February 2015

For the most vulnerable Parties to be treated with climate justice and now for our common survival, we respectfully request the following be put on the ADP agenda, and considered by the UNFCCC expert team for the 1.5°C limit instead of 2.0°C:

- Zero carbon emissions target by 2050
- The UNFCCC two-thirds majority vote
- Below 1.5°C warming target
- IPCC AR5 best-case emissions scenario (RCP2.6)

Achieving zero carbon emissions
The most important number is zero and must be made clear in any agreement. According to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) (2007), confirmed by the 2014 Fifth Assessment Report (AR5) Summary for Policymakers (SPM) of Working Group 3 (WG3), only zero carbon emissions can allow the global temperature and ocean acidification to stabilize – at all. "In fact, only in the case of essentially complete elimination of emissions can the atmospheric concentration of CO2 ultimately be stabilized at a constant level" (IPCC AR4 WG1 Chapter 10; AR5 WG3, Table SMP.1).

The UNFCCC two-thirds majority vote
For the most vulnerable nations and now for the common survival of all people in all nations, we need to stabilize warming at below 1.5°C. This is essential for food security in the short term and to avoid huge amplifying feedbacks with global ecosystem collapse (land and ocean) in the longer term. But the history of international climate change negotiations shows that we cannot make progress towards climate stabilization with a unanimous consensus voting system. However, for decisions made under the United Nations Framework Convention on Climate Change (UNFCCC) at the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) meetings and at the 2015 Paris Conference of the Parties (COP21), if there is not unanimous agreement, the two-thirds majority vote should be applied, with the votes recorded and published for the accountability of Parties. The only specific UNFCCC rule for voting is the two-thirds rule if unanimous agreement on substantial matters in the draft Rules of Procedures and consensus has not been otherwise defined.

Below 1.5°C – the imperative for our common survival
The position of global civil society is to limit warming to under 1.5°C, which is recognized to still be disastrous (Climate Action Network (CAN) International position, 2014). On behalf of the Most Vulnerable Parties (MVP) who have complained that they cannot survive a warming over 1.5°C, the 1.5°C option (Cancun Agreement 2010) is being considered right now by an expert team under the UNFCCC. Since the Cancun COP16, new evidence proves the 1.5°C position. Crop yield declines are projected for all crops of all the most vulnerable regions at 1.0°C (global warming from 1850) (IPCC AR5 WG2 Chapter 7). To give MVPs a fair voice (in keeping global warming below 1.5°C), the two-thirds majority of the Convention has to be the rule.

New evidence since 2010 (IPCC AR5 WG2 Chapter 7) shows we all need the under-1.5°C option for survival. All crops in all regions are projected to decline above 1.5°C, and so it is in the best interests of all Parties to agree with the under-1.5°C option.

The IPCC AR5 WG2 SPM found serious risks of tipping points associated with 0-1°C additional warming (i.e., from today, up to a 1.6°C warming from 1850), "due to early warning signs that both warm-water coral reef and Arctic ecosystems are already experiencing irreversible regime shifts."
Even so, unanimity on 1.5°C is not expected because of the intransigency of the US government and Middle East oil-producing Parties.

"Runaway"
So-called "runaway" global climate change has long been feared as the greatest danger from global warming. It is due to many enormous sources of amplifying feedback – mostly Arctic. All sources of Arctic amplifying feedback are now operant, with thawing permafrost emitting methane, carbon dioxide, and nitrous oxide.

To avoid catastrophic irreversible self reinforcing amplifying multi-feedback "runaway" climate change, we certainly must stabilize at below 1.5°C. Tipping points at 1.6°C, large-scale irreversible changes, and the enormous planetary carbon feedback sources that would "affect climate" are recognized by the IPCC AR5 (Synthesis Report SPM 2).

"Examples that could lead to substantial impact on climate are the boreal-tundra Arctic system and the Amazon forest. Carbon stored in the terrestrial biosphere (e.g., in peatlands, permafrost, and forests) is susceptible to loss to the atmosphere as a result of climate change, deforestation, and ecosystem degradation (high confidence). Increased tree mortality and associated forest dieback is projected to occur in many regions over the 21st century, due to increased temperatures and drought. Forest dieback poses risks for carbon storage" (IPCC AR5 SYN SPM; see also IPCC AR5 WG1 FAQ 6.1).

"Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems" (IPCC AR5 SYN SPM).

Siberian permafrost has a thaw-down irreversible tipping point for carbon emissions of 1.5°C. "Global climates only slightly warmer than today are sufficient to thaw significant regions of permafrost" (A. Vaks 2013).

The IPCC AR5 recognizes that Arctic subsea floor methane hydrate will release methane under ocean warming. This will increase acidification and de-oxygenation of affected oceans and vent methane and CO2 to the air above. The effect, if triggered, will continue for thousands of years (IPCC AR5 WG1 FAQ 6.1).

To avoid collapse of ocean ecosystems, we must stabilize at below 1.5°C and below 350-400 ppm atmospheric CO2. "The current rate of ocean acidification is unprecedented within the last 65 million years if not the last 300 million years" (IPCC AR5 WG Chapter 30 Executive Summary). "Ocean acidification poses substantial risks to marine ecosystems, especially polar ecosystems and coral reefs" and "simultaneous drivers, such as warming and ocean acidification, lead to interactive, complex, and amplified impacts for species and ecosystems" (IPCC AR5 WG2; J. Veron 2009 The coral reef crisis: the critical importance of<350 ppm CO2).

In 2011, James Hansen and 16 other international leading experts in multidisciplinary climate change related fields, found (correctly from the IPCC AR4 and subsequent evidence) that the danger limit is 1.0°C.

The following graphic includes the great deal of overwhelming evidence showing that 1.0°C is the danger limit, 1.5°C is disastrous and 2.0°C is catastrophic.
We request that the UNFCCC ADP record the specific IPCC AR5 evidence of disastrous impacts to billions of people and all future generations at a warming of 1.5°C and to planetary ecosystems.

**IPCC AR5 best-case emissions scenario (RCP2.6)**

The best-case IPCC AR5 emissions scenario is called RCP2.6. It is the only scenario that is not above 2.0°C by 2100 and does not keep increasing further after 2100. We believe that because all governments have approved every line in the AR5 SPM reports, all Parties are obligated to agree to and implement RCP2.6.

To support the extreme urgency of acting to limit warming to under 1.5°C (or even 2.0°C for that matter), we request that at the ADP, the IPCC best-case emissions scenario – IPCC AR5 RCP2.6 – be put on the agenda and referenced from AR5 WG3 SPM Figure SPM4 and Table SPM1; and AR5 WG1 Fig. TS13.

AR5 RCP2.6 calls for emissions to decline from 2020 (at the latest) and for zero carbon emissions to be reached before 2100.
We respectfully ask, in accord with the science and the most basic of human rights, that **the ADP record and formally reference the IPCC AR5 best-case emissions scenario (RCP2.6)** from the IPCC AR5 (2015) Working Group 1 Summary for Policymakers (SPM).

If emissions do not decline by 2020, it will not be technically feasible to avoid condemning the future to an over-2°C unlivable planet; that is, because of amplifying feedbacks at 2°C (documented in the IPCC AR5), a committed increase of 4.0°C by 2100.

Only RCP2.6 provides for intra- and inter-generational justice.

We also ask that any weak replacement for the Kyoto Protocol that is not binding and does not fully implement the UNFCCC by rapidly reversing emissions not be permitted to supercede or compromise the UNFCCC.

Respectfully yours,

Dr. Peter Carter  
Environmental Health Protection Policy Director  
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**Important Evidence from IPCC AR5 (2014) Referenced Quotes**

**1. References for impacts affecting billions of the most vulnerable**

**Food security and food production systems**

"Impacts from recent climate-related extremes, such as heat waves, droughts, floods, cyclones, and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability (very high confidence)." (AR5 WG2 SPM p. 6)

"Climate trends are affecting the abundance and distribution of harvested aquatic species, both freshwater and marine, and aquaculture production systems in different parts of the world. These are expected to continue with negative impacts on nutrition and food security for especially vulnerable people, particularly in some tropical developing countries." (AR5 WG2 Chapter 7 Executive Summary)

"Regional chapters show crop production to be consistently and negatively affected by climate change in the future in low latitude countries." (AR5 WG2 Chapter 7 Executive Summary)

"Major future rural impacts are expected in the near term and beyond through impacts on water availability and supply, food security and agricultural incomes." (AR5 WG2 SPM p. 19)

"Throughout the 21st century, climate-change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security, and prolong existing and create new poverty traps…. Climate-change impacts are expected to exacerbate poverty in most developing countries and create new poverty pockets in countries with increasing inequality, in both developed and developing countries. In urban and rural areas, wage-labor-dependent poor households that are net buyers of food are expected to be particularly affected..."
due to food price increases, including in regions with high food insecurity and high inequality (particularly in Africa)." (AR5 WG2 SPM p. 20)

"Without [successful] adaptation, local temperature increases in excess of about 1°C above pre-industrial is projected to have negative effects on yields for the major crops (wheat, rice and maize) in both tropical and temperate regions." (AR5 WG2 Chapter 7 Executive Summary) [Comment: Note that food production uncertainties and declines in the Northern Hemisphere temperate regions will drive up world food prices to unaffordable levels for billions.]

**Unique and threatened systems**

"Some unique and threatened systems, including ecosystems and cultures [emphasis added], are already at risk from climate change (high confidence). The number of such systems at risk of severe consequences is higher with additional warming of around 1°C." [i.e., 1.6°C from 1850] (AR5 WG2 Chapter 7)

**Huge losses of ecosystems, wildlife populations and species impact indigenous populations and other populations relying on natural ecosystem services for sustenance**

"A large fraction of both terrestrial and freshwater species faces increased extinction risk under projected climate change during and beyond the 21st century, especially as climate change interacts with other stressors, such as habitat modification, over-exploitation, pollution, and invasive species (high confidence). Extinction risk is increased under all RCP scenarios [Comment: all except RCP2.6], with risk increasing with both magnitude and rate of climate change. Many species will be unable to track suitable climates under mid- and high-range rates of climate change during the 21st century. Lower rates of change [i.e., RCP2.6] will pose fewer problems." (AR5 WG2 SPM B2)

**Large-scale singular events**

"With increasing warming, some physical systems or ecosystems may be at risk of abrupt and irreversible changes. Risks associated with such tipping points become moderate between 0–1°C additional warming, due to early warning signs that both warm-water coral reef and Arctic ecosystems are already experiencing irreversible regime shifts." (AR5 SPM Assessment Box SPM1)

**Ocean acidification (on top of ocean warming and de-oxygenation) will impact the main food protein source for a billion people**

"Earth System Models project a global increase in ocean acidification for all RCP scenarios by the end of the 21st century, with a slow recovery after mid-century under RCP2.6." (AR5 SYN SPM 2.2)

**Because many large sources of amplifying feedback extra warming are not accounted for in the IPCC AR5 warming or impact projections, warming and impacts will be worse, earlier**

"Within this century, magnitudes and rates of climate change associated with medium- to high-emission scenarios [Comment: all except RCP2.6] pose high risk of abrupt and irreversible regional-scale change in the composition, structure, and function of terrestrial and ecosystems. Examples that could lead to substantial impact on climate are the boreal-tundra Arctic system and the Amazon forest. Carbon stored in the terrestrial biosphere (e.g., in peatlands, permafrost, and forests) is susceptible to loss to the atmosphere as a result of climate change [Comment: i.e., amplifying feedback], deforestation, and ecosystem degradation (high confidence). Increased tree mortality and associated forest dieback is projected to occur in many regions over the 21st century, due to increased temperatures and drought. Forest dieback poses risks for carbon storage" [Comment: i.e., carbon feedback]. (AR5 WG2 SPM B2)
"The overall risks of climate change impacts can be reduced by limiting the rate and magnitude of climate change. Risks are reduced substantially under the assessed scenario with the lowest temperature projections (RCP2.6 – low emissions)." (AR5 WG2 SPM B1)

2. References for best-case AR5 emissions scenario RCP2.6

"The RCPs include a stringent mitigation scenario RCP2.6." (AR5 SYN SPM 2.1)

"RCP2.6 is representative of a scenario that aims to keep global warming likely below 2°C above pre-industrial temperature." (AR5 SYN SPM 2.1)

"The increase of global mean surface temperature by the end of the 21st century (2081-2100) relative to 1986-2005 is likely to be 0.3°C-1.7°C under RCP2.6" [Comment: which is 0.9°C-2.3°C or mean 1.6°C from 1850]. (AR5 SYN SPM 2.2)

"Warming will continue beyond 2100 under all RCP scenarios except RCP2.6." (AR5 SYN SPM 2.4)