

A global roadmap for climate change action: From COP17 in Durban to COP21 in Paris

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Late one Saturday night – 12 December 2015 – on the outskirts of Paris while sitting in the chilly prefabricated buildings of a repurposed airport known as Le Bourget, the world's climate change negotiators watched as a new climate agreement was gavelled into existence. This new, legally binding agreement known as the Paris Agreement, effectively set the world – including South Africa – onto a new, climate-focused development path.

Human-induced climate change is acknowledged to be the greatest challenge facing our society and economy.¹ Our excessive and unsustainable use of fossil fuels and destruction of the earth's natural ecosystems have resulted in greenhouse gases (GHGs) – such as carbon dioxide (CO₂) and methane (CH₄) – which enter the atmosphere and trap heat, thereby driving an increase in global average temperatures. Climate change has been classified as a super-wicked problem² – in other words, a global environmental problem for which the time available to find a solution is rapidly decreasing and where our irrational discounting of the impacts (that is, spending only small amounts now to combat climate change and ramping up slowly over time) pushes the required responses and associated costs into the future. Ironically, super-wicked problems are caused by those seeking the solution, and finding solutions is further impeded by the fact that the central authority responsible for action is weak or non-existent. However, the Paris Agreement, together with the Sustainable Development Goals adopted in New York in September 2015, offer us the first real hope that we might be able to address climate change in a more timely, responsible, united, equitable and sustainable way. This article provides a brief background to the United Nations Framework Convention on Climate Change's (UNFCCC) COP21 session in Paris and highlights some of the key elements and implications of the Paris Agreement going forward.

What is the UNFCCC?

The international political response to climate change began when the United Nations Framework Convention on Climate Change (UNFCCC) was adopted at the United Nations Headquarters in New York on 9 May 1992. The Convention opened for signature at the Rio Earth Summit in June 1992 and was entered into force on 21 March 1994. Currently, the UNFCCC has a near-universal membership of 197 parties (aka 'countries' in UNFCCC language). The aim of the UNFCCC is to stabilise atmospheric concentrations of GHGs to avoid 'dangerous anthropogenic interference with the climate system'³. At the end of every year, a conference of parties (COP) is held to review the state of the Convention's implementation. The first COP took place in Berlin in 1995, and while the last two decades have featured notable highs (e.g. COP3 during which the Kyoto Protocol was adopted) and disappointing lows (COP15 in Copenhagen where an agreement to succeed the Kyoto Protocol was not achieved), COP17 in Durban in 2011 marked a particularly important turning point in the negotiating process.

In Durban's International Convention Centre, the world's governments committed to a new universal legally binding climate change agreement by 2015, to be operationalised in 2020 at the end of the second commitment period of the Kyoto Protocol. The Kyoto Protocol is a critical part of the international climate change regime as it commits developed countries to internationally binding emission reduction targets (there are no equivalent commitments for developing countries). The first commitment period ran from 2008 to 2012, and the Doha Amendment established a second commitment period from 2013 to 2020. At COP17 there was uncertainty about the form that the new agreement (to replace the Kyoto Protocol) would take and as a result the final decision indicated that it could be 'a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties'⁴, leaving everyone wondering what might ultimately emerge. The Ad Hoc Working Group on the Durban Platform for Enhanced Action (or ADP) was established as the negotiating platform for this important work.

So as climate change negotiators from around the world arrived in Paris at the end of November 2015 for COP21 they were all aware that the goal was to finish the job started at COP17 in Durban. As noted by President Zuma in his address during the leaders' session on the opening day:

As leaders, we are here today because of the historic and bold decisions we took in Durban to enhance the implementation of the Convention...For South Africa, the Durban decision to enhance the implementation of the Convention was of paramount importance, because the impacts of climate change are harshest on the poor. Climate change is a major global challenge that requires an urgent global response.⁵

Three important climate milestones reached just before COP21 highlighted what was at stake if the global community failed to fulfil the Durban commitments:

1. 2015 was set to be the hottest year on record.
2. The UK Meteorological Office announced that climate change was set to pass the milestone of 1 °C of warming since pre-industrial times (1750) by the end of 2015 – putting the world half way to the stated global policy goal of limiting global temperature rise to 2 °C above pre-industrial levels. This target was first proposed by the European Union (EU) in 1996, with support from some environmentalists and scientists, and subsequently included in the 2009 Copenhagen Accord.
3. The World Meteorological Organization announced that 2016 would be the first year in which the concentration of CO₂ in the atmosphere would exceed 400 ppm on average as a result of the continued burning of fossil fuels. This figure is up from about 278 ppm in pre-industrial times (1750). A figure of 400 ppm is regarded as a 'symbolic milestone', but science suggests that the 'safe' level of CO₂ is much closer to 350 ppm.⁶

What was the outcome of COP21?

When the COP21 President, Laurent Fabius, brought down the gavel at Le Bourget after two long weeks and several sleepless nights, the Paris Agreement was unanimously adopted (even though it seemed that Nicaragua wanted to take the floor to object). Despite its name, the Paris Agreement is two different documents. Firstly, the Agreement itself, which is a legally binding treaty on climate action containing emission reduction commitments from 187 countries (this number will increase as more countries submit their commitments prior to 2020). Secondly, the Paris Decision which passes the Agreement, prepares for its implementation once it enters into force and sets out a number of less legally binding ways to accelerate climate action with immediate effect. What is significant about the Paris Agreement is that it charts a new political course for the world. It ends the strict differentiation between developed and developing countries enshrined in the Kyoto Protocol, and marks the beginning of a new era of collective will. It is an acknowledgement that climate change cannot be addressed effectively unless everyone acts according to their respective capabilities and resources.

Some of the key Articles contained within the Agreement are outlined below:

Article 2 – The temperature goal

This Article reaffirms the goal of limiting global temperature increase to well below 2 °C, while pursuing efforts to limit the increase to 1.5 °C.⁷ This is a much stronger outcome than many countries had thought possible, but still falls well short of the aspirations of many small island states and least developed countries who had wanted 1.5 °C established as an absolute limit. The Paris Decision also invites the Intergovernmental Panel on Climate Change to produce a Special Report on the impacts of 1.5 °C and related global GHG emission pathways by 2018.

Article 4 – Mitigation

In terms of the long-term emissions goal it was decided to peak global GHG emissions as soon as possible (recognising that this will take longer for developing countries) and then undertake rapid reductions so that all anthropogenic emissions are balanced with 'removal by sinks'⁷ in the second half of the century. Effectively, this means reaching net-zero emissions after 2050. In order to achieve this goal, Article 4 establishes binding commitments for all countries to make 'nationally determined contributions'⁷ (NDCs) and to pursue domestic measures aimed at achieving them. All countries have to submit new NDCs every 5 years, with the expectation that they will 'represent a progression' beyond previous ones (as specified in Article 3) and reflect the 'highest possible ambition'.⁷ It is important to note, however, that implementation of the NDCs is not a binding obligation.

Article 7 – Adaptation

In his leaders' day address, President Zuma stressed that: 'A global goal for adaptation must...be part of the Paris Agreement. This goal must express adaptation as a global responsibility that requires a global response'⁵. This objective was fully realised through the 'global goal' on adaptation in Article 7 which focuses on 'enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change'⁷. Article 7 also links the amount of adaptation and its cost to the level of mitigation action (i.e. the less mitigation, the more adaptation required and the greater the cost). The Paris Agreement is the first agreement of its kind to put the need for adaptation on an equal footing with the need for mitigation. This is a remarkable achievement given that an adaptation goal was unthinkable even 2 years before COP21.

Article 8 – Loss and damage

Loss and damage refers to the permanent loss and residual damage that remains after mitigation and adaptation efforts. In the Paris Agreement loss and damage has its own Article which makes permanent the Warsaw International Mechanism for Loss and Damage (established as an interim body at COP19 in Warsaw in 2013). This Article is regarded as an important political statement, putting loss and damage on a par with mitigation and adaptation, and is regarded as a victory for small

island countries and other countries highly vulnerable to climate impacts. Nevertheless, at the insistence of developed countries (led by the USA), the accompanying Paris Decision specifies that the loss and damage provision 'does not involve or provide a basis for any liability or compensation'⁷ as these countries wanted to remove the possibility of climate reparation claims arising from their responsibility for most of the GHGs currently in the atmosphere.

Article 9 – Finance

Finance is always a contentious issue and COP21 was no exception. In Paris, poorer developing countries worked to ensure that financial support for their actions would be increased, while developed countries lobbied for wealthier developing countries to contribute as well. Both succeeded to some extent, given that Article 9 places a legal obligation on developed countries to continue to provide climate finance for mitigation and adaptation to developing countries ('in continuation of their existing obligations under the Convention'⁷) and encourages other countries, for the first time, to provide support voluntarily. Many of the financial details were, however, moved to the decision text including the provision that, prior to 2025, countries should agree a 'new collective quantified goal'⁷ from the floor of USD100 billion per year, which is the current aspiration.

Article 13 – Transparency

The Paris Agreement rests heavily on transparency as a means of holding countries accountable. Article 13 commits all countries to report regularly on their emissions and 'progress made in implementing and achieving'⁷ their NDCs, and to undergo international technical expert review. This review process is intended to be 'facilitative, non-intrusive, non-punitive'⁷. The rules on transparency were a priority for the USA and EU, who wanted to ensure that China was equally scrutinised in terms of its emission reduction efforts.

Article 14 – Global stocktake

An assessment undertaken of the national climate plans of 146 countries as of 1 October 2015⁸ showed that the intended nationally determined contributions (INDCs) submitted at that point could limit global temperature increase to approximately 2.7 °C by 2100. Because the current commitments by countries are not sufficient to reach the 2 °C temperature goal, a two-stage process to increase ambition over time was agreed to. The first stage will involve a facilitative dialogue held in 2018 to take stock of the collective efforts of countries which should help update and enhance individual country plans. This process will then be repeated every 5 years, with the first post-2020 stocktake occurring in 2023.⁷

The importance of non-party stakeholders

The goals outlined in the Paris Agreement are substantially more ambitious than many believed possible prior to COP21, but such ambitions cannot be realised by national governments alone. Recognising this, the Paris Decision welcomes the efforts of all non-party stakeholders in addressing and responding to climate change, including those of civil society, the private sector, financial institutions, cities and other sub-national authorities.⁷ Non-party stakeholders are also invited to scale up their efforts and support actions to reduce emissions and/or to build resilience and decrease vulnerability to the adverse effects of climate change and to showcase these efforts via the Non-State Actor Zone for Climate Action (NAZCA). A large number of commitments was made to reduce emissions and increase adaptive capacity prior to and during COP21 by countries, regions, cities, investors and companies, often along with governments, under the umbrella of the Lima Paris Action Agenda (LPAA). The LPAA is an initiative led by France, Peru, the UN Secretary-General and secretariat of the UNFCCC, and its objective is to showcase such commitments and partnerships. A good example is 'Mission Innovation'. This is an initiative of 20 countries to accelerate global clean energy innovation, including doubling their current research and development investments in the sector and is coupled with a private sector effort called the 'Breakthrough Energy Coalition', in which 28 billionaire investors from 10 countries, led by Bill Gates, will invest private capital in clean energy.

The role of cities and local government

Acknowledging the important role of cities and local governments in tackling climate change, Anne Hidalgo, Mayor of the City of Paris, and Michael R. Bloomberg, the UN Secretary-General's Special Envoy for Cities and Climate Change – in partnership with the major global cities and local government networks – co-hosted the 'Climate Summit for Local Leaders' on 4 December during COP21. Attended by 1000 city and regional officials, the summit was the largest ever global convening of mayors, governors and local leaders on climate change and culminated in the *Paris City Hall Declaration*⁹. This declaration pledges local and regional leaders' support for 100% renewable energy and 80% reduction in emissions by 2050 and for the production and implementation of participatory resilience strategies and action plans to adapt to climate change hazards by 2020. It also commits these leaders to reduce urban GHG emissions by up to 3.7 Gt per annum by 2030 – the equivalent of up to 30% of the difference between current national commitments and the 2 °C emissions reduction pathway. This commitment is in line with recent research¹⁰ which shows that urban policy decisions made by 2020 could determine up to a third of the remaining global carbon budget that is not already 'locked in' by past decisions.

So how good are the Paris outcomes?

As many negotiators pointed out during the COP21 closing plenary, the Paris Agreement is a compromise document and as such 'is good, but not perfect'. Despite its imperfections, it is clear that the Paris Agreement will shape climate action for decades to come. It has broken new ground and placed adaptation, resilience and response to climate impacts at the heart of the new regime. At the same time, the unexpectedly ambitious goals, universal nature and the near-universal coverage of NDCs, the 5-year review cycles and the transparency framework, provide much-needed signals to global markets to redirect investments to low-carbon and climate-resilient development. As noted by May Boeve, Executive Director 350.org: 'There is no way to meet the targets laid out in this agreement without keeping coal, oil and gas in the ground. The text should send a clear signal to fossil fuel investors: divest now.'¹¹ Future investment will therefore need to be compatible with a zero carbon world, marking the end of the era of fossil fuels. The need to achieve a fossil-fuel free future means that governments and investors will have to manage an orderly transition away from a fossil fuel dominated economy in a way that avoids stranded assets and negative impacts on workers. This transition will need to be a rapid one as new research suggests that if the 2 °C target is to be met, no new GHG emitting infrastructure can be built after 2017 unless other electricity infrastructure is retired early or retrofitted with carbon capture technologies.¹² The implications for South Africa are obvious and serious. It is clear that we need to start re-imagining our future in the post-Paris world – business-as-usual will no longer do.

Where to from here?

The Paris Agreement is a remarkable, but still fragile, agreement and its success will depend on the extent to which countries carry the spirit of Le Bourget forward. The agreement will enter into force once 55 countries accounting for at least 55% of global emissions have acceded to it. Countries will need to sign the Paris Agreement in New York between 22 April 2016 and 21 April 2017, and also adopt it within their own legal systems (through ratification, acceptance, approval or

accession). On 22 April 2016, 175 parties signed the Paris Agreement at the UN Headquarters in New York – a record for first-day signatures to an international agreement. It is critical that all countries continue to act quickly as time is rapidly running out – on 9 April 2016, the Mauna Loa Observatory recorded the highest ever daily average measurement of CO₂: 409.44 ppm.¹³

References

1. World Economic Forum. The global risks report 2016. 11th ed. Geneva: World Economic Forum; 2016.
2. Levin K, Cashore B, Bernstein S, Auld G. Overcoming the tragedy of super wicked problems: Constraining our future selves to ameliorate global climate change. *Policy Sci.* 2012;45:123–152. <http://dx.doi.org/10.1007/s11077-012-9151-0>
3. United Nations. United Nations framework convention on climate change [document on the Internet]. c1992 [cited 2016 Apr 16]. Available from: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf
4. United Nations Framework Convention on Climate Change. Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011 [document on the Internet]. c2011 [cited 2016 Apr 16]. Available from: <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>
5. United Nations Framework Convention on Climate Change. Statement by H.E. President Jacob Zuma to the opening session of the Paris Climate Change Conference, 30 November 2015, Paris [document on the Internet]. c2015 [cited 2016 Apr 16]. Available from: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/cop21cmp11_leaders_event_south_africa.pdf
6. Hansen J, Sato M, Kharecha P, Beerling D, Berner R, Masson-Delmotte V, et al. Target atmospheric CO₂: Where should humanity aim? *Open Atmos Sci J.* 2008;2:217–231. <http://dx.doi.org/10.2174/1874282300802010217>
7. United Nations Framework Convention on Climate Change. Paris Agreement [document on the Internet]. c2015 [cited 2016 Apr 16]. Available from: http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
8. United Nations Framework Convention on Climate Change. Synthesis report on the aggregate effect of the intended nationally determined contributions [document on the Internet]. c2015 [cited 2016 Apr 16]. Available from: <http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>
9. United Cities and Local Governments. Paris City Hall Declaration. A decisive contribution to COP21 [document on the Internet]. c2015 [cited 2016 Apr 16]. Available from: http://www.uclg.org/sites/default/files/climate_summit_final_declaration.pdf
10. Erickson P, Tempest K. Keeping cities green: Avoiding carbon lock-in due to urban development. SEI Working Paper No. 2015-11. Seattle, WA: Stockholm Environment Institute; 2015.
11. 350.org. 350.org & Bill McKibben react to COP21 climate text [homepage on the Internet]. c2015 [cited 2016 Apr 16]. Available from: <https://350.org/press-release/cop21-reaction/>
12. Pfeiffer A, Millar R, Hepburn C, Beinhocker E. The '2°C capital stock' for electricity generation: Committed cumulative carbon emissions from the electricity generation sector and the transition to a green economy. *Appl Energy.* In press 2016. <http://dx.doi.org/10.1016/j.apenergy.2016.02.093>
13. CO₂Earth. Daily CO₂ [database on the Internet]. No date [cited 2016 Apr 16]. Available from: <https://www.co2.earth/daily-co2>

