

August 31, 2022

High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities
United Nations

Concern Re: Use of Net Zero Framework To Greenwash Climate Inaction

Dear Secretary-General Guterres and Members of the High-Level Expert Group:

The Center for International Environmental Law (CIEL) writes in response to the call for submissions regarding standards for net-zero commitments of non-state entities.

CIEL is a nonprofit 501(c)(3) legal organization with offices in Washington DC and Geneva, Switzerland. Since 1989, CIEL has used the power of law to protect the environment, promote human rights, and ensure a just and sustainable society.

We, along with many hundreds of organizations around the world, have expressed grave concerns about governments, international organizations, and corporations committing to net zero emissions goals while lacking concrete plans for achieving the necessary emissions reductions and/or continuing business-as-usual activities that are exacerbating the climate crisis.¹ This disconnect is most apparent in the fossil fuel industry, which has the second highest percentage of net zero targets (49%) among those industries with more than ten companies in the Forbes 2000 list,² and yet has not taken the steps to reduce reliance on fossil fuels, halt oil and gas expansion, and phase out fossil fuel production, as the IPCC and others have deemed necessary.³

¹ See Center for International Environmental Law, *Over 700 Civil Society Groups Demand Real Climate Solutions, Not Net-Zero Promises*. Press Release, November 1, 2021, <https://www.ciel.org/news/over-700-groups-demand-real-zero/>; NewClimate Institute et al, *NET ZERO STOCKTAKE 2022: Assessing the status and trends of net zero target setting across countries, sub-national governments and companies* (June 2022), <https://ca1-nzt.edcdn.com/@storage/Net-Zero-Stocktake-Report-2022.pdf>

² *Id.*, *NET ZERO STOCKTAKE 2022*, p6.

³ See IPCC, *Global Warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (2018) [SR 1.5], available at <https://www.ipcc.ch/sr15/>; Figure SPM.3b at Summary for Policymakers [SPM]-14, C.2 at SPM-15; IPCC, *Working Group III Contribution to the IPCC Sixth Assessment Report on Mitigation of Climate Change* [AR6 WGIII], Summary for Policymakers-36, Technical Summary [TS]-47, TS-53, TS-54; Ch. 6. at 6-117, 6-126, available here: <https://www.ipcc.ch/report/ar6/wg3/>; International Energy Agency, *Net Zero by 2050: A Roadmap for the Global Energy Sector* (May 2021), <https://www.iea.org/reports/net-zero-by-2050>.

At a time when rapidly ending reliance on fossil fuels remains the clearest and most certain path to align with the 1.5°C pathway and prevent further irreversible impacts and human rights harms, striving towards “real zero” (focussed on eliminating the causes of emissions and not ‘balancing them out’ after they have reached the atmosphere)⁴ must remain the primary objective of climate action. Given the proliferation of “net zero” pledges by non-state actors, we welcome this initiative to prevent the use of net zero targets for greenwashing and the promotion of risky technologies, to ensure transparency, and ultimately to strengthen the imperatives for meaningful, ambitious action that accelerates the just transition to a fossil-free, climate-safe future.

This submission addresses the four thematic areas for recommendation by the High-Level Expert Group.

Key Takeaways:

- “Net zero” is a global concept that should not be transposed onto individual entities. Net Zero targets and transition plans should focus on aligning with global net zero trajectories that aim for no overshoot of 1.5°C, not achieving intra-organization net zero.
- Offsets have no place in net zero plans or frameworks, as they are ineffective in practice and faulty in concept.
- Net zero transition plans should not rest on unreliable, speculative, or unproven technological approaches like carbon capture, use, and storage (CCUS) or large-scale technological carbon dioxide removal (CDR).
- Urgent action is required to combat the climate crisis, and standards for net zero alignment should require aggressive short-term action.
- Scope 3 emissions must be included in standards for net zero alignment.
- Accountability, transparency, and assurances of non-state entities’ progress toward achieving net zero aligned targets are crucial for ensuring such targets do not amount to greenwashing.
- Regulation is necessary to ensure net zero alignment is enforceable.
- Standards for net zero alignment must also include respect for human rights, including the rights of Indigenous Peoples, and must not endorse schemes that would lead to human rights violations.

⁴ *Real Solutions Not ‘Net Zero’: A Global Call for Climate Action*, <https://www.realsolutions-not-netzero.org>, last visited August 31, 2022.

I. Standards and Definitions Of Net Zero 1.5 Degrees Alignment

Achieving global net zero emissions requires both dramatic and immediate reductions in GHG emissions—first and fastest in high-emitting countries and sectors—and rights-respecting protection and restoration of biodiverse ecosystems that serve as natural carbon sinks—not one instead of the other. Standards for evaluating net zero commitments must recognize, as scientific and judicial authorities have,⁵ that rapid emissions reductions in the near term are imperative to align with a 1.5°C pathway, and that a rapid fossil fuel phaseout remains the clearest and most certain path to avoid overshoot and prevent further irreversible impacts. A failure of net zero plans to stipulate the speed of emissions reductions and the impact on overall accumulation of GHGs in the atmosphere risks fueling reliance by non-state entities on the deployment of unproven technologies to reverse or mask overshoot, which may prove ineffective and risk further disaster. Standards for credible net zero commitments must recognize the limitations of relying on offsets and technological fixes; cover all GHG emissions, with a particular focus on short-lived climate pollutants - most notably methane and nitrous oxide; and ensure that absolute emissions reductions are taking place rather than relying on an emissions intensity metric. Such standards must also embed equity and justice as key principles, while taking into consideration the needs and rights of communities (including Indigenous Peoples) most affected by the emissions-intensive and/or climate change-related activities of companies and other non-state entities, as well as countries, and the ecological limits to carbon dioxide removal (CDR) practices and technologies. Below we elaborate further on some of these points.

“Net zero” is a scientific concept regarding global greenhouse gas emissions that is *not* directly transferable to individual entities, including non-state entities. The Paris Agreement sets an objective of reaching a “balance between anthropogenic emissions sources and removals by sinks by mid-century”⁶ - and the IPCC states that staying below a global temperature rise of 1.5°C requires reaching “global net zero emissions” by 2050.⁷ It is important to recognize that individual entities, whether States or non-state entities, must fit into a “net zero” world, rather than achieving their own “net zero.” A standard for net zero plans should not expect all entities, of all kinds, in all industries or geographies, to achieve “net zero by 2050” within their own operations. Some entities will need to achieve emissions reductions more rapidly than others, and for many, operational and business models will need to change—in some cases significantly, including through cessation of certain activities altogether. This

⁵ See sources cited *supra* note 3; see *also* The State of the Netherlands v Urgenda Foundation, Supreme Court of the Netherlands (20 December 2019), case no. 19/00135 (English translation) para. 7.4.4 (“following AR4, it became clear that in order to prevent dangerous climate change even greater reductions of greenhouse gas emissions are actually needed in the short term and that this need is becoming increasingly urgent, both before 2020 and in the subsequent period up to 2030.”)

⁶ Paris Agreement, art. 4, Dec. 15, 2015, T.I.A.S. No. 16-1104, <https://unfccc.int/process/conferences/pastconferences/paris-climate-change-conference-november-2015/paris-agreement>.

⁷ SR 1.5, *supra* note 3, at SPM C-1.

distinction is particularly important with respect to high-emission industries, most notably the fossil fuel industry, given the IPCC's affirmation that fossil fuels are the principal source of greenhouse gas emissions and that swift and steep reduction in those emissions is necessary to avert climate catastrophe. Carbon dioxide emissions from fossil fuels and industry accounted for 64% (38Gt) of total global GHG emissions in 2019, with methane – of which fossil fuel production and use are among the largest sources – contributing an additional 18% (11Gt).⁸ The contribution of fossil fuel combustion to total anthropogenic CO₂ emissions has increased recently, “growing to an 86% ± 14% contribution over the past 10 years.”⁹ Thus, the IPCC notes, “the achievement of long-term temperature goals in line with the Paris Agreement requires the rapid penetration of renewable energy and a timely phasing out of fossil fuels, especially coal, from the global energy system.”¹⁰ In scenarios with the greatest probability of limiting warming to 1.5°C with no or limited overshoot, the use of coal, oil, and gas must decline by a *median* of 95%, 60%, and 45%, respectively, by 2050, with phaseout completed in the second half of the century.¹¹ Ambitious pathways limiting temperature rise to 1.5°C could require a 100% decline in the use of coal, and 90% declines in the use of oil and gas, by 2050.¹² In order to achieve global “net zero,” it is important to apply these parameters, especially to fossil fuel industry actors.

Credible standards for net zero alignment must include protection of nature and nature-based sinks in a manner consistent with human rights including Indigenous Peoples' rights. This should include halting deforestation, peatland degradation, and loss of other natural ecosystems, while enhancing ecosystem restoration, and biodiversity conservation. Because nature restoration could only remove approximately 100GtC total between now and 2100,¹³ even if all sustainable nature restoration activities were actualized, they could compensate for only a limited amount of the removals that countries (let alone non-state actors) claim to need. This reality re-emphasizes the importance of fossil-fuel phase out and the mitigation hierarchy in a net zero standard.

For net zero-aligned targets to have integrity, they must be aligned with a global emissions pathway that aims to avoid overshoot of 1.5°C. As the IPCC warns, overshooting 1.5°C, even temporarily, would be catastrophic. In the recent Sixth Assessment Report, the IPCC emphasizes that exceeding 1.5°C in warming, even temporarily, will result in severe and irreversible adverse impacts, limiting the capacity for adaptation and severely threatening human rights.¹⁴ Overshoot also increases the chance of triggering climate “tipping points” and

⁸ AR6 WGIII, *supra* note 3, at SPM-6 (Fig. SPM.1).

⁹ IPCC, Working Group I Contribution to the IPCC Sixth Assessment Report on The Physical Science Basis [AR6 WGI], Technical Summary, TS-80, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf.

¹⁰ AR6 WGIII, *supra* note 3, Ch. 17, 17-23.

¹¹ AR6 WGIII, *supra* note 3, SPM C.3.2, at SPM-32.

¹² *Id.*

¹³ Kate Dooley et al, Carbon removals from nature restoration are no substitute for steep emission reductions (July 1 2022) in *One Earth*, Vol 5, Iss 7, p.812-824, July 15, 2022, [https://www.cell.com/one-earth/fulltext/S2590-3322\(22\)00323-2](https://www.cell.com/one-earth/fulltext/S2590-3322(22)00323-2).

¹⁴ IPCC, *Working Group II Contribution to the IPCC Sixth Assessment Report on Climate Change Impacts*,

self-reinforcing feedback loops, such as permafrost thawing and the collapse of forest ecosystems.¹⁵ Such events would greatly amplify warming and associated adverse impacts¹⁶ and make “return to a given global warming level or below ... more challenging.”¹⁷ 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 (the feasibility of which is uncertain), “imply severe risks and irreversible impacts in many ecosystems (high confidence).”¹⁸ The irreversible human and ecological impacts of warming above 1.5°C include, inter alia, excess deaths from heat waves, glacier melt, and loss of coral reefs, small islands, and cultural heritage.¹⁹

Credible net zero commitments must not rely on speculative technologies unproven at scale, including Carbon Capture Utilization and Storage (CCUS) and technological Carbon Dioxide Removal (CDR): Standards for net-zero alignment should disapprove of reliance on technologies that are primarily speculative, particularly CCUS and technological CDR, such as bioenergy with CCS (BECCS) and direct air capture (DAC). The legitimacy of a net-zero plan is not only rooted in the speed and scale of action outlined, but also the integrity and likelihood of success of those actions. CCUS is a technology with a long history of overpromising and underperforming. Though CCUS appears in models used by the IPCC, its cost, capture rates, and overall effectiveness in those models are fundamentally untethered to its real-world performance (See Box 1 below). BECCS and DAC remain primarily speculative, with financial cost, energy intensity, land use, and other input requirements putting sharp constraints on the ability of BECCS and DAC to meaningfully remove atmospheric carbon dioxide. Net zero plans that rely on CCUS and BECCS/DAC are therefore highly likely to fail, resulting in significant continued emissions beyond what an appropriate transition pathway would permit.

Courts have also recognized the unreliability of carbon removal technologies at the present time.²⁰ For instance, in finding that the Netherlands was not taking sufficient action to reduce greenhouse gas emissions, the Supreme Court of the Netherlands recognized that “at the

Adaptation and Vulnerability [AR6 WGII], Summary for Policymakers [SPM]-B.6, B.6.1 at SPM-20], available at: <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>. See also IPCC, *Global Warming of 1.5°C*, *supra* note 3; CIEL and Heinrich Boell Foundation, *Beyond the Limits: New IPCC Working Group II Report Highlights How Gambling on Overshoot is Pushing the Planet Past a Point of No Return* (February 2022), https://www.ciel.org/wp-content/uploads/2022/02/CIEL_HBF_IPCC-WGII-Key-Messages-28Feb2022.pdf.

¹⁵ AR6 WGII, *supra* note 14, Technical Summary [TS] C.13.2 at TS-43; See also *Neubauer, et al. v. Germany*, Federal Constitutional Court of Germany (29 April 2021) case no. BvR 2656/18/1, BvR 78/20/1, BvR 96/20/1, BvR 288/20 (English translation), para. 161 “In terms of the negative implications for humanity and the environment, the crossing of tipping points would actually be more problematic than the direct consequences of temperature increase. It could trigger a qualitative transformation of major environmental subsystems.”

¹⁶ AR6 WGII, *supra* note 14, TS.C.13.2 at TS-43; see also AR6 WGI, *supra* note 9, SPM C.3.2 at SPM-27.

¹⁷ AR6 WGII, *supra* note 14, SPM.B.6.2 at SPM-20.

¹⁸ AR6 WGII, *supra* note 14, TS.C.2.5 at TS-26.

¹⁹ AR6 WGII, *supra* note 14, TS.C.12.1, TS.C.13, & TS.C.13.1 at TS-42.

²⁰ See, e.g., *Neubauer et al v Germany*, *supra* note 15, Section 33 and Sections 226-227.

moment there is no technology that allows [carbon removal] to take place on a sufficiently large scale,” and that climate pathways that rely on such technologies, based on unproven assumptions about such technologies, “cannot be taken as a starting point for policy at this time without taking irresponsible risks by doing so. Taking such risks would run counter to the precautionary principle that must be observed when applying Articles 2 and 3 ECHR and Article 3(3) UNFCCC.”²¹

For the reasons stated above, net zero standards must not condone or encourage measures or activities, especially CCUS and DAC, that maintain, prolong, or otherwise extend reliance on fossil fuels. Before a given technology is endorsed or qualified as a “climate solution,” its effectiveness at eliminating GHG emissions consistent with a (no overshoot) 1.5°C trajectory must be demonstrated and verified.

Box 1: Incompatibility of CCUS with Net Zero

CCUS has been touted for decades as a “climate solution,” but has consistently failed to meet its intended goals. Because of the very nature of CCUS—which is added onto an underlying polluting facility, such as a fossil fuel-fired power plant or factory, to keep that facility operating, purportedly with lower CO₂ emissions—no amount of investment in CCUS can accelerate the transition away from fossil fuels. That alone should exclude CCUS from a net zero standard and transition plan. The technology’s failures to date, significant feasibility constraints, and relationship to the fossil fuel industry only strengthen the case for its exclusion. The IPCC in its latest report also identified CCS as among the highest cost, lowest mitigation potential options for reducing emissions by 2030, with its potential to achieve reductions far lower than wind and solar while costing substantially more.²²

CCUS is presented as an emissions reduction approach, but the reality is not so simple.²³ The effectiveness of CCUS as an emissions reduction measure is highly dependent on its ability to achieve promised reduction rates (“capture rates”) and the permanence of the carbon storage. The carbon capture process may also increase on-site energy consumption as well as Scope 3 emissions both up- and downstream. Because CCUS technologies enable continued fossil fuel combustion, CCUS may extend the economic life of underlying facilities, increasing lifetime emissions overall—a result at odds with the necessary phaseout of fossil fuels. CCUS projects have a long history of underperformance and cost overruns, despite

²¹ The State of the Netherlands v Urgenda Foundation, Supreme Court of the Netherlands (20 December 2019), case no. 19/00135 (English translation) para. 7.2.5.

²² See WGIII AR6, *supra* note 3, Figure SPM.7, at SPM-50.

²³ Center for International Environmental Law, *Confronting the Myth of Carbon-Free Fossil Fuels: Why Carbon Capture is not a Climate Solution* (July 2021), <https://www.ciel.org/wp-content/uploads/2021/07/Confronting-the-Myth-of-Carbon-Free-Fossil-Fuels.pdf>. See generally, Center for International Environmental Law, *Carbon Capture and Storage*, <https://www.ciel.org/issue/carbon-capture-and-storage/>, last visited August 31 2022.

promises and projections from project proponents (see below for examples). For these reasons, the ability of CCUS to meaningfully contribute to climate goals should be understood as uncertain at best.

Carbon capture and compression processes are extremely energy-intensive, generating their own emissions on-site and increasing upstream emissions. Running carbon capture equipment incurs an “energy penalty” of 13-44%, typically around 20-30%, of the energy consumption of the underlying emitting process.²⁴ This energy penalty necessitates the combustion of additional fuel to achieve the same energy output, or a significantly diminished energy output if the amount of fuel used is held constant. CCUS therefore increases either or both the per-unit or absolute upstream (Scope 3) emissions from fossil fuel production, and can quite dramatically reduce any purported climate benefit. One study that calculated the lifecycle emissions associated with CCUS used for energy production from fossil fuels found that “the equipment captured the equivalent of only 10-11 percent of the emissions they produced, averaged over 20 years.”²⁵

In practice, CCUS projects have repeatedly failed to meet optimistic and ambitious CO₂ capture targets set by proponents.²⁶ In July 2021, Chevron, operator of Australia’s only commercial- scale CCUS project, admitted that the project failed to meet its five-year capture target of 80% CO₂, and is now seeking a deal with regulators on how to make up for millions of tons of CO₂ emitted.²⁷ Other high-profile projects, including Archer Daniel Midland’s Illinois Industrial Carbon Capture Project,²⁸ the Petra Nova,²⁹ and Boundary Dam³⁰ projects at

²⁴ AR6 WGIII, *supra* note 3, Ch. 6, at 6-38. See also Budinis, S. et al., *An assessment of CCUS costs, barriers and potential*, 22 Energy Strategy Reviews, 61, 67-68 (2018), <https://doi.org/10.1016/j.esr.2018.08.003> (discussing energy and efficiency penalty estimates for coal and gas).

²⁵ Taylor Kubota, *Stanford Study casts Doubt on Carbon Capture*, Stanford News (October 25, 2019), <https://news.stanford.edu/2019/10/25/study-casts-doubt-carbon-capture/>, citing Mark Z. Jacobson, *The health and climate impacts of carbon capture and direct air capture*, 12 Energy Env't. Sci. 3567 (2019), <https://pubs.rsc.org/en/content/articlelanding/2019/ee/c9ee02709b/unauth#divAbstract>

²⁶ See U.S. Government Accountability Office, *Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects* (2021), <https://www.gao.gov/assets/gao-22-105111.pdf>.

²⁷ Michael Mazengarb, *Chevron admits failure of \$3 billion CCS facility in Western Australia*, IEFFA (July 19, 2021), <https://ieefa.org/chevron-admits-failure-of-3-billion-ccs-facility-in-western-australia/>.

²⁸ See Jonathan Hettinger, *Despite hundreds of millions in tax dollars, ADM's carbon capture program still hasn't met promised goals*, Midwest Center for Investigative Reporting (November 19, 2020), <https://investigatamidwest.org/2020/11/19/despite-hundreds-of-millions-in-tax-dollars-adms-carbon-capture-program-still-hasnt-met-promised-goals/>.

²⁹ See Nichola Groom, *Problems plagued U.S. CO₂ capture project before shutdown: document*, Reuters (Aug. 6, 2020), <https://www.reuters.com/article/us-usa-energy-carbon-capture/problems-plagued-u-s-co2-capture-project-before-shut-down-document-idUSKCN2523K8>.

³⁰ See Carlos Anchondo, *CCUS ‘red flag?’ World’s sole coal project hits snag*, E&E News (January 10, 2022), <https://www.eenews.net/articles/ccs-red-flag-worlds-sole-coal-project-hits-snag/>.

coal-fired power plants, and the Quest and Air Products capture projects at hydrogen plants,³¹ have all missed capture targets advertised by proponents, have claimed high capture rates by only capturing a minute fraction of total facility emissions, or both.

Critically, the role of CCUS in providing carbon dioxide for enhanced oil recovery (EOR) – increasing oil production – further undermines any purported climate benefit of CCUS. More than 95% of all CCUS capacity deployed in the United States has been used for EOR, with only a single major project capturing carbon dioxide for geological storage.³²

CCUS projects may also serve to extend the economic life of an underlying emitting source and therefore increase lifetime emissions even while reducing emissions intensity. Of the two coal plants with CCUS operations in North America, CCUS explicitly extended the life of one of them (and as discussed above, the other is no longer operating its carbon capture equipment). The Boundary Dam power station was planning to close, but instead was retrofitted with CCUS and is now expected to continue operating for several more decades.³³ Similarly, a coal plant in North Dakota recently reversed its decision to retire and is pursuing a sale and CCS retrofit instead, and the state of Wyoming has mandated coal plants to install carbon capture equipment to stave off retirement.³⁴ Even though the total and per-unit energy emissions may be lower from the retrofitted facilities, the overall emissions are greater than what the plant would have emitted had it been shuttered (i.e., none).

CCUS projects also face significant feasibility risks, owing to the substantial costs³⁵ and land use footprint associated with CCUS infrastructure, and its serious environmental, public

³¹ See David Schlissel et al., *Institute for Energy Economics and Financial Analysis, Blue Hydrogen: Technology Challenges, Weak Commercial Prospects, and Not Green* (2022), https://ieefa.org/wp-content/uploads/2022/02/Blue-Hydrogen-Presentation_February-2022.pdf.

³² Global Carbon Capture and Storage Institute, *Global Status Update 2021* (2021), p.63, https://www.globalccsinstitute.com/wp-content/uploads/2021/10/2021-Global-Status-of-CCS-Report_Global_CCS_Institute.pdf.

³³ Karin Rives, *Only still-operating carbon capture project battled technical issues in 2021*, S&P Global (January 6, 2022), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/only-still-operating-carbon-capture-project-battled-technical-issues-in-2021-68302671>.

³⁴ See Nicholas Kusnetz, *In a Bid to Save Its Coal Industry, Wyoming Has Become a Test Case for Carbon Capture, but Utilities are Balking at the Pricetag*, InsideClimate News (May 29, 2020), <https://insideclimatenews.org/news/29052022/coal-carbon-capture-wyoming/>.

³⁵ See Hélène Pilorgé et al., *Cost Analysis of Carbon Capture and Sequestration of Process Emissions from the U.S. Industrial Sector*, 54(12) *Envtl. Sci. & Tech.* 7524-7532 (2020), <https://pubs.acs.org/doi/abs/10.1021/acs.est.9b07930>.

health, and safety risks.³⁶ One study estimates that to scale, the CCUS build-out—including the pipelines and infrastructure required to capture, compress, transport, and store CO₂—will need to be 2 to 4 times larger than the current global oil industry.³⁷ It is for these reasons that there is widespread and growing opposition to CCUS from community, environmental justice, and other groups, which present additional obstacles to the use of CCUS. In fact, litigation to contest reliance on CCUS in corporate net zero plans has already begun.³⁸

Scenarios and standards that are used to benchmark net zero must be aligned with a 1.5°C pathway that avoids overshoot, and rooted in science and human rights. There has been a proliferation of voluntary initiatives that are attempting to define “net zero” and standardize the concept for non-state entities in order to address the integrity gap. However, as illustrated below, several of the scenarios and standards currently in use are not fully aligned with a 1.5°C pathway. The UN Secretary General has the opportunity to establish a more universal set of standards that are rooted in science and human rights, namely by requiring a phase out of fossil fuels, the restoration of nature, no reliance on CDR or other speculative technologies, and respect for human rights.

- 1) **Scenarios:** The International Energy Agency (IEA) net zero scenario,³⁹ while correct on its recommendation to end new investment in fossil fuel supplies, fails to account for the climate and other social and environmental impacts that would result from the proposed increase in bioenergy.⁴⁰ The IEA’s Sustainable Development Scenario, which has been used by oil majors to justify further investments in fossil fuels,⁴¹ does not reach net zero

³⁶ Sandra Steingraber, *Carbon capture and storage fails to mitigate the dangers of fracking*, in Concerned Health Professionals of New York and Physicians for Social Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure* (Eighth Edition, 2022), <https://www.psr.org/wp-content/uploads/2022/04/compendium-8.pdf>. See also Beth Warden, *Government report on CO₂ pipeline leak in Mississippi could affect South Dakota Pipelines*, Dakota News Now (June 11, 2022), <https://www.dakotanewsnow.com/2022/06/12/government-report-co2-pipeline-leak-mississippi-could-affect-south-dakota-pipelines/>.

³⁷ N. Mac Dowell et al., *The role of CO₂ capture and utilization in mitigating climate change*, 7 *Nature Climate Change* 243 (2017), <https://www.nature.com/articles/nclimate3231>.

³⁸ Environmental Defenders Office, *World-first Federal Court case over Santos’ ‘clean energy’ & net zero claims* (August 26, 2021), <https://www.edo.org.au/2021/08/26/world-first-federal-court-case-over-santos-clean-energy-net-zero-claims/>

³⁹ IEA, *Net Zero by 2050*, *supra* note 3.

⁴⁰ Luisa Colasimone, “We can’t burn our way out of the climate crisis – but IEA plan 60% increase in bioenergy to 2050 in new roadmap for 1.5C”, *Environmental Paper Network* (May 31, 2021), <https://environmentalpaper.org/2021/05/we-cant-burn-our-way-out-of-the-climate-crisis-but-iea-plan-60-increase-in-bioenergy-to-2050-in-new-roadmap-for-1-5c/>; Frédéric Simon, “IEA criticised over growing share of bioenergy in net-zero scenario”, *EURACTIV* (May 18 2021), <https://www.euractiv.com/section/climate-environment/news/iea-criticised-over-growing-share-of-bioenergy-in-net-zero-scenario/>.

⁴¹ Oil Change International, *Big Oil Reality Check: Assessing Oil And Gas Company Climate Plans* (September 2020), p.12, <http://priceofoil.org/2020/09/23/big-oil-reality-check/>.

from energy until 2070.⁴² Given the recent IPCC findings, net zero standards must emphasize the need for rapid climate action and not tolerate any scenarios that propose to reach net zero after 2050.

- 2) **Standards:** The Race to Zero criteria⁴³ call on corporations to achieve “(net) zero GHGs as soon as possible, and by 2050 at the latest, in line with the scientific consensus on the global effort needed to limit warming to 1.5°C with no or limited overshoot, recognising that this requires phasing down and out all unabated fossil fuels as part of a global, just transition.” While calling on companies to substantially restrict fossil fuels, it allows for the continued use of “abated” fossil fuels, opening the door to CCUS, DAC and other technologies to claim abatement. It is important to note that the IPCC’s Sixth Assessment Report strongly discourages “abated” fossil fuels, stating “implementation of CCS currently faces technological, economic, institutional, ecological- environmental and socio-cultural barriers” such that “currently, global rates of CCS deployment are far below those in modeled pathways limiting global warming to 1.5°C or 2°C.”⁴⁴ Moreover, even where “abated” fossil fuels appear in IPCC text or modeling, “capture rates of new installations with Carbon Capture and Storage (CCS) are assumed to be 90-95% +,”⁴⁵ far above the performance of actual carbon capture systems in use. Meaningful net zero standards should acknowledge that, with its inherent costs and track record of failure, CCUS and other purported technological fixes to climate change constitute an expensive extension of fossil fuel facilities that can obstruct real climate progress, and betting on CCUS is incompatible with achieving a 1.5°C-aligned net zero target.

Offsets should not be recognized as a means for achieving a “net zero”-aligned target.

Offsets, which do not reduce aggregate emissions in the atmosphere, but merely allow for emissions to continue in one location on the claim that they are being lowered in another, are not a viable path to limiting warming to below 1.5°C. Most offset credits currently available in the marketplace are avoided-emissions projects, for example, replacing a diesel generator with a solar array, or by protecting a forest, and suffer from lack of additionality and often impermanence - doing nothing to “compensate” for ongoing emissions. Offsets perpetuate a false equivalency between fossil and biotic forms of carbon that elides distinctions in the timescales involved and in the local impacts of emissions and emissions-generating activities on people and nature. With respect to the uptake of carbon, fossil carbon and terrestrial carbon are not interchangeable due to differences in the carbon cycle. The fossil carbon (slow) cycle takes place over hundreds of millions of years. The fast cycle (terrestrial carbon) takes place over hundreds to thousands of years. Because of the limited climate impact, standards such as the

⁴² International Energy Agency, Sustainable Development Scenario (SDS), accessed August 31 2022, <https://www.iea.org/reports/world-energy-model/sustainable-development-scenario-sds>.

⁴³ Race to Zero criteria 3.0 (June 2022), <https://climatechampions.unfccc.int/wp-content/uploads/2022/06/Race-to-Zero-Criteria-3.0-4.pdf>.

⁴⁴ AR6 WGIII, *supra* note 3, SPM C.4.6, SPM-37.

⁴⁵ AR6 WGIII, *supra* note 3, SPM, Footnote 37, SPM-20.

SBTi do not recognize emission reduction or avoidance offsets [outside of an entity's value chain] in meeting an entity's near-term or long-term targets.⁴⁶

In light of failure to avoid and reduce emissions, we are seeing increased interest in a new form of offsets claiming to “remove” carbon from the atmosphere - through natural approaches (sequestering carbon in ecosystems) or engineered pathways (geoengineering). Removals are inherently hard to measure, impermanent, and uncertain if ‘nature based’, and unproven, risky, and dangerous if technology based (geo-engineered).⁴⁷ Both nature-based and technology-based removals also pose significant risks to local communities and Indigenous Peoples, and their human rights.⁴⁸

The use (and abuse) of offsets to net out carbon emissions on company balance sheets is emblematic of the problem of misapplying the “net zero” concept to individual entities. If the standard for all entities requires that they align their operations and investments with a global climate transition and 1.5°C pathway, offsets are not necessary. Offsets only become “necessary” if *each individual entity* is required to achieve individualized “net zero” within its own boundaries, because of the need to trade removals or avoided emissions from one entity to another.

Offsets do not solve the problem of residual emissions, they rather obscure which (very limited set of) global emissions *might* be true residuals – meaning technically and/or economically infeasible to eliminate. But the notion of residual emissions should not be used to justify the use of offsets by individual entities when feasible and available emissions reductions measures exist and have not yet been exhausted. Permitting offsets at all encourages their use and abuse, and does not lead to any climate benefit. Rather than having non-state actors engage in accounting schemes to balance out emissions, a standard for net zero plans should orient entities toward taking the actions they should be taking and reveal, rather than obscure, where emissions reduction and elimination will be most costly, difficult, and slow.

The oil and gas sector in particular should receive no encouragement to “reduce” its emissions through nature-based offsets of dubious integrity.⁴⁹ Instead, it must cut down on the volume of

⁴⁶ Science Based Targets, SBTi Corporate Net-Zero Standard - Version 1.0 (October 2021)

<https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

⁴⁷ Friends of the Earth International et al, Fossil Futures Built on a House of Cards (June 2022), p13,

https://www.foei.org/wp-content/uploads/2022/06/Fossil-futures-built-on-a-house-of-cards_report-2022.pdf

⁴⁸ Amazon Watch, The Amazon Rainforest-Sized Loophole In Net Zero (2021),

<https://amazonwatch.org/assets/files/2021-the-amazon-rainforest-sized-loophole-in-net-zero.pdf>; Indigenous Environmental Network, HOODWINKED IN THE HOTHOUSE: Resist False Solutions to Climate Change, 3rd ed.

2021, https://climatefalsesolutions.org/wp-content/uploads/HOODWINKED_ThirdEdition_On-Screen_version.pdf; Center for International Environmental Law, Rights, Carbon, Caution: Upholding Human Rights under Article 6 of the Paris Agreement (February 2021), <https://www.ciel.org/reports/rights-carbon-caution/>.

⁴⁹ Carbon Market Watch, *Up in smoke - California wildfire once again highlight dangers of forest offsets* (October 22nd, 2020)

<https://carbonmarketwatch.org/2020/10/22/up-in-smoke-california-fires-once-again-highlight-dangers-of-forest-offsets/>

the highly polluting products it sells,⁵⁰ and measure the emissions impact in absolute terms rather than based on carbon-intensity. Shell provides a clear example of how one of the companies whose products are fundamental drivers of the climate crisis use offsets to claim climate action. As part of its pledge to reach net zero, Shell has stated that it plans to offset 120 million tons of CO₂ from its activities by planting forests; but, this would need 12 million hectares of land by 2030 – an area three times the size of the Netherlands.⁵¹ Shell has released no information on where these forests will be planted, who is currently using the land, or what will happen if they are destroyed by fires or logging. In recent years, forests claimed as offsets across the US West Coast have burned. In 2020, Lionshead Fire tore through 190,000 acres of forest in Central Oregon that was supposed to store 2.6 million metric tons of CO₂ via offsets issued by the state of California.⁵² In 2021, two other blazes, the Summit Creek and Shoal Creek Fires, ravaged an offset project in eastern Washington state that is operated by BP, which purchased 13 million credits from the Confederated Tribes of the Colville Reservation.⁵³

II. Credibility Criteria: Short-Term Interim Targets, Transition Plans, Measurement and Reporting

The credibility of net zero commitments is at stake precisely because of the lack of short-term interim targets and robust transition plans that demonstrate an entity's alignment with a 1.5°C pathway. These include reliance on dubious offsets and removals rather than deep emission reductions, as explained above. Many are also not equitable - reaching net zero too late to keep 1.5°C in sight, and are having a negative impact on ecosystems and human rights. This lack of credibility has already led to litigation in several jurisdictions, as illustrated by the cases below, which are part of the ever increasing climate litigation trend that has seen more than 1,200 cases filed since the Paris Agreement.⁵⁴ Greater transparency regarding how non-state entities will achieve their net zero-aligned target, and how they are measuring progress towards that goal, is key to ensuring meaningful action.

⁵⁰ Reclaim Finance, *The not-zero asset owner alliance? Pushing offsetting only undermines climate action* (January 2021), <https://reclaimfinance.org/site/en/2021/10/01/the-not-zero-asset-owners-alliance-pushing-offsetting-only-undermines-climate-action/>.

⁵¹ ActionAid International, *Not-their-lands: the land impact of Royal Dutch Shell's net zero climate target* (May 17, 2021) https://actionaid.org/sites/default/files/publications/Not-Their-Lands_Media%20Briefing.pdf.

⁵² Grist, *This Oregon forest was supposed to store carbon for 100 years. Now it's on fire* (September 19 2020) <https://grist.org/climate/this-oregon-forest-was-supposed-to-store-carbon-for-100-years-now-its-on-fire/>.

⁵³ Washington Department of Natural Resources, *Summary of natural and working lands carbon inventories and incentive programs in Washington* (December 1, 2022) https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=DNR%20Carbon%20Sequestration%20Report_8f19b00b-5acf-4c97-83b4-16cecb559803.pdf.

⁵⁴ J. Setzer & C. Higham C, *Global Trends in Climate Change Litigation: 2022 Snapshot*, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science (2022), <https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/>.

Interim targets must be aligned with a 1.5°C pathway. Net zero-aligned targets must require urgent short-term actions, and those short-term targets must align with long-term plans. For clarity and comparability purposes, we recommend aligning the timeframe of the targets with the UN's Race to Zero and Climate Action Pathway initiatives. Under the Race to Zero, for example, entities are expected to increase their climate ambition by 2023, which coincides with the first Global Stocktake under the Paris Agreement, with additional benchmarks in 2030, 2040, and 2050.⁵⁵ Net zero transition plans must align with short-term and medium-term targets (2025, 2030, 2040 - including for countries through their NDCs). The net zero transition plan must include an urgent target demonstrating immediate actions to be taken by 2025, and significant reductions to be achieved by no later than 2030, setting out the specific actions to be delivered in this critical decade when global emissions must be cut in half. Net zero targets must urgently require an immediate end to investment in new or expanded oil or gas fields as well as any new coal mines or coal power plants, and a full phase out of existing fossil fuel use based on a 1.5°C aligned timeline. In scenarios with the greatest probability of limiting warming to 1.5°C with no or limited overshoot, the use of coal, oil, and gas must decline by a median of 95%, 60%, and 45%, respectively, by 2050, with phaseout completed in the second half of the century.⁵⁶ The most ambitious and more protective scenarios for limiting temperature rise to 1.5°C could require a 100% decline in the use of coal, and 90% declines in the use of oil and gas, by 2050,⁵⁷ necessitating steep reductions in reliance on fossil fuels beginning immediately. Reporting against progress on these targets should be part of regular public reporting on net zero transition plans.

Scope 3 emission target-setting and disclosures are critical to meaningful climate action.

Scope 3 emissions constitute the vast majority of emissions for certain non-state entities, most notably for companies operating in the fossil fuel and petrochemical sectors, agribusiness companies with land-intensive commodity supply chains, the transportation sector, and the financial sector.⁵⁸ Scope 3 emissions by such entities are therefore material to investment decision-making and a critical input for regulators and other stakeholders. Measuring, setting targets for, and annually reporting on those emissions is essential to a meaningful net zero target and to the ability of third parties, including investors and regulators, to evaluate the entity's exposure to and management of climate-related risks and contributions to the climate crisis. Stated another way, net zero targets that exclude scope 3 emissions are misleading and serve as greenwashing, particularly in the case of fossil fuel companies.

⁵⁵ Climate Champions, 'Race to Zero' campaign updates criteria to raise the bar on net zero delivery (June 15, 2022), <https://climatechampions.unfccc.int/criteria-consultation-3-0/>.

⁵⁶ AR6 WGIII, *supra* note 3, SPM C.3.2, at SPM-32

⁵⁷ *Id.*

⁵⁸ For example, Scope 3 emissions in 2019 accounted for an average of 75% of total GHG emissions from the electric utility sector, and about 88% from the oil and gas sector. See Amena Saiyid, *Oil, gas companies under pressure to manage Scope 3 emissions to reach net-zero goals: analysts*, S&P Global (June 22 2021), <https://cleanenergynews.ihsmarkit.com/research-analysis/oil-gas-companies-under-pressure-to-manage-scope-3-emissions-t.html>.

To date, many companies - including high-emitters - are still avoiding making Scope 3 disclosures or setting Scope 3 targets. For example, just over a third (38%) of the companies assessed in *Net Zero Stocktake 2022* include all Scope 3 emissions in their net zero targets.⁵⁹ The other 60% of the companies' targets either only partially cover or do not cover any of their Scope 3 emissions. Such omissions are illustrated by individual company examples:

- JBS, the world's largest meat company, has so far failed to disclose or set targets for its Scope 3 emissions, which are said to constitute 97% of its total GHG emissions as a result of methane emitted from livestock; emissions from deforestation, forest fires, and land conversion; and the use of agrochemicals, the production of animal feed and enteric fermentation in its supply chain.⁶⁰
- Oil major ExxonMobil has set a net zero target for its Scope 1 and 2 emissions, constituting 17% of its total emissions in 2020, and has stated reducing Scope 3 emissions will require "changes in society's energy use coupled with the development and deployment of affordable lower-emission technologies."⁶¹ It has also challenged the logic of Scope 3 reporting on grounds that Exxon's sale of natural gas to replace coal constitutes a global climate solution but would increase Scope 3 emissions for the company.⁶² Exxon recently began disclosing some of its Scope 3 emissions, but these disclosures are limited to fuel products combusted by the end-user and fail to account for the full lifecycle emissions associated with its growing plastic production business.⁶³ As of 2020 ExxonMobil's production outlook was a 52% increase in oil production and a 27% increase in its production of natural gas.⁶⁴ Exxon has indicated plans to keep

⁵⁹ See *supra* note 1, at p.30.

⁶⁰ Institute for Agriculture and Trade Policy, Feedback, DeSmog, *Investors and supermarkets urged to drop JBS after shock rise in its climate emissions* (April 20, 2022), <https://www.iatp.org/documents/investors-and-supermarkets-urged-drop-jbs-after-shock-rise-its-climate-emissions>; see also New Climate Institute and Carbon Market Watch, *Corporate Climate Responsibility Monitor 2022: Assessing the Transparency and Integrity of Companies' Emission Reduction and Net-Zero Targets* (2022), p.85 <https://newclimate.org/sites/default/files/2022/02/CorporateClimateResponsibilityMonitor2022.pdf>.

⁶¹ ExxonMobil, *Sustainability: Emissions and Climate*, <https://corporate.exxonmobil.com/Sustainability/Emissions-and-climate> (last visited August 31, 2022); ExxonMobil, Press Release, *ExxonMobil announces ambition for net zero greenhouse gas emissions by 2050* (January 18, 2022), https://corporate.exxonmobil.com/News/Newsroom/News-releases/2022/0118_ExxonMobil-announces-ambition-for-net-zero-greenhouse-gas-emissions-by-2050; see also Earthworks, *Tricks of the Trade Report 2022* (April 12, 2022), p.21, <https://earthworks.org/resources/tricks-of-the-trade-oil-and-gas-report-2022/>.

⁶² Exxon Mobil, *Energy and Carbon Summary* (April 23, 2021), <https://corporate.exxonmobil.com/Sustainability/Energy-and-Carbon-Summary/Scope-3-emissions>.

⁶³ ExxonMobil, *Advancing Climate Solutions - 2022 Progress Report*, p.48, <https://corporate.exxonmobil.com/-/media/Global/Files/Advancing-Climate-Solutions-Progress-Report/2022/ExxonMobil-Advancing-Climate-Solutions-2022-Progress-Report.pdf>. See also Center for International Environmental Law, *Plastic & Climate: The Hidden Costs of a Plastic Planet* (May 2019), <https://www.ciel.org/reports/plastic-health-the-hidden-costs-of-a-plastic-planet-may-2019/>; Ocean Conservancy et al, *Reliable Scope 3 Emissions Disclosures are Key to Addressing Climate-Related Financial Risks: A Plastics Industry Case Study* (April 2022), https://oceanconservancy.org/wp-content/uploads/2022/04/Scope-3-Plastics-Industry-White-Paper_OC-AFR-PC-Apr-2022.pdf.

⁶⁴ Oil Change International, *Big Oil Reality Check 2020* (September 23, 2020), p.3, <http://priceofoil.org/2020/09/23/big-oil-reality-check/>.

extracting fossil fuels for chemical production and stated that it expects oil and gas production to reach 3.8 million oil-equivalent barrels (mboe/d) per day in 2022, rising to 4.2 mboe/d in 2027.⁶⁵ The company's anticipated final investment decisions in oil and gas projects from 2022 to 2025 could cause more than 1500 Million tonnes (Mt) of carbon pollution - equivalent to the lifetime emissions of 15 new coal-fired power plants.⁶⁶

- Oil major Chevron similarly has set a net zero target only for its Scope 1 and 2 emissions,⁶⁷ constituting only 9% of its total emissions in 2020.⁶⁸
- French oil major TotalEnergies set an absolute Scope 3 target for European operations, but only an intensity target for the products it sells outside Europe.⁶⁹ Any Scope 3 emissions from things other than the combustion of products sold are not included in either of these targets. In June 2020, Total CEO Patrick Pouyanné told Le Monde: "Above all, if Total were to commit to Scope 3 on a global scale, it would mean we would stop producing oil..⁷⁰
- BP's netzero targets cover its Scope 1 and 2 emissions, but only a subset of its Scope 3 emissions, and its targets mix absolute and intensity targets.⁷¹ BP has also excluded its (nearly 20%) stake in Rosneft from the definition of its "upstream oil and gas production" considered in Scope 3 emissions.⁷² This share in Rosneft accounted for 44 percent of the oil and 14 percent of the fossil gas that BP invested in extracting in 2019.⁷³

Scope 3 emissions reporting, including reporting for emissions over time, is especially critical in the context of financing for carbon capture or carbon removal schemes. For example, financing for a carbon dioxide pipeline as part of a carbon capture and storage project might claim to be "carbon-negative" if only Scopes 1 and 2 emissions are considered. The entire project, however,

⁶⁵ Exxon Mobil, *2022 Investor Day virtual webcast transcript* (2022), p.44

<https://corporate.exxonmobil.com/-/media/Global/Files/investor-relations/analyst-meetings/2022-Investor-Day-transcript.pdf>

⁶⁶ Oil Change International, *Big Oil Reality Check 2022* (May 2022)

https://priceofoil.org/content/uploads/2022/05/big_oil_reality_check_22_v09-final.pdf

⁶⁷ Chevron, press release, *Chevron sets net zero aspiration and new GHG intensity target* (October 11, 2021),

<https://www.chevron.com/newsroom/2021/Q4/chevron-sets-net-zero-aspiration-and-new-GHG-intensity-target>.

⁶⁸ Earthworks, *Tricks of the Trade Report 2022*, supra note 61, at p. 24.

⁶⁹ See TotalEnergies, Reducing scope 3 emissions, together with society (last visited August 31 2022),

<https://totalenergies.com/sustainability/climate-and-sustainability-energy/reducing-scope-3-emissions>; Earthworks, *Tricks of the Trade Report 2022*, supra note 61, at p. 33-35.

⁷⁰ Le Monde, Patrick Pouyanné, PDG de Total : «La question de la pérennité des compagnies pétrolières est posée» (June 4 2020),

https://www.lemonde.fr/economie/article/2020/06/04/patrick-pouyanne-la-question-de-la-perennite-des-compagnies-petrolieres-est-posee_6041723_3234.html

⁷¹ See BP, Getting to Net Zero (last visited August 31, 2022),

<https://www.bp.com/en/global/corporate/sustainability/getting-to-net-zero.html>; Oil Change International, *Big Oil Reality Check 2022*, supra note 66, at p.16.

⁷² BP, *BP Sustainability Report 2021*, p.23

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-sustainability-report-2021.pdf>.

⁷³ *Big Oil Reality Check 2020*, supra note 64, at p.13 note 1.

will increase emissions overall if CCS extends the operating life of the emitting facility, if the captured carbon is used for enhanced oil recovery (a form of oil production), or both.

The importance of Scope 3 emissions was affirmed in a recent case against oil major Royal Dutch Shell, noting the effect of such emissions on human rights as well. In *Milieudefensie et al v Royal Dutch Shell*, the Hague District Court held that Shell's emissions reduction obligation under its duty to respect human rights as part of the unwritten standard of care included all emissions, scope 1 to scope 3.⁷⁴ The reduction obligation, the court held, is an obligation related to all the activities of the Shell group and one of significant best-efforts for its business relations, including end-users. To fulfill its best-efforts obligation, the court held, "RDS (Royal Dutch Shell) may be expected to take the necessary steps to remove or prevent the serious risks ensuing from the CO2 emissions generated by them and to use its influence to limit any last consequence as much as possible."⁷⁵ The Court held that the duty to respect human rights as found in the U.N. Guiding Principles on Human Rights means that Shell has a responsibility to respect human rights through its entire value chain, including the end-users of its products (Scope 3). Compliance with the duty to respect means that companies must avoid causing or contributing to human rights impacts through their own activities and address such impacts where they occur. Companies must also seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products, or services.⁷⁶ The Court held that "although there are nuances, it is internationally endorsed that companies bear responsibilities for Scope 3 emissions. The Court has included this widely endorsed starting point in its interpretation of the unwritten standard of care."⁷⁷ The Court further held that "RDS may be expected to identify and assess the adverse effects of its Scope 1 through 3 emissions."⁷⁸

Given the importance of Scope 3 emissions for understanding an entity's climate risk and contribution, disclosure of Scope 3 emissions and the setting of Scope 3 reduction targets should be fundamental to any net zero commitment. Scope 3 emissions measurement and disclosure, especially for large companies, should not be unduly burdensome given that thousands of major companies across the world already use the GHG Protocol Scope 3 accounting and reporting standard.⁷⁹ Among those companies, 96% of SBTi companies with

⁷⁴ District Court of the Hague, *Milieudefensie et al v. Royal Dutch Shell*, para. 4.1.4, case no. C/09/571932 / HA ZA 19-379 (May 26, 2021), <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2021:5339&showbutton=true> (Shell has appealed the decision. The appeal is pending).

⁷⁵ *Id.*, para. 4.4.55; see also para. 4.4.24.

⁷⁶ *Id.*, paras. 4.4.14, 4.4.17-18.

⁷⁷ *Id.*, para. 4.4.18; see also para. 4.4.19.

⁷⁸ *Id.*, para. 4.4.20; see also para. 4.4.25 (noting that "RDS controls and influences the Scope 3 emissions of the end-users of the products produced and sold by the Shell group").

⁷⁹ See CDP, *CDP reports record number of disclosures and unveils new strategy to help further tackle climate and ecological emergency* (October 14, 2021), <https://www.cdp.net/en/articles/media/cdp-reports-record-number-of-disclosures-and-unveils-new-strategy-to-help-further-tackle-climate-and-ecological-emergency>.

approved science-based targets, amounting to over 1000 companies, have targets covering scope 3 emissions.⁸⁰

Net zero-aligned transition plans must not rely on speculative technologies or offsets.

With respect to transition plans, we are particularly concerned with increasing characterizations of “natural gas” – or, more accurately, “fossil gas” – as a transition asset,⁸¹ and the use of experimental or speculative emissions reduction and removal technologies that are unproven at scale, such as CCUS, in climate transition plans - often labeled as a so-called “climate solution.”⁸² New investments in gas or other fossil fuels on the assumption of effective CCUS will only lock-in carbon from additional fossil fuel supplies and run counter to what is required for achieving a global net zero target.

Company transition plans are at the heart of current greenwashing activities, and a growing subject of litigation. Cases have been lodged against non-state entities for misrepresenting their climate commitments and transition plans to achieve net zero emissions. These include a case against TotalEnergies alleging that Total is violating European consumer law by promoting itself in advertisements as aiming to achieve carbon neutral by 2050 and play a major role in the transition while at the same time planning significant fossil fuel expansion, increasing production of gas, relying on carbon removal technologies—which remain unproven—and not taking meaningful action, in accordance with the best available science, to reduce emissions.⁸³ In Australia, the Australasian Centre for Corporate Responsibility (ACCR) has filed a lawsuit against Santos alleging that Santos is violating Australian consumer protection and corporation laws. The lawsuit alleges that Santos is engaging in misrepresentation by stating that it has a clear and credible plan to achieve net zero emissions by 2040, and by claiming that natural gas is a clean fuel that provides clean energy. Part of the basis for the lawsuit is that Santos, in fact, is planning to increase its greenhouse gas emissions by expanding its natural gas operations, and that more than 80% of its net zero plan relies on CCS and is based upon a range of undisclosed qualifications and assumptions about this process.⁸⁴

⁸⁰ Science-Based Targets Initiative, *SBTi Progress Report 2021: Scaling Urgent Corporate Climate Action Worldwide*, <https://sciencebasedtargets.org/reports/sbti-progress-report-2021>.

⁸¹ See, e.g., GFANZ, *Financial institution Net-zero Transitions Plans: Recommendations & Guidance* (DRAFT), https://assets.bbhub.io/company/sites/63/2022/06/GFANZ_Recommendations-and-Guidance-on-Net-zero-Transition-Plans-for-the-Financial-Sector_June2022.pdf.

⁸² *Id.* See also SBTi Net Zero Standard for Financial institutions, <https://sciencebasedtargets.org/resources/files/SBTi-Finance-Net-Zero-Foundations-paper.pdf>.

⁸³ See *Greenpeace France and others v. TotalEnergies SE and TotalEnergies Electricite et Gaz France*, Summons before the Judicial Court of Paris, Mar. 2, 2022 (unofficial translation), <https://www.clientearth.org/latest/documents/assignation-greenpeace-friends-of-the-earth-france-and-note-affaire-a-to-us-against-totalenergies/>; ClientEarth, *We're Joining Legal Action against Total for Greenwashing* (Mar. 3, 2022), <https://www.clientearth.org/latest/latest-updates/news/we-re-joining-legal-action-against-total-for-greenwashing/>; Amis de la Terre France, *Environmental Groups sue TotalEnergies for Misleading the Public over Net Zero* (Mar. 3, 2022), <https://www.amisdelaterre.org/communiqu%C3%A9-presse/environmental-groups-sue-totalenergies-for-misleading-the-public-over-net-zero/>.

⁸⁴ Australasian Centre for Corporate Responsibility (ACCR), *ACCR files landmark case against Santos in Federal Court*, Aug. 26, 2021,

III. Verification And Transparency: Governance Of Targets

Robust accountability mechanisms are key to combating net zero greenwashing. This should entail fully transparent net zero-aligned targets and mandatory reporting on progress; audits of targets, transition plans, and emissions disclosures that are based on reasonable assurance, similar to financial statements; and internal accountability mechanisms that ensure climate-related targets and plans are credible and disclosures are accurate.

Full transparency of net zero-aligned targets and progress is essential for accountability. In order to ensure entities are taking action to align with net zero, their targets and progress in meeting those targets should be publicly disclosed through a readily accessible, open, and transparent public website, such as the UNFCCC Global Climate Action Portal, with reporting mandated on a regular (annual) basis, as mentioned above. It should also be provided in multiple languages and in a manner accessible to the general public. Voluntary initiatives (such as the UN Race to Zero) should track not only the announcement of targets - but their implementation - and develop specific mechanisms to remove participating initiatives and their members that are not meeting their criteria. Absent strong sanction mechanisms, companies will be able to use their membership of net zero alliances for greenwashing purposes.

Non-state entities' internal mechanisms must facilitate accountability for climate action and greenwashing practices. The Recommendations of the Task Force on Climate-related Financial Disclosures and the proposed ISSB Climate-related Disclosure Standards are correct in calling for non-state entities to disclose their internal governance mechanisms for climate-related risk and opportunities. By disclosing these mechanisms and clarifying internal oversight responsibilities, external parties are better able to evaluate the entities' commitment to and capacity to implement their net zero-aligned targets. It is particularly important that entities disclose the process by which the Board assures the accuracy of climate-related information that is disclosed, and any conflicts of interest within the Board that may compromise transition activities.

We support efforts to link directors' and executives' compensation with achievement of real, absolute emissions reductions consistent with credible net zero-aligned targets, as well as adoption of punitive measures for failing to do so. Entities should also be required to establish grievance mechanisms that allow for third parties as well as whistleblowers to raise concerns regarding noncompliance with net-zero aligned targets and failure to implement transition plans.

<https://www.accr.org.au/news/australasian-centre-for-corporate-responsibility-files-landmark-case-against-santos-in-federal-court/>; Environmental Defenders Office, *Australasian Centre for Corporate Responsibility expands landmark Federal Court case against Santos*, August 25, 2022, <https://www.edo.org.au/2022/08/25/australasian-centre-for-corporate-responsibility-expands-landmark-federal-court-case-against-santos/>.

Any grievances that have been raised through these mechanisms, as well as litigation involving an entity's net zero targets and/or implementation should be publicly reported and accessible, for example, through the UNFCCC Global Climate Action Portal.

With respect to internal audits, it is particularly important that disclosures of Scope 3 emissions are subject to reasonable assurance. Limited assurance has a higher probability of overlooking material misstatements and will do little to ensure the accuracy of disclosures. Given the central role of Scope 3 emissions in many entities' overall climate impact, not requiring a robust audit will compromise the accuracy of the disclosures, mislead stakeholders as to an entities' greenhouse gas emissions, and further facilitate greenwashing. Audits should also inspect and identify any corporate activities that are misaligned with net zero targets, including by examining the entity's lobbying activities done directly or through industry associations, and standards applied to its business relationships, for example with clients and investees.

Third party verification of net zero targets must be approached with caution. Verification of net zero targets and plans are critical to ensuring the accuracy of the information presented and to combat potential greenwashing, but should only be relied upon insofar as the verifying entities are independent and employ robust standards that are aligned with a 1.5°C pathway. We note that while the SBTi has been proposed as a Net Zero Verification Standard for corporate climate claims, some analyses have shown that it does not guarantee net zero alignment.⁸⁵

IV. Pathway To Regulation: Standards And Criteria In The Context Of A Just Transition

Voluntary standards are inherently limited in their ability to change corporate practices, and only enforceable rules and regulations can guarantee the global net zero transition that is needed to avert climate catastrophe. This is illustrated by the fact that global energy-related carbon dioxide emissions rose by 6% in 2021 to 36.3 billion tonnes, their highest level ever,⁸⁶ despite widespread adoption of the voluntary TCFD disclosure framework⁸⁷ and proliferation of net zero commitments.⁸⁸ While the TCFD disclosure framework has been a helpful catalyst for more comprehensive climate-risk disclosure, and initiatives such as Race to Zero have accelerated adoption of net zero commitments, the current emissions trajectory give

⁸⁵ See NewClimate Institute and Carbon Market Watch, *Corporate Climate Responsibility Monitor 2022* (February 2022), pp. 26-27, <https://newclimate.org/sites/default/files/2022-06/CorporateClimateResponsibilityMonitor2022.pdf>. See also Science Based Targets Initiative (SBTi), *SBTi launches world-first net-zero corporate standard* (October 28th, 2021) <https://sciencebasedtargets.org/news/sbti-launches-world-first-net-zero-corporate-standard>.

⁸⁶ International Energy Agency, *Global CO2 emissions rebounded to their highest level in history in 2021*, March 8 2022, <https://www.iea.org/news/global-co2-emissions-rebounded-to-their-highest-level-in-history-in-2021>.

⁸⁷ TCFD Supporters Around the World, <https://www.fsb-tcfid.org/support-tcfid/>

⁸⁸ See NET ZERO STOCKTAKE 2022, *supra* note 1.

further justification for regulation. Voluntary standards can help to facilitate regulation, but cannot take its place.

Key areas/issues that must be subject to regulation for net zero to be credible include ensuring the accuracy of the disclosures - most notably Scope 3 emissions and transition plans; and a requirement for non-state entity net zero targets and transition plans to be aligned with country level Nationally determined contributions (NDCs), at a minimum. Efforts to further codify a green taxonomy may also be useful in combating greenwashing, but only to the extent that the classifications are aligned with a 1.5°C pathway (see note above on use of speculative technologies as “climate solutions” or fossil gas as a “transition fuel”). Regulations should also require that the net zero targets and transition plans respect human rights. Regulations must enable third party enforcement through local and international judicial mechanisms, especially for those affected by the entity’s actions. Finally, for sub-national governments, such as cities, it is important that they have the ability to make binding rules to achieve net zero targets.

Net zero-aligned targets must be geared towards delivering a Just Transition, rooted in climate justice and consistent with corporate responsibilities to respect human rights.

The Paris Agreement acknowledges that “when taking actions to address climate change,” States should “respect, promote and consider their respective obligations on human rights.”⁸⁹ This is applicable to non-state entities as well who commit to aligning with the Paris Agreement: net zero targets and transition plans must embed equity and justice as key principles, and primarily must focus on phasing out fossil fuels with a view to protecting communities’ and workers’ rights across the world. This includes highly developed countries (and high-emitting corporations based in those jurisdictions) reaching net zero significantly earlier than low-emitting countries. All countries and entities must take into account the needs and rights of local communities and Indigenous Peoples in planning and implementing actions to help stay below 1.5°C.

The High Level Expert Group, as a U.N. appointed body, must ensure that its guidance does not condone companies putting forward net zero plans that fail to meet their responsibility to respect human rights. Any guidance and standards put out by the High Level Expert Group must therefore be in line with corporations’ responsibility to respect human rights—a responsibility clarified in the U.N. Guiding Principles on Business and Human Rights. The responsibility to respect human rights means that companies—including financial institutions—should avoid causing or *contributing to* adverse human rights impacts.⁹⁰ When a company causes or foreseeably may cause an adverse human rights impact, it should take the necessary steps to cease or prevent that impact. If a company contributes or foreseeably may contribute to an

⁸⁹ Paris Agreement, *supra* note 6, at preamble.

⁹⁰ U.N. Office of the High Commissioner for Human Rights (OHCHR), Guiding Principles on Business and Human Rights, princ. 13(a) (2011), adopted by the UN Human Rights Council, A/HRC/RES/17/4, July 6, 2011 [UNGP]; OHCHR response to request from BankTrack for advice regarding the application of the UNGP in the context of the banking sector, pp. 5-6, 8 (June 12, 2017) [OHCHR Response to BankTrack].

adverse human rights impact, it should take the necessary steps to cease or prevent its contribution, and use its leverage to mitigate any remaining impacts. When it causes or contributes to an adverse impact, the company should provide or cooperate in the remediation of those impacts.⁹¹ Companies should also seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products, or services by their business relationships, including through exercising leverage over the entity causing the harm.⁹² The corporate responsibility to respect human rights in the context of adverse human rights impacts from climate change has been affirmed and set out by the OHCHR,⁹³ the Hague District Court in *Milieudefensie et al v Royal Dutch Shell*,⁹⁴ and the Philippines Human Rights Commission.⁹⁵

The above responsibilities should inform the High Level Expert Group's guidance on net-zero plans, as it is well-established that, like climate change itself, responses to climate change can and do adversely impact the full range of human rights.⁹⁶ To meet their responsibility to avoid causing or contributing to adverse impacts caused by climate change, companies should identify and assess the adverse impacts of their scope 1-3 emissions, should account for the full scope of their activities and value-chain in their net zero plans, and should prevent the adverse human rights impacts directly linked to their operations, products, or services. Companies can and do cause or contribute to such adverse impacts via emitting their own GHGs, facilitating the emissions of GHGs (e.g. by financing), and through the GHG emissions of their products. To avoid causing or contributing to these adverse impacts, companies must have net zero plans that align, at minimum, with a 1.5°C pathway based on the precautionary principle—which might require a company (e.g. fossil fuel companies) to change their products (e.g. energy package). If companies fail to do so—and have the knowledge that their activities and products, services, and operations with which they are directly linked cause or contribute to adverse human rights impacts—they will fail to meet their responsibility to respect human rights.

Financial institutions can play a key role accelerating the net zero transition and therefore must be strictly regulated to ensure alignment with a 1.5°C pathway and to prevent greenwashing by the institutions themselves and by their clients and investees.

Given the central role played by financial institutions in the net zero transition, financial regulators must require accurate disclosure of Scope 3 emissions associated with a financial

⁹¹ UNGP, princ. 13(a), 19, 22 (and associated commentary); OHCHR Response to BankTrack, pp. 10-11.

⁹² UNGP, princ. 13(b), 19; OHCHR Response to BankTrack, pp. 13-14.

⁹³ U.N. OHCHR, Frequently Asked Questions on Human Rights and Climate Change: Fact Sheet No. 38, pp. 36-38 (2021)

⁹⁴ See District Court of the Hague, *Milieudefensie et al v. Royal Dutch Shell*, paras. 4.1.17-20, case no. C/09/571932 / HA ZA 19-379 (May 26, 2021).

⁹⁵ Commission on Human Rights of the Philippines, National Inquiry on Climate Change Report, pp. 90-91, 94-95 (2022), <https://chr.gov.ph/wp-content/uploads/2022/05/CHRP-NICC-Report-2022.pdf>.

⁹⁶ Human Rights Committee, General Comment No. 36 (2018) on article 6 of the International Covenant on Civil and Political Rights, on the right to life, para. 62, U.N. Doc. CCPR/C/GC/36 (Oct. 30, 2018); Joint Statement by the Committee on the Elimination of Discrimination Against Women, the Committee on Economic, Social and Cultural Rights, the Committee on the Protection of the Rights of All Migrant Workers and Members of Their Families, the Committee on the Rights of the Child and the Committee on the Rights of Persons with Disabilities, Statement on "Human Rights and Climate Change," U.N. Doc. HRI/2019/1, para. 3 (May 14, 2020), https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=HRI%2f2019%2f1&Lang=en (statement originally released Sept. 16, 2019); Joint Statement on Human Rights and Climate Change, para. 3.

institution's financing and investment activities, inclusive of their clients' and investees' Scope 3 emissions⁹⁷; and transparency as to how an institution is assessing and managing the climate-related risks and contributions to climate change by their clients and investees, including how they treat client-purchased offsets or reliance on speculative technologies such as CCUS.⁹⁸ It is important that financial institutions' financing standards are aligned with NDCs, at a minimum, and the global net zero goal, and are applied to all financing activities. Financial regulators should be able to levy penalties on those financial institutions that fail to align with NDCs. Regulators should also utilize the bank capital framework to incentivize greater resiliency of the financial system to climate-related risks.⁹⁹

The Global Financial Alliance on Net Zero (GFANZ) has become the default avenue for financial institution alignment with net zero, but unfortunately the GFANZ standard is not sufficient to ensure 1.5°C alignment. Net zero alliance members must require the companies they own / finance to stop investing in new fossil fuel projects instead of promoting private sector investments into offsetting and speculative negative emissions technologies.¹⁰⁰ In late September, 2021 the "UN-Convened Net-Zero Asset Owner Alliance" announced that "the primary focus" of actions to align with 1.5°C "must remain on deep decarbonization in energy, urban, infrastructure and industrial systems, as well as reversing emissions growth from land use systems".¹⁰¹ Yet, this message was undermined by its call for asset owners to "immediately scale investment" into offsets and "negative emissions technologies". Convolutional guidance issued by net zero standard setters advocating for carbon offsets and removal technologies will not compel sufficient climate action.

⁹⁷ Scope 3 emissions are critical for financial institutions given portfolio emissions are on average 700 times larger than direct emissions. See CDP, Finance sector's funded emissions over 700 times greater than its own (April 28 2021), <https://www.cdp.net/en/articles/media/finance-sectors-funded-emissions-over-700-times-greater-than-its-own>. At present, GFANZ alliance members are not required to reduce Scope 3 emissions associated with the companies they support. See RECLAIM Finance, *IT'S NOT WHAT YOU SAY, IT'S WHAT YOU DO: Making the finance sector's net-zero alliances work for the climate* (November 2021), p.5, https://reclaimfinance.org/site/wp-content/uploads/2021/11/FINAL_GFANZ_Report_02_11_21.pdf.

⁹⁸ See Transition Pathway Initiative, *An investor-led framework of pilot indicators to assess banks on the transition to net zero* (June 2022), <https://www.transitionpathwayinitiative.org/publications/107.pdf>; InfluenceMap, Finance and Climate Change: A Comprehensive Climate Assessment of the World's Largest Financial Institutions (March 2022), <https://influencemap.org/report/Finance-and-Climate-Change-17639>.

⁹⁹ See, e.g. Gregg Gelzinis, "Addressing Climate-Related Financial Risk Through Bank Capital Requirements", Center for American Progress (May 11, 2021), <https://www.americanprogress.org/article/addressing-climate-related-financial-risk-bank-capital-requirements/>.

¹⁰⁰ Reclaim Finance, *The not-zero asset owner alliance? Pushing offsetting only undermines climate action* (January, 2021), <https://reclaimfinance.org/site/en/2021/10/01/the-not-zero-asset-owners-alliance-pushing-offsetting-only-undermines-climate-action/>.

¹⁰¹ United Nations Environment Programme, *Net-Zero Asset Owner Alliance Backs Calls To Scale-Up Carbon Removal From Atmosphere* (September 23, 2021) <https://www.unepfi.org/news/industries/investment/net-zero-asset-owner-alliance-backs-call-to-scale-up-carbon-removal-from-atmosphere/>.