Inputs by Ethiopia on behalf of the Least Developed Countries Group to the Talanoa Dialogue

April 2018

The LDC Group welcomes the opportunity to provide this input to the Talanoa Dialogue on the three topics of "Where are we?", "Where do we want to go?" and "How do we get there?"

Where are we?

At current warming of about 1°C[i], the impacts of climate change on the most vulnerable countries are already severe and widespread. 2017 has seen yet another record in extreme weather damages[ii] raising very serious concerns about the ability of low-income countries to cope[iii]. Extreme weather has displaced more than 200 million people since 2008[iv], and hundreds of millions of people are suffering from the health impacts of climate change[v]. The economic impacts of climate change on the most vulnerable are a key risk to sustainable development[vi] and will, if unaddressed, undermine any prospects of long-term prosperity for the most vulnerable countries[vii]. Climate change is a grim reality today.

The International Energy Agency (IEA) has reported that, while global energy-related CO_2 emissions were flat over 2014-2016, the rise has resumed in 2017, which saw an increase in global energy-related CO_2 emissions of 1.4% over the previous year[viii]. This shows that current efforts to reduce emissions are insufficient to halt growth and peak emissions, let alone to achieve the rapid decline and global zero emissions in the 2nd half of the 21st century specified in Article 4 of the Paris Agreement.

The UNFCCC Synthesis Report[ix] of 2 May 2016 found a large gap for 2025 and 2030 between aggregate effects of NDCs, and pathways to achieve the 1.5°C limit (see Synthesis report, reproduced in Figure 1 below). This gap was again confirmed in 2017, with up-to-date country data and statistics by UNEP in its 2017 Emissions Gap report[x], and estimated for 2025 at 8 GtCO2e for the conditional NDCs, and 9 GtCO2e for the unconditional NDCs. The gap for 2030 is estimated at 16 GtCO2e for the conditional NDCs, and 19 GtCO2e for the unconditional NDCs. Adding to our concern is that estimates of global emissions levels in both the UNFCCC Synthesis Report and UNEP Emissions Gap report for 2030 show an increase over 2025, which already shows an increase over 2020, even when the effect of NDCs are accounted for, instead of the rapid decline in global emissions required.

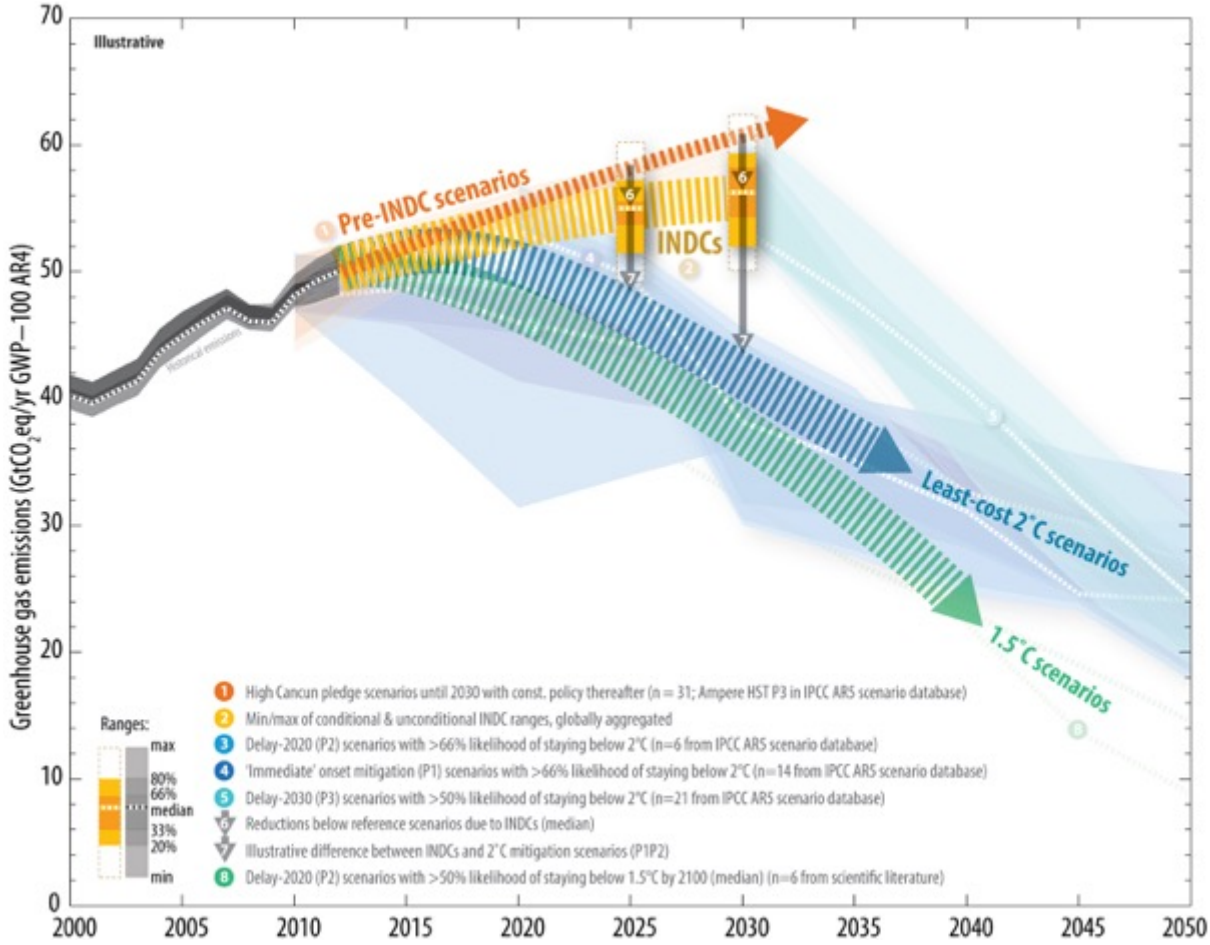

Figure 1. Comparison of global emission levels in 2025 and 2030 resulting from the implementation of the intended nationally determined contributions and under other scenarios. Source: reproduced from UNFCCC (2016)[xi].

Where do we want to be?

Limiting warming to not more than the Paris Agreement's temperature goal of 1.5°C is key to avoid the most dangerous impacts of climate change. Tropical regions and the most vulnerable countries will bear the brunt of differences in impacts between 1.5°C and 2°C[xii]. According to a recent assessment by the World Bank, climate inaction could result in 86 million people having to migrate as a result of climate change in Sub-Sahara Africa alone, and a further 40 million in South Asia, by 2050[xiii]. This underscores once again that we will not achieve sustainable development if we surpass the Paris Agreement temperature goal.

As mentioned above, current NDCs are grossly insufficient to achieve the emission reductions required. However, we note that the numerical estimates by UNEP for a 2°C gap in its 2017 Emissions Gap report cannot be used as guidance for the Paris Agreement and Talanoa Dialogue to inform the question "Where do we want to be". UNEP continues to rely on the same class of "2°C pathways" as in its annual reports during the years 2010-2015. Those 2°C pathways and associated gap estimates were, however, a key input into the negotiations leading up to the Cancun Agreements and its "below 2°C" target. This means these 2°C pathways are not relevant for the Paris Agreement, which, with its long-term temperature goal of limiting warming to 1.5°C above pre-industrial levels, goes substantially

beyond the Cancun Agreements. The same applies to the UNFCCC Synthesis Report, which used the same 2°C pathways. The gap estimates for the 1.5°C limit are therefore the only piece of information from UNEP Emissions Gap reports and the UNFCCC Synthesis report that are relevant for the Talanoa Dialogue.

In order to limit warming to 1.5°C, the 2025 and 2030 emissions gaps need to be closed[xiv]. Therefore, a collective increase in ambition is required to achieve the goals of the Paris Agreement.

UNEP, in its 2017 Emissions Gap report found that "Avoiding building new coal-fired power plants and phasing out existing ones is crucial to closing the emissions gap." The latest work on energy-economic pathways by the science community feeding into the IPCC Special Report on 1.5°C has outlined the characteristics of pathways towards achieving the 1.5°C limit[xv], and adds many 1.5°C pathways and socio-economic variants that were not available in the scientific literature, until now. This work confirms that:

- A rapid shift away from traditional fossil-fuel use is needed towards large-scale low-carbon energy supplies, reduced energy use, and carbon-dioxide removal
- The power sector is the first that urgently needs to be decarbonized completely
- Additional mitigation efforts in the industry, buildings, and transport sectors result in significantly lower emissions over the coming decades and by mid-century
- Energy efficiency improvements are a crucial enabling factor for 1.5°C
- A global phase-out of unabated coal must happen by 2050
- Total global CO_2 emissions must be zero by 2055
- Total global greenhouse-gas emissions must be zero by 2065.

Other very recent work published in the scientific literature adds further to the urgency by noting that every five years of delay in achieving global emissions to peak will lead to additional long-term sea level rise of about 20cm, as much as we have experienced since the 19th century[xvi].

Given this urgency, strong near-term action is required to trigger the long-term transformation needed for the world to jointly achieve the Paris Agreement long-term temperature goal. The Climate Action Tracker climate-science consortium produced an overview[xvii] of near-term mitigation priorities, reproduced below, and further includes urgent action in the agriculture, land use and forestry, and international transport sectors.

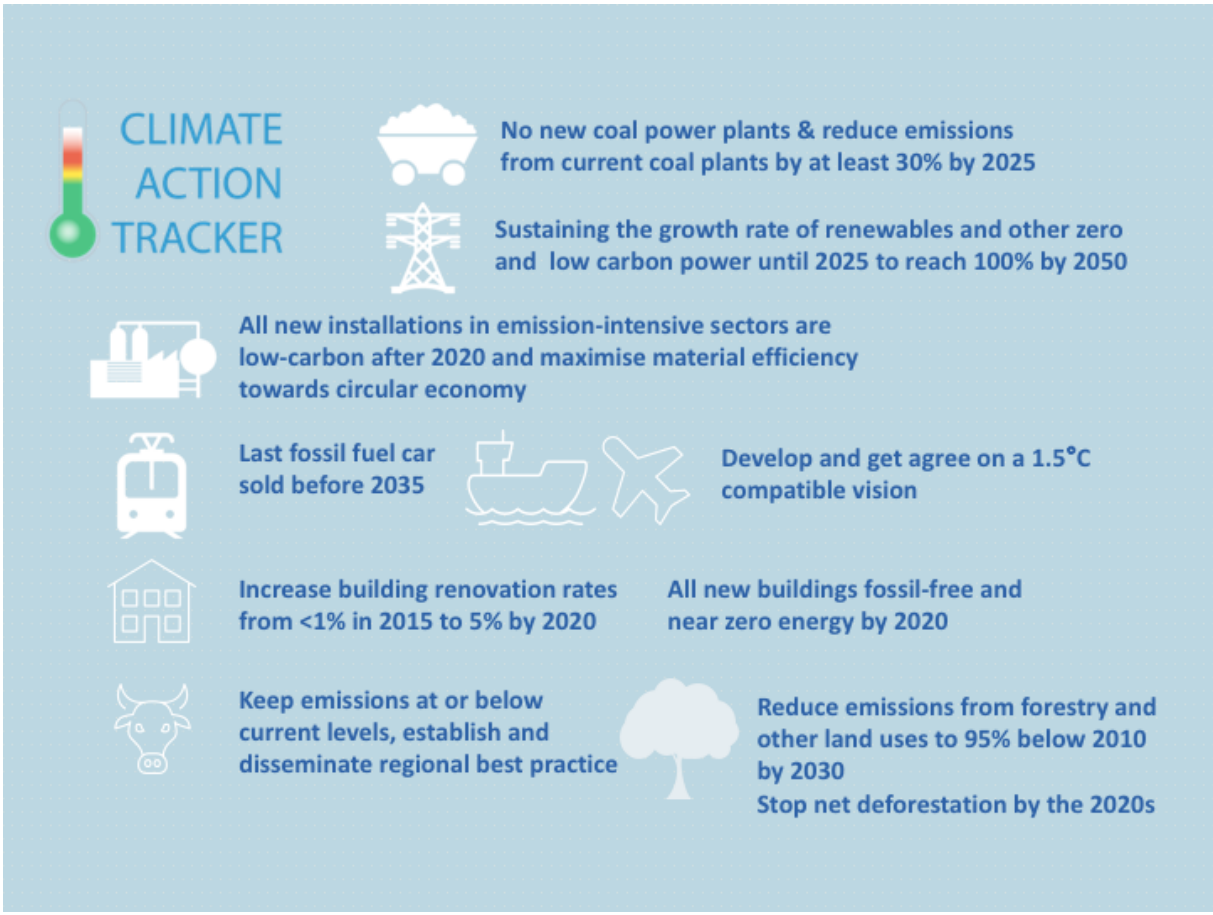

Figure 2. Ten near-term priority areas to achieve 1.5°C. Source: Summarized from Kuramochi et al (2017)

How do we get there?

We have the technological and financial instruments at hand to achieve the collective increase in ambition required. The cost of renewable energy is falling steadily, which is resulting in increasing deployment levels and accelerated technological progress. According to the International Renewable Energy Agency, IRENA, solar PV module prices have fallen by around 80% since the end of 2009, while wind turbine prices have fallen by 30–40%. Furthermore, electricity storage costs are expected to come down by more than 50% over the next decade[xviii].

This rapid change in only a few years fundamentally alters the energy-cost landscape compared to 2014/2015, when most NDCs were developed. In fact, updated simulations of energy economic models used in the IPCC Fifth's Assessment Report indicate that these more recent numbers would double the cost-effective deployment of solar PV by 2050[xix]. There is a clear need for Parties to revisit their NDCs in light of these rapid developments.

The substantial co-benefits of mitigation actions must not be underestimated. A recent study in the Lancet found that in many countries the co-benefits of mitigation for health could more than offset the costs of reducing emissions[xx]. This is one example of how more ambitious climate change mitigation actions have synergies with the sustainable development goals.

The science is clear: limiting warming to 1.5°C is an imperative today more than ever. At the same time, the rapid evolution of renewable technologies is an ambition enabler that allows for much more cost-effective action in the near term, and the co-benefits of rapid action could be substantial.

The need for mobilization of public finance to support the implementation of conditional targets put forwarded by developing countries, particularly LDCs in their NDCs, is important. Likewise, financial and technical assistance is required to deploy renewable energy in LDCs.

While these actions are essential to address 'how do we get there' in terms of temperature target, it is also essential to urgently address adaptation and loss and damage needs through adequate and sustainable financial, technology development and transfer and capacity building support. Otherwise, failure to cut emissions will dramatically increase climate change-related impacts and the costs of adaptation and loss and damage, disproportionately impacting the LDCs that have contributed little to the emissions.

The Talanoa Dialogue needs to deliver the scientific evidence and political momentum that sends a strong signal to Parties of the need to communicate more ambitious NDCs by 2020 that are aligned with the 1.5°C goal in the Paris Agreement.

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[i] Haustein K, Allen MR, Forster PM, Otto FEL, Mitchell DM, et al. 2017. A real-time Global Warming Index. *Sci. Rep.* 7(1):1–6

[ii] Munich Re, NatCatService 2017,

[iii] IMF, 2017. The effects of weather shocks on economic activity: how can low-income countries cope? In World Economic Outlook, 2017

[iv] IDMC Grid 2017

[v] Watts, Nick, Markus Amann, Sonja Ayeb-Karlsson, Kristine Belesova, Timothy Bouley, Maxwell Boykoff, Peter Byass, et al. 2018. "The Lancet Countdown on Health and Climate Change: From 25 Years of Inaction to a Global Transformation for Public Health." The Lancet 391 (10120). Elsevier: 581–630. doi:10.1016/S0140-6736(17)32464-9.

[vi] Hallegatte S, Bangalore M, Bonzanigo L, Fay M, Kane T, et al. 2015. *Shock Waves: Managing the impacts of climate change on Poverty*. Washington D.C.: World Bank Publications

[vii] Burke M, Hsiang SM, Miguel E. 2015. Global non-linear effect of temperature on economic production. *Nature*. 527:235–239

[viii] IEA 2018. *Global Energy & CO2 Status Report 2017*. Available at: https://www.iea.org/publications/freepublications/publication/GECO2017.pdf.

[ix] UNFCCC /CP/2016/2 *Aggregate effect of the intended nationally determined contributions: an update Synthesis report by the secretariat*. http://unfccc.int/resource/docs/2016/cop22/eng/02.pdf, accessed March 30 2018

[x] United Nations Environment Programme (UNEP). 2017. *The Emissions Gap Report 2017: A UN Environment Synthesis Report*.

[xi] UNFCCC /CP/2016/2 *Aggregate effect of the intended nationally determined contributions: an update Synthesis report by the secretariat*. http://unfccc.int/resource/docs/2016/cop22/eng/02.pdf, accessed March 30 2018

[xii] Schleussner C-F, Rogelj J, Schaeffer M, Lissner T, Licker R, et al. 2016. Science and policy characteristics of the Paris Agreement temperature goal. *Nat. Clim. Chang.* 6:827–835

[xiii] World Bank, 2018: Groundswell: Preparing for Internal Climate Migration

[xiv] United Nations Environment Programme (UNEP). 2017. *The Emissions Gap Report 2017: A UN Environment Synthesis Report*.

[xv] Rogelj J, Popp A, Calvin K V., Luderer G, Emmerling J, et al. 2018. Scenarios towards limiting global mean temperature increase below 1.5 °C. Nat. Clim. Chang., p. 1

[xvi] Mengel M, Nauels A, Rogelj J, Schleussner C-F. 2018. Committed sea-level rise under the Paris Agreement and the legacy of delayed mitigation action. *Nat. Commun.* 9(1):601

[xvii] Kuramochi, T., Höhne, N., Schaeffer, M., Cantzler, J., Hare, B., Deng, Y., Sterl, S., Hagemann, M., Rocha, M., Yanguas-Parra, P.A., Mir, G., Wong, L., El-Laboudy, T., Wouters, K., Deryng, D., Blok, K. 2018 *Ten key short-term sectoral benchmarks to limit warming to 1.5°C*, Climate Policy, DOI: 10.1080/14693062.2017.1397495

[xviii] IRENA. 2017. Electricity storage and renewables: Costs and markets to 2030

xix Creutzig F, Agoston P, Goldschmidt JC, Luderer G, Nemet G, Pietzcker RC. 2017. The underestimated potential of solar energy to mitigate climate change. Nat. Energy. 2(9):17140

[xx] Markandya, Anil, Jon Sampedro, Steven J Smith, Rita Van Dingenen, Cristina Pizarro-Irizar, Iñaki Arto, and Mikel González-Eguino. 2018. "Health Co-Benefits from Air Pollution and Mitigation Costs of the Paris Agreement: A Modelling Study." The Lancet Planetary Health 2 (3). The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license: e126–33. doi:10.1016/S2542-5196(18)30029-9.