



Climate Land Ambition and Rights Alliance

CLARA input to UNSG High-Level Expert Group on Net-Zero Emissions Commitments

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CLARA members have significant concerns regarding the proliferation of ‘net zero’ claims that have increasingly been made by non-state actors without accompanying concrete plans for the necessary emissions reductions that must be made immediately to keep global temperature rise below 1.5°C. We see instead the continuation of business-as-usual activities that exacerbate the climate crisis. In this context we deeply appreciate the Secretary-General’s call for input into the High-Level Expert Group report, with the intention of bringing greater rigor and realism to ‘net zero’ claims.

CLARA is an international network of 40+ civil society organizations united by a focus on land issues – agroecology, indigenous rights and livelihoods, food security, biodiversity conservation, and ecosystem integrity. We have published on net zero issues at www.clara.earth/netzero.

Addressing the climate crisis and keeping global temperature rise below 1.5°C requires ambitious and immediate action aimed at achieving real zero. We cannot rely on fantasy technologies or the use of land-based offsets. Nor can we assume the ability to recover from any overshoot of the 1.5°C target. CLARA urges a stronger focus on the role of nature and of non-market actions. We agree with the Secretary General that **for ‘net zero’ to have any actual impact and not just be an exercise in greenwashing, there must be clear definitions and principles accompanied by robust frameworks for verification and transparency.** The work on the remaining issues will depend on a **strong, solid, scientifically-based foundation** for climate commitments, in the context of the **1.5°C goal, equity, and a just transition.** Getting the foundational first principles right is critical for the effectiveness of the full range of governance processes around net zero that are under development: from the regulation of corporations by states to the multilateral global stocktake under the UNFCCC. For that reason, our input is focused primarily on the first section of the template for submitting comments.

I. 1.5 °C alignment: Standards and definitions of net zero

The climate crisis is already having adverse impacts on people and ecosystems around the world. ‘Net zero’ commitments cannot and should not be used to continue business-as-usual and to delay the urgent climate action needed to keep global temperature rise below 1.5°C on the promise that emissions will be netted out in the future (for example, by 2050 as many ‘net

zero' pledges claim). As such, 'net zero' must have clear and robust definitions and principles and must be defined in a way that does not rely on overshoot strategies; on unproven or non-permanent removals be they biological or based on fantasy technologies; or on offsets. Only the use of separate targets for land use and other sectors, indicating gross (not net) levels of emissions and removals, will provide a 'true zero' picture of the actual levels of mitigation achieved.

A. No overshooting 1.5°C.

The urgent priority must be drastic cuts in emissions, primarily by halting the expansion of oil, gas, and coal and phasing out existing fossil fuel infrastructure, to avoid temperature overshoot. Many net-zero plans and pledges made by non-state actors rely on overshooting the 1.5°C temperature limit and on returning to 1.5°C towards the end of the century by means of large-scale, unproven Carbon Dioxide Removal (CDR) schemes. But even temporary overshoot of 1.5°C is exceptionally dangerous and would result in adverse impacts irreversible on timescales from centuries to millennia, or in the case of species extinctions, simply irreversible. Returning to 1.5°C after a period of temperature overshoot is by no means assured. The world has already warmed by 1.1°C above pre-industrial levels and this has already led to devastating impacts on ecosystems, as well as damage to the rights and livelihoods of Indigenous Peoples.

The IPCC recently warned that the 1.5°C temperature limit might be breached in the early 2030s (WGI, August 2021), and further warned that exceeding 1.5°C warming will result in severe and irreversible adverse impacts, limiting the capacity for adaptation and severely threatening human rights [WGII SPM.B.6, B.6.1 at SPM-20]. Overshoot also increases the chances of triggering climate “tipping points” and self-reinforcing feedback loops, such as permafrost thawing and forest ecosystem collapse, which would greatly amplify warming and associated adverse impacts [WGII TS.C.13.2 at TS-43; see also WGI SPM C.3.2 at 27], and make “return to a given global warming level or below ... more challenging.”

Even if temperatures could be returned to below 1.5°C following overshoot—and there is no certainty that they can—some impacts and losses to human and natural systems will be permanent. Compared to pathways that never exceed 1.5°C, those that involve even temporary overshoot, in which warming exceeds 1.5°C for several decades and then returns to or below 1.5°C, “imply severe risks and irreversible impacts in many ecosystems (high confidence)” [WGII TS.C.2.5 at TS-26]. Moreover, overshoot thwarts adaptation. The warmer it gets, the harder it becomes to adapt to a warming world. Every fraction of a degree makes matters worse, and adaptation becomes more difficult if temperature rise exceeds 1.5°C.

Avoiding or mitigating irreversible impacts associated with overshoot requires urgent and substantial emissions cuts. “Deep cuts in emissions will be necessary to minimize irreversible loss and damage (high confidence).” Climate change is already significantly impacting human rights, including the rights of Indigenous Peoples, and ecosystems around the world. Exceeding 1.5°C in global temperature rise will only result in more severe and irreversible impacts that will limit the capacity for adaptation and pose even greater threats to human rights. With respect to

the emissions reductions required to stay below 1.5 °C, the IPCC is clear—we must globally reduce emissions into the atmosphere by at least 55% before 2030. Any delay puts 1.5°C further and further out of reach, leading us into the even more dangerous overshoot territory.

B. No fantasy technologies.

Strategies that assume overshoot and presume the ability to return to 1.5°C or below through the use of risky and unproven technologies, like Carbon Dioxide Removal (CDR) and Solar Radiation Modification (SRM), court disaster. Relying on the future deployment of unproven and potentially dangerous approaches like CDR or other geoengineering technologies to achieve net-zero targets is not an option.

All proposed Carbon Dioxide Removal (CDR) technologies aim to manipulate land or marine ecosystems and come with large-scale impacts on ecosystems and communities. In different combinations, CDR technologies require vast amounts of land, energy, biomass, water, fertilizer, minerals and other resources. None have been proven to work at scale, nor have they been shown to permanently remove CO₂ from the atmosphere -- despite the fact that huge scale-up of these technologies is embedded in many non-state actor pledges on net zero.. More likely, reliance on large-scale CDR technologies will lead to the establishment of new transnational polluting industries with vast pipelines and industrial facilities, creating additional emissions rather than removing them while imposing devastating environmental and social impacts.

CDR technologies, and the so-called “negative emissions” they are supposed to achieve, serve to perpetuate the fossil fuel industry, giving polluting industries the perfect excuse to continue business as usual. The fact that CDR is the fossil fuel industry’s new lifeline is evident from the flow of finance into CDR research and development coming from the fossil fuel industry, big tech and other polluting industries. While the need for “negative emissions”, or carbon removal, is often justified by invoking “hard-to-abate” or “residual” emissions that will occur in certain sectors and industries, in reality, vague net-zero plans and pledges open the door to large-scale CDR technofixes, strategies of temperature overshoot, further delay tactics and, ultimately, climate disaster.

The risk of severe unintended consequences of Carbon Dioxide Removal schemes were confirmed by the recent IPCC Working Group II report (February 2022). Proposed methods of carbon dioxide removal such as afforestation or bioenergy with carbon capture and storage (BECCS) could compromise ecosystem health and food and water security, for example. “Deployment of afforestation of naturally unforested land, or poorly implemented bioenergy, with or without carbon capture and storage, can compound climate-related risks to biodiversity, water and food security, and livelihoods, especially if implemented at large scales, especially in regions with insecure land tenure (high confidence).” [WGII SPM B.5.4 at SPM-19] The wide-ranging side effects of CDR on biogeochemical cycles and climate could weaken the biosphere’s carbon sequestration and cooling potential, and “deployment of CDR, particularly on

land, can also affect water quality and quantity, food production and biodiversity (high confidence).” [WGI TS 3.3.2 at TS-65; see also WGI SPM D.1.4 at 29]

The climate effect of carbon dioxide removal at scale remains unknown and is not equivalent to the climate effect of avoiding the same quantity of carbon dioxide emissions. “Limits to our understanding of how the carbon cycle responds to net negative emissions increase the uncertainty about the effectiveness of CDR to decline temperatures after a peak. Limitations on the speed, scale and societal acceptability of CDR deployment also limit the conceivable extent of temperature overshoot.” [SR1.5, Ch. 2, ES, at 34] The unproven nature of the technologies undercuts the rationale for a reliance on CDR to respond to temperature rise.

Noting that CDR may be ineffective in reversing temperature rise following overshoot and that it is unproven at scale, the IPCC SR 1.5 report found that it is risky to rely on such technology to limit warming to 1.5°C, rather than focusing on energy efficiency and strategies for lowering demand of energy-intensive products. [SR 1.5 Ch. 2, ES]. **The key to achieving faster reduction of net CO₂ emissions is pursuing measures that result in less CO₂ being produced and emitted.** [SR 1.5 Ch. 2, ES]

The IPCC is also clear that we cannot rely on removals to keep warming below 1.5°C. Nature-based removals are slow and reversible. Technological removals are non-existent at scale. It is the emission reductions that we will accomplish in the next ten years that will determine whether we will stay below the 1.5°C threshold. To stay below 1.5°C, all actors must move swiftly onto a realistic 1.5°C pathway, one that does not assume fantasy future removals to avoid reducing emissions as quickly as needed.

C. No offsets.

A 1.5°C budget does not have space for offsets. There is a tiny carbon budget left for a reasonable chance to keep warming below 1.5°C—just 420 Gt CO₂, while global annual emissions exceed 40 Gt CO₂ (do the math). And there are 850 Gt CO₂ of emissions embedded just in existing and planned fossil fuel infrastructure. There is no space for continued emissions that are falsely justified simply because a non-state actor bought offset credits. Policy- and decision-makers should focus on immediate, gross CO₂ emissions reductions, and give no further credence to the illusion that much of the share of emission reductions can be postponed, or that removals of CO₂ from the atmosphere can “offset” a large share of present or future emissions. The idea that offsets might be a ‘last resort’ is incomprehensible. A last resort for what?

Offsetting is not a scientifically defensible or viable path to global net zero. The science is indisputable: not only do carbon offsets NOT reduce aggregate levels of greenhouse gasses in the atmosphere, but continuing to carry on emitting and justifying it by claiming offsets elsewhere pushes us ever more quickly past the 1.5°C goal. The UNSG has warned that [“fossil fuel producers and financiers have humanity by the throat”](#). The many ‘net-zero’ pledges that

rely on hoped-for future technologies, or use offsets to postpone real emissions reductions, will ensure that the 1.5°C is breached, by which point it will be too late to make significant course corrections.

There is also too little capacity – less than 500Gt CO₂e – remaining in the planet’s shared carbon sink. Advocates of offsetting through carbon markets believe that emissions trading will result in the most economically efficient use of that dwindling space. But who decides which emissions cannot be abated, so that land must be set aside to absorb the effects of industrial production or air travel? Should the emissions rights of already-established industries, codified under cap-and-trade schemes and “covered” by offset purchases, outweigh the emission rights of rural populations and the developing needs of lower-income countries? Should the purchasing power of emitting non-state actors outweigh the emission and development rights of the poor? There is no version of offsetting that does not worsen climate injustice. Inequity is baked into the offset market, where companies and their consumers of the global North continue to appropriate the lands and ecosystems of the global South for purposes of ‘compensation’ or ‘covering’ their ongoing and future emissions.

The difficult ethical question of who will define what are residual, or hard-to-abate, emissions must be squarely engaged. Some emissions are indeed very difficult to abate. Non-state actors who wish to arrogate to themselves the right to determine what emissions are ‘hard to abate’ are simply cementing the existing inequity in the global system, what many CLARA members and allies call ‘carbon colonialism.’ Whose lands and forests and livelihoods will be bought up for offset project to become ‘credits’ by those claiming that their emissions are ‘hard-to-abate’?

D. The role and limits of nature - no fungibility between biological and fossil carbon

The increasing focus on Nature-based Solutions (NBS) without a definition or any guidance as to priorities or bounds creates a false sense that business-as-usual (BAU) activity can continue, with nature picking up the bill. Any meaningful discussion of Net Zero pledges must acquaint non-state parties with the severe risks and dangers of assuming fossil fuel emissions can simply be offset by increased uptake of CO₂ in land, forests or other ecosystems. Original research by CLARA members indicates clearly that:

- The Mitigation value of forests and other carbon rich ecosystems resides in their ongoing capacity to sequester and store carbon. Carbon stocks matter greatly.
- It is not just the rate at which carbon is input to an ecosystem (e.g. uptake by trees through photosynthesis) that matters, but also the rate of carbon output (respiration) and the carbon residence time.
- It is the size and longevity of the accumulated stock of carbon that matters most for climate mitigation.
- Biodiversity provides natural resilience and adaptive capacity and enables larger and longer-lived ecosystem carbon stocks.

The natural carbon dynamics of all ecosystems – and the factors that affect their stability, resilience and the longevity of carbon storage – need to be recognized, particularly since there is more carbon held in ecosystems than there is in known reserves of fossil fuels. **It is scientifically incorrect to assume that geocarbon and biocarbon can be treated as fungible.**

Failure to understand the functional role of biodiversity has fostered the myth that all carbon is equal and has led to perverse outcomes where high integrity and relatively stable and resilient ecosystems – such as primary forests – are degraded by logging or converted to agricultural tree crops. Current definitions of forest used by agencies like FAO are distinctly unhelpful in this regard – failing to account for the loss of ecosystem integrity and resilience when such conversions take place. The fact that we are facing a biodiversity crisis that is just as destabilizing to future Life on Earth as the climate crisis requires that improved conservation management of all natural ecosystems is at the core of climate action in land, forests and other ecosystems.

Biodiversity plays an essential and functional underpinning every ecosystem service, including relatively stable carbon storage, on which we rely. **This reality must be better reflected in scientific guidance and metrics used to evaluate climate action. Synergistic climate and biodiversity action is essential for limiting warming to 1.5°C degrees, in addition to rapid reductions in burning of fossil fuels.**

Naturally evolved patterns of biodiversity (composition, distribution, structure and abundance) are the most stable and resilient and, within their system limits, have natural resistance to threats that are increasing with climate change, particularly drought and fire. If we maintain and restore biodiversity, we lower the risk of ecosystems releasing carbon to the atmosphere. Conversely monoculture plantings are at high risk of loss and damage and if planted to supply timber or fuel on short cycles, as is usually the case, then such plantations are of negligible climate benefit.

The findings of the IPBES/IPCC workshop held last year should be heeded, namely that the biodiversity and climate crises amplify each other; that neither crisis can be solved unless they are solved together; and that synergistic climate and biodiversity action must be encouraged. The workshop clearly identified a cascading set of priorities for synergistic action, namely improved protection first, followed by restoration of carbon and species rich natural ecosystems, “especially forests, wetlands, peat-lands, grasslands and savannahs; coastal ecosystems such as mangroves, salt marshes, kelp forests and seagrass meadows; as well as deep water and polar blue carbon habitats”.

There is a long tail from CO₂ emissions. These emissions persist in the atmosphere for centuries. The imperative must always be to prevent emissions, wherever possible, from all sectors – including from damage to carbon rich ecosystems which, as IPCC AR6 WG 111 notes, ‘are irrecoverable by 2050’. We must be serious about keeping fossil carbon in the ground, and do everything possible to improve the integrity, stability and resilience of ecosystems to facilitate expanded carbon retention capacity. **There would be less confusion**

and a greater chance of achieving these goals if there were separate targets, and goals, for each sector, based on ‘gross-gross’ accounting.

Current carbon accounting is deficient for use in evaluating Nature-based Solutions. As a result, the NBS framework is being used to support interventions and activities that are not necessarily producing meaningful mitigation outcomes, while the actions which do have mitigation efficacy are ignored. The core problem is that data reported under the UNFCCC for net emissions and removals related to human activities are insufficient for the understanding of the carbon dynamics of ecosystems. The HLEG should recommend the utilization of credible nature-based accounting methods. We recommend careful consideration of the methods described by Keith et al from the Griffith University policy briefing note, [‘Reforming Carbon Accounting to Support Nature-Based Solutions’](#).

E. Non-market mechanisms

Equity and historical responsibility require a rethinking of the entire idea of ‘offsetting.’ Reaching global net zero and staying below 1.5°C of warming will require moving from a zero-sum ‘compensation’ mindset, to a ‘contribution’ mindset. Zero-sum accounting at the level of the individual firm, where purchase of offset credits is meant to ‘cover’ a company’s responsibility, is insufficient to the scale of the climate emergency and the systemic transformations that are required to phase out the use of fossil fuels. Moreover, the appropriation of the ‘net zero’ concept to serve corporate or other non-state actor needs is wrong and dangerous: buying credits from low hanging emission reductions projects in the global South, with zero-sum math, is not going to bring about the transformations needed. The IPCC says that \$3.7 trillion in annual investment is needed by 2030 to keep warming below 1.5°C: this cannot come from piecemeal projects, and shouldn’t be associated with ‘netting out’, zero-sum emissions.

An offsetting or compensation mindset hides the full scale of the task in front of us and is, at its core, unjust.

CLARA members are concerned that so much emphasis is being put on market mechanisms that do more to reward emissions trading than to reward emissions reductions. CLARA has repeatedly pointed to the potential use of Article 6.8 in developing climate finance possibilities that can operate outside of market frameworks. Non-state actors have an important role to play in investments in non-market mechanisms. In a [submission](#) to the UNFCCC ahead of COP26, CLARA has advocated for Article 6.8 to be used to scale up support for tenurial security and forest management by Indigenous Peoples and Local Communities (IPLCs) in tropical countries, and we greatly appreciate the willingness of several states and non-state actors to come forward with pledges in Glasgow toward addressing the gap here. Research by CLARA member Rainforest Foundation Norway (RFN) [revealed](#) that this ‘rights-based solution’ has received only a small share of international donor funding over the last ten years—just \$270 million per year on average – and we welcome the proposed scale-up. Improved clarity and enforcement of land rights is one of the most important ‘Missing Pathways’ to prevent

conversion of tropical forest and thus to maintain the many ecological benefits associated with intact ecosystems. CLARA has proposed *\$100 billion per year* of new and additional finance to support *transformative* non-market actions in the land sector. Non-state actors have an important role to play in investing in transformation via non-market climate finance mechanisms.

F. Real Zero.

Considering the many ways Net Zero climate targets can be used to disguise business as usual and continued emissions, it is worth reflecting on whether the term is at all useful or relevant. Civil society organizations, including CLARA and Climate Action Network are advocating for a “real zero” approach as a way to avoid the problems and risks with the prevailing net zero target setting approach and offsetting. As laid out in a [2021 report by Friends of the Earth International](#), with the support of multiple climate justice organizations, “Real Zero” means “reducing emissions to as close to zero as possible and using ecological approaches to remove residual emissions.” Far too often, “Net Zero by 2050” is used as a public relations tactic by governments, financial institutions and other corporations to delay real and meaningful action. We appreciate the opportunity to provide comments here, and urge the HLEG to reorient its inquiry on standards and definitions more firmly in the direction of ‘real zero’.

CLARA Resources

[Net Zero Files: Enablers, Users, Impacts, Toward Net Zero \(2021-2022\)](#)

[Views and information toward development and implementation of non-market approaches \(February 2022\)](#)

[Release the Hostage! -- and Unleash Powerful Climate Action: CLARA's submission on “Enabling ambition in Article 6 instruments” \(May 2021\)](#)

[Missing Pathways to 1.5°C: The role of the land sector in ambitious climate action \(2018\)](#)

[Members of CLARA \(Climate Land Ambition and Rights Alliance\)](#)