



**For the Department of Environmental Affairs**

**Date: 27<sup>th</sup> August 2015**

**Att: Ms Judy Beaumont, DDG: Climate Change and Air Quality**  
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**groundWork's response to DEA's climate consultation on:  
SOUTH AFRICA'S INTENDED NATIONALLY  
DETERMINED CONTRIBUTION**

We believe that the 2°C target is, as climate scientist James Hansen says, a recipe for disaster. With temperatures about 0.85°C above pre-industrial levels, millions of people already experience climate change as disastrous. Intensified heatwaves, droughts and storms have affected all parts of the world. Already, the deaths of half a million people a year are directly attributable to climate change. That figure will rise steeply in the next decades.

It is common cause that poor people are most vulnerable to climate change. People living on the fencelines of polluting industries take a double hit, first from the impacts of pollution on their health and environments and second from the impacts of climate change.

As part of the Africa group, South Africa advocates limiting the rise in temperature to below 1.5°C above pre-industrial levels. We believe it needs to take actions and positions consistent with that domestically and in its international engagements.

For a half (50%) chance of coming in under 1.5°C, the global emissions budget is about 600 billion tonnes of carbon dioxide (Gt CO<sub>2</sub>) from 2011 onwards. The same budget gives a two-

in-three (66%) chance of coming in under 2°C.<sup>1</sup> This budget is being consumed at the rate of over 35 Gt CO<sub>2</sub> per year. For all greenhouse gases, the budget from 2011 is about 900 Gt CO<sub>2</sub>e and this is being consumed at about 50 Gt per year. At present rates, the budget will be consumed before 2030.<sup>2</sup>

The world is already behind any reasonable schedule in reducing emissions. This means a late peak in global emissions and the necessity of a steeper reduction after peak and no room for a plateau. Northern country emissions should be in steep decline already. Taking account of the principle of common but differentiated responsibilities, if Southern countries delay peaking until 2025, reductions of around 7% per year must follow. Peaking in 2020 allows for a less daunting decline of 4 to 5%.<sup>3</sup>

Since existing reserves of coal, oil and gas exceed the budget several times over<sup>4</sup>, about 80% of it must be left in the ground, all exploration should cease, and no new fossil fuel projects should be initiated.

## Mitigation

Northern (developed) countries are responsible for the largest part of the emissions that are driving global warming. By any reasonable accounting, they have already broken their GHG budgets and are in deep deficit. It is clear, however, that it is not physically possible for them to turn their countries into GHG sinks on the scale needed to recuperate the debt.

This has two implications: First, the North owes the South a climate debt which can only be paid by other means including financial transfers. Second, the South must still reduce emissions by more than its fair share to avoid dangerous climate change. This leaves South Africa with a carbon budget of between 10 and 12 Gt from 2010 to 2050 and almost nothing thereafter.

Government's 'peak, plateau and decline' (PPD) trajectory has its origin in the offer South Africa took to the 2009 Copenhagen negotiations. This was subsequently formalised at Cancun in 2010. The Copenhagen offer was that greenhouse gas emissions should 'deviate' by 34% below business-as-usual by 2020 and by 42% by 2025. Emissions would then 'plateau' before finally declining after 2035.

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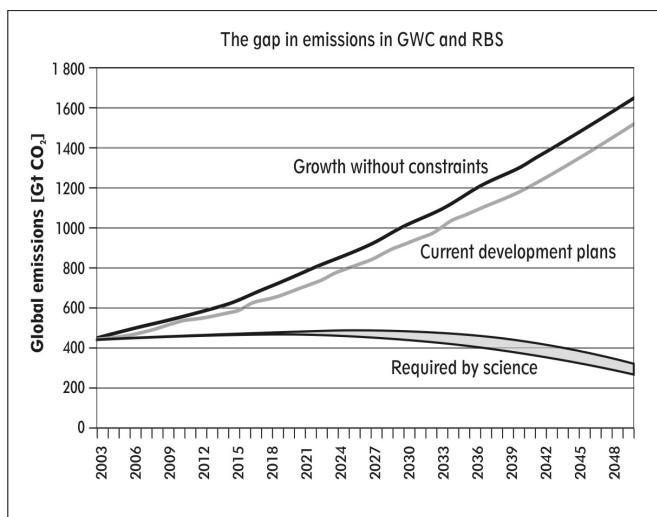
<sup>1</sup> International Panel on Climate Change, Fifth Assessment Report, Working Group 3, (IPCC AR5, WG3), Summary for policy makers, Table SPM1, p.13. We have taken the lower end of the range for two reasons: first, to allow for climate feedback and second, because the IPCC relies on the untested assumption that large scale 'negative emissions' (i.e. sinks are greater than emissions) can be achieved in the second half of the century.

<sup>2</sup> See also: EcoEquity and Stockholm Environment Institute, 2015, *Three salient global mitigation pathways, assessed in light of the IPCC carbon budgets*, downloaded 28<sup>th</sup> April 2015 at <http://www.climateequityreference.org/gdrs-scorecard-calculator-information/mitig-path-overview/>

<sup>3</sup> Kevin Anderson and Alice Bows, 2011. *Beyond 'dangerous' climate change: emission scenarios for a new world*, Philosophical Transactions of the Royal Society 369.

<sup>4</sup> Carbon Tracker and Grantham Research Institute, 2013. *Unburnable Carbon: Wasted capital and stranded assets*.

This offer was said to be based on the Long Term Mitigation Scenarios (LTMS), a research document commissioned by the DEA in 2007. The LTMS constructed two scenarios: Growth without Constraints (GWC) which is used as the business-as-usual baseline for the Copenhagen offer; and Required by Science (RBS) which shows the emissions path necessary for South Africa's contribution to avoid warming of more than 2°C. These two scenarios produce top and bottom lines for emissions through to 2050 with 2003 as the starting year as shown in the figure below.



Source: LTMS. NB: The vertical axis should read: SA emissions (Mt CO<sub>2</sub>).

While preparing the national climate policy in 2011, the DEA presented what the PPD range meant in actual emissions. It showed the business-as-usual baseline reaching 750 million tonnes (Mt) of greenhouse gases in 2020 and 870 Mt in 2025. Hence, the Copenhagen offer translated to 495 Mt in 2020 and 506 Mt in 2025. In 2011, emissions were already above these targets and, under intense pressure from business, the DEA cheated the numbers.

In March that year, it introduced an 'error range' into the business-as-usual baseline and it widened the error range in August. This was an entirely arbitrary procedure with no technical justification. It produced a very wide PPD range with upper and lower limits. The table below lays out the numbers.

**Table 1: South African emissions and promises in Mt CO<sub>2</sub>e**

	Actual		LTMS (GWC)			LTMS (RBS)		Copenhagen offer		Copenhagen 'revised' (Aug 2011)		
	Dates	2004	2010	2011	2020	2025	2020	2025	2020	2025	2020	2025
CO <sub>2</sub> e Mt		440	518	545	750	870	460	453	495	505	398-583	398-614

As can be seen, the original Copenhagen offer was already substantially higher than what the LTMS said was required by science. The August 2011 revision is what went into national policy and the upper limit for 2025 is 160 Mt higher than RBS.

In our view, RBS itself was too high for several reasons: 1. It accepts the global target of a 2°C rise in temperatures. As noted above, the target should be to limit the rise in temperature below 1.5°C. 2. The LTMS calculations are based on figures from the International Panel on Climate Change (IPCC). Wherever the IPCC gives a range, the LTMS takes the value at the easiest end of the range. 3. The LTMS rightly takes account of the principle of common but differentiated responsibility (CBDR) which allows for the fact that Northern countries are responsible for most of the emissions driving climate change. However, by bundling South Africa with the South in general, the LTMS gives it a free ride on the really low emissions from least developed countries.

In 2014, the DEA initiated a process to define Desired Emissions Reduction Outcomes (DEROs). It said that annual emissions might fluctuate between the upper and lower PPD limits but the middle of the PPD range would be used to define the national budget. If this budget was exceeded in one five year period, it would have to be compensated for in the next. As can be seen in Table 2, the middle numbers are about the same as for the original Copenhagen offer. So this remains government's target.

Table 2: PPD to 2050, Mt CO<sub>2</sub>e

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>	<b>2050</b>
Upper	547	562	583	614	614	614	552	490	428
Mid	473	480	491	506	506	506	444	382	320
Lower	398	398	398	398	398	398	336	274	212

In graphic form, the PPD range looks like this.

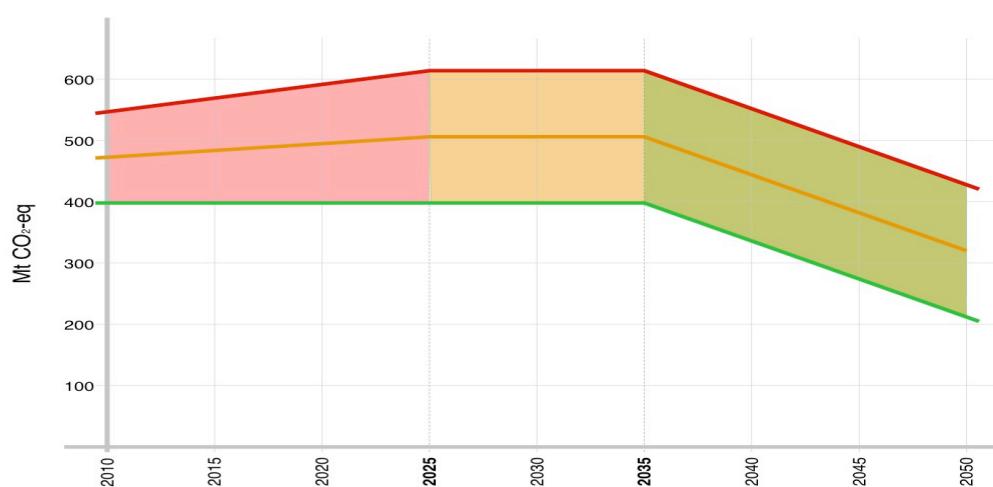


Figure 1: The PPD range 2010-50 with upper (red) and lower (green) limits and the mid-range line (orange).

The upper limit adds up to a 2010-50 greenhouse gas budget of 23 billion tonnes (Gt), the mid-range to 19 Gt and the lower limit to 15 Gt.

The upper limit, assuming a proportionate mitigation effort from other countries, will make for a 4°C rise in global temperatures by the end of this century – and it won’t stop there. The mid-range – government’s target – is not much better. Even the lower limit of the PPD range is too high – between 5 and 3 Gt more than the budget for a 50-50 chance of exceeding 1.5°C.

## **On Adaptation**

In KwaZulu-Natal, a two year drought has been interrupted, but not ended, by unseasonal winter rain. Rural people were already losing stock last year (2014). Water is now rationed in parts of Durban and the taps are dry in Mtubatuba. The drought is intensified by poor land management. The catchments are over-planted with industrial timber plantations which consume a large portion of rainfall and reduce runoff. In drought conditions, plantations still consume groundwater at source and dry out wetlands and rivers.

Groundwater, wetlands and rivers are also being poisoned. On the Rand and Highveld, in the Vaal and Northern KZN, acid mine drainage is slowly turning whole catchments into wastelands. Industry consumes vast quantities of clean water and returns dirty water to streams and rivers. Across the country, municipalities leak sewage from poorly maintained plants. The cost of treating water escalates and Lesotho’s water is used to dilute the pollution in the Vaal at the cost of the ecological health of the Senqu/Orange.

Adaptation is thus failing before it even starts. The priority for capital – for timber, mining and industrial corporations amongst others – has resulted in the wholesale destruction of environments and the impoverishment of people. The effect is to amplify climate impacts while undermining the resilience of both people and eco-systems. This can only be addressed by confronting the power of corporate capital and initiating a major shift in economic priorities.

Remediation of damaged environments is an urgent priority. For a start, the funds that mining corporations are required to set aside for closure need to be raised by 10 times to reflect actual costs. A more equal society is likewise essential to adaptation. The economy created by capital, energy and carbon intensive development is grossly unequal and has resulted in over 35% unemployment while 57% of the people live in poverty.<sup>5</sup> A sustainable society that caters for everyone would be founded on democratic economic relations.

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<sup>5</sup> Stats SA visited 30 July 2015: [http://www.statssa.gov.za/?page\\_id=739&id=1](http://www.statssa.gov.za/?page_id=739&id=1)

## **Financial and technology transfers**

As noted above, the global North owes an environmental debt to the global South. Similarly, within South Africa, the unequal distribution of environmental harm and economic benefit puts the rich in debt to the poor.

The Northern promise to ‘mobilise’ \$100 billion by 2020 is both inadequate and empty. Reliance on mobilising funds from private sources does not do. This money is not reliable and fixed by profit not justice. Private investment inflows into Southern countries inevitably turn into outflows of dividends and interest as well as illicit transfers and frequently imposes debt on the supposed beneficiaries.

Climate funding must be accessed as of right from public sources. A sum equal to military spending should be transferred North to South and, within the South, from rich to poor.

Society’s capacity for technical innovation has largely been appropriated by private corporations. We believe this capacity should be taken back into the public sphere through a global network of institutions with a mandate for innovation and the rapid dissemination of appropriate technologies under commons licence. Existing intellectual property rights relevant to addressing climate change should be socialised.

End:



The logo consists of the word 'groundWork' in a bold, sans-serif font. The word 'ground' is in black, and 'Work' is in a green color. A horizontal green line extends from the bottom of the 'd' in 'ground' to the end of the 'k' in 'Work'.