CLIMATE ACTION TRACKER

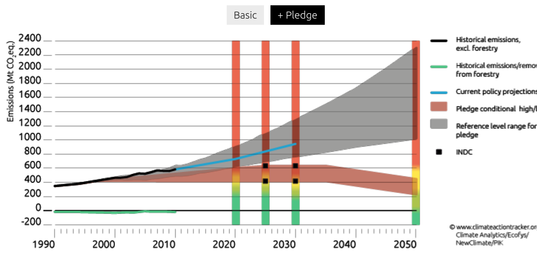
South Africa

History: 2017 | 2015 | 2014 | 2013 | 2012 | 2011

Page last updated: 2nd October 2015

Rating





Note: Hover over the coloured bars for a pop-up with the fair emissions range per effort sharing category. More information here.

Assessment

On 25 September 2015, South Africa submitted its Intended Nationally Determined Contribution (INDC), including the target of reducing its greenhouse gas (GHG) emissions to between 398 and 614 $MtCO_2e$ (incl. LULUCF – land use, land use change and forestry), over the period 2025–2030. This target is equivalent to a 20-82% increase on 1990 levels excl. LULUCF. We rate South Africa "inadequate.

The "inadequate" rating indicates that South Africa's commitment is not in line with interpretations of a "fair" approach to reach a 2°C pathway. This means it is not consistent with limiting warming to below 2°C. If most other countries were to follow South Africa's approach, global warming would exceed 3–4°C.

South Africa's INDC is consistent with its pledge under the Copenhagen Accord, which proposes emissions reduction below business-as-usual (BAU) levels, incl. LULUCF, by 34% in 2020 and 42% in 2025. Since South Africa's pledge is relative to a BAU range, this represents a 20–73% increase in emissions excl. LULUCF in 2020 and a 20–82% increase in 2025 on 1990 levels, excl. LULUCF.

According to our analysis, South Africa will need to implement additional policies to reach its proposed targets. The Climate Action Tracker's projection for South Africa's emissions under current policies has an increasing trend, with emissions (excl. LULUCF) in 2020 and 2025 expected to increase by 110% and 141%, respectively, on 1990 levels excl. LULUCF.

Pledge

South Africa's INDC (Republic of South Africa, 2015) is based on the emissions trajectory proposed in its Copenhagen pledge. It targets an emissions level in the range of 398–614 $MtCO_2e$ incl. LULUCF over the period 2025–2030. Assuming LULUCF remains at the average level over 2000–2010 (-19 $MtCO_2e$), this INDC translates to an emissions level of between 417–633 $MtCO_2e$ excl. LULUCF. Thus South Africa's INDC is equivalent to a 20–82% increase in the 1990 emission level excl. LULUCF. This is a significant range and emissions levels on both extremes would result from very different levels of action and policies by the government. However, based on the current policy projection, South Africa's emissions in 2025 – 2030 will still be above this large range.

South Africa's INDC assumes the finalisation of an ambitious, fair, effective and binding multilateral agreement under the UNFCCC at COP21. It also highlights that equity, economic and social development and poverty eradication are South Africa's top priorities.

The INDC targets build upon the Copenhagen pledge submitted to the Copenhagen Accord on 29 January, 2010. There, South Africa pledged to undertake mitigation actions with the aim of reducing emissions below BAU by 34% in 2020, and by 42% in 2025. The emissions level (excl. LULUCF) derived from South Africa's pledge is 417–602 $MtCO_2e$ in 2020 and 417–633 $MtCO_2e$ by 2025. South Africa's Copenhagen pledge is conditional on a fair, ambitious and effective agreement in the international climate change negotiations under the Climate Change Convention and the Kyoto Protocol and the provision of support from the international community.

South Africa's INDC and Copenhagen pledge are consistent with its long-term goal to constrain its emissions to follow a peak-plateau-decline (PPD) trajectory. Based on this, South Africa's emissions should peak between 2020 and 2025 (as targeted by the Copenhagen and INDC pledge), plateau for approximately a decade and then decline in absolute terms thereafter to between 212–428 $MtCO_2e$ by 2050 (incl. LULUCF). Excluding LULUCF, this long-term target is equivalent to 231–447 $MtCO_2e$. It is important to note that only the lower end of this range would be rated "Sufficient".

Copenhagen pledge	
2020 target	-34% below BAU by 2020 incl. LULUCF (20–73% above 1990 levels excl. LULUCF)
	-42% below BAU by 2025 incl. LULUCF (20–82% above 1990 levels excl. LULUCF)
Conditions	A fair, ambitious and effective agreement under the Climate Change convention and the Kyoto Protocol and the provision of support from the international community.
INDC	
2030 target	Emissions incl. LULUCF of between 398–614 $MtCO_2e$ over 2025–2030 (20–82% above 1990 levels excl. LULUCF).
Coverage	Economy-wide, all sectors (including AFOLU), six GHGs, with a material focus on CO_2, CH_4 and N_2O
Conditions	The finalisation of an ambitious, fair, effective and binding multilateral agreement under the UNFCCC at COP21.
Long term goal	
Long-term goal	Stable emissions over 2025–2035, followed by a decline in emissions to between 212–428 $MtCO_2e$ incl. LULUCF by 2050 (-34% below to 29% above 1990 levels, excl. LULUCF).

Fair share

Depending on whether the low or high level of emissions range for 2025-2030 is analysed, South Africa's INDC is categorized as "medium" or "inadequate". We rate it "inadequate" based on the midpoint of the INDC range and due to the fact that the large range introduces significant uncertainty.

Similarly, we also rate South Africa's Copenhagen pledge for 2020 "inadequate". The "inadequate" rating indicates that South Africa's commitment is not in line with the large majority of interpretations of a "fair" approach to reach a 2°C pathway. This means it is not consistent with limiting warming to below 2°C: if most other countries followed South Africa's approach, global warming would exceed 3–4°C. The emissions reduction target should therefore be strengthened to reflect South Africa's responsibility to act based on its historical emissions, as well as South Africa's relatively high emissions per capita.

Current policy projections

Currently implemented policies have so far had little effect on the emissions trend compared to BAU. Current policy-based projections are estimated to lead to an emissions level of 729 $MtCO_2e$ in 2020 excl. LULUCF. This is equivalent to a 110% increase in emissions from 1990 levels excl. LULUCF. For 2030, the current policy analysis suggests a further increase in emissions to 943 $MtCO_2e$ excl. LULUCF, representing a 172% increase in emissions compared to 1990 levels excl. LULUCF. The LULUCF sector represents a small net carbon sink, with emissions from this sector reported to be -19 $MtCO_2e$ in 2010.

Historically, South Africa's emissions have steadily increased throughout the time frame where data are available. This is due to the fact that South Africa's economy relies heavily on mining and heavy industry. Energy consumption in the industrial and buildings sectors relies largely on electricity as an energy source, which is produced with high carbon intensity using domestic coal. Overall it is estimated that 94% of South Africa's electricity is generated from coal (IEA, 2013). Large amounts of coal are also liquefied: over 30% of South African gasoline and diesel needs are covered by liquefied coal (World Coal Association, 2015). Additional emissions are coming from industrial-process emissions, especially steel and cement production.

One of South Africa's key policies to reduce emissions is through increased deployment of renewable energy. The Integrated Resource Electricity Plan (IRP) 2010–2030 sets a new installed renewable capacity target of 17.8 GW for 2030. In 2012, the government replaced its feed-in-tariff scheme with the Renewable Energy Independent Power Producer Programme (REIPPP). This was originally intended to fund the procurement of 3,725 MW of renewable capacity up to 2016 through a bidding process. However, at the end of 2012, the REIPPP was extended to fund a further 3,200 MW of capacity (DOE, 2013).

As of September 2015, four bidding rounds have been completed, with 5,400 MW of renewable projects procured under the REIPPP (DOE, 2015). In accordance with the IRP, a further 6,300 MW is expected to be added to the REIPPP (DOE, 2015). The REIPPP has been successful in generating interest in renewable energy project development, with all bidding rounds significantly over-subscribed.

However, the growth in renewable energy will not displace coal generation, as South Africa's coal generation capacity is likely to grow at a similar rate to renewable energy. The IRP indicates that 16.4 MW of additional coal capacity are either planned or already committed to be built by 2030 (Republic of South Africa, 2013). Under the IRP's base case for 2030, coal generation will still account for 48% of capacity, while renewable generation will contribute to 21% (Republic of South Africa, 2013).

Finally, the National Climate Change Response Paper identified key policy areas and packages (flagship programmes) that are planned for future implementation. It focuses mainly on adaption activities, but also addresses mitigation options such as the Energy Efficiency and Demand Management flagship programmes that will cover development and facilitation of an aggressive energy efficiency programme in industry.

Assumptions

Pledge

To quantify the pledge, we used data provided by the South African government in their White Paper on Climate Change in 2011 (DEA, 2011a), as well as South Africa's INDC (Republic of South Africa, 2015).

Current policy projections

For historic emissions, we use the 2000 – 2010 GHG Inventory for South Africa (DEA, 2013). The current trend analysis is the "With Existing Measures" scenario developed by the Department of Environmental Affairs (2014). We assume a constant value for LULUCF in the future, which is based on the average LULUCF value over the period from 2000–2010.

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