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COP28 and The First Global Stocktake: Personal Reflections on an Affirmational, Inspirational and Disappointing Experience and an Opportunity Missed

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Introduction

I had the good fortune to attend a number of thought-provoking sessions as one of UCL's virtual observers [1] at COP28. This experience was simultaneously inspiring, affirmational, troubling and disappointing. Overall, it strengthened my belief in the conclusions emerging from my UKCRIC and C-DICE research [2] but did little to assuage my nagging doubts regarding the overall efficacy of the COP process [3].

This thought piece opens with a brief overview of COP28, and elaborates as to why the experience of attending COP28 was simultaneously affirmational, inspirational, troubling and ultimately disappointing. This includes my personal critique of how and why the scope, and outcome, of the First Global Stocktake (Draft decision -/CMA.5) [4] were a missed opportunity with the potential to impede the successful ratcheting up of Nationally Determined Contributions (NDC)¹ at future COPs.

The article then focuses on three positive perspectives, specifically: a potential vision for Climate Positive Infrastructure Systems; the possibility that a fossil fuel phase out is now imminent and that it is in the enlightened self-interest of all global citizens, governments and businesses to start behaving now as though a future date for a fossil fuel phase out has already been agreed; and inspired by the intensity of the COP28 People's Plenary, some thoughts on how we can add our own voices to, and amplify those of, the representatives of communities for whom failing to limit global warming to 1.5°C is an existential threat.



1. Nationally Determined Contributions (NDCs) are commitments to reduce GHG emissions made by individual countries (parties) in accordance with the 2015 Paris Agreement.

COP28 – A Brief Overview

COP28 got off to a flying start with the COP Presidency announcement that a ‘loss and damage’ fund had been agreed. Several further high-profile announcements followed over the coming days, and it began to feel as though Christmas had come early to COP28. These early signs of progress, raised my hopes that in response to the alarming finding: *Parties are not yet collectively on track toward achieving the purpose of the Paris Agreement and its long-term goals*. (UNFCCC Report (FCCC/SB/2023/9) [5], the First Global Stocktake would catalyse decisive action, and embolden parties to commit to enhanced Nationally Determined Contributions (NDCs) and agree a clear date for the phase out of fossil fuels.

However, early momentum proved difficult to maintain. The flow of high-profile announcements began to slow. Contributions to the ‘loss and damage’ fund remained stubbornly below the required \$400 bn/year. All momentum was finally lost on Day 11 of COP28 (11/12/23) with circulation of the draft text of the First global stocktake under the Paris Agreement. Despite ‘*Underlining*’ the finding of the UNFCCC Report FCCC/SB/2023/9 [5], it put an end to the dream of COP28 agreeing a fossil fuel phase out, and offered little else to catalyse an accelerated global response. Moreover, it prompted severe condemnation from many Parties representatives, particularly those already suffering the adverse impacts of 1.1 -1.3°C global warming. Many of whom felt that signing such a document would be akin to signing their nations death certificate. A sentiment captured by Cedric Shuster, The Samoan Minister and Alliance of Small Island States Chair (AOSIS) who declared, “*We will not sign our death certificates*.” [6]

However, following much negotiation between the parties², a revised version of First Global Stocktake (Draft decision -/CMA.5) [4], the central outcome from COP28, was agreed. The First Global Stocktake is a beautifully crafted, consolidated list of that which we already knew, and/or have already committed to, it covers every element that was under negotiation at COP28, and serves as an informative reference document.

Most notably, it underlines the UNFCCC Report (FCCC/SB/2023/9) [5] finding that *Parties are not yet collectively on track toward achieving the purpose of the Paris Agreement and its long term goals*; highlights that the necessary 43% reduction (from 2019 levels) in global GHG emissions by 2030 will require parties to develop stronger climate action plans (NDC) before 2025; and in Clause 28 calls on Parties to contribute to global efforts, to: (a) by 2030 triple global renewable energy capacity and double the global rate of energy efficiency improvements; (b) phase-down unabated coal power [timeline not specified]; (c) by, or before, 2050 to reduce to Net Zero emissions from global energy systems; (d) transition away from fossil fuel use in energy systems; (e) accelerate a list of specified zero- and low-emission technologies.

Clause 28 is little more than a formalised list of the scope, scale and types of actions to which the parties implicitly committed to undertake when signing the Paris Agreement in 2015. Nevertheless, its inclusion in the text of Draft Decision -/CMA.5 [4], is a significant achievement and offers a potential springboard to accelerate action and ambition in the future.

2. Nationally Determined Contributions (NDCs) are commitments to reduce GHG emissions made by individual countries (parties) in accordance with the 2015 Paris Agreement.

COP28 - An Affirmational Experience

All that I witnessed as a virtual COP28 attendee reaffirmed my confidence in the conclusions emerging from my UKCRIC and C-DICE research and/or resonated with conclusions drawn from my experiences at COP26 [7]; and of reviewing COP27 outcomes. Specifically, it strengthened my belief that: the Climate emergency is a Wicked Problem of problems; the inevitable long term consequence of a deeply embedded, but erroneous Not Zero mindset regarding GHG, and other polluting, emissions as externalities for which the polluter need not pay [8]; a successful response to the climate emergency will require transformation of the systems from which it has emerged; the unprecedented speed, scale and breadth of systemic transformation required will need, fit for purpose system goals, rules, processes, structures and approaches to governance all explicitly aligned with a Net Zero mindset [2] [9]. Additionally, it will be necessary to launch a Moonshot Mission tasked with establishing a diverse long-term, collaborative, dynamic, multi-faceted, multi-scale, cradle-to-cradle and synergistic portfolio of systemically targeted interventions [2]. Infrastructure systems with the qualities prioritised in [UKCRIC's Scientific Missions](#) for Infrastructure systems [9] [10] are nationally significant, globally replicable, leverage points [11], with a critical role to play in any successful global response to the climate emergency, not least by providing a systemically resilient foundation upon which wider societal resilience to the impacts of Global Warming can be built [12].

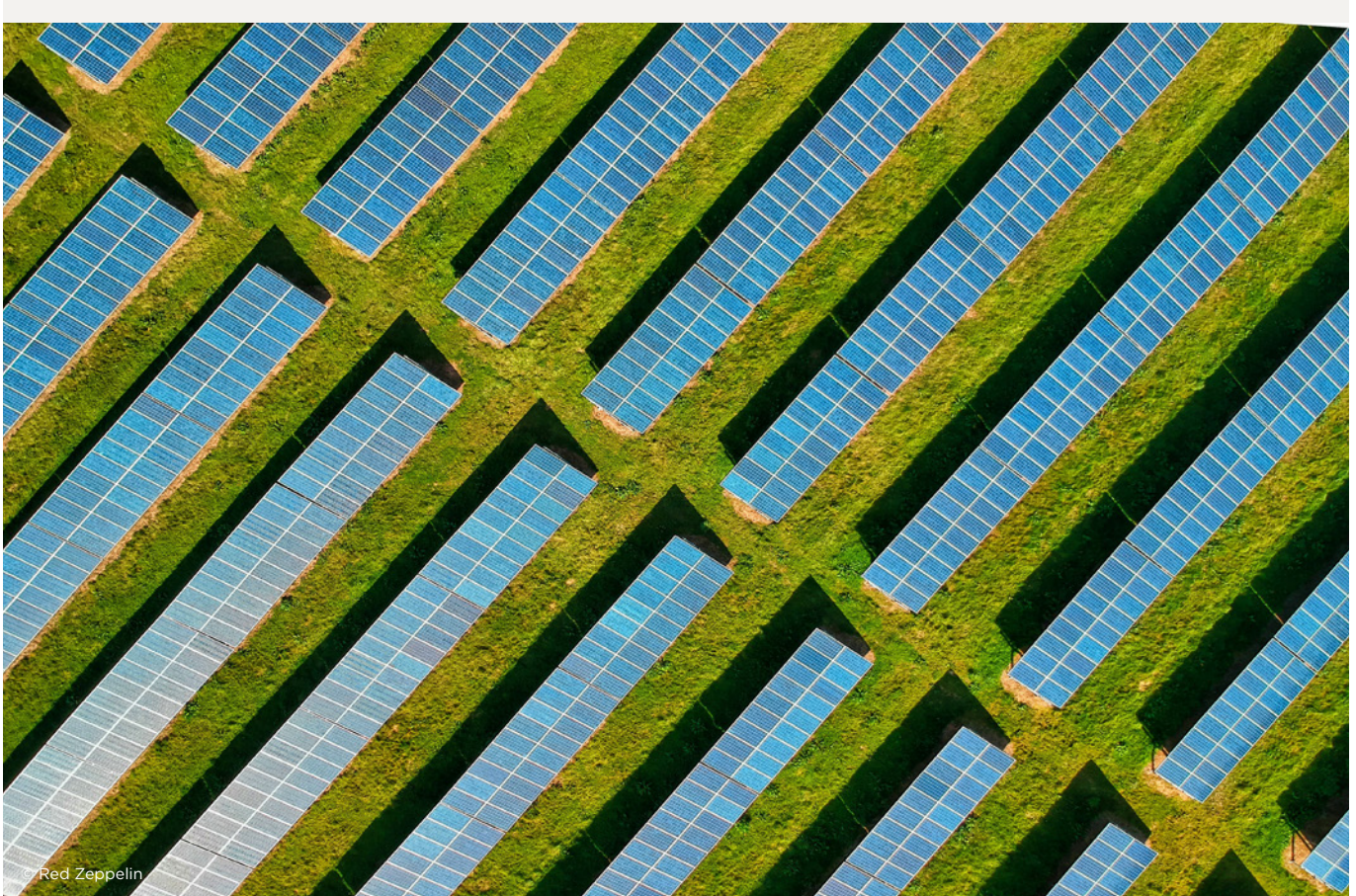
COP 28 - An Inspirational Experience

I was inspired and influenced by all the sessions I attended at COP28. Of those sessions the most inspirational was the session Nature Based Solutions and the Built Environment, Design for Resilience Drawdown and Biodiversity [12] [13], which got me thinking about the potential application of Climate Positive Design principles [14] to infrastructure systems to support their transformation into Climate positive infrastructure systems (see more details later in this article).

The most profound was The People's Plenary session. Held shortly after circulation of the draft first global stocktake had been circulated, this session, simultaneously moved me to tears, challenged me, and filled me with both hope, dread and a sense of duty (see more details later in this article).

The most rewarding session I attended was held by The International Coalition for Sustainable Infrastructure (ICSI). The session Engineering Action: Influencing the future of the built & natural environment [15], championed the application of the UNDRR resilient infrastructure principles (the recommended use of which was incorporated into The Sendai Framework early in 2023, following the midterm review [15]) and the concept of Net Resilience Gain [16] by the Parties. Both of which are research outcomes, from UNDRR commissioned, UCL research, with which I had been involved. Both received a positive reception from all session attendees, some of whom had already begun applying the resilient infrastructure principles to their work. (ref session and reports).

Other Sources of Inspiration came from learning about: The UNFCC Climate Champions work on The Breakthrough Agenda [16]; the publication of a UNEP report co-authored by Prof. Jim Hall) on Nature Based Infrastructure [17]; The Climate TRACE Coalition's work tracking GHG emissions [18]; the efforts of all @SustainableUCL [19] colleagues in attendance at COP28, most notably Prof Mark Maslin Climate Denial Debunked collaboration with Climate Science Breakthrough [20].



COP 28 - A Troubling Experience

By contrast, I was troubled by a number of aspects of COP28, in particular:

- The lack of urgency (my perception). The UNFCCC Report (FCCC/SB/2023/9) [5] confirmed that the global economy is not on track to achieve Net Zero by 2050. Meaning, unless we do more now, global warming $> 1.5^{\circ}\text{C}$ is inevitable. This represents an existential threat to many communities. I firmly believe that this stark reality should have injected extra urgency into all high-level proceedings at COP28. However, I saw little evidence that this was the case.
- The lack of ambition of, and the absence of anything truly new in, the First Global Stocktake (my perception) at odds with the urgent needs of those communities already suffering from 1.1 to 1.3°C , and those communities that will begin to suffer if global warming is allowed to reach $>1.5^{\circ}\text{C}$.
- NB: Clause 28 is a welcome addition to an officially agreed text. However, it does not represent higher urgency or an acceleration of urgency. Rather, it specifies the type of actions Parties should take to meet target agreed under the Paris Agreement.
- The stubbornly low level of contributions pledged to the newly agreed 'loss and damage' Fund. The approximately \$700 mn/year pledged by Parties is less than 0.2% of the estimated \$400 bn/year global cost of Loss and Damage.³ [1]

3. Figures from UCL Generation One: The Climate Podcast Season 4: COP28 - What on Earth Happened? bit.ly/47QEGmX

- The apparent withdrawal of UK leadership by an apathetic UK Prime Minister more focused on, comparatively trivial, domestic policy (i.e net migration targets and licences for new fossil fuel extractions) than participating in collaborative global efforts focused on enhancing and protecting our shared global future from the disruptive impacts of the climate emergency.
- The treatment of Licypriya Kangujam, a 12-year-old climate-justice activist from India, whose protest during the UN High Level Plenary Session of COP28 resulted in her being detained, for over 30 minutes, prompting her desperate mother to appeal for information.

Draft decision -/CMA.5 on The Global Stocktake [4] - A Disappointing Outcome

In my opinion the First Global Stocktake, whilst beautifully crafted, and a useful reference document, is, with the possible exception of Clause 28, is nothing more than a consolidated list of that which we already knew, and/or have already committed to. It is in terms of content and formatting, uncannily similar to The Glasgow Pact and The Sharm el-Sheikh Implementation Plan. It is neither the type of output I had expected from the First Global Stocktake, nor the type of document that I believe we need the COP process to be producing at this stage in the climate emergency. I had hoped for much more, and believe an opportunity has been missed.

That global mitigation efforts are not yet on track to achieve global Net Zero was confirmed in the September prior to COP28 by the publication of UNFCCC Report (FCCC/SB/2023/9) [5] which found that the global economy is not yet on track to achieve global Net Zero by 2050.

This is an important, albeit unsurprising finding (we were also off track at COP27). It highlights what I believe to be one of the most significant elephants in the room at COP28. Specifically, I believe it to be indicative of the political and economic reality that many Parties find the translation of emissions targets and financial commitments agreed at COP into effective domestic policies a thankless task.

For this reason, the conclusion I drew from the UNFCCC Report (FCCC/SB/2023/9) is that if we are to successfully get on track, the most significant challenge the COP process must overcome is not a lack of targets, commitments or pledges. It is the altogether thornier issue of whether Parties are capable of delivering domestically, the commitments to which they have agreed under the Paris Agreement and at subsequent COPs.

This Party level delivery failure, is an issue which if not resolved, will result in the Parties: continuing to underperform against their NDC, and as a consequence setting insufficiently ambitious NDC at COP31 in 2025; and continuing to fail to fulfil previously agreed financial commitments and as a consequence acting cautiously in the scale of future financial commitments they are willing to agree to (as already seen with the level of contributions to the 'loss and damage' fund at COP28.)

I had therefore, hoped that the requirement to undertake the first global stocktake at COP28 would have been used as an opportunity to: raise the profile, and publicise the significance, of Party level delivery failures; instigate investigation into the systemic causes, identify systemic, structural and contextual barriers to successful delivery by Parties; seek options to

ensure the timely domestic delivery of COP commitments; and initiate strategic discourse on the above, and other strategic challenges. Such as, the closely related question: What role can COP processes play to help Parties build the capabilities needed to enable the timely domestic delivery of commitments agreed at COP. Disappointingly, I have seen little evidence to convince me that this was the case.

In addition to expecting the above, I had also expected the First Global Stocktake to:

- Capture an accurate snapshot of current global progress toward Net Zero by 2050.
- Diagnose and examine in greater detail potential systemic causes, and other context specific factors that determine a Parties current level of performance against, and ability to deliver, specific commitments.
- Assess Party level delivery capabilities on a Party by Party basis, and agree a strategic global plan to strengthen delivery capabilities across all Parties, prioritising those where the need is deemed to be greatest.
- Build an evidence base to illustrate the need for, and benefits of, greater collaboration between parties to learn from, and support, one another with the domestic delivery of current and future, more ambitious NDCs.
- Mobilise an urgent global response to tackle party-level delivery failures and get the global #RacetoZero back on track.
- Initiate open transparent strategic discourses on any other thorny challenges, which if not addressed have the potential to impede or undermine the efficacy of the COP process (COP's elephants in the room).

Thus, building a foundation to facilitate the more effective delivery of existing commitments and inspire parties to commit to, and deliver, increasingly ambitious NDC at future COP events.

To the best of my knowledge, the above opportunities were not exploited at COP28. Perhaps I had artificially high expectations of what the First Global Stocktake could achieve. Nevertheless, I remain convinced that not exploiting the opportunities created by the requirement to perform a global stocktake was a mistake.

Moreover, I believe that the challenge of Party-level delivery failure needs to be effectively addressed before Parties can confidently commit to new more ambitious NDCs. Therefore, the opportunities missed at COP28, have the potential to impede the efficacy of the COP process in the near future. For example, a ratcheting up global ambition in the 2025 round of NDC, is now both less likely, and of greater importance than ever before.

Therefore, I believe that our chances of ever progressing the #RacetoZero from *not yet on track* to *on track* now critically depends upon the efficacy of actions taken over the next 2 years to develop Party level delivery capabilities, and give Parties the confidence necessary to commit to new more ambitious NDCs.

Therefore, the NDCs established in 2025 must be more than ambitious commitments to ever greater GHG reduction targets. They must be supported by a significant increase in delivery capability at the Party level. In particular, the capabilities to: diagnose, the systemic drivers of low global, and low party-level delivery; and to identify, prescribe and implement systemically targeted interventions capable of transforming the systems from which those drivers emerge, will be essential.

Positive Perspective: A Vision for Climate Positive Infrastructure Systems

I was inspired by the session, Nature Based Solutions and the Built Environment, Design for Resilience Drawdown and Biodiversity [12][14], in particular by Pamela Conrad who:

i) spoke compellingly, about her work on Climate Positive Design in Landscape Architecture. *We have a unique opportunity to sequester carbon through landscapes and support biodiversity...We should aspire to become climate positive, not just get to climate neutral... If all landscape architecture projects were to move away from BAU to climate positive design this would create the global opportunity for the landscape architecture profession to sequester a net 1 gigaton of CO₂ emissions by 2040...This is not only an opportunity, it is a responsibility. We must change the way we design going forward. We must measure and improve impacts.* (based on a presentation by Pamela Conrad on [Climate Positive Design at COP28](#)) [14]

ii) shared illustrative case study examples of climate positive landscape architecture projects and;

iii) introduced the free Climate Positive Pathfinder tool [21] developed to enable projects to be designed to become climate positive as swiftly as possible, or even to be climate positive from day one.

A similar climate positive design approach could easily be applied to infrastructure system, urban system and built environment projects. Moreover, if viewed through a climate positive design lens, every Infrastructure project would become a multi-faceted opportunity to do one or more of the following:

- i) To mitigate levels of polluting emissions;
- ii) to increase levels of natural sequestration;
- iii) to drive adaptation and enhance resilience to the disruptive impacts of future climate change (i.e. to generate net resilience gains);
- iv) to influence the flow of storm water through catchments and reduce the risk of surface water flooding;
- v) to enhance the sustainability and liveability of the places we live;
- vi) to generate wider societally beneficially outcomes (health, fairness.)

Therefore, climate positive design principles can be used to deliver projects, and ultimately create infrastructure systems, built environments and landscapes, that are climate positive across the lifecycle. Moreover, they can be used to support a climate positive reimagining the roles landscapes, the built environment and infrastructure systems can play to:

- Reduce the vulnerability of coastal communities/cities /places to tidal flooding.
- Reduce the vulnerability of all communities /cities /places to surface water flooding.
- Reduce the frequency, and impact, of sewage discharges from overflows.
- Mitigate urban heat island effects.
- Enhance societal resilience to the disrupt impacts of changing weather patterns such as the more frequent occurrence of: intense rainfall events; heatwaves; and clusters of extreme events.

Climate positive landscape design principles, need to be built into all future infrastructure, built environment and housing planning decision making processes, at all stages of the project, asset and system lifecycles including the design of new projects, and the maintenance, refurbishment, upgrading, regeneration of established assets and systems. The synergistic multi-benefits of adopting such an approach, will accrue across society and manifest as healthier, happier, more active, less polluting, reduced flood risk, resilient places and people.

The Climate Positive Pathfinder tool and the expertise of landscape architecture bodies such as the American Society Landscape Architects (ASLA) make the integration of climate positive design into infrastructure planning a realistic proposition.

Positive Perspective: Fossil Fuel Phase Out is imminent *(or at least we must behave as though it is)*

Our future prosperity will be powered by clean electricity, not fossil fuels, and facilitated by climate positive infrastructure projects, assets and systems. Therefore, our built environment and the infrastructure systems that underpin them will have to be very different in the future. It is in our enlightened self-interest to begin that future today.

In the aftermath of COP28, UN Climate Change Executive Secretary, Simon Stiell stated that the COP28 agreement signals “beginning of the end” of the fossil fuel era, reasoning:

“Whilst we didn’t turn the page on the fossil fuel era in Dubai, this outcome is the beginning of the end....Now all governments and businesses need to turn these pledges into real-economy outcomes, without delay.”

UN Climate Change Executive Secretary, Simon Stiell [22]



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Despite the significant shortcomings of the First Global Stocktake, I agree that the end has begun for fossil fuels. The intense passion, raw emotion, visceral anger, desire for change and strength of solidarity amongst participants in the People's Plenary at COP28 was such that the issue of fossil fuel phase out will be revisited in Azerbaijan at COP29, and again at all subsequent COPs, until a phase out is agreed. For this reason, I believe that a global climate agreement that commits to a global phase out of fossil fuels is imminent. Therefore, it is in our enlightened self interest to behave as though it already has.

The wording in point 28 of The First Global Stocktake referring to a *phase down* sends a clear message that our future is not going to be powered by fossil fuels, and sets a clear direction for the global economy. The commitment to phase down fossil fuel usage, will reduce fossil fuels to a niche industry. Whereas, a commitment to phase out, would have set a firm date beyond which fossil fuels will no longer be used. However, both signal that future investments in fossil fuel projects and infrastructure and/or fossil fuel-dependent infrastructure systems or appliances (e.g. gas boilers or non-electric vehicles) are destined to leave the investor with stranded, uncompetitive and/or legislatively obsolete, assets long before the point at which they are technically inoperable.

Therefore, despite the absence of a global political agreement to phase out fossil fuels, it is increasingly in the enlightened self-interest of national governments, all who hold any form of investment in fossil fuels, and all of us whose lifestyles are powered by fossil fuels to assume a fossil fuel phase out will be agreed and take steps now to initiate a managed transition/ break our addiction.

National Governments will benefit from a clear deadline for the transition of their economies, the infrastructure systems that serve them, and the citizens they serve, away from a dependence on, and addiction to, fossil fuels.

Fossil fuel companies and investors will benefit from a clear deadline before which they need to:

- Divest out of fossil fuels, and diversify into renewable energy services.
- Orchestrate their own transition, rather than have transformation imposed upon them.
- Recast themselves from obsolete climate villains, into innovative renewable energy service providers powering a greener fairer future.

The rest of us will benefit from certainty that choosing the non fossil fuel option is the right choice, and the piece of mind that our governments and energy providers are laying the foundations for a fossil free future.

Positive Perspective: Planetary People Power

Observing the Peoples Plenary for Climate Justice was a profoundly moving experience. The strength of feeling and powerful solidarity amongst those in the room starkly illustrated the brutal global realities of climate change. It is real, it is deeply inequitable, and countless communities across the globe are already struggling with the disruptive impacts of 1.1 to 1.3°C of global warming.

Further global warming of 1.31 to 4°C is inevitable. If we set ourselves on a path to global Net Zero GHG emissions by 2050, we can limit global warming to 1.5°C. This is essential because to many communities, the impact of failing to do so, is an existential threat.

We need politicians from across the richer, to date more culpable, but less effected nations, to hear the impassioned voices of the communities represented at the Peoples Plenary; and understand that achieving global Net Zero by 2050 is a profound global necessity, not an unaffordable luxury,

As citizens of privileged countries, we must communicate unambiguously to our politicians that we are unwilling to stand by and knowingly inflict the disruptive impacts of, and human suffering caused by, climate change on our global neighbours and our own future generations. More specifically, that we expect them to play a leading role in getting global efforts to limit global warming to 1.5°C on track; ensure our economies are sustainable, resilient, net zero and climate positive by 2050; and support those already suffering by investing⁴ in the 'loss and damage' fund on a far greater scale than was achieved at COP28.

Together, we must aspire to live resilient climate positive lives, to create resilient climate positive households, communities, businesses, industries, systems, towns, cities, regions and nations and play our role in an international collaboration focused on the global necessity of reducing GHG emissions to Net Zero before 2050, and the creation of a resilient Net Zero global economy.

We, every single one of us, no matter our background, can have a positive impact. I urge you to perform an individual stocktake and identify what resources (skills, energy, time, positivity, knowledge, experience, expertise, stubbornness, bloody-mindedness, empathy, voice, influence, purchasing power, entrepreneurialism, ingenuity, wealth, support, positivity) you are able to contribute to the collective endeavour of tackling the most urgent global mission we have ever faced. We all have something to offer, no matter how small or insignificant you believe your contribution to be, it is a vital part of an urgently needed portfolio of actions, and might spark something greater. For example, a solitary Swedish school girl boycotting school sparked the emergence of a global movement.

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4. NB: The returns on this investment will be social not financial.

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A yellow graphic element consisting of two L-shaped brackets forming a corner.

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