill should: ➜ Require the Minister to state how all relevant considerations were taken into account. ➜ Include transitional risks associated with proposed sectoral emissions targets, particularly when setting sectoral emissions targets. This will ensure that the mitigation of climate risk through reduced emissions, is accompanied by transition plans that ensure that vulnerable and impacted workers and communities are not left behind. In addition, the Bill states that the, "Minister must by notice in the Gazette, publish a list of greenhouse gases which the Minister reasonably believes cause or are likely to cause or exacerbate climate change". This is an important clause because it provides the basis upon which activities due for emissions reductions are identified. However, it is not clear on what the Minister's belief in which GHGs are likely to cause or exacerbate climate change will be based. ➜ To maintain the legitimacy of the process, the basis upon which the Minister determines the list of GHGs and determines reasonableness should be stated explicitly and the Bill should require this to be based on trusted up-to-date science as determined in IPCC reports.

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