October 19, 2021

Why Nature? Why Now?
How Nature is Key to Achieving a 1.5C Degree World

Key Messages

Natural Climate Solutions, and why they are critical in addressing climate change

- **Without nature, there is no pathway** to reaching net zero CO_2 emissions by 2050 – i.e., remaining within the safer upper limit of 1.5℃ of global warming.

- **We need to urgently and simultaneously** pull two levers to address climate change: reduce global greenhouse gas emissions and increase their capture and storage.

- **Through a range of Natural Climate Solutions**, we can address climate change by 1) stopping the release of greenhouse gases that occurs when nature is destroyed or degraded, and 2) protecting and enhancing the capacity of nature to sequester CO_2 today and in the future.
    - **Natural Climate Solutions are** the conservation, restoration, and improved land and ocean management actions to increase carbon storage and avoid greenhouse gas emissions across global marine ecosystems, forests, wetlands, grasslands, and agricultural lands.
    - **The largest climate mitigation potential** within Natural Climate Solutions comes from protecting, restoring, and managing forests and other ecosystems.

- **There are three main natural systems** capable of storing carbon and nitrogen (two of the main greenhouse gases), known as 'stocks' or 'pools'. They include the land ecosystems, the ocean and the Earth's crust.
    - The carbon and nitrogen not stored in these pools reside in the atmosphere as a component of greenhouse gases, which trap the heat from the sun in the atmosphere and cause global warming.
    - When a carbon stock or pool emits more greenhouse gases than it can sequester, it becomes a **carbon source**. On the contrary, if it captures more CO_2 than it emits, it is a **carbon sink**.
    - **Forests are the largest terrestrial carbon sinks**, **and human activities have led to the loss of around 40% of the world's forests.**

- Natural Climate Solutions are often seen as **win-win investments as they also deliver critical outcomes or "co-benefits"** relating to climate adaptation and resilience, biodiversity and sustainable development.

Calls to action and Conclusions

- **Rapid deployment of Natural Climate Solutions at scale is critical for three reasons:**
    1. The risk of seeing ecosystems tip into irreversible states is increasing. Some forest, which used to be carbon sinks (e.g., south-eastern Amazonia), have already become carbon sources.

    2. Natural Climate Solutions are readily available and cost-efficient, which gives them a comparative advantage over other greenhouse gases removal techniques (particularly engineered removal technology).

3. They offer significant co-benefits, linked to climate adaptation, biodiversity, and livelihoods. For example, mangrove forests provide more than $80 billion per year in avoided losses from coastal flooding and directly protect 18 million people in coastal areas. They also contribute $40–50 billion annually through fisheries, forestry, and recreation benefits.

- **Human engineered negative emissions technologies** (i.e., technologies or processes which can remove CO2 or other greenhouse gases from our atmosphere) will undoubtedly complement nature-based removals but **their costs are much higher, their potential for mitigation is highly uncertain, they lack co-benefits** associated with wider Sustainable Development Goals and they have the potential to drive further inequality and wealth concentration.

- **Scientists have established 1.5°C as the safer upper limit** for global warming (compared to pre-industrial times) to avoid the most catastrophic impacts of climate change.
    - If the countries signatory to the Paris Agreement maintain their current 'Nationally Determined Contributions' (NDCs, which embody efforts by each country to reduce national emissions and adapt to the impacts of climate change), then **temperatures will rise by 2.4°C.**

- **We therefore need to significantly raise ambition and speed** on reducing emissions in both the energy sector and the land sector, the two greatest emitting sectors, and simultaneously take immediate action to protect and enhance natural greenhouse gas sinks.

- **All governments and companies should raise their ambitions**. Current commitments by governments and businesses are insufficient, showing a substantial ambition gap.

- **If nothing is done** to protect existing natural carbon sinks, **irreversible ecological tipping points** could cause gigantic quantities of carbon to be released in the atmosphere and make it virtually impossible to maintain temperatures below 1.5°C warming.

- **We are already feeling the impact of climate change** and a 1.5℃ world will entail further damage to human life, wellbeing and livelihoods and to ecosystems and biodiversity.

Numbers to help us understand

- **We currently emit more than can be removed and stored** by Earth's natural systems.
    - Over the period 2010 to 2019, human activity contributed over **50 billion tonnes of CO_2 emissions a year**. After removals through human activities (including regenerative agricultural practices) and through natural terrestrial and ocean sinks, **19 billion tonnes of CO_2 have remained in the atmosphere.**

- **The contribution of the land system to climate change is startling**. The greenhouse gas emissions from agriculture and land use, combined with the removals of anthropogenic GHG emissions by land, account for nearly 50% of anthropogenic greenhouse gases flowing into and out of the atmosphere (46 $GtCO_2e$).

- **Estimates suggest that just 3% of public climate funding** is currently allocated to Natural Climate Solutions despite their central role in the fight against climate change, while between $4-6 trillion of subsidies each year damage nature.

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For media enquiries, please contact:

Sophie Mongalvy
sophie.mongalvy.5@wriconsultant.org
+ 33 6 31 75 86 95

Klara Nilsson
klara.nilsson@wri.org
+ 44 7771 750955