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WWF for a living planet®

Honourable J M Mthembu
Chairperson
Parliamentary Portfolio Committee: Environmental Affairs

18 September 2015

cc Ms T Madubela
Secretary of Committee

Honourable Chairperson and Members of the Committee

WWF South Africa's submission to the Committee's public hearings on climate change 22–23 September 2015

We thank you for championing the interests of the people of South Africa on these important climate change issues, and creating the opportunity for us to make input to South Africa's positions ahead of COP21. The Department of Environmental Affairs is also to be congratulated on its extensive consultation in the lead up to these hearings.

We are acutely aware that South Africa faces great developmental challenges, with high levels of inequality and the majority of our people experiencing poverty. The best approach to building the climate resilience of communities, smallholder farmers, workers and others likely to be hardest hit by the impacts of climate change is to address poverty – in a manner that is *at the same time* environmentally sound. Otherwise all developmental gains will be overturned by food and water shortages; the damage done by extreme weather events including floods, erosion, wildfires; increased burdens on our health system; infrastructure damage; and economic knocks to particularly our agriculture, fisheries, tourism and insurance sectors, all resulting in increased costs to the country. A few companies with vested interests in fossil fuels should not be allowed to override our national developmental interests.

As a developing country which bears some small responsibility for the climate change we are experiencing, South Africa has consistently shown leadership in the UNFCCC processes, starting with stepping forward with a voluntary conditional pledge after COP15 in Copenhagen, and through COP17 in eThekwini. This has been matched in domestic policy.

WWF stands with South Africa on its strong negotiating stance for equity in dealing with climate change, championing the rights of developing nations to pursue development as their principal focus, and the obligations of developed nations to bear the bulk of early mitigation efforts, under the principle of common but differentiated responsibility and respective capability.

South Africa's role at the UNFCCC has importance beyond just our country. As the chair of the G77+China group of developing countries we have played an effective role in creating cohesion in this negotiating bloc. As part of the Africa Group we present constructive solutions to some of the most difficult issues in the negotiations, such as how countries can act fairly and equitably in countering climate change. Moreover, South Africa has endorsed the call from least-developed countries and small island states to limit global warming to no more than 1.5°C.

We table the following issues for the Committee's consideration. The more detailed submissions with motivations then follow.

South Africa's position for COP21

Building on South Africa's leading role in the UNFCCC, the country's position needs to be more assertive and clearer in what it is calling for. In Document 1 below we propose particular outcomes that we believe South Africa is well placed to push for.

Of great concern is that INDCs tabled so far by other countries do not bring emissions down to where we need to be according to the science. Emissions reductions before 2020 already fall short, and now we are seeing inadequate INDCs for the post-2020 period. Though the submitted INDCs would seem to bend global emissions down from business-as-usual projections between 2020 and 2030, they still leave the world on course for between 2.6 and 3.1°C of warming by the end of the century. Perhaps influence can still be exerted to get improved INDCs.

A worst-case outcome from COP21 could leave us with inadequate emission reduction 'contributions', with no means of improving them or holding countries to account. South Africa could champion a review and ramping up mechanism: a means to regularly review the global level of effort and to push countries that are not doing enough to do more according to their fair share of the responsibility. Without such a mechanism, commitments will not get global emissions down to the levels required by science.

There are many pressures which could undermine an approach based on the principle of common but differentiated responsibility – both on the side of 'common' (a collective effort that will bring us below 1.5°C) and on 'differentiated' (equity). WWF calls for a science and equity reference framework (which the Africa Group has championed in the past).

South Africa's INDC

The INDC would be considerably improved by:

- Committing to a quantified carbon budget over the period 2016-2050, rather than emissions in target years, since a shift in the timing and levels of annual emission levels can lead to a significant change in the overall emissions quantum released into the atmosphere.
- Improving mitigation ambition to bring it closer in line with equity calculations which consider a carbon budgets of 7 Gt CO_2e to 14 Gt CO_2e over the period to 2050.[1] An upper limit cited in the INDC of over 20 Gt CO_2e should not even make it into the INDC, because it exceeds any internationally available measure of South Africa's fair share.

  WWF accepts that South Africa could be allowed flexibility in its emissions trajectory to allow for developmental imperatives and compensate for lack of other countries' responsible action. Thus we suggest a carbon budget range between 12.4 and 16 Gt CO_2e over 2016–2050. Anything more is over what South Africa could expect to be acknowledged internationally as its fair share. We would not like South Africa to run the risk of undermining the country's strong equity position and credibility in international negotiations as a result of the lack of mitigation ambition articulated in its INDC.

[1] WWF South Africa's booklet *Understanding Carbon Budgets* explains different approaches and is specific to South Africa (www.wwf.org.za/carbon_budget). There are equity approaches and tools like Greenhouse Development Rights (gdrights.org), Equity Reference Calculator (calculator.climateequityreference.org), PRIMAP (www.primap.org). Carbon Tracker has a useful checklist for analysing carbon budgets (www.carbontracker.org/wp-content/uploads/2014/08/Carbon-budget-checklist-FINAL-1.pdf). (All accessed 17/9/15)

- Even better than allowing for a range, adequate ambition with enough flexibility could be built in by detailing clearly what activities and measures South Africa is prepared to undertake itself (all could be conditional for now), and what it requires from developing nations to improve upon this. Articulating what proportion of its mitigation must be paid for by developed nations will make it clear that South Africa is able to go further once developed nations live up to their responsibility. In this regard, we make suggestions about commitments to "stepped carbon budgets" with costings. This approach would remove any risk South Africa might be exposed to if there is no international financial or other support forthcoming.

We welcome the many positives in the INDC, for example:

- The identification of national adaptation measures and the scope for expansion of these is an excellent first step in addressing national adaptation needs. The INDC provides a roadmap for identifying communities, infrastructure and activities that are most vulnerable to climate change, and reducing the impacts of climate change on these. Looking at other countries' INDCs, South Africa's is among the best in terms of adaptation, underpinned by excellent research.
- The INDC makes a strong case for increased investment from developed nations in addressing both the mitigation of and adaptation to climate change.
- The commitment to expansion of the renewable energy component of electricity generation is laudable, and opens the door for further improvement of the carbon-intensive energy mix. We have seen that actions to combat climate change (mitigation) also have many co-benefits in the South African context, for example the recent renewable energy projects are contributing to reduced hours of load shedding and saving the costs of imported diesel.[2]

This is a high-stakes COP, which demands that governments lead by example. As the good global citizen it has shown itself to be, South Africa must commit to a certain amount of mitigation and adaptation in line with its historical responsibility. This will strengthen - not endanger - South Africa's negotiating leverage, thereby providing stronger leverage for all developing nations in securing commitments with high ambition and international investment from those nations most responsible for climate change.

Your sincerely

Louise Naudé

[2]CSIR. 2015. *First half of 2015 sees financial benefits from renewable energy with huge cost savings* Available at:http://bit.ly/1JdbNOe (Accessed 17 September 2015)

Document 1: WWF's submission to the Parliamentary Portfolio Committee on South Africa's position for COP21[3]

The Portfolio Committee was briefed by the Department of Environmental Affairs on 8 September about the issues and South Africa's stance going into COP21, to be held in Paris in December. On 14 September in her address at the University of Johannesburg's Public Lecture on Climate Change, Ms Edna Molewa, Minister of Environmental Affairs, succintly outlined the developments and main debates since the UNFCCC came into force in 1994 – and the underlying political and economic dynamics.[4] She said:

> "[The UNFCCC] notes that the largest share of historical and, until recently, current emissions, originate in developed countries … the measures contained in the Kyoto Protocol [of 1997] proved to be insufficient, largely because the USA (some 25% of global emissions) did not join Kyoto. [E]conomic growth and consequent increases in greenhouse gas emissions from … 'emerging economies' like China, India, Brazil, South Korea and South Africa … emboldened developed countries to challenge their legal obligations to cut emissions under Kyoto ... They further contended that not only did they contribute less than 30% of global emissions, but that they were at a relative economic disadvantage because the US and major emerging developing country economies only had voluntary 'non-legal' commitments."

The Kyoto commitment period ends in 2020; parallel negotiations were pursued under the Bali Road Map (therefore we speak of pre- and post-2020). We are now at a stage where countries are submitting voluntary Intended Nationally Determined Contributions (INDCs). The Minister:

> "It is the first time all countries, rich or poor, have been obliged to come forward with commitments to manage their greenhouse gas emissions. They are also an opportunity for countries to design policies that can make economic growth and climate mutually reinforcing."

In her speech, the Minister referred to:

> "… differences between countries on the substantive and legal form of commitments by developed and developing countries … related to the different understandings of the application of the principles of 'equity'. South Africa's position [is] that efforts to protect the atmosphere should be shared fairly among countries in accordance with their 'Common but Differentiated Responsibilities and Respective Capabilities, and social and economic conditions'."

The Minister called for the following elements for success in Paris:

- Climate change is a global problem which can only be effectively addressed multilaterally, under the legitimacy of the UNFCCC.
- Any multilateral UNFCCC outcome is only relevant as long as it is responsive to the scientific evidence.
- Rules must provide for periodic setting of commitments that in turn require regular verifiable tracking of implementation progress towards what the science requires.
- Since we live in an unequal world, an ambitious response in line with science is only possible if the Paris agreement is fair and equitable.

WWF's perspective

For South Africa as a developing country vulnerable to climate change impacts, and with an imperative to deliver economic development, it is critical that the COP21 discussions set a strong framework for future climate action. The equity issue remains a major issue of negotiations, linked to the legal form. Inadequate INDCs before Paris must not be maintained and constrain ambition going forward.

So far, the INDCs submitted leave the world on course for between 2.6 and 3.1°C of global warming by the end of the century and even more thereafter.[5] This shortfall comes on top of an existing gap in mitigation up to 2020. Therefore we must avoid such inadequate INDCs becoming locked in. The Paris Agreement should be seen as the floor for greater action, rather than being seen as the maximum of what countries can do to combat climate change. It must deliver a common base and the framework for global action.

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[3] The Department of Environmental Affairs' discussion document 'Stakeholder Consultation on South Africa's Position Towards COP21' has reference.
[4] https://www.environment.gov.za/speech/molewas_publiclectureaddress
[5] IEA. 2015. Energy and Climate Change. Available at: http://bit.ly/1G10VCU (Accessed 28/7/15) and Climate Action Tracker. 2014. *How close are INDCs to 2 and 1.5°C pathways?* Available at: http://bit.ly/1NZmPgR (Accessed 15/9/15)

Key Outcomes that must be captured in COP21

WWF sees the following as critical in the agreement and decisions to be adopted in Paris:

1. A clear signal that countries are committed to a downward emissions trajectory and recognition of a finite carbon budget as outlined by the IPCC.
2. An agreed mechanism that allows the flexibility for parties to ratchet up ambition after and within commitment periods, through a science and equity review, incentives for scaled up action and other collaborative efforts.
3. A strong recognition of equity and an agreed approach to implementing the principle of common but differentiated responsibility and respective capability in the post-2020 framework.
4. A long-term agreement that instills confidence and that can mobilise and shift public and private investments at national, regional and international levels, from fossil fuels to climate-safe development.
5. A robust accountability and transparency framework that enables comparability between countries and allows the international community to assess progress towards limiting global warming.
6. An agreement that includes country emission reduction and finance commitments.
7. An agreement that provides confidence that we are committed to building climate resilience, such as through an Adaptation Goal and a Loss & Damage mechanism, and that we are taking care of those impacted by climate change while at the same time recognising that in the long run it is much more expensive to adapt to climate change than to mitigate it.

It can be seen there is much alignment between our positions and what the Minister outlined. In order to deliver the outcomes listed above, there are several key things that South Africa can assertively negotiate for, and that should come across much more strongly in our COP21 position:

Particular Outcomes that South Africa should push for

1. **A strong review and ramping up mechanism:** With many parties putting forward insufficient INDCs that will run up to 2030 there will have to be regular opportunities to review the global level of effort and to push countries that are not doing enough to do more according to a science and equity reference framework (which the Africa Group has championed in the past). Without such opportunities global emissions will not come down to the levels required by science.

2. **A strong outcome on scaling up pre-2020 ambition and a strong signal for the long-term through an agreed Long term Goal:** It is a strong legacy of the South African COP17 presidency that a space has been created to discuss scaling up the inadequate pre-2020 efforts of countries. Developed countries in particular have not offered their fair share of action to date. It is critical that COP21 deliver strong decisions that would enhance the technical experts discussions on closing the emissions gap while also going beyond that to call for accelerated action in terms of ramping up efforts and making available additional support for specific initiatives that could help to close the gap. This should include calls on developed countries to do more, clear direction to the GCF and other UNFCCC institutions to support actions with high mitigation potential, and the establishment of an annual high level event where Governments and non-state actors can launch additional actions. Success on this front could form the basis for continued efforts post-2020 to close the gap left by the INDCs. Developing countries should also look at ways of enhancing their nationally appropriate mitigation actions (NAMAs) during this period.

   In addition to addressing the short-term ambition gap, we also need COP21 to agree to a long-term goal up to 2050 with clear milestones and a pathway to achieve that goal. WWF would support a goal of achieving a 100% Renewable Energy by 2050 and a phase out of fossil fuels.

3. **A strong outcome on Loss and Damage:**
   Since mitigation action has not been sufficient for decades there are already impacts of climate change that communities and ecosystems cannot adapt to. COP21 needs to recognise that such Loss and Damage due to irreversible impacts of climate change are a separate critical issue that has to have a space to be dealt with in the international climate change framework.

4. **A global goal for Adaptation and recognition that Adaptation efforts are as much part of the necessary response to climate change as mitigation:**
   The Africa Group is a strong champion for a global goal for Adaptation and South Africa should continue to push for the formal recognition of such a goal to give Adaptation the status that it deserves. Similarly countries should all be required to submit adaptation efforts as part of their INDCs. This is helpful to attract additional support as well as to showcase how climate change is impacting development in both developed and developing countries.

5. **Climate finance:**
   South Africa, and the G77+China as a whole, should not let Developed countries off the hook with regard to finance. Developed countries must deliver on the promised USD100 billion by 2020 and provide clear commitments that they will scale up support for climate action in the post-2020 framework. For this reason Developed countries should also be required to indicate in their INDCs that they will provide certain levels of climate finance. They have argued consistently that this is not possible for them, but they cannot be allowed to offer insufficient domestic INDCs and then to also shirk their responsibility to help the developing world to pursue an alternate low carbon development path.

In conclusion, in addition to the recommendations we make above for an outcome at COP21, we also urge SA to demonstrate its leadership role in addressing the climate crisis by submitting a fair and ambitious INDC as soon as possible before the COP in Paris.

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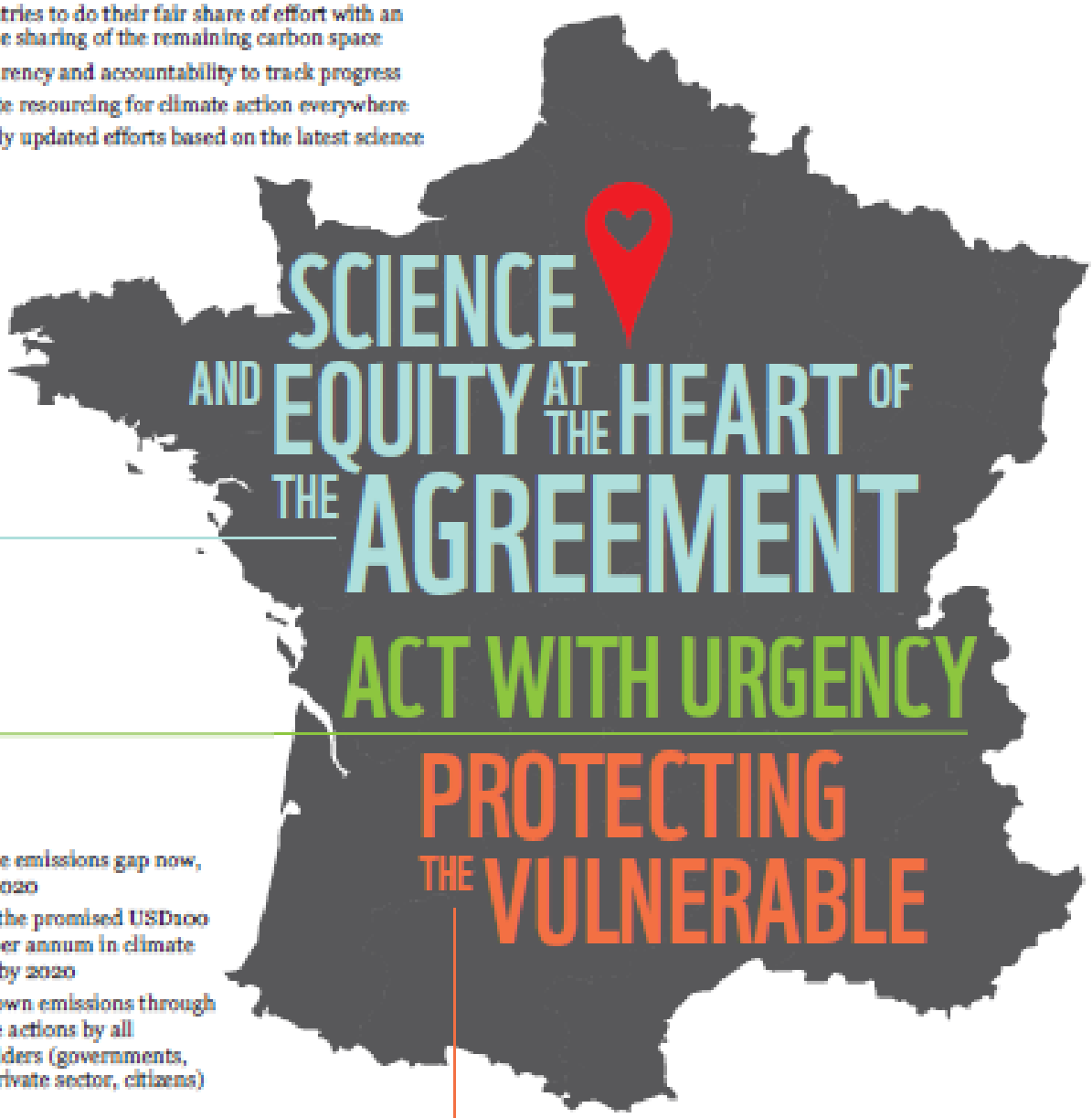
A FAIR AND TRANSFORMATIONAL OUTCOME:
WHAT WE NEED FROM PARIS

- Emissions need to peak before 2020
- All countries to do their fair share of effort with an equitable sharing of the remaining carbon space
- Transparency and accountability to track progress
- Adequate resourcing for climate action everywhere
- Regularly updated efforts based on the latest science



- Close the emissions gap now, before 2020
- Deliver the promised USD100 billion per annum in climate finance by 2020
- Bring down emissions through concrete actions by all stakeholders (governments, cities, private sector, citizens)

- Protection of our forests and ecosystems
- A global goal for adaptation
- Food, water and energy access for all, forever
- Strong solutions to address loss and damage due to climate change

Why we are here
To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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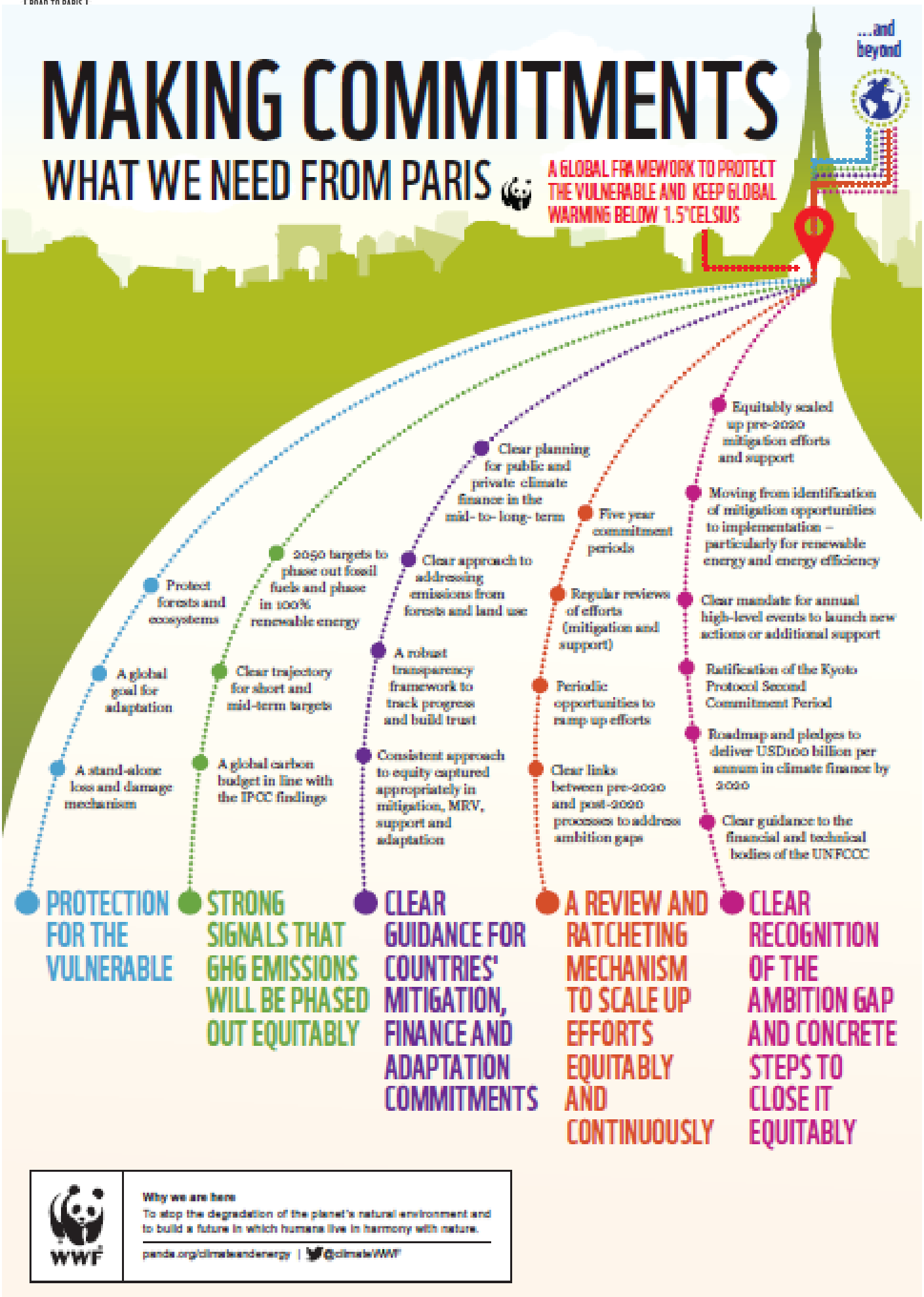
MAKING COMMITMENTS
WHAT WE NEED FROM PARIS
A GLOBAL FRAMEWORK TO PROTECT THE VULNERABLE AND KEEP GLOBAL WARMING BELOW 1.5°CELSIUS
...and beyond
Protect forests and ecosystems
A global goal for adaptation
A stand-alone loss and damage mechanism
2050 targets to phase out fossil fuels and phase in 100% renewable energy
Clear trajectory for short and mid-term targets
A global carbon budget in line with the IPCC findings
Clear planning for public and private climate finance in the mid- to- long- term
Clear approach to addressing emissions from forests and land use
A robust transparency framework to track progress and build trust
Consistent approach to equity captured appropriately in mitigation, MRV, support and adaptation
Five year commitment periods
Regular reviews of efforts (mitigation and support)
Periodic opportunities to ramp up efforts
Clear links between pre-2020 and post-2020 processes to address ambition gaps
Equitably scaled up pre-2020 mitigation efforts and support
Moving from identification of mitigation opportunities to implementation – particularly for renewable energy and energy efficiency
Clear mandate for annual high-level events to launch new actions or additional support
Ratification of the Kyoto Protocol Second Commitment Period
Roadmap and pledges to deliver USD100 billion per annum in climate finance by 2020
Clear guidance to the financial and technical bodies of the UNFCCC
PROTECTION FOR THE VULNERABLE
STRONG SIGNALS THAT GHG EMISSIONS WILL BE PHASED OUT EQUITABLY
CLEAR GUIDANCE FOR COUNTRIES' MITIGATION, FINANCE AND ADAPTATION COMMITMENTS
A REVIEW AND RATCHETING MECHANISM TO SCALE UP EFFORTS EQUITABLY AND CONTINUOUSLY
CLEAR RECOGNITION OF THE AMBITION GAP AND CONCRETE STEPS TO CLOSE IT EQUITABLY
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Document 2: WWF South Africa's submission to the Department of Environmental Affairs on the discussion document 'South Africa's Intended Nationally Determined Contribution (INDC)' of 1 August 2015

In the following pages we evaluate South Africa's INDC discussion document against a set of criteria which WWF is using internationally to evaluate INDCs, adapted for each country to take account of equity dimensions. In evaluating South Africa's INDC, we have used the criteria for developing countries considered to have relatively higher responsibility and higher capability. Where we find weaknesses in the INDC, we motivate and make concrete proposals as to how the INDC can be improved. We hope these are helpful.

Aspect	Evaluation
1. **Transparency, clarity and specificity of information** Does the INDC present sufficient information to make it technically possible to estimate the amount of greenhouse gas emissions that the atmosphere will see over the entire commitment period?	✓ Developing countries which have relatively higher capability and some responsibility should offer economy-wide contributions. South Africa's post-COP15 conditional pledge was to cut emissions economy-wide by 34% by 2020 and 42% by 2025 below an unspecified BAU projection. Consistent with this, a national commitment to an economy-wide peak-plateau-decline (PPD) "trajectory range" was captured in domestic policy, the National Climate Change Response Policy White Paper.[6] ± Clear and transparent quantitative information with which one can calculate real emission reductions by 2025 and 2030 (even if the target is a reduction in emissions intensity or GHG reductions below BAU). If a reduction below BAU is used as a target there must be clear information on BAU assumptions including projected emissions to 2025 and 2030. Moving to an economy-wide emission reduction target below a base year would be an improvement on a BAU target; and indicating a carbon budget for the entire period from 2020–2025 or 2010–2030 is first prize. The conditional UNFCCC pledge of 34% by 2020 and 42% by 2025 below BAU can be overlaid on the national policy's PPD which does include quantified markers, but there is no necessary interdependence between the UNFCCC pledge and the domestic PPD. With the BAU being unspecified and unquantified, relative emission reductions cannot be used to calculate quantified emission reductions. The INDC does nothing to firm any of this up. The INDC does not mention South Africa's post-COP15 pledge of "34% below BAU by 2020", but does say the PPD trajectory range "is consistent for 2025 with 42% deviation below BAU emissions growth trajectory". Hence, while the information in the INDC is clear and largely transparent, it is not possible to calculate actual emission reductions. We welcome that the INDC specifies absolute values of annual emissions in given years (even if a range, and even if "indicative") as an improvement over pledging a percentage reduction relative to an unspecified baseline.

[6] National Climate Change Response White Paper of 2011; Peak-Plateau-Decline GHG emissions trajectory

Aspect	Evaluation
	✓ Clear and transparent information on the role of the forest and land sector: base year and/or reference level for LULUCF or REDD+; actions to reduce emissions or increase removals in the land sector; the accounting approach used. If such activities are excluded the INDC should explain the reason for, and significance of, such exclusions. The INDC states that South Africa's land sector is estimated to be a net sink, and explains data uncertainties involved. The INDC commits to improving data certainty over time, and domestically an AFOLU MRV system is under development, which will clarify accounting approaches. This is a satisfactory move in the right direction. ✘ Clear indication of additional emissions mitigation that could be achieved at different levels of support, which could be finance, technology or capacity building. No such indication is given. Given costings in various studies[7] commissioned by government, this is possible to quantify, at least in the order of US$ millions. This gap in the INDC represents an opportunity for South Africa to resolve the conundrum faced by developing countries going into COP21 and make more ambitious offerings – this is discussed below. ± Description of any market or non-market based mechanisms that will be used, and how they will contribute to achievement of the target, preferably indicated separately from reduction by the country itself. No reference to such mechanisms. We do not see this as a major weakness of the INDC, given more pressing concerns about the need for being more quantitatively specific on its targets. Domestically, government is proceeding to develop a range of planning, regulatory and financial instruments("mix of measures"). In 2014, the National Environmental Management Air Quality Act was amended to include GHG and climate change. Already there has been extensive consultation and refinement of a proposed carbon tax, and a process to explore a carbon offsets system has started. We call for *ex-post* carbon offsets, if they are to be used.

[7] For example the Mitigation Potential Analysis. Available at https://www.environment.gov.za/sites/default/files/docs/mitigationreport.pdf, accessed 15/9/2015.

Aspect	Evaluation
2. <u>Domestic adaptation efforts</u> Is the country reflecting that it recognises that adaptation is a key response to climate change and how it will deal with adaptation domestically?	✓ Where does the INDC sit on the spectrum from adaptation vision to framework to policy to plans? A national vision for adaptation and climate resilience; a national policy or framework for adaptation, including description of vulnerable communities, ecosystems, institutions, economic sectors; identification of concrete adaptation actions that will be launched or scaled up after 2020; any methodology to monitor the impacts of proposed adaptation measures? This is underway. The INDC recognises adaptation as a key component of the international climate change response, and proposes to develop national adaptation capacity over the period to 2030. An ongoing study,[8] provides an initial scoping of impacts and vulnerabilities, and further assessment of needs is planned. This will inform a National Adaptation Plan (NAP) to be developed by 2020. Baselines and indicators which provide a basis for a monitoring and evaluation system have yet to be determined. The INDC goes so far as to provide broad costings according to different global mitigation scenarios. Justifiably, the implicit logic is that the lower the aggregate mitigation ambition reflected at the UNFCCC, the higher will be the adaptation costs borne by developing countries which have lower capacity for resilience, including South Africa. Our reading is that a Loss and Damage approach has been taken based on extrapolating the estimated costs of climate impacts and actions to the country to date, and on improving the national capacity to plan for adaptation. Clarity in this regard would be welcome. The costs are not associated with specific activities designed to enhance adaptation. There is a stated intention to scale up activities already underway, but there is a significant gap between the costs of doing this and the various scenario-based adaptation costings reflected in the INDC, hence leaving room for other unspecified activities. Since significant resources will be needed to build the resilience of vulnerable segments of the population, ecosystems and/or economic sectors, or to help them adapt, it is to be hoped that the intention is to apply the funds gap to this end.

[8] Long Term Adaptation Scenarios. Available at http://www.sanbi.org/biodiversity-science/state-biodiversity/climate-change-and-bioadaptation-division/ltas, accessed 15/9/2015.

Aspect	Evaluation
	✖ A description of adaptation actions that will be achieved through domestic resources as well as an indication of adaptation action that would require unconditional, conditional or partially conditional international support. The INDC makes a case for additional adaptation investment from developed nations. It does not quantify or differentiate what adaptation can be funded internally and what international investment would be required. The question of how much of its adaptation needs South Africa should be expected to fund domestically arises. WWF suggests that the sentence *"Despite being responsible for about 1-1.5% of annual global emissions, South Africa is already investing about 6% of what would be the upper end of its adaptation needs per annum for the period 2021/2030, which is a disproportionate burden arising out of a global commons problem"* be dropped from the INDC, as it is open to much questioning and weakens South Africa's position, for two reasons. • Firstly, responsibility for adaptation costs is related not to current annual emissions, but rather to historically cumulative GHG emissions. A country's responsibility for global adaptation costs should be estimated in terms of its overall common but differentiated responsibility. • Secondly, South Africa's international adaptation responsibility and its national adaptation needs are incommensurate as currently posed. One would need to quantify global adaptation costs, then calculate South Africa's CBDR share of the global cost, and then compare that to the cost of national adaptation needs. If in monetary terms, South Africa's adaptation expenses turn out to be greater than South Africa's fair contribution to global adaptation cost, only then can South Africa be said to be incurring a cost disproportionate to its international responsibility. Whilst it can be surmised that as a vulnerable country, South Africa's domestic adaptation costs are likely to be higher than its international obligation, it is nonetheless reasonable to expect South Africa to fund more than 6% of its adaptation needs. In the absence of good estimates of global adaptation costs, WWF proposes that the INDC commits to addressing national adaptation in line with South Africa's global mitigation responsibility, and asserts that the additional costs of adaptation be borne by high-responsibility nations.

Aspect	Evaluation
	Proposal As a COP negotiating position, SA should make it clear that a nation's share of the global adaptation cost is the same as its CBDR mitigation obligation, on the basis that adaptation is the cost of unmet mitigation. In this light, given the fact that adaptation is likely more costly than mitigation, it provides stronger motivation for early mitigation activities by those nations with greater responsibility thereby reducing the likelihood of extreme climate change. A possible means of calculating the share of the national adaptation load that should be borne by a country is detailed below. This could be used as a basis for calculating a nation's responsibilities for adaptation costs: $$\boldsymbol{A_{Nat}} = \boldsymbol{M_{Tot}} \times \frac{\boldsymbol{AL_{Tot}}}{\boldsymbol{AL_{Nat}}}$$ where: $\boldsymbol{A_{Nat}}$ = the share of national adaptation load that a country should bear (%) $\boldsymbol{M_{Tot}}$ = the proportion of the global mitigation load the country should bear, in line with the principle of common but differentiated responsibilities (%) $\boldsymbol{AL_{Tot}}$ = the total global adaptation load (global cost of adaptation measures in $) $\boldsymbol{AL_{Nat}}$ = the national adaptation load (cost of adaptation measures within a specified country in $) This calculation effectively relates countries' global adaptation obligations to global mitigation obligations. Since some countries are more vulnerable to climate change than others, the adaptation load within a country may vary as a share of the global adaptation load: in general, the evidence is that nations with lower historical responsibility are likely to have higher adaptation costs. Therefore, the share of the national adaptation load that a country should bear is related both to its common but differentiated responsibility, and inversely to its share of adaptation costs. Where a country's share of national adaptation load is below 100%, the additional costs should be borne by those countries that have an obligation greater than 100%, in a similar manner to the division of mitigation obligations.

Aspect	Evaluation
3. <u>Domestic mitigation ambition</u> Is the INDC a fair and ambitious contribution to keeping the world on track for limiting warming to less than 1.5°C or 2°C?	Post-COP15 it was ambitious for a developing country to pledge to peak-and-decline its emissions at all, as South Africa uniquely did. As a developing country which does bear some historical responsibility for climate change being experienced today, South Africa is both entitled to a fair share of the remaining global carbon budgets as set out in the IPCC's Fifth Assessment Report and should make its fair contribution to the global effort required. *Responsibility:* South Africa's historical responsibility is linked to its share of global cumulative GHG emissions since industrialisation. Using data going back to 1850, South Africa's historical share is 1.1% of the global total. Over this period, the data is complete for most developed countries, but excludes China's emissions pre 1900, South Africa's pre 1884, and countries whose emissions are negligible even today. Taking 1950 as the start brings in a more complete data set for almost all countries (the rest being immaterial) and yields South Africa's share as 1.09%. This later start date excludes emissions of developed countries between 1850 and 1950, but the bulk of these occurred post World War II.[9] The INDC states that South Africa is responsible "for about 1–1.5% of [current] annual global emissions". *Capability:* South Africa's GDP per capita in 2010 was US$5 911 and its Gini coefficient was .65 in 2011, the worst in the world. It can be seen that South Africa still experiences unacceptable levels of poverty, and that the benefits of its carbon-intensive economic trajectory from slavery and colonialism through apartheid have not been distributed equitably. As a developing country, South Africa can still lay claim to a fair share of the global carbon budget/s, and it will take some decades to delink its economic growth and development from GHG emissions. **South Africa's share of the carbon space** Ultimately it is not reductions against BAU or a base year which count, but the absolute volume of emissions being added to the atmosphere. For a 66% chance of remaining below 2°C global warming, the IPCC gives humanity a remaining carbon budget of at most 1 000 Gt. How much of this is the country claiming? Domestically, South Africa's White Paper PPD range quantifies a wide and flexible "trajectory range" band within which the country seeks to keep its emissions. From this one can derive a quantified range for a national carbon budget for the period 2010-2050. The White Paper does not explicitly commit to these derived carbon budgets, let alone the INDC.

[9] Data from CAIT Climate Data Explorer. Available at http://cait.wri.org/historical/Country%20GHG%20Emissions?, accessed 15/9/15

Aspect	Evaluation
	• Budget using top of the band: Allows emissions to increase from 2010 to 2025, peaking in 2025 at 614 Mt CO_2e annually and maintaining this to 2035, before declining to 428 Mt CO_2e annually by 2050. The corresponding carbon budget is 23 Gt CO_2e. • Budget using bottom of the band: The derived carbon budget is 15 Gt CO_2e. The INDC commits to none of these PPD quantities, merely referring to them and looking further at other research. It cites resulting South African carbon budgets spanning from 7 Gt CO_2e to 22 Gt CO_2e. (Note these quantities are not all comparable, because they use different methodologies and start dates.) One notes a trend of the implied carbon budgets bloating over time: Pre-COP15, PPD was conceived tightly with a start of 450 Mt CO_2e in 2010.[10] Post-COP15, it was adjusted upward to cater for the Integrated Resource Plan 2010, the country's electricity supply plan, which has two coal-fired power stations then planned and now under construction. At that time, a paper which informed the White Paper indicated that the "current proposed allowance [for 2010–2050] is in the region of 19 Gt CO_2e". In the White Paper, PPD was set to start with 500 Mt CO_2e in 2010; but South Africa's latest GHG Inventory has emissions at 518 Mt CO_2e in 2010 (including AFOLU). Subsequent to the White Paper, the country looked at a different trajectory range when doing a breakdown per sector (Desired Emission Reduction Outcomes), which has higher emissions in 2020 than the original PPD, implying another increase in the carbon budget. Further, the INDC now sets the start date for PPD to 2016, writing off emissions to date. From a carbon budget perspective, the 2010–2016 emissions must be deducted from the 2010–2050 carbon budget to arrive at a 2016–2050 budget. Otherwise this is another way in which the carbon budget is being bloated. While it is legitimate to keep adjusting for reality diverging from projections, this needs to be compensated for, to get back on track to the country's intended carbon budget range, by reducing emissions more sharply, peaking before 2025, and/or reducing the plateau period. There is no indication that the country is conceiving or managing its overall carbon budget in this way.

[10] Long Term Mitigation Scenarios, accepted by Cabinet in 2008 and used as the basis for the post-COP2015 pledge. Available at http://www.erc.uct.ac.za/Research/LTMS/LTMS-intro.htm, accessed 14/9/15.

Aspect	Evaluation

Proposal

South Africa needs to stand its ground and fix on a quantified overall carbon budget over a specific period. This should be committed to in domestic policy and in its INDC.

Given the technical work and wide consultation that has gone into the "trajectory range", we accept the carbon budget as derived from PPD in the White Paper with its emissions quantities and dates specified for the peak, plateau and decline – also reflected in the INDC. The overall carbon budget quantum must be maintained in the face of reality diverging from PPD projections, allowing the country latitude when we undershoot where we thought we'd be and tightening up when we overshoot, as long as we come in within the budget.

WWF proposes the following carbon budgets for the period 2016–2050, compensating for 2010–2016 emissions which were included in the White Paper derived budgets:

Budget derived from bottom of PPD range	12.4 Gt	1.24%
Budget derived from middle of PPD range	16.0 Gt	1.60%
Budget derived from top of PPD range	19.7 Gt	1.97%

The percentage at right is the share of the 1 000 Gt global carbon budget.

South Africa's share of global effort

The IPCC's Fifth Assessment Report foresees a carbon-negative emissions pathway globally after 2070, to be able to come in under the global carbon budget for remaining below 2°C global warming. What emissions reductions is South Africa offering as its contribution to the required global effort?

South Africa offers to keep its emissions within the White Paper's PPD "trajectory range" band, with annual emissions pegged in a range for selected years:

		Bottom of band Mt CO_2e	Top of band Mt CO_2e
Firm	by 2025	398	614
Indicative "South Africa retains flexibility to define a single number for 2030 in future"	by 2030	398	614
Aspirational "having declined in absolute terms from 2036 onwards"	by 2050	212	428

Aspect	Evaluation
	A reservation is that while the PPD "trajectory range" holds open a range allowing for greater ambition, increasingly talk is as if we are aiming for the least ambitious top of the range. All of this – BAU, trajectory ranges, "indicative" and "aspirational" – is somewhat vague and open-ended, as is the INDC's own commentary on whether the INDC is a fair share of the required global effort. The INDC reflects: "A meta-analysis of different approaches [to equitable effort-sharing] shows some of the variation in relation to South Africa's PPD trajectory range. The most striking result is that the analysis of different effort-sharing approaches yields carbon budgets for South Africa that are significantly smaller than the PPD trajectory range. Only lower PPD is within the range calculated using the PRIMARP tool in 2020. In 2025 and 2030, none of the PPD values overlap with the calculated ranges. In the longer-term, that is a period of absolute decline of GHG emissions to 2050, the mid- and lower-range PPD values are within the range calculated by Climate Analytics using the PRIMAP tool; but upper PPD still exceeds what is required as a relative fair share by SA and to stay below 2°C." The INDC hints that there is another outlier pulling PPD even further from what could be considered a fair share of effort: "Analysis by SA experts indicates that a carbon budget calculated based on indicators consistent with core Convention principles of responsibility, capability and sustainable development, could range from 20-22 Gt CO_2e for the period 2016-2050;[11] which is greater than one consistent with the trajectory, which might range from 16-20 Gt, the area under mid- and upper-range PPD." A maximum of 20 Gt over 2016-2050 is already 50% higher than the highest equity allocation in the PRIMAP tool, so 20-22 Gt CO_2e cannot credibly be included as being in valid contention for South Africa's fair share. **Proposal** As the INDC itself suggests, only bottom to middle of the PPD range falls within a fair effort, even when using the greatest latitude of internationally considered approaches to effort sharing. South Africa should thus aim for a carbon budget in the range of 12.4 Gt CO_2e (bottom of PPD range) and 16 Gt CO_2e (middle of PPD range) over 2016-2050. Anything over this cannot be considered ambitious or fair. By holding to quantified outer limits, South Africa can bulwark itself against undue pressure and reassert credibility.

[11] The "SA experts" are not specified, it is unknown whether their analysis has been published or peer reviewed, and their numbers can thus not be unpacked. There could be elision between "effort sharing" and "share of carbon resource", potentially a product of using mooted equitable percentage reductions from a BAU moved yet again; and it is unknown which of many approaches to "indicators consistent with core Convention principles of responsibility, capability and sustainable development" is applied.

Aspect	Evaluation
4. <u>Clarity on support provided or requested</u> Does the INDC include a clear signal of what the country will do with its own resources, what it needs support for, or (if capable) how it will contribute to financing climate action beyond its own borders through finance?	In response to the future status of INDCs being undetermined, and to leave room for negotiations, South Africa's INDC is unnecessarily cautious in stepping forward with firm and ambitious commitments. This is not helpful in eliciting adequate INDCs from other countries. If all hang back waiting to see, then no progress need be made. South Africa's whole INDC is contingent on a binding agreement, which means it makes no firm commitment to mitigation. The country does have a right to expect developed nation investment in its mitigation and adaptation activities, but also has an obligation to reduce emissions to a certain extent independent of international finance. There is a way out of this impasse for a developing country with relatively higher capability and responsibility than others, and that is to clearly indicate what it can contribute without support, and what it could further contribute conditional upon support. It can thus table firm and ambitious contributions subject to support. A model CBDR INDC could be tabled, all conditional upon varying levels of quantified support. South Africa could commit to a staggered set of 2016–2050 carbon budgets, unconditionally of 19.7 Gt CO_2e (derived from top of PPD range – domestic policy already sets this as the outermost limit); a budget of 16.0 Gt (from middle of PPD range) conditional upon certain levels of support, and a budget of 12.4 Gt (from bottom of PPD range) dependant upon specified increased levels of support. Costings could be drawn from the Mitigation Potential Analysis.
5. <u>Equitable contribution</u> Is the INDC contribution equitable overall in terms of the combination of domestic mitigation and adaptation efforts, as well as any finance support for mitigation and adaptation elsewhere?	By allowing of a wide range of carbon budgets based on differing fair share approaches, not ruling out a budget of up to 22 Gt CO_2e for the period 2016-2050 (proposed by anonymous "SA experts"), and providing no motivation for how it would determine what it considers its fair share, the signals are that South Africa might consider doing less than its equitable contribution. It is not possible to evaluate whether South Africa's INDC represents an equitable contribution to the global effort required, nor an equitable claim upon the remaining global carbon budget. The only "firm" commitment is to bring South Africa's annual emissions within a wide range of 398 to 614 Mt CO_2e by around 2025. There is no indication how much of its mitigation and adaptation will require international support, and thus nothing can be concluded about what share of the global effort South Africa is itself offering to do. South Africa's INDC can cater for a great deal of flexibility through declaring what it can achieve domestically without support and what it can further achieve with international finance, technology or capacity support. We encourage South Africa to give an indication of its stance on assisting in building the climate resilience of neighbouring countries, and a regional approach to disaster management and climate migrations, if not in its INDC then in its COP21 position.