National Business Initiative

2021 – A VERY IMPORTANT YEAR FOR CLIMATE CHANGE, WHAT YOU NEED TO KNOW ABOUT AMBITION

A GUIDE FOR SOUTH AFRICAN CEOS

READING TIME: 15 MINUTES

BUSINESS ACTION FOR SUSTAINABLE GROWTH

FOREWORD FROM JOANNE YAWITCH

Enhancing ambition, globally and at home, is essential for transitioning South Africa's economy to one that is competitive

Joanne Yawitch

We believe there is a real opportunity for South Africa to access long term trade and capital as the global economy transitions to one that is net-zero by 2050. 9 of the largest economies in the world have committed to net zero by 2050 and are looking to secure low carbon goods that can help them meet those goals. We see parallel commitment and activity from the global private sector.

To access these new markets and capital South Africa needs to position itself as a credible market. In order to be credible South Africa needs to demonstrate similar levels of ambition and demonstrate what needs to be done (and what international support is needed) to get there.

COP26 at the end of 2021 is a major opportunity to present South Africa's long-term plan and ambition and therefore position South Africa as a major investment destination. It is therefore incumbent on business to support enhanced ambition in government submissions. Business should therefore specifically support enhanced ambition in the NDC (2030 targets) inline with a long-term effort to reduce carbon emissions to net-zero by 2050.

This CEO guide is designed to give CEOs, executives and key decision makers within companies that information and resources (signposted by QR codes) they need to understand this urgent need to increase ambition.

The document is divided into three sections:

- The context for ambition describes the global policy and corporate action context. It also describes the actions business and NBI members can take.
- Why ambition is important describes how this context may impact the South African economy and therefore the urgent need for us to collectively enhance ambition.
- What can business do provides an overview of NBI projects and how business can play their part to enhance the transition

Credibility is earned through two actions. Making bold leadership commitments and backing those commitments up with action. Business needs to enhance their credibility in order to positively influence ambition in the NDC, critical in attracting investment and accessing opportunity.

We therefore ask of you:

- Set a net-zero ambition through the Alliances for Climate Action.
- Actively encourage government to enhance ambition in the NDC.
- Work with the NBI to create investment opportunities that enhance national and individual company competitiveness.

It starts with us.

THE NEED FOR AMBITION IS DERIVED FROM 3 INTERCONNECTED SOURCES

South Africa is exceptionally vulnerable to physical and transition climate risk, leadership is critical

PHYSICAL CLIMATE RISK

The IPCC reports, extremely conservative in character, increasingly uncover evidence to suggest we need to cut emissions as fast as possible translating into earlier than first expected net-zero dates.

GLOBAL POLICY RESPONSE

The recognition of the science is leading to countries around the world implementing more ambitious policy and economic development plans. This is an opportunity to lock step with their plans and access new markets and stimulate growth.

GLOBAL POLICY TRANSLATES INTO TRANSITION RISK

Transition risk is driven by 3 key factors:

1. Trade
2. Access to international support, including finance
3. Shifts in capital markets

Chapter: 01

WHAT DOES THE SCIENCE SAY AND WHY IS AMBITION IMPORTANT?

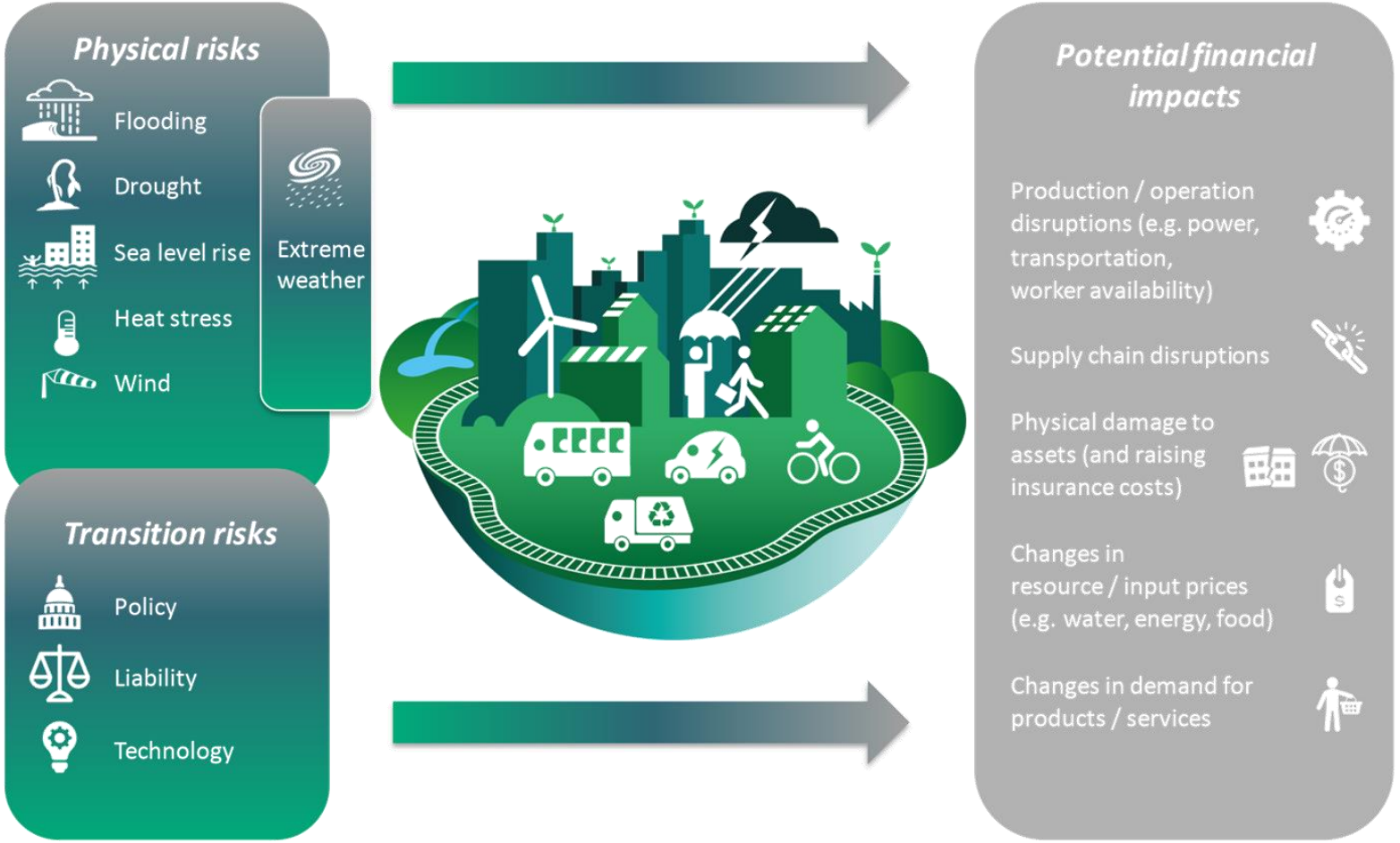
WHAT DOES THE SCIENCE SAY

- We should aim to keep temperature increase to below 1.5°C above pre-industrial levels
- The implication is that we need to cease the emission of CO2 prior to 2050, with rapid and massive emission reductions before 2030
- This requires a huge global multi-stakeholder collaborative effort and massive global systems change
- In order to meet this objective, developed countries and companies will have to reach net-zero before 2050
- South Africa is uniquely vulnerable to climate risk and it is in South Africa's best interest to lead on 1.5 °C efforts.

"The science is crystal clear: to limit temperature rise to 1.5-degrees Celsius above pre-industrial levels, the world needs to decrease fossil fuel production by roughly 6 per cent every year between now and 2030.
Instead, the world is going in the opposite direction — planning an annual increase of 2 per cent."

Mr Antonio Guterres,
UNITED NATIONS SECRETARY-GENERAL
2 December 2020

KEY TERMINOLOGY: PHYSICAL VS TRANSITION RISK



Source: https://cicero.oslo.no/en/CF-transitional-risk

In many cases the two types of risks are inversely related to each other. If we change our economy (through policy, technology and law) we will be exposed to less physical risk – however we may then be exposed to greater transition risk.

KEY IPCC REPORTS

The IPCC prepares comprehensive Assessment Reports (AR) about knowledge on climate change, its causes, potential impacts and response options. The IPCC also produces Special Reports, which are an assessment on a specific issue and Methodology Reports, which provide practical guidelines for the preparation of greenhouse gas inventories.

The most recent assessment report, reviewing all available literature in a massive global effort, was released in 2014. The latest synthesis report (AR6 is due to be released in stages between April 2021 and June 2022). Recently several special reports were released with the most notable the 1.5˚C report.

Add links to codes

01

AR5 Synthesis Report: Climate Change 2014

Released October 2014

https://www.ipcc.ch/report/ar5/syr/

02

Special Report on Global Warming and 1.5°C

Released October 2018

https://www.ipcc.ch/sr15/

03

Special Reports on Climate Change and Land, Oceans and the Cryosphere

Released August and September 2019

https://www.ipcc.ch/srocc/

04

AR6 Synthesis Report: Climate Change 2022

Due June 2022; with staggered sub-section released from April 2021

https://www.ipcc.ch/report/sixth-assessment-report-cycle/

HEADLINES FROM AR5

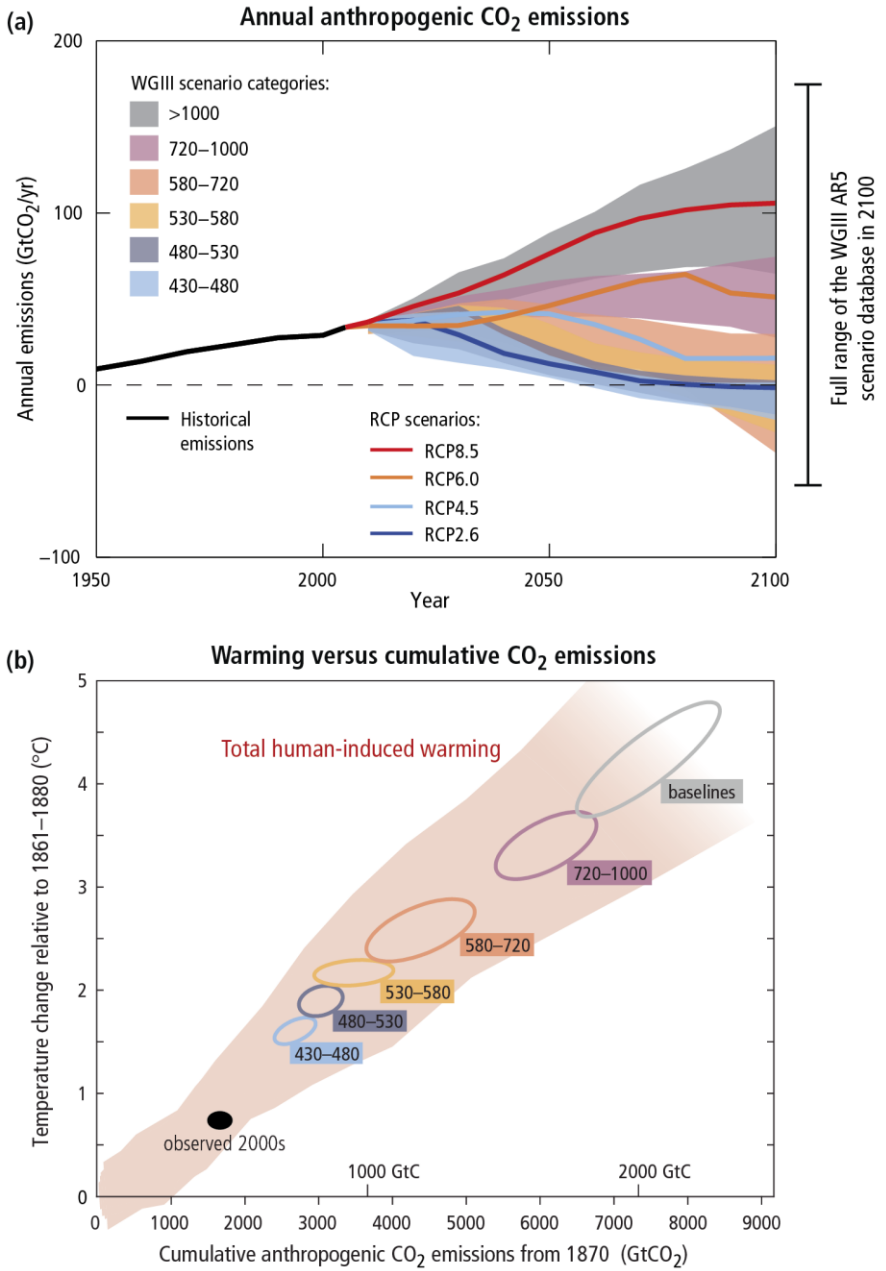
Human influence on the climate is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.

Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reduction in greenhouse gas emissions which, together with adaptation, can limit climate change risk.

Adaptation and mitigation are complimentary strategies for reducing and managing the risks of climate change. Substantial emissions reductions over the next few decades can reduce climate risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term, and contribute to climate-resilient pathways for sustainable development.

Many adaptation and mitigation options can help address climate change, but no single option is sufficient by itself. Effective implementation depends on policies and cooperation at all scales, and can be enhanced through integrated responses that link adaptation and mitigation with other societal objectives.

AR5 SETS OUT A SERIES OF SCENARIOS AND THEIR RELATED PREDICTED TEMPERATURE RISE



Source: https://www.ipcc.ch/report/ar5/syr/

It is important to note that, according to local sciences, parts of South Africa warms at twice the rate of the global average.

If all country unconditional NDC's by 2030 were achieved, the world on track for average temperature increases of 3°C - 4 °C.

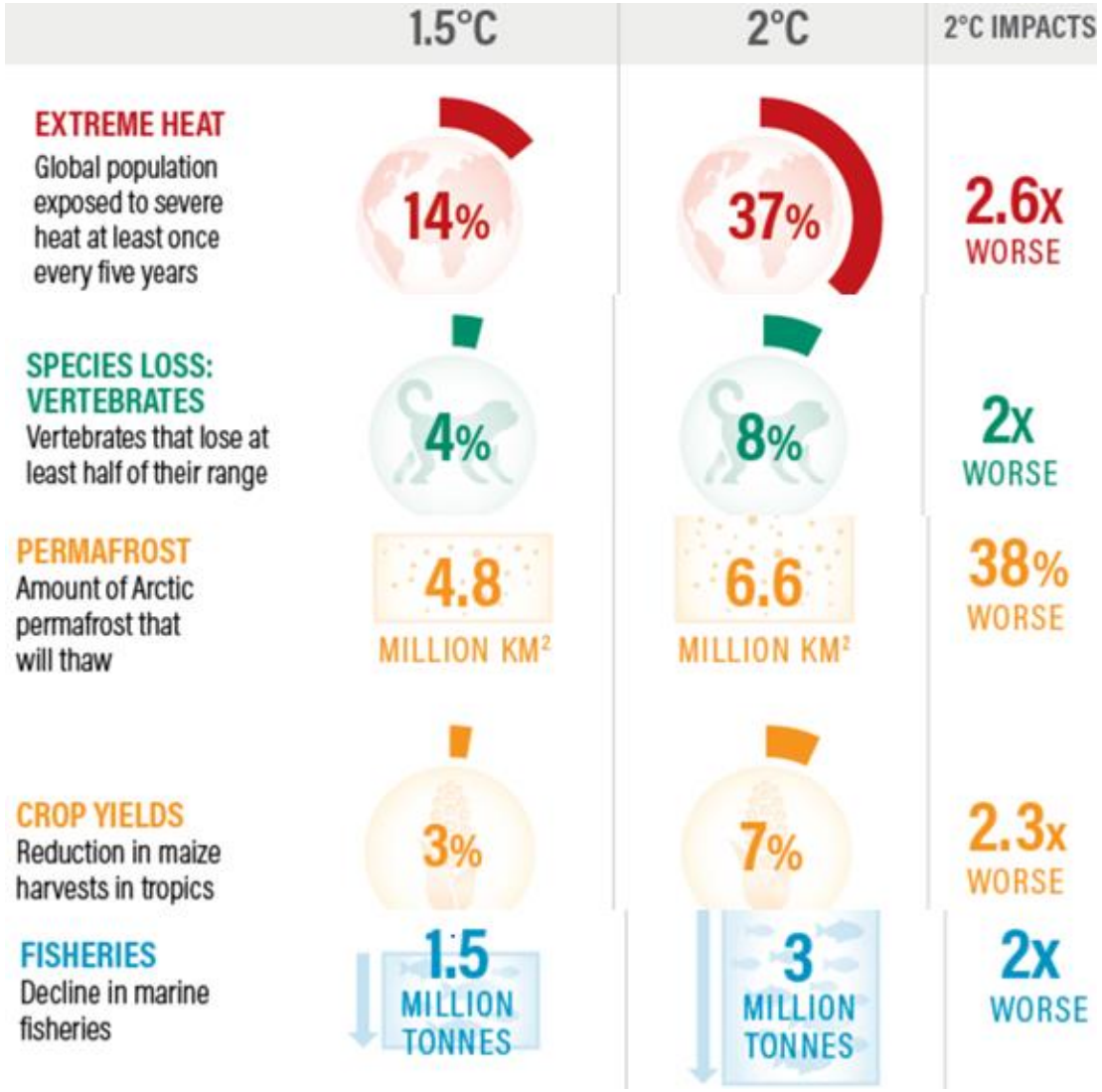
SPECIAL REPORT ON 1.5°C

The world is currently not on track to meet the 1.5˚C limit, avoiding overshoot and reliance on future large-scale deployment of carbon dioxide removal (CDR) can only be achieved if global CO2 emissions start to decline well before 2030.

A marginal difference of 0.5°C (2°C vs 1.5°C) can be achieved through greater climate action and makes a huge difference in terms of socio-economic outcomes: job growth, improved access to energy, sustainable transport and healthy cities.

Everyone needs to embark on climate action: countries, cities, the private sector, and individuals. International cooperation can provide an enabling environment for this to be achieved in all countries and for all people, in the context of sustainable development. International cooperation is a critical enabler for developing countries and vulnerable regions.

Source: https://www.ipcc.ch/sr15/



Source: https://www.wri.org/blog/2018/10/8-things-you-need-know-about-ipcc-15-c-report

Local science shows that parts of South Africa are likely to warm at twice the global rate.

The country is likely to become more arid in the west with increased risk of extreme weather events in the east.

S.A temp. increases up to 4 °C in the east and up to 6°C in western and central S.A, with likely impacts of:

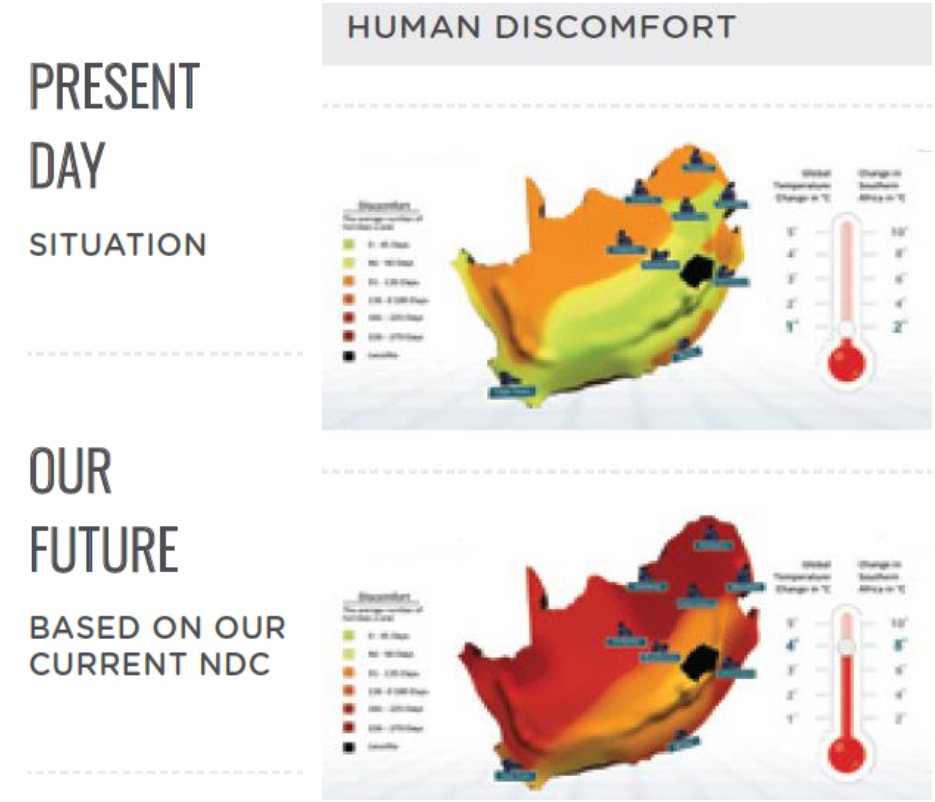
- S.A could be a net food importer
- Water insecurity across the country
- Drastic increase in heatwaves and hot days
- Decrease in human productivity and effects on human health
- Economic slowdown, and increased unemployment and inequality

to QR
s

For more local science:

- Watch the late Professor Bob Scholes discuss the potential impacts of climate change in South Africa: https://www.youtube.com/watch?v=SusSIHBqr8E
- Watch Professor Francois Engelbrecht describe the latest science on climate forecast for Southern Africa: https://www.youtube.com/watch?v=iN-46Xgs8ag

- Use the NBI Climate Mapp to visually experience the impacts of climate in South Africa: https://play.google.com/store/apps/details?id=za.co.bizarreality.nbimap&hl=_n_ZA&gl=US



RED AREAS ON THE MAP
Indicate areas in the country that will experience between 181- 270 hot days in a year (temps above 27°C) in a 4 °C world. This threatens the productivity of the South African workforce, especially for those performing manual labour outdoors or underground in the mines.

Chapter: 02

HOW DOES THE GLOBAL POLICY CONTEXT TRANSLATE TO LOCAL POLICY AMBITION?

INTERNATIONAL CONTEXT

- The climate change negotiations at the end of each year (typically November or December) are rooted in the Rio Earth Summit 1992, which identified 3 areas of concern: Climate Change, Biodiversity and Desertification.
- A similar UN infrastructure was established for each topic. For climate there are 3 bodies worth understanding:
  - UNFCCC: Emerging from the Earth Summit was an international treaty on climate change called the United Nations Framework Convention on Climate Change
  - IPCC: The Intergovernmental Planel on Climate Change is the United Nations body for assessing the science related to climate change. It was created to provide regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.
  - COP: The Conference of the Parties is the decision-making body of the UNFCCC. All countries that are Parties to the Convention are represented at the COP where the key task is annually review progress on climate change and update agreements.
- All agreements made at COPs are nested in the framework, which defines the principles (terms and conditions if you will) of the agreements. The Paris agreement cannot therefore be read separately of the framework agreement.

Principles of the UNFCCC:

- The precautionary principle (article 3.3. of the UNFCCC) states that where harm to the public or environment is suspected the absence of scientific consensus cannot prevent states from acting.
- The polluter pays principle (article 3.1) states the entity responsible for causing the pollution should pay for the damage caused by said pollution.
- The principle of Common but Differentiated Responsibility (article 4.1) is an interpretation of the general equity principle in international law and recognises historical differences in the contributions of developed and developing States to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems.

Link to UNFCCC website and/or possibly conveng.pdf (unfccc.int)

Prior to 2009

COP efforts we aimed at implementing top-down rules-based processes, embodied by the Kyoto protocol. With a serios focus on adaptation introduced in Bali (2007). The coverage of top-down commitments included a fraction of global emissions.

2009 - Copenhagen

Copenhagen was when confidence in top-down approached collapsed. Little progress was made and trust between developed and developing nations was badly eroded.

2011 - Durban

Building on excellent work in Mexico the year before, Durban gets negotiations back on track, with potentially greater involvement from all countries, by switching to a bottom-up (country led) approach, at the risk of diluting ambition. Ultimately because of leadership from business and others it appears ambition may be enhanced.

2015 Paris

Paris included all countries (and therefore emissions)and requires all countries to submit Nationally Determined Contributions (NDCs), country level goals, that must be re-submitted every 5 years, enhancing ambition each time. Goals are set to limit global warming to well below 2, preferably to 1.5 degrees Celsius.

2016 Marrakesh

COP negotiations are only for sovereign states. Marrakesh, building on work begun earlier (notably in Durban), acknowledges the role of non-state actors in climate implementation. Under the leadership of the Climate Champions, the Marrakech Partnership for Global Climate Action supports implementation of the Paris Agreement by enabling collaboration between governments and the cities, regions, businesses and investors that must act on climate change.

2021 Glasgow

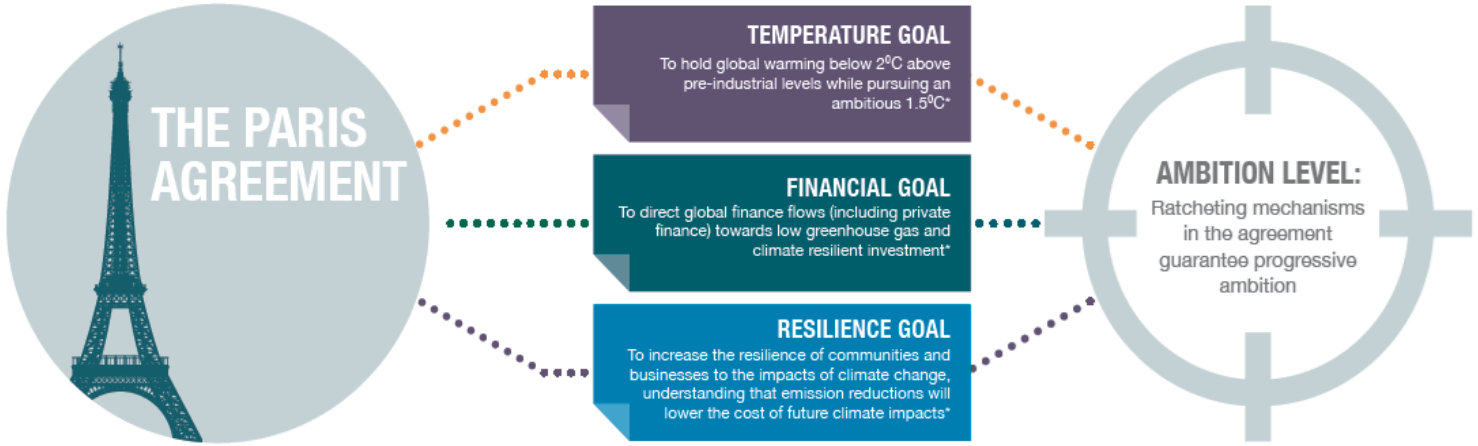
We anticipate the focus of Glasgow to be on enhancing the ambition of the agreement. Political pressure will be to enhance the long-term commitment to stay below 1.5 degrees of warming and therefore net-carbon neutrality globally by 2050.

KEY COP DECISIONS AND APPROACH CHANGES OVER TIME

COPs run in cycles with technical COPs (focused on the rules needed to implement major agreements) punctuated by political COPs where major changes are agreed to. We focus here on the political COPs.

THE PARIS AGREEMENT

The **Paris Agreement** set **three long term goals** regarding **mitigation, adaptation and finance**



As a result individual countries are investing in carbon legislation and infrastructure that will be reinforced over time – through trade and trade agreements, through pricing and eventually through sanctions

The magic of the Paris Agreement is that it binds all countries (now the US is back in) to gradually enhance ambition alignedd with pursuing all efforts to stay below 1.5 degrees of increase. This is achieved by rolling up each country's commitment. The risk in the agreement is that each countries commitment is made considering their view on what they are capable of. As a consequence, the current level of ambition cumulatively embedded in the NDCs will lead to global warming levels of nearly 4 degrees. The potential of the Paris Agreement is that the NDCs must be enhanced every 5 years and that overtime ambition will be aligned with the science recommendation of 1.5 degrees. It is critical that all parties work together to stimulate higher levels of ambition.

Perhaps the major risk to the long-term process is the erosion of common but differentiated responsibility and respective capabilities (CBDR). A principle to the agreement is that countries who have benefited from historical industrialisation and therefore have a greater contribution to emissions (not to mention that these gains were often implemented at the hands of colonial and trade abuses) should assist other countries in their transitions. This assistance should be provided through capacity building, technology transfer, trade and finance. This conversation is dominated by existing holders of power (developed countries and companies) and developed countries are failing to meet these commitments. This is especially true for financial contributions. For example, the commitment for developed countries to spend $100 billion dollars a year on climate finance to help poorer countries mitigate and adapt to climate change until 2025 is not met.

Link to the Paris Agreement: https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

HISTORICAL CONTEXT OF DEVELOPING COUNTRIES

We cannot ignore the impact of colonialism and the design of economies to provide resources to the developed world, including being heavily resource based, and that developed countries have thus far not met their international commitments.

"Fair share" is a contested concept in the UNFCCC negotiations. For developing countries, implicit in Common but Differentiated Responsibility (CBDR) is an understanding that the lack of development is a factor of deliberate creation and legacy of colonialism and imperialism. Essentially the establishment of extractive economies that enabled the currently developed world to develop.

CBDR therefore recognises that developing countries need time to change and that in fact their emissions may need to increase before reducing. This understanding of history is an uncomfortable one for the developed world and is the reason that their analyses are often based solely on current and future emissions with little consideration of what shaped the situation in the first place.

In South Africa's specific case we also need to acknowledge our specific history of an apartheid government making decisions that neither cared for or catered for the majority of our people. As well as a recent administration characterised by corrupt practices and a hollowing out of state capacity.

The channels for implementing support for developing countries by developed countries are referred to as the means of implementation and include:

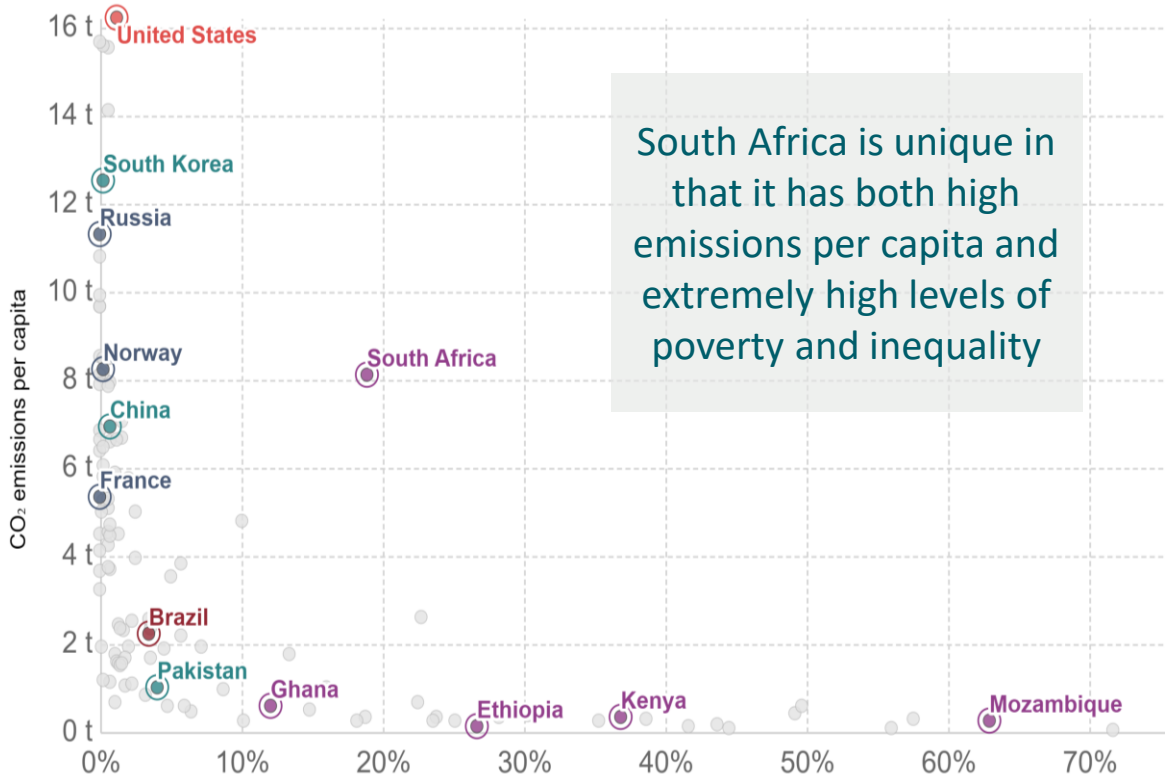
- Finance
- Capacity Building
- Intellectual Property Access and Technology Support
- Trade

Developed countries have reneged on their agreements, where for example they agreed (2010) to a goal of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing countries for climate action. Developed countries would argue that the scale of emissions of developing countries are such that they cannot be exempt from stricter targets.

The bottom end of the NDC range is therefore about opportunity and access to resources and should be ambitious enough to keep options open

COMMON BUT DIFFERENTIATED RESPONSIBILITY

A big question for South Africa is where we sit on the spectrum of developed and developing economies. We are a member of the G77 which represents the interests of developing countries in the UN system and we negotiate in the UNFCCC as part of the Africa Group. However, we are a middle income developing country. Key to the discussion of how we are seen is the issue of historical emissions and the remaining share of the carbon budget to which we would be entitled.



% share of population living in extreme poverty
(defined as less than US$1,90 per day)

Source: Our World in Data, from Global Carbon Project, World Bank, Gapminder, UN

South Africa is unique in that it has both high emissions per capita and extremely high levels of poverty and inequality

South Africa is entitled to means of implementation support, but will suffer greater scrutiny to justify this and will need to blend international and local components. Raising finance support through the UNFCCC will require the demonstration of a carefully though through local plan as well as significant capital provision from local and commercial sources.

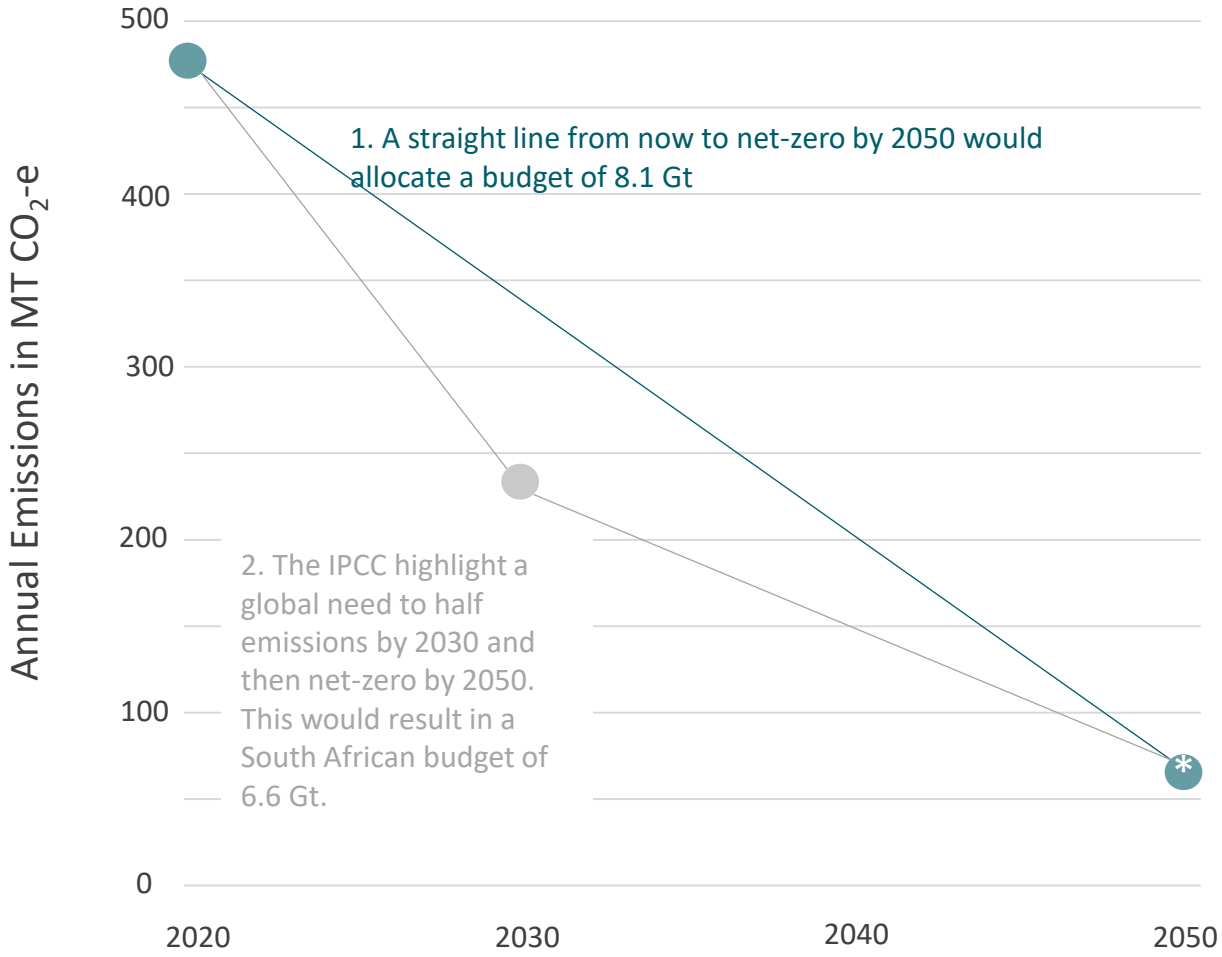
Three take-aways are key:

- South African companies and the state do not have the balance sheets to fund the transition on their own
- International support is therefore essential and therefore so is a collaborative long-term plan
- There will be a significant social overheads in transition finance

A FAIR SHARE CARBON BUDGET

Given our context, what would a reasonable allocation of a global budget look like

South Africa's current emissions are around 480 Mt CO2 equivalents each year. Our carbon budget would be calculated by determining the area under our project emissions curve. We know from science that we need to get to net-zero, by 2050 to keep below 1.5 degrees and roughly by 2060-2070 for around 2 degrees. Given anticipated levels of global emissions we isolate 1.5-degree options and methodologies.

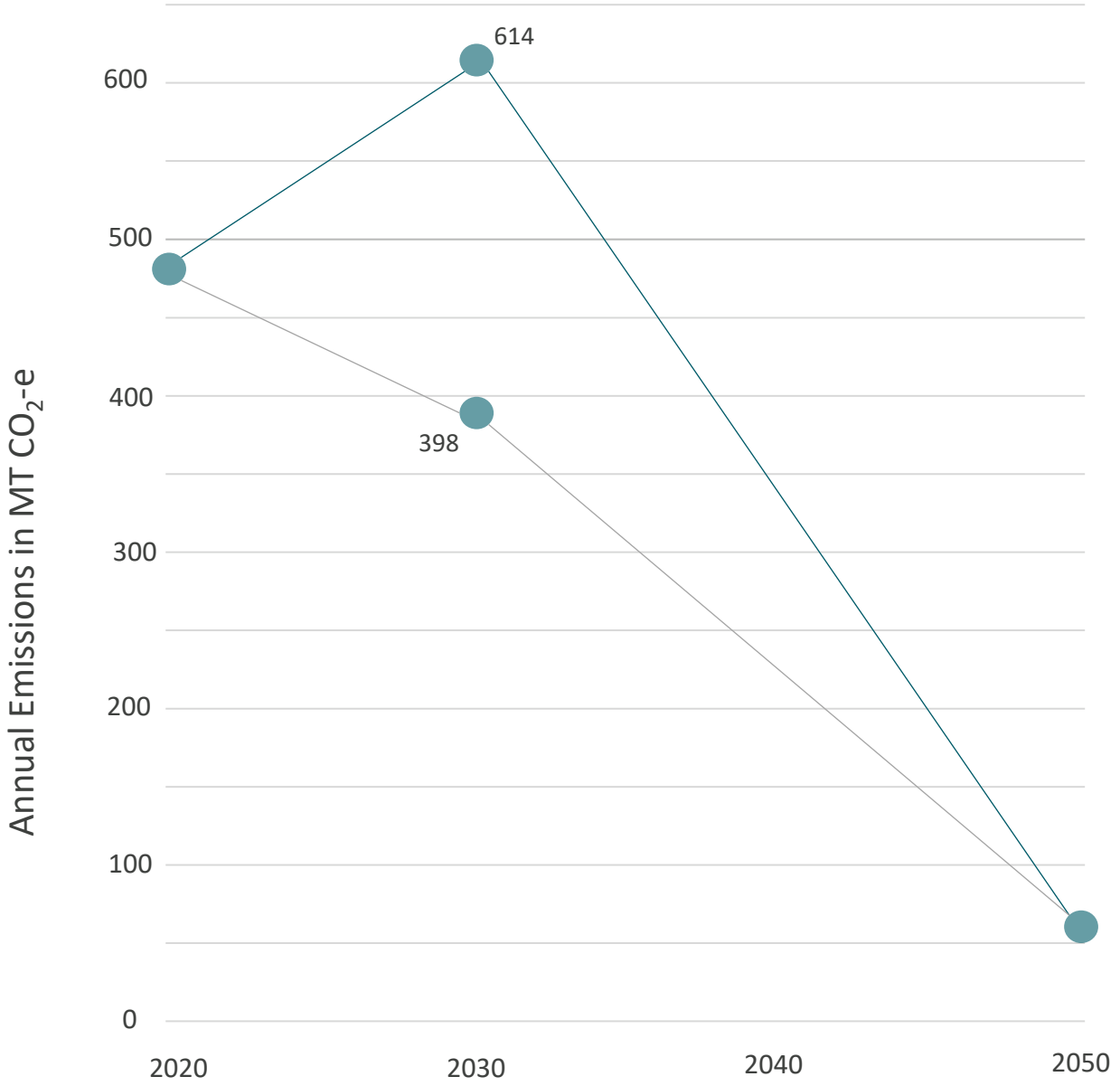


In theory difference between nations should allow South Africa a slightly higher budget than the straight line estimate. climateactiontracker.org provide data for the range of methodologies used to estimate fair share. Taking into account our historical context, the medians of the methodologies used for limiting warming to 1.5 degrees, we estimate a budget for South Africa around 7 Gt, with an upper end of 9.2 Gt.

SA Fair Share Range: 7 to 9.2 Gt CO_2-e

* Strictly speaking there would be about 60 Mt CO2-eq made up of non-CO_2 GHG gases. Net zero targets are for CO2 only.

SA 2015 NDC AMBITION



The South African 2015 NDC does not assume a net-neutrality date and is constrained by what is deemed possible within the existing policy framework – specifically the Peak Plateau and Decline Trajectory (PPD) and the Integrated Resource Plan (IRP).

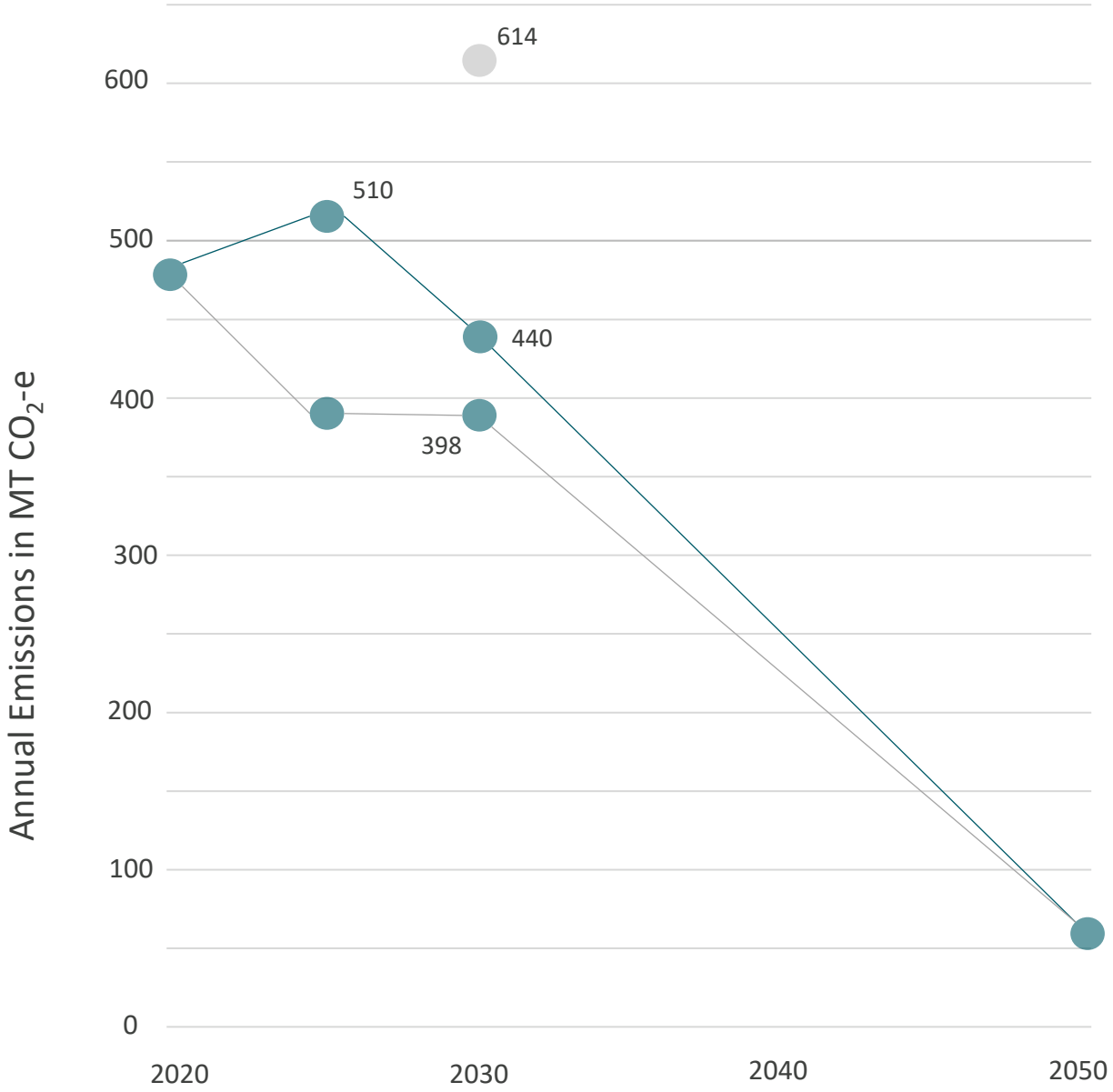
The NDC also specifies a range of options, with an upper and a lower bound.

It is also critical to note that the NDC is frames as a 2030 goal and not a 2050 goal.

The upper bound of the existing NDC correlates to a rough budget of 15 Gt and the lower bound to 10 Gt; both higher than the median calculations of fair share.

It is worth considering the idea that the steeper the curve the more rapid the decarbonization and the more expensive it would be.

UPDATED NDC AMBITION



On the 30th March 2021 the South African Government launched the cabinet approved updated NDC for consultation. After consultation the NDC will be updated and submitted to the UNFCCC prior to COP26 in November 2021.

The updated NDC proposes a lowering of the upper bound of the NDC to 440 MT but makes no change to the lower bound. There are also 2025 interim commitments of 398-510 Mt CO2-eq.

The Government press release states “The 2030 target range (398 - 440 Mt CO2-eq) is consistent with South Africa’s fair share, and also an ambitious improvement on our current NDC target. The upper range of the proposed 2030 target range represents a 28% reduction in GHG emissions from the 2015 NDC targets.”

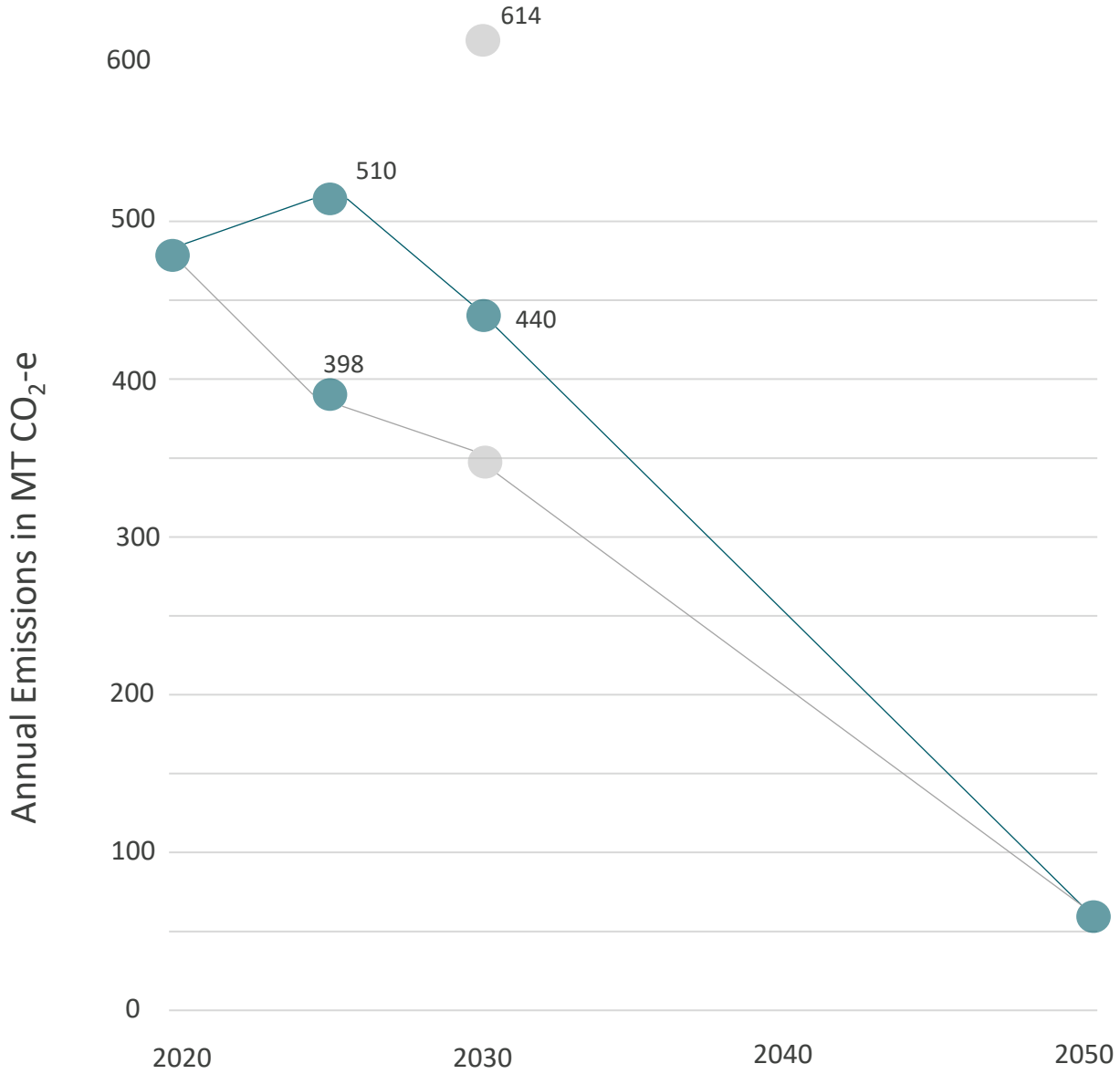
A clear constraint on the lower bound of the NDC is its ties to the Peak Plateau Decline (PPD) trajectory and existing policy, notably the IRP. If we stick to rolling out the IRP as it is currently laid out it is difficult to improve ambition on the lower bound.

ENHANCED AMBITION

South Africa must enhance their ambition when they submit their NDC prior to COP26 in Glasgow in November 2021. The NBI believes that a degree of enhanced ambition will enable access to the trade and finance opportunities fundamental to transitioning our economy and maintaining its competitiveness.

Our commitments should however be embedded in practical realities of the technology and policy frameworks needed as well as competitive financing.

The preliminary outputs of the NBI-BUSA-BCG transitions pathways project suggests a **we could be more ambitious than 398** and then to net-zero by 2050.



PRESIDENTIAL CLIMATE CHANGE COORDINATING COMMISSION VIEWS ON THE NDC

Over the past months the Presidential Climate Change Coordinating Commission has met on an ongoing basis to discuss the country's transition to a just and low-carbon economy and society.

"Stakeholders have largely agreed to a net zero economy by 2050. The job of the commission is to plot out exactly how we get there. It's about both mitigation and adaptation. We are required to come up with detailed pathways. It's a massive shift — our job is planning that in as much detail as we can…" Dr Crispian Olver

The PCCCC has been drawing on low-carbon transition research and models published by various institutions, such as the NBI and Energy Systems Research Centre who have developed pathways for electricity detailing how South Africa can achieve these sector specific net-zero targets. NBI is working to develop net-zero pathways to inform the transition of South Africa's economic sectors.

Source: https://mg.co.za/environment/2021-05-13-climate-commission-maps-south-africas-road-to-zero-emissions/

Slide for review

- Add Meridian and CSIR to list of "various institutions"

"Our new NDC proposes a significant reduction in emissions target ranges. By implementing our mitigation strategy, we aim to see our carbon emissions progressively declining from 2025. This is a decade earlier than previously expected.

As a country we are committed to contributing our fair share to the global climate effort. One of the tasks of the newly-established Presidential Climate Change Coordinating Commission is advise government on an ambitious and just transition to a low-carbon economy

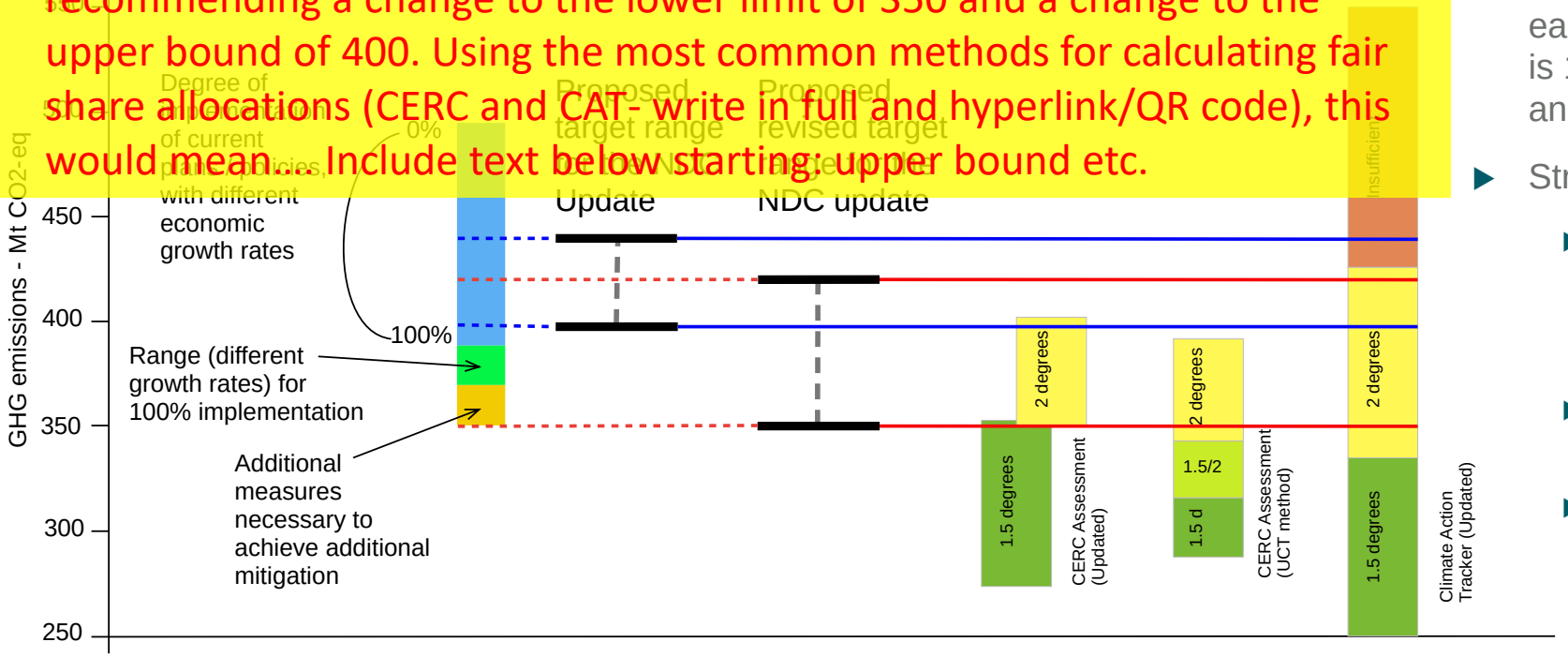
The time for greater climate action is now. We have to reduce our emissions. We have to adapt and build resilience for our communities and for our economy.

It is only by working together to find solutions and by raising the level of our ambition, that we can reduce the impact of climate change on our country."

ENHANCED AMBITION WITH CLIMATE TACKER AND CERC RANGES

Farm Design to please re-design this slide and chart so that it is neater and clearer

- Add PCC logo (and QR code).
- Text: The PCC has run a multi stakeholder dialogue to make recommendations on changes expressed in the NDC. They are recommending a change to the lower limit of 350 and a change to the upper bound of 400. Using the most common methods for calculating fair share allocations (CERC and CAT- write in full and hyperlink/QR code), this would mean… Include text below starting: upper bound etc.



Source: Energy Systems Research Centre (University of Cape Town)

- Upper bound is 2 degree compatible in CAT and CERC reference growth, not CERC high growth
- Lower bound of 350 Mt in line with augmented IRP 2019 (with some earlier retirement and more RE) and is 1.5 degree compatible in some analyses
- Strong social and economic benefits
  - Net positive impact on jobs, potential green industrialization, and reduced risk of border tax adjustments
  - Health co-benefits from pollution reduction
  - Ability to mobilize higher levels of international climate finance

The official position of BUSA is to- copy wording from BUSA statements

Chapter: 03

HOW IS THE SCIENCE TRANSLATING INTO POLICY AND TRANSITION RISK?

GLOBAL POLICY DRIVES DEMAND AND INFLUENCES TRADE

- 22 Countries around the world have committed to net-zero trajectories with the majority setting net-neutral dates by 2050
- These countries will invest in low carbon development through technology, markets, policy and infrastructure
- They will protect and recoup their investment, predominantly through trade
- These countries represent the bulk of South Africa's trading partners and this is therefore simultaneously a significant risk and opportunity
- Failing to respond threatens South Africa's balance of payments, currency valuation and credit rating and potentially triggers a vicious cycle threatening the entire economy
- The opportunities need to be acted on now

US President Joe Biden, April 2021

"The countries that take decisive action now to create the industries of the future will be the ones that reap the economic benefits of the clean energy boom that's coming."
upon setting a 50%-52% reduction target in greenhouse gas levels by 2030 from a 2005 baseline

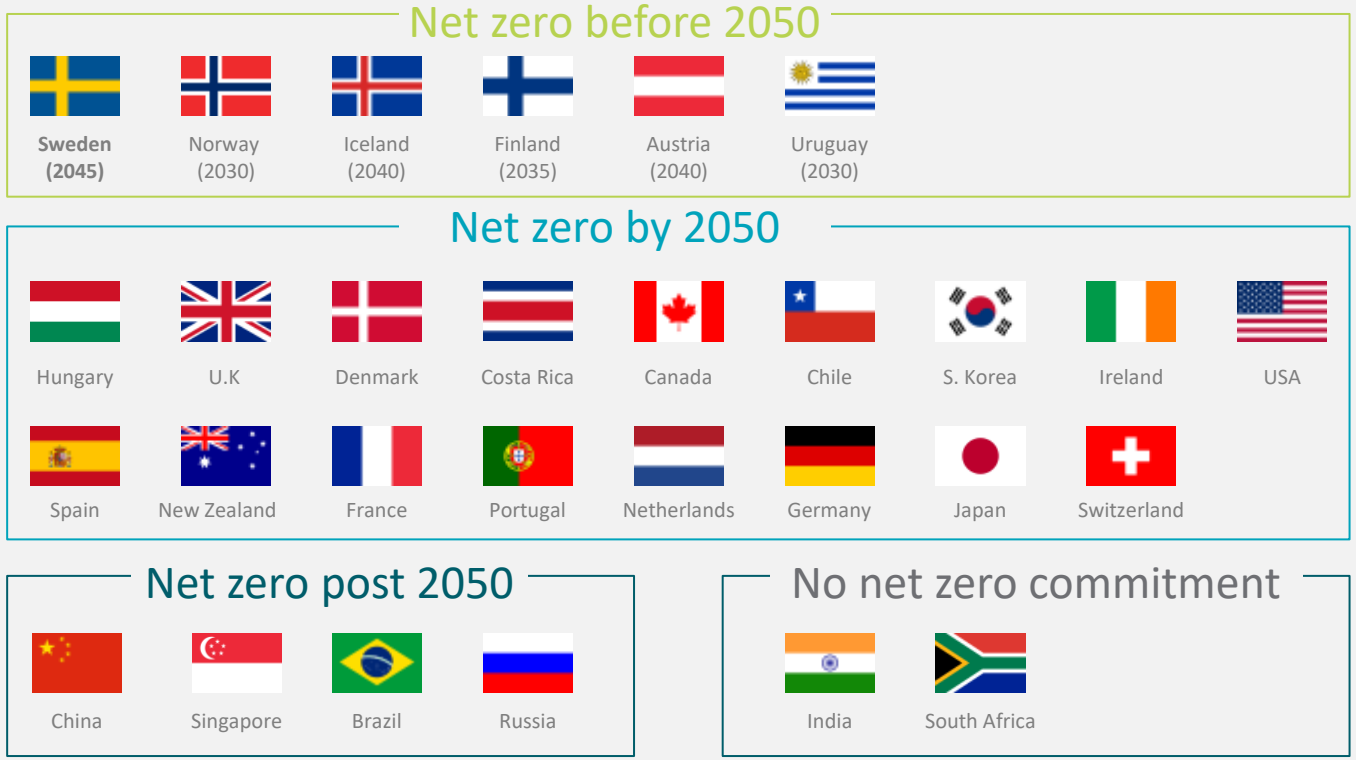
EU Commission chief Ursula von der Leyen, April 2021

"Our political commitment to becoming the first climate neutral continent by 2050 is now also a legal one"
Upon EU adopting a new target of at least a 55% reduction in greenhouse gas levels by 2030 from a 1990 baseline

MANY COUNTRIES HAVE ALREADY SET AMBITIOUS NET ZERO TARGETS

Two years ago, no major economy committed to net-zero emissions

Now nine of the top 12 economies have committed to net-zero



Source: World Economic Forum, NS Energy, Climate Home News; NBI-BCG project team

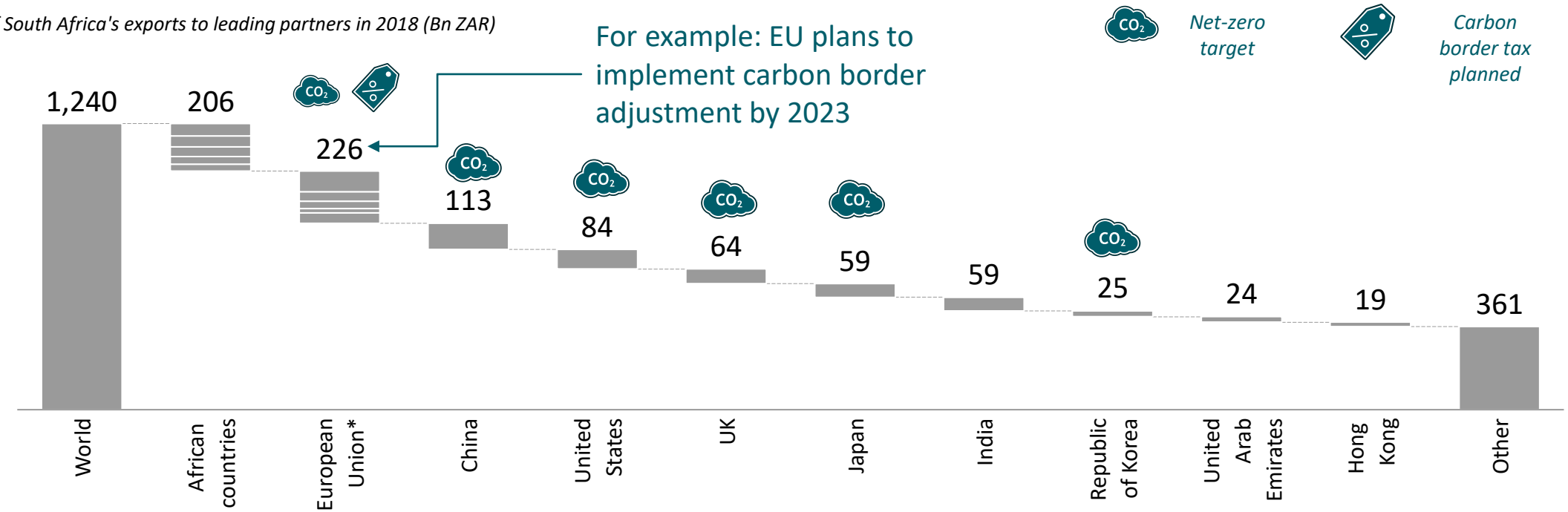
As of June 2021, SA has not made a formal commitment to net zero by 2050 but has made its intentions clear

South Africa's Low-Emission Development Strategy 2050 (LEDS) states:
"We thus **commit to ultimately moving towards a goal of net zero carbon emissions by 2050,** which will require various interventions to reduce greenhouse gas emissions" (p.21).

CRITICALLY THESE COUNTRIES REPRESENT MANY OF MAJOR TRADING PARTNERS

Top export partners outside Africa have recently announced commitments to net-zero, putting SA exports at risk if carbon border taxes or other measures are implemented, on the flip side these are potentially lucrative markets for low carbon commodities

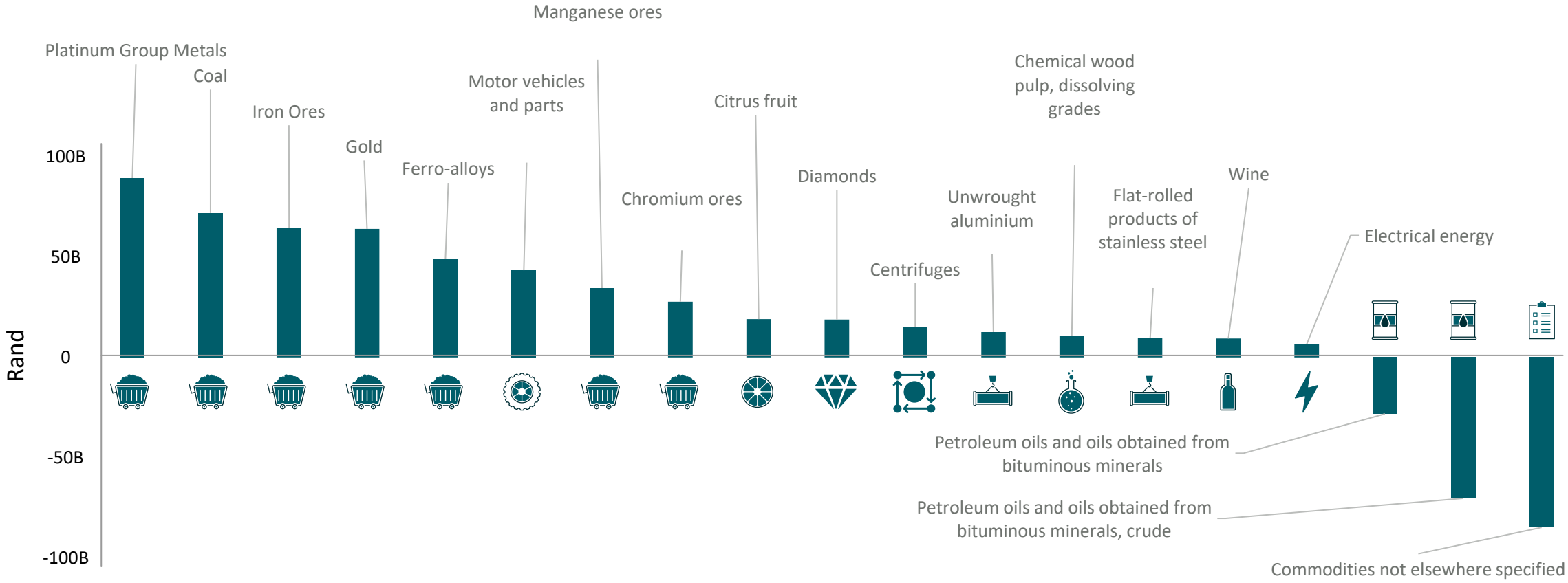
Volumes of South Africa's exports to leading partners in 2018 (Bn ZAR)



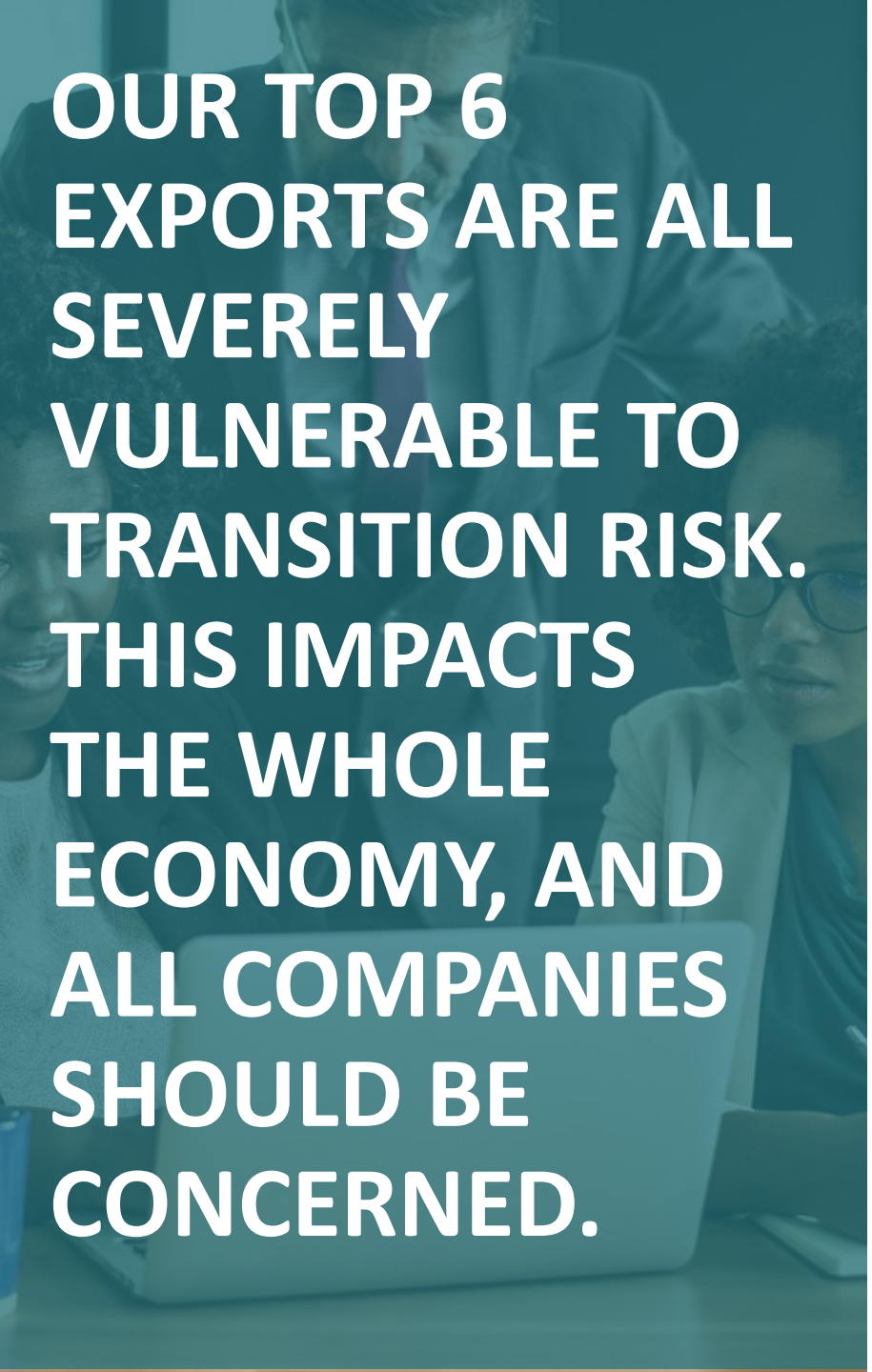
* Top 4 trade partners within EU are Germany, Netherlands & Belgium, and among those with most aggressive targets. Note: Exchange rate based in 2018 average = R 13:24/US$ | Source: World Integrated Trade Solution 2018; Press research

WHEN CONSIDERING BALANCE OF PAYMENTS SOUTH AFRICA'S TRADE VULNERABILITY IS PARTICULARLY ACUTE

The commodities that are our biggest export earners are all extremely vulnerable to changes in global demand change, threatening our ability to service national debt and import liquid fuels in the medium term. Managing the transition of these sectors could lead to significant opportunity.



Source: NBI and BCG analysis of DTIC data



OUR TOP 6 EXPORTS ARE ALL SEVERELY VULNERABLE TO TRANSITION RISK. THIS IMPACTS THE WHOLE ECONOMY, AND ALL COMPANIES SHOULD BE CONCERNED.

01

One third of Platinum Group Metal (PGMs) demand comes from component part of the internal combustion engine. We anticipate the last internal combustion engine to be manufactured prior to 2035. This will impact both PGMs and vehicle and vehicle part manufacture demand. The opportunity is embedded in the role of PGM in fuel cells and hydrogen applications. Furthermore, the automotive sector could be transitioned to manufacturing the electric vehicles.

02

Coal is unlikely to have any significant role on the global economy post 2050 and will more likely phase out around 2040. South Africa must find alternatives to this significant export commodity, possibly hydrogen fuels and carbon neutral liquid fuels.

03

The success of gold, iron-ores and ferro-alloys is dependent on finding zero carbon technology options with low energy input prices that allow carbon-neutral versions of these commodities that capture global market share.

04

It doesn't matter how far down the list you go South Africa has critical choices to make about how to turn commodity risk into opportunity.

Given that South Africa, according to the DTIC, is the second most vulnerable country by trade weighted distance and that tourism makes up as much as 10% of GDP, carbon neutral shipping and aviation are critical global technologies to ensure economic competitiveness.

B2B TRADE IS INCREASINGLY PROMINENT

It's not just government driven risk and opportunity that is an issue, business commitment and voluntary transition will be critical

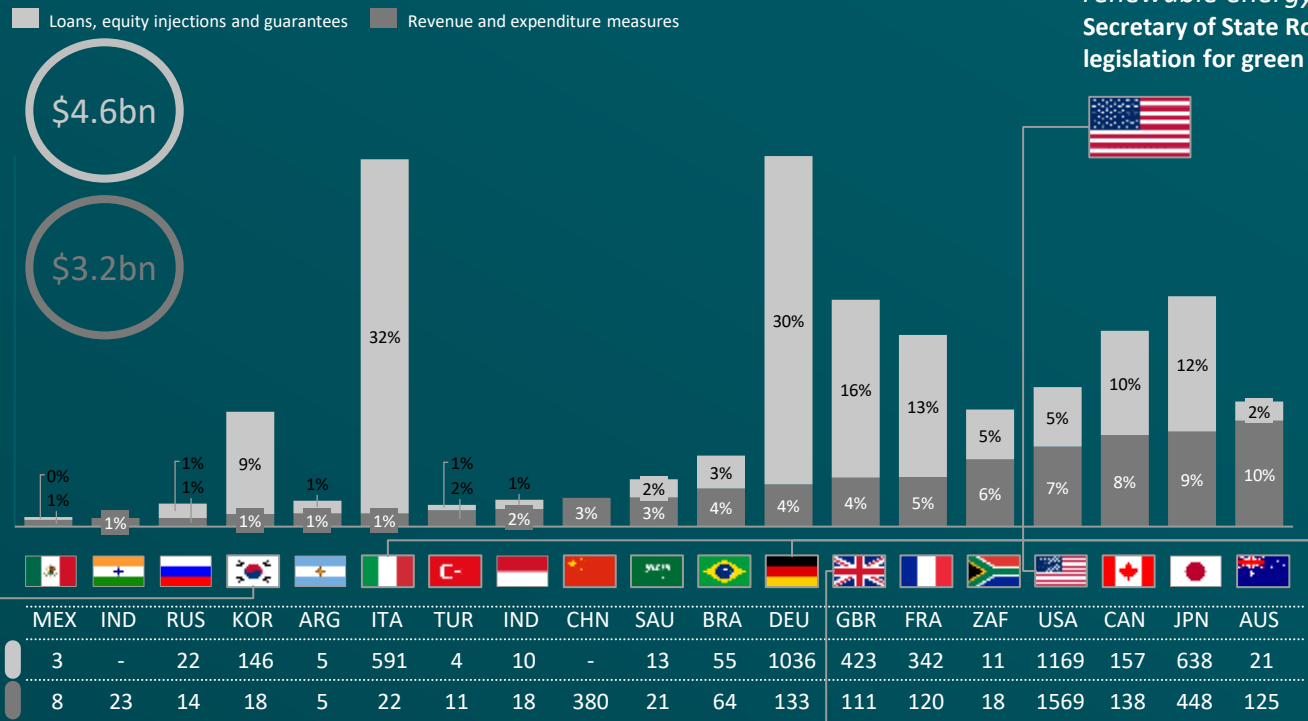
Major global brands, many of them bigger than country economies, are committing to net neutral by 2050 or earlier. They will seek to influence their value chains and procure goods and services to help them reach their 2030 and 2050 goals.

There is already green pressure on COVID related stimulus packages from around the world

"By using the European Green Deal as our compass, we can turn the crisis of this pandemic into an opportunity to rebuild our economies differently and make them more resilient."

European Commission President Ursula von der Leyen (Apr 2020)

Size of stimulus package relative to GDP (%) (as of April 26, 2020)



Country	MEX	IND	RUS	KOR	ARG	ITA	TUR	IND	CHN	SAU	BRA	DEU	GBR	FRA	ZAF	USA	CAN	JPN	AUS
USD bn	3	-	22	146	5	591	4	10	-	13	55	1036	423	342	11	1169	157	638	21
USD bn	8	23	14	18	5	22	11	18	380	21	64	133	111	120	18	1569	138	448	125

"[The new legislation] demonstrates how forward-thinking policy can be used to boost the state economy and create jobs while bringing abundant, clean, renewable energy to all New Yorkers."

Secretary of State Rossana Rosado on New York State's new legislation for green recovery (Apr 2020)

Signatories to European green recovery alliance to put EU's Green Deal *"[…] central to a resilient recovery after COVID19."*

Other signatories: Austria, Denmark, Finland, Latvia, Luxembourg, the Netherlands, Portugal, Spain, Sweden, Greece

(Apr 2020)

South Korea embraces EU-Style Green Deal for COVID19 recovery

(Apr 2020, Forbes)

"The world must work together, as it has to deal with the coronavirus pandemic, to support a green and resilient recovery, which leaves no one behind."

Climate Secretary, Alok Sharma (Apr 2020)

"When the acute phase of the virus is over we are planning an [additional] stimulus package that advances the nation technologically and helps the economy move towards climate neutrality."

German Finance Minister Olaf Scholz (Apr 2020)

Source: IMF, National Authorities, Oxford Economics

Reference CPI report for 1.8 Tr number

GREEN STIMULUS DRIVES LONG TERM ECONOMIC PROSPE… AND CAN MITIGATE UP TO R1,8TR IN SOUTH AFRICA'S TRA… RISK

Creates jobs and improves social well-being

Creation of as much jobs as coal, and up to 2.5X more in the best case, with increased resilience and quality of work due to higher skilled workforce

Enhances economic competiveness on an international level

Close widening "green gap" between SA and its main trade partners e.g.; EU and China, and remain competitive and relevant for new markets / demand

Improves SA's climate resilience

Adaptation measures to mitigate local climate change risks and ensure water, food and energy security needed

Mitigates up to >R1,8Tr of SA's transition risk

Measures address SA's transition risk of >R1,8Tr in present value terms between 2013 and 2035 due to stranded assets[1]

1. "Transition risk" is widely regarded as the risk that the value of assets and income are less than expected because of climate policy and market transformations, such as the switch away from coal-fired power | Source: Understanding the Impact of a Low Carbon Transition on South Africa; Climate Policy Initiative (2019)

ACCESS TO CAPITAL MARKETS IS ALSO SHIFTING

Access to capital will be dependent on the country and individual companies demonstrating credible decarbonization plans

Climate change is shifting access to capital markets. Disclosure guidance like that from CDP and the TCFD is used by equity investors who are looking to shift their portfolio's towards low-carbon portfolio's. Assets under management of over 100 Trillion US$ have signed up to CDP, requesting data on climate change management from over 6000 companies. Shareholders are demanding divestment from fossil-fuels. Pension funds have been targeted. It is likely that capital markets will favour lower impact organisations and indices

The European Union Taxonomy has been driving the rise of green taxonomies and green bonds across developed and developing countries and will have implications for companies beyond EU borders. National Treasury is developing a green finance taxonomy for South Africa.

QR Code to the Consultation Website for S.A's Green Taxonomy: https://sustainablefinanceinitiative.org.za/taxonomy/

Climate risk is impacting insurable and uninsurable losses causing insurance companies to adjust their models, impacting what can be insured and at what price.

This affects all sectors but we are already seeing price changes in the exposed sectors like agriculture, and in heavy emitting sectors like coal, challenges in getting insurance at all.

Credit rating companies are integrating climate change into company and sovereign risk assessments. For example, Moody's plan to publish the outputs of their climate rating methodology in all credit ratings they do. Given the climate risk exposure of developing countries, "the biggest victims are emerging markets and are likely to be downgraded…"– Sean Kidney

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

TCFD was created by The Financial Stability Board to improve and increase reporting of climate-related financial information

Benefits of disclosing:

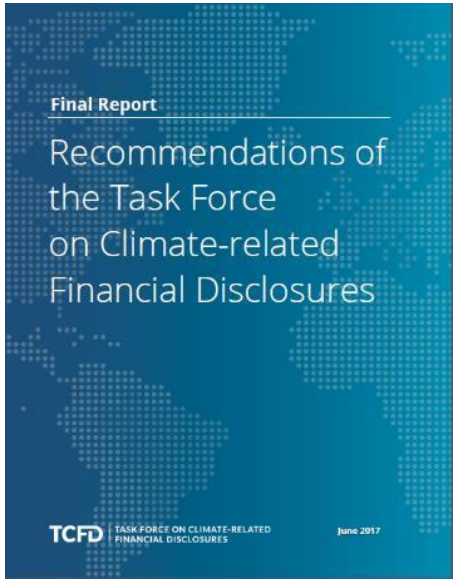
Risk assessment: More effectively evaluate climate-related risks to your company, its suppliers, and competitors

Capital allocation: Make better-informed decisions on where and when to allocate your capital

Strategic planning: Better evaluate risks and exposures over the short, medium, and long term.

More guidance can be found on the TCFD website- https://www.fsb-tcfd.org/

Add links to QR codes



The TCFD really changes two things: disclose on mainstream financial filings and use of scenarios

The TCFD conclude that:

- The magnitude of climate risk to the financial services sector and to financial stability is such that financial risk resulting from climate change should be quantified and disclosed in your mainstream financial filings
- Given the nature and complexity of climate change this analysis should be driven by scenarios allowing Bayesian updating of financial models

Some of the > 1000 supporters of TCFD:

CORONATION, Investec, SAICA, momentum METROPOLITAN, ANZ, BARCLAYS, BBVA, BNP PARIBAS, bradesco, citi, DNB, nab, UBS, RBC, standard chartered, Rabobank, FIRSTRAND, Deloitte., NBI

Chapter: 04

WHAT DOES GLOBAL CLIMATE AMBITION LOOK LIKE FOR BUSINESS?

BUSINESS ENGAGEMENT AND AMBITION

Businesses have several opportunities to join leadership platforms & engage with COPs, and therefore enhance ambition

01 **Global Leadership Platforms**: Participate in the Climate Ambition Alliance – **Race to Zero Campaign**, We Mean Business, WBCSD and/or WRI programmes such as setting Science Based Targets, as well as the Finance Coalition for COP26 and the NDC Partnership…

02 **The Marrakesh Partnership:** Support the **Marrakech Partnership for Global Climate Action** (MP-GCA) to strengthen collaboration between Party and Non-Party stakeholders including business, towards greater climate mitigation and adaptation action

03 **Alliances for Climate Action:** Make a bold leadership statement for net-zero by 2050 through our Alliances for Climate Action Platform in South Africa and start implementing with partners

04 **Participate in the NBI-BUSA-BCG Transition Pathways Project:** Understand the net-zero trajectory for the various sectors of the economy, the level of investment needed and partnerships available

05 **South African Pavillion at COP26:** Support access to international investment by advocating for an enhanced South African NDC and supporting the SA pavilion at COP26; through funding, providing project content and communications support

THE ROLE OF WE MEAN BUSINESS

The activities of We Mean Business have been recognised by the UNFCCC to positively influence ambition in the Paris Agreement

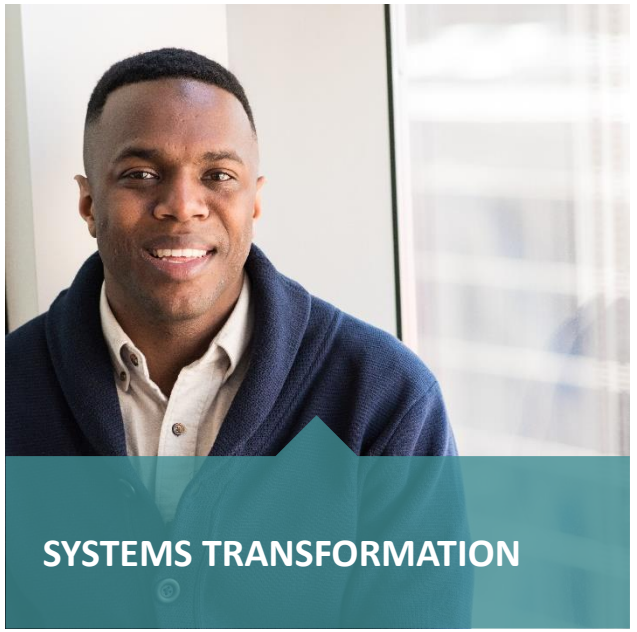
CONTRIBUTION TO PARIS

WE MEAN BUSINESS COALITION

BSR · CDP · Ceres · CLG Europe · THE B TEAM · CLIMATE GROUP · wbcsd

The NBI is the local partner to We Mean Business in South Africa

Link to WMB Website: https://www.wemeanbusinesscoalition.org/



SYSTEMS TRANSFORMATION

Civil Society groups have always been deeply engaged in COP processes. Producing daily summaries and making recommendations on negotiation text. Until We Mean Business (WMB), business was less engaged in this process. This changed in the build up to Paris when the worlds most influential business organisations formed the We Mean Business Coalition and drove a business perspective on ambition, even recommending text. WMB have been central to the business engagement at COP ever since.

We Mean Business is calling on global leaders to address the climate crisis and simultaneously boost economic growth, creating decent jobs, addressing inequality and increasing resilience. We Mean Business originated #BuildBackBetter.

1935 companies globally now recognize the transition to a net-zero economy is the only way to secure sustainable economic growth and prosperity for all.

GLOBAL LEADERSHIP PLATFORMS

We Mean Business Coalition

WMB are collating major signatory platforms such as:
-RE100 - 100% renewable power
-EP100 - Commit to smart energy use
-EV100 - Commit to electric vehicles
-Climate Smart Agriculture
-Improve water security

Science Based Targets Initiative

Publishes and validates companies (over 1400) setting reduction targets in line with Paris Agreement.
Partnership between CDP, the UN Global Compact, World Resources Institute (WRI) and the WWF.

Mission Possible Partnership

Influences transition in 7 carbon intensive sectors. Partnership between the Energy Transitions Commission, RMI, the We Mean Business coalition, and the World Economic Forum.

Race to Zero and resilience

UNFCCC campaign that mobilizes a coalition of leading net zero initiatives.
Representing 708 cities, 23 regions, 2,162 businesses, 127 of the biggest investors, and 571 Higher Education Institutions.

COP26 Finance Coalition Coordination Mechanism (FCCM)

Key finance coalitions and NGOs focused on mobilizing public and private financial institutions for climate action.
Working with the COP26 Presidency and the Race to Zero campaign.

RACE TO ZERO CLIMATE CHAMPIONS

Appointed by the incoming and outgoing COP presidencies and serve a two-year term. The current champions are Gonzalo Muñoz, appointed by Chile, and Nigel Topping, appointed by the UK. Post COP26 in Glasgow in 2021, Gonzalo Muñoz will step down and the incoming COP presidency (to be decided) will appoint a Champion to work with Nigel Topping for another year.

The champions work focuses on two crucial areas:

1. Engage with interested Parties and non-Party stakeholders – Focus is placed on connecting initiatives and coalitions with national action plans such as nationally determined contributions (NDCs) to the Paris Agreement.
2. Input from the champions efforts to mobilize action helps the secretariat organize technical expert meetings and, in collaboration with the Executive Secretary and the current and incoming Presidents of the Conference of the Parties, coordinate annual high-level events to spur even greater ambition and action.

GONZALO MUÑOZ

Mr. Gonzalo Muñoz is a business entrepreneur and social change-maker at the forefront of environmental innovation in Chile, who reinvented the country's recycling industry to usher in a future without waste.

NIGEL TOPPING

Mr. Nigel Topping was the CEO of We Mean Business until December 2019, where he drove radical collaboration for climate action among NGOs working with the world's most influential businesses.

MARRAKESH PARTNERSHIP

- Under the leadership of the High-Level Climate Champions, the Marrakech Partnership for Global Climate Action supports implementation of the Paris Agreement by enabling collaboration between governments and the cities, regions, businesses and investors that must act on climate change.

- Their mission is to strengthen collaboration between governments and key stakeholders to immediately lower emissions and increase resilience against climate impacts. These actions are guided by the long-term goals of the Paris Agreement and undertaken in the context of the 2030 Agenda for Sustainable Development (SDGs). The focus is on environmental, economic and social system transformation, promoting higher ambition of all stakeholders to collectively strive for the 1.5 °C temperature goal and a climate-neutral and resilient world.

Marrakesh Partnership Work Areas

Strategic Engagement

The Marrakech Partnership provides an opportunity for strategic engagement between non-state actors and governments

Climate Action Pathways

Describes the actions needed to reach 1.5-degree goals for each sector. The development of these pathways is embedded in expert engagement from around the world.

Tracking and Reporting

The Marrakech Partnership has three principal reporting and tracking vehicles for capturing the breadth of climate action globally: the Global Climate Action portal, the Yearbook of Global Climate Action and the Summary for Policy makers.

Climate Ambition Alliance - Race to Zero Campaign

Race To Zero mobilizes actors outside of national governments to join the Climate Ambition Alliance, which was launched at the UNSG's Climate Action Summit 2019 by the President of Chile, Sebastián Piñera. The Climate Ambition Alliance is a group of countries and non-Party stakeholders determined to follow the recommendations of science as regards climate change.

Link to Marrakesh Partnership: https://unfccc.int/climate-action/marrakech-partnership-for-global-climate-action

Chapter: 05

HOW CAN BUSINESS DEMONSTRATE CLIMATE AMBITION LOCALLY WITH THE NBI?

THE ALLIANCE FOR CLIMATE ACTION

- Connecting cities, business, investors, universities and government so that they can work collectively to achieve a net carbon neutral economy for South Africa by 2050.
- Facilitated by the NBI, C40 Cities and WWF
- Similar alliance programmes taking action in USA, Mexico, Japan, Vietnam and Argentina

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Take action	• Sign the leadership statement • Develop a net zero carbon plan • Join a collective action project
Advocate for change	• Find out how the alliance supports advocacy • Advocate with government and other business for greater climate ambition
Share stories	• Share bold commitments and climate action to inspire others and build the profile of your organisation

Local Alliance Partners

Sample of signatories

Link to ACA South Africa: http://www.alliancesforclimateaction.co.za/

THE NBI-BUSA-BCG TRANSITION PATHWAYS PROJECT

In the context of a post-COVID economy, phase 1 of this project provides a national, co-ordinated effort to answer critical questions to enable our Just Transition.

This is achieved through extensive stakeholder engagement, research including socio-economic modelling and implementing a broad communications strategy.

Link to NBI Transition Pathways Web-Hub

01

Based on physical and climate risk, what is an appropriate level of ambition to reduce GHG emissions by 2050?

02

What concrete measures can be implemented in each sector and how can we create an enabling policy environment to reach the ambition?

03

What are the associated social and economic costs and what are the support requirements of the international community?

04

What are the consequences of local and global inaction and how would the country adapt to physical risk?

… to fulfil a dual objective of:

- Stimulating economic growth & job creation
- Advancing SA's Climate change agenda

… in time for COP26…

SOUTH AFRICA'S COP26 PREPARATION EFFORTS

Purpose:

Government led pavilion supported by business:

- To raise awareness of what South Africa (government & business) is doing with regards to climate change and transition
- Highlight key investment opportunities in South Africa in the context of #BuildBackBetter
- To help leaders understand a developing country context and the need for support

Government and business are building the COP 26 pavilion together- a space where we will jointly host events and discussions to engage on the Just Transition in South Africa and highlight key investment opportunities in the country.

COP26 PREPARATION EFFORTS STIMULATES KEY RELATIONSHIPS BETWEEN BUSINESS, GOVERNMENT AND CIVIL SOCIETY

THE NBI PROJECT FRAMEWORK

The NBI projects are divided into 4 categories designed to mature company engagement in climate change towards greater ambition, attracting investment and implementing projects

01

LEADERSHIP PLATFORMS

Providing space for NBI companies to enhance ambition through leadership

02

DEFINING THE INVESTMENT NEED

Developing the fact base (at various national, provincial and regional scales) on where investment needs to be channelled, identifying specific projects

03

FINANCE AND THE ENABLING ENVIRONMENT

Solving for the enabling environment (social, regulatory, consumer, business model and financial barriers) around investment opportunities enables investment at scale and replication

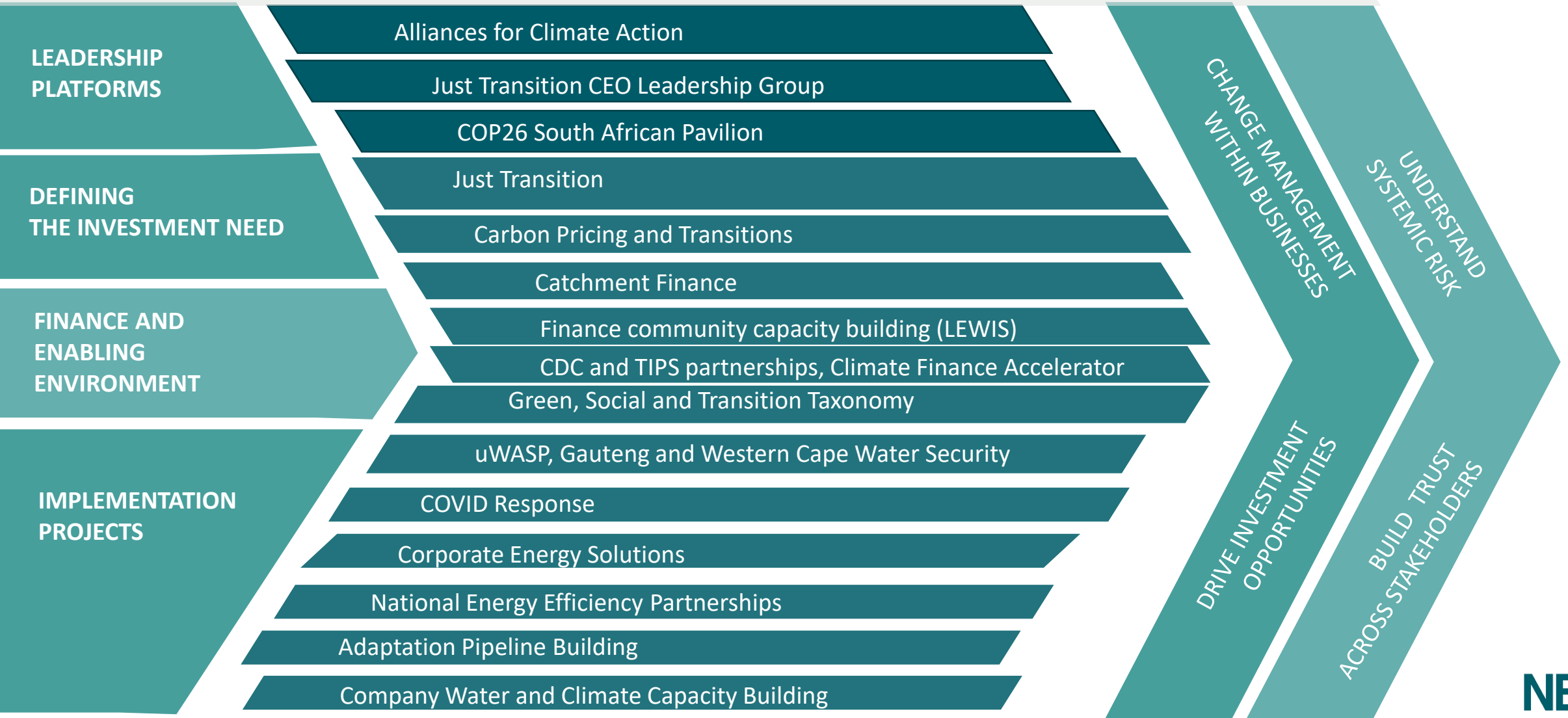
04

IMPLEMENTATION PROJECTS

Providing technical assistance and partnership convening support to specific projects enables case studies that have impact and build trust

HOW THE VARIOUS NBI PROJECTS FIT TOGETHER

Leading to 4 core-outcomes



WHAT SHOULD COMPANIES DO?

We are asking our companies to take 5 key steps on climate in 2021

SIGN THE ACA NET-ZERO COMMITMENT

Make a bold leadership statement for net-zero by 2050 through our Alliance for Climate Action Platform and start implementing with partners

SET A SCIENCE BASED TARGET

Gather the internal data needed to understand your net-carbon trajectory by setting a Science Based Target and getting it approved by the SBTi

REPORT ON THE TCFD FRAMEWORK THROUGH CDP

Acknowledge the impact of climate change on your financial statements and disclose against the TCFD framework, using the CDP platform

ENGAGE WITH THE NBI-BUSA-BCG JUST TRANSITIONS PATHWAY PROJECT

Understand the net-zero trajectory for the various sectors of the economy, the level of investment needed and partnerships available.

ADVOCATE FOR ENHANCED AMBITION IN THE NDC AND SUPPORT THE COP26 SOUTH AFRICAN PAVILION

Support access to international investment by advocating for an enhanced South African NDC and supporting the SA pavilion at COP26; presenting fundable projects


NBI
National Business Initiative