We Never Had Paris: Was the Paris Climate Agreement Greenwashing on a Planetary Scale?[1]

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Rick: "How can you close me up? On what grounds?"

Captain Renault: "I'm shocked, shocked to find that gambling is going on in here."

Waiter: "Your winnings, sir."

Captain Renault: "Thank you. Thank you very much."

These are dark days for climate action. Mainstream climate targets are under threat, political will appears to be dissipating rapidly, and the international process is in disarray. Many will attribute these failures to the power of fossil fuel interests and political forces hostile to environmental conservation. They may therefore see the priority as simply finding a way back to a conventional climate agenda that supports established global agreements. By contrast, I shall argue that the problem runs deeper. In particular, the crowning achievement of international climate policy, the Paris Agreement, is itself deeply flawed, such that climate failure was highly predictable and indeed actually predicted. The main lesson is that meaningful climate progress requires a new, more fundamental institutional

[1] An earlier version of this paper was presented as the *Annual Lecture in Humanities and Social Sciences* to the Norwegian Academy of Sciences and Letters (2021). Some material was discussed in talks at St Mary's University (2016), University of Canterbury (NZ) (2017), University of Chicago (2017), Western Washington University (2018), University of Calgary (2019), University of South Carolina (2020), American Philosophical Association (2021), University of Graz (2021), and Colorado State University (2021). I am grateful to those audiences and especially to Phil Cafaro, Allen Habib, Avram Hiller, Marion Hourdequin, Katie McShane, Lukas Meyer, Julia Pelger, and Ken Shockley. The Norwegian Academy Lecture appears in a truncated and less formal form in the Academy's yearbook (Gardiner 2022). The current piece is based on the original, extended version, moderately updated in light of recent events. In several sections it draws on previous work, especially Gardiner 2011a. For broader discussions of climate ethics, see Gardiner and Obst 2023, and Williston 2023.

response targeted at taking the ethical dimensions of the climate problem seriously and especially the threat of intergenerational tyranny.

I have been pressing claims of institutional inadequacy and moral failure for a quarter of a century. Perhaps such claims no longer seem surprising. After all, some prominent actors in the climate mainstream, including architects of Paris, are now also openly wondering whether Paris is "no longer fit for purpose" and calling for reform. Nevertheless, the apparent convergence is superficial and misleading.

On the one hand, the mainstream criticisms are typically sharply limited and the new proposals very tame. One leading example is the Club of Rome (Club of Rome 2023, 2024). Despite deploying the rhetoric of calling for an "overhaul" of Paris, the Club continues to praise the UNFCCC process for its (alleged) "successes"[2], to assert that "the global policy framework is scientifically rigorous and economically sound and complete", to insist that "28 Cops have delivered us with the policy framework to achieve" climate success, and to frame what is needed as a mere "shift from negotiation to implementation" (Club of Rome 2024). Moreover, the Club's positive proposal retains the COP structure in a modestly revised form. The idea is to institute some minor tweaks to the existing UNFCCC architecture that rely heavily on weak measures such as transparency and creating a new scientific advisory board.

By contrast, my criticisms are fundamental, structural and of longstanding. The Paris architecture is deeply flawed, and in ways that reflect a basic failure to take on the most serious obstacles to just and effective climate action. It must therefore be either radically repurposed or (more likely) supplanted before it is too late. It is long past time to end the charade. The dream of Paris is dead. It was always breathtakingly optimistic, and probably a dangerous illusion. We should let it go and acknowledge that "we never had Paris". Moreover, it is vital not to waste yet another decade engaging in the distraction of trying to revive such a weak and ineffectual agreement. Only by building a new regime, with much stronger foundations, is there much hope of success in limiting a global environmental catastrophe. A phoenix must rise from the ashes.

[2] These include achieving "a remarkable consensus" on the 1.5°C target, various long-term commitments, and the funds for adaptation and loss and damage. For my critiques, read on.

The paper proceeds in six parts. Part 1 provides context. Part 2 outlines my analysis of climate change as an ethical challenge and recounts some modest criteria for success in addressing it. Part 3 relays a conventional, optimistic appraisal of Paris. Part 4 provides my rival, pessimistic analysis. Part 5 addresses objections. Part 6 concludes.

1. The Question of Paris

In Paris in 2015, the nations of the world announced a new agreement to combat global climate change. The organizers and many political leaders expressed elation. Two claims stood out.

First, many of those present praised the nature of the Paris agreement. Speaking for the hosts, French President Francois Hollande congratulated the delegates, "You've done it, reached an ambitious agreement, a binding agreement, a universal agreement". His Foreign Minister, Laurent Fabius, added: "It is my deep conviction that we have come up with an ambitious and balanced agreement … Today it is a moment of truth. … The Paris Agreement allows each delegation and group of countries to go back home with their heads held high." (Goldenberg et al. 2015). Echoing these themes, Christiana Figueres, Executive Secretary of the UN Framework Convention on Climate Change (UNFCCC), pronounced, "One planet, one chance to get it right and we did it in Paris. We have made history together … The Paris Agreement sends a powerful signal to the many thousands of cities, regions, businesses and citizens across the world already committed to climate action that their vision of a low-carbon, resilient future is now the chosen course for humanity this century". Miguel Arias Cañete, the EU's climate commissioner, stated, "This is a success for the high ambition coalition … This was the last chance [for the UN process] and we have taken it.". US President, Barack Obama proclaimed, "A few hours ago, we succeeded. We came together around the strong agreement the world needed. We met the moment." The UN Secretary General, Ban Ki-moon, described the agreement as "ambitious, flexible, credible and durable" with "solid results on all key points". Summarizing the general message, he declared Paris "a monumental success for the planet and its people", adding "what was once unthinkable has now become unstoppable".

Second, Paris' architects insisted that future generations would approve of their agreement. Hollande assured delegates: "You can be proud to stand before your children and grandchildren." Figueres proclaimed: "Successive generations will, I am sure, mark the 12 December 2015 as a date when cooperation, vision, responsibility, a shared humanity

and a care for our world took centre stage". Obama asserted: "Today, the American people can be proud -- because this historic agreement is a tribute to American leadership. ... Today, thanks to strong, principled, American leadership, ... the world that we'll leave to our children ... is safer and more secure, more prosperous, and more free. And that is our most important mission in our short time here on this Earth." Ban Ki-moon went so far as to pronounce: "Today, we can look into the eyes of our children and grandchildren, and we can finally ... tell them that we have joined hands to bequeath a more habitable world to them and to future generations" (UN News 2015). The President of the UN General Assembly, Mogens Lykketoft, grandly declared, "Today's agreement signals nothing less than a renaissance for humankind" (Lykketoft 2015).

These were bold statements, apparently pitched to reassure the global public that the climate problem was at last in hand. Were they justified? One reason to hesitate is that similar pronouncements were made after previous climate agreements now regarded as failures. One prime example is the Kyoto Protocol, initially agreed in 1997 and then resurrected at meetings in Bonn and Marrakesh in 2001, after the US withdrawal under President George W. Bush. For instance, after Bonn, Pete Hodgson, New Zealand's Energy Minister, claimed, "We have delivered probably the most comprehensive and difficult agreement in human history" (Brown 2001), and after Marrakesh, David Doniger of the Natural Resources Defense Council, praised Kyoto as "by far the strongest environmental treaty that's ever been drafted", with compliance conditions that are "as good as it gets in international relations" (Revkin 2001d).[3] Summing up, Margot Wollstrom, the EU's Environment Commissioner, declared - with phrasing eerily similar to Ban Ki-Moon's in Paris 14 years later - "Now we can go home and look our children in the eye and be proud of what we have done" (Brown 2001).

Shortly after Wollstrom's remark, I wrote an article criticizing Kyoto.[4] My first thesis was that the rhetoric of 2001 was misplaced, because Kyoto was much too weak and "did little to protect future generations" (Gardiner 2004a, 24). "At best" the agreement appeared to be "a prudent wait-and-see policy for some sectors of the current generation, narrowly defined" (24), aiming at relatively "low-cost measures to slow down the warming (as opposed to arresting it)" (37) for the benefit of "those who may be around for another

[3] Others were more circumspect, but still positive. Olivier Deleuze, Belgium's Energy and sustainability Minister said that, though he could point to at least ten shortcomings of the agreement, he preferred "an imperfect agreement that is living than a perfect agreement that doesn't exist" (Revkin 2001c). Similar defences were offered of Paris.
[4] The paper was first presented at the *Australasian Association for Philosophy* conference in Auckland in late 2001, and ultimately published as Gardiner 2004a. An updated version appeared in Gardiner 2011a.

twenty to forty years" (37). "At worst", Kyoto was "a *sham* that achieves nothing except" the creation of "the *comfortable illusion* that serious progress is being made", where "this is in itself a substantial obstacle to overcoming the global warming tragedy" (36-37). Either way, Kyoto did "not seem like a sincere global initiative to protect the interests of future generations from a serious threat" (36). Consequently, it was "hardly a model for future environmental regulation, and no cause for optimism" (24). I concluded that "even those countries who … endorsed Kyoto should be wary of looking their children in the eye, and none should relish facing either their children's children, or current and future generations of the world's poor" (24).

My second thesis was that "the central flaw" of Kyoto could be "explained in terms of the underlying structure of the climate problem", which had "yet to be adequately appreciated" (24). Specifically, it involved "the intersection of a complex set of … collective action problems" (24) that I later called "a perfect moral storm" (Gardiner 2006, 2011a). I concluded that until this, and in particular its intergenerational dimension, was appreciated "we are doomed to an ineffectual environmental policy" (24).

My basic questions in this paper are: Did Paris succeed where Kyoto failed? Does it address the underlying structure of the climate problem, including the threat to the young and future generations? Or is Paris another weak agreement that perpetuates a dangerous illusion of progress?

Unfortunately, my conclusion will be that, despite a few advantages, Paris shares many of the flaws of Kyoto and in some ways makes matters worse. After more than thirty years of the UNFCCC, this is deeply disappointing. While Paris' failures do not entail that the international process is necessarily doomed, they do imply that it desperately needs saving, and that most of the hard work still lies ahead. Sadly, this is predictable under the perfect moral storm analysis.

Paris' failures also raise the uncomfortable question of whether, despite the good intentions of some, it will end up being seen as yet another case of "greenwashing": "the dissemination of misleading information that conceals abuse of the environment in order to present a positive public image" (American Heritage Dictionary). The UN itself warns us that greenwashing "promotes false solutions to the climate crisis that distract from and

delay concrete and credible action" (United Nations 2024). Should its own process (the UNFCCC) be cast in the same light? Will the young and other future generations ultimately repudiate Paris as just one more "dangerous illusion"? Perhaps they will shame those responsible - including potentially our generation in general - with the telling rebuke: "We Never Had Paris".[5]

2. The Problem

1. A Potted History

The Paris agreement is best understood in light of its history.[6] In 1992, at the Rio Earth Summit, the nations of the world agreed the UN Framework Convention on Climate Change "to protect the climate system for present and future generations" (UNFCC, 6), through achieving "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCCC, 9). The subsequent effort to make good on this commitment falls into four main phases.

In the first phase, the parties adopted a voluntary approach. While in principle all vowed to prevent "dangerous anthropogenic interference" with the climate, in practice the "developed countries" (DCs) agreed to take the lead by stabilizing their emissions at 1990 levels by 2000, in part to demonstrate their seriousness.[7] Unfortunately, it quickly became apparent that the voluntary approach would fail.

Consequently, a second phase began with the new strategy of pursuing binding targets. This resulted in the Kyoto Protocol of 1997, in which developed nations committed to cutting their emissions by 5% on average, relative to 1990, by 2008-2012. This agreement was quickly under pressure as the US, then the largest emitter, withdrew in 2001. To the surprise of many, the remaining countries were able to rescue the deal in subsequent meetings in Bonn and Marrakesh. Still, this further weakened Kyoto's overall impact on emissions, given both the significant concessions to Russia and Japan to keep them on

[5] This remark is a reference to Michael Curtiz's *Casablanca* (1942).
[6] This potted history is largely drawn from Gardiner 2011a.
[7] The language of "developed" and "developing countries" is taken from the UN agreements. Plausibly, it rests on a deeply problematic understanding of what it is for a country to flourish. One reason is that it reflects only a limited range of values. Another reason is that it skewed towards narrowly economic understandings of even those values it embraces. I retain it here only because it is prominent in the language of the UNFCCC.

board, and the fact that, without the US, much of the remaining action was preordained. Meanwhile, a substantial rise in *overall* global emissions occurred, led by the Less Developed Countries (LDCs), especially China.

Subsequently, the Kyoto process was widely acknowledged to be a failure.[8] For instance, asked in 2008 whether Kyoto had worked, Yvo de Boer, executive secretary of the UN climate secretariat, replied: "In terms of emission reductions achieved, the answer would be no" (Adam 2008). John Schellnhuber, sometimes described as Europe's leading climate scientist, was more scathing: "Kyoto is simply a miserable precursor of the global regime intended to deliver genuine climate stabilization — and was never expected to be more." (Schellnhuber 2007).

Given Kyoto's struggles, there was broad recognition that the third phase, covering emissions from 2012-2020, needed to do much better. Again, progress was slow, in part due to continued US recalcitrance. However, Barack Obama's election as US President in 2008 gave the process new momentum, and fueled expectations for the critical meeting in Copenhagen in 2009. Unfortunately, Copenhagen not only failed to usher in a bold new era of climate action, but ended in widespread condemnation. While countries did agree on the brief and hastily assembled Copenhagen Accord, based on voluntary national pledges, ambition remained low.

Focus then shifted to a fourth phase. Despite Copenhagen's substantive defects, some saw the beginnings of a distinct, more inclusive and "bottom up" strategy. Thus, faced with the prospect of a collapse of the whole UN process, in Cancún (2010) and Durban (2011) the parties decided to develop this strategy as the basis for an agreement on post-2020 emissions that was ultimately finalized in Paris (2015).

Like Kyoto, the Paris agreement was quickly under pressure. In 2016, Donald Trump, a critic of both Paris and climate action itself, was elected US President. The Trump Administration posed an existential threat to global climate policy. Once in office, President Trump appointed fossil fuel executives and climate deniers to key positions, dismantled many key

[8] One factor was that some countries, notably Canada and Japan, failed to meet their targets and ended up withdrawing

provisions of Obama's domestic climate policy, advocated for an aggressive expansion of fossil fuels, and withdrew the US from Paris.

Still, by early 2021, Paris' prospects began to look brighter. The new US President, Joe Biden, initiated America's rejoining of the agreement on his first day in office. The new administration pledged to make climate change a priority, embraced the aim of achieving net zero emissions by 2050, and ultimately achieved passage of the most ambitious US legislation to date (the Inflation Reduction Act) in 2022. Around the same time, other countries also made seemingly more ambitious pledges - such as China (peak emissions by 2030, carbon neutrality by 2060), South Korea (net zero by 2050), and Japan (net zero by 2050).

Briefly, the prospects for robust climate action started to look more promising. Nevertheless, as the physical climate situation rapidly continued to worsen, subsequent climate meetings (Glasgow, Sharm el Sheikh, Dubai) produced such painfully slow and incremental developments that even some architects of Paris were publicly saying that the UN talks were "no longer fit for purpose" (Club of Rome 2023, 2024). Then, President Trump triumphed in the US election of 2024, again on a climate denying and aggressively pro-fossil fuel platform. Shortly after, the Baku climate meeting ended in anger and recriminations.

2. The Perfect Moral Storm Analysis

Given all this, how should we assess Paris now? I propose we begin by asking what best explains the history of failure that led up to it. By identifying the obstacles to progress, we put ourselves in a better position to see whether Paris was ever really equipped to overcome them.

For over two decades, I have been arguing that climate change presents a distinctive challenge to ethical action that I have come to call 'a perfect moral storm'.[9] The phase

[9] Several alternative analyses are influential, including that climate action is a traditional tragedy of the commons (or prisoner's dilemma), a global public good, or a wicked problem. I regard these as problematic, and discuss them extensively elsewhere (e.g., Gardiner 2001, 2011a, 2013, 2014, 2017). One to which I am more sympathetic involves the notion of creeping environmental problems (e.g., Glantz 1990, Andreou 2006).

'perfect storm' became prominent through Sebastian Junger's account of the *Andrea Gail*, a fishing vessel caught at sea during a convergence of several independently powerful storms, with fatal consequences (Junger 1999). Thus, a perfect storm involves the convergence of several independently harmful factors where this convergence is likely to result in severe, possibly catastrophic, negative outcomes. By analogy, a perfect *moral* storm involves the convergence of a number of factors that challenge our ability to behave ethically, throwing down the gauntlet to us as ethical agents, and especially to our moral and political systems. In the climate case, the converging factors (or "storms") are that the problem is genuinely global, strongly intergenerational, crosses species boundaries, and occurs in a setting where our theories and institutions are weak. Each storm creates serious temptations for unethical action. When these storms come together, they are mutually reinforcing and gravely compromise the prospects for ethically responsible behavior. Moreover, this convergence encourages a lurking problem of moral corruption. Since ethically indefensible action is tempting, especially for the current generation of the more affluent, they are likely to favor distorted ways of thinking and talking about climate change that obscure what is going on.

This is not the place to rehearse the entire perfect storm analysis. Instead, let us highlight six central ideas that are especially relevant to our examination of Paris: intergenerational tyranny; moral corruption; shadow solutions; skewed vulnerabilities; background injustices; and unholy alliances against the future.

(i) Intergenerational Tyranny

A critical component of the intergenerational storm is temporal dispersion. The causes and effects of climate change are spread out over time, and in ways which give rise to a distinctive collection action problem that I call 'the tyranny of the contemporary' ('TCON' or 'TYKE') (Gardiner 2011a, 2023a; cf. Gardiner 2001, 2003). The following simple idealized model provides a good illustration.[10]

Imagine a sequence of temporally-distinct groups (G1, G2, G3, G4, etc.) spread out over time (i.e., T1, T2, T3, T4, etc). For simplicity, assume that each member of a given group belongs only to that group, so there is no overlap in group membership; that each group is concerned only with what happens within its own timeframe (e.g., G1 cares only about T1;

[10] This description is drawn from Gardiner 2023a.

G2 about T2; etc.); and that each group can only affect later groups, not earlier ones (e.g., G2 can affect G3, G4, etc., but not G1). Next, suppose that each group has the opportunity to engage in "front-loaded activities": practices that benefit that group but whose costs come later, to groups further along in the temporal sequence. More specifically, let us focus on a subset of front-loaded activities, where the benefits to each group (e.g., to G1) are modest, while the costs to later groups (e.g., G2, G3, etc.) are severe.[11]

The scenario envisioned in the model has worrying implications. Since any given group is concerned only with the modest benefits arising during its own period and is indifferent to the wider costs, each group will engage in these front-loaded activities. Moreover, since (by hypothesis) each group imposes severe costs on *every one* of its successors, there is a multiplier effect over time, resulting in a dramatic accumulation of impacts in the further future. For example, whereas G2 experiences only the negative impacts caused by G1, G4 incurs costs from each of its predecessors, G1, G2, and G3. Given that each set of costs is already severe, this accumulation threatens more distant groups with genuine catastrophe. It seems clear that, other things being equal, this kind of "intergenerational buck-passing" will be prohibited by any reasonable ethical theory, including theories of justice.[12]

In my view, the tyranny of the contemporary is a basic standing threat in human affairs. Moreover, the threat can be realized in multiple ways. It can manifest itself over various timescales, involving temporal groups of different sizes. It may also arise in different settings, such as within nations, governments, corporations, and families. In the real world, the problem typically arises in various degenerate (or "impure") forms, including in many of our most severe social problems, such as climate change, nuclear proliferation, nuclear waste, intensive agriculture and similar issues (Gardiner 2011a; Rendall 2021).

[11] In some (very pure) cases, the practices would provide only benefits to the group engaged in them and only costs to its successors. However, typically front-loaded activities will involve net benefits and net costs, while sometimes they will involve benefits and costs of specific salient kinds.

[12] For instance, utilitarians will decry the infliction of severe costs for the sake of modest benefits; deontologists will suspect that the behavior involves a profound failure of mutual respect and concern; virtue ethicists will worry that it is the behavior of self-indulgent, indifferent or even callous generations. Indeed, it is plausible to think that the demand that a given theory condemns such behavior should function as a condition of adequacy on the theory, so that approaches to ethics that license intergenerational buck-passing should be rejected.

A major reason that the idealized model is relevant to climate change is the temporal dispersion of causes and effects. Human-induced climate change is a significantly lagged phenomenon: what we do now is likely to have impacts far into the future.[13]

One factor is the presence of *long fuses*. Some basic mechanisms set in motion by the greenhouse effect are such that it takes a very long time for their effects to become fully realized. For instance, sea level "is *committed to rise for centuries to millennia* due to continuing deep ocean warming and ice sheet melt, and will remain elevated for thousands of years" (IPCC 2021, 28; emphasis added). This imposes profound risks to coastal cities and to low-lying island states, much of which is imposed on the young and other future generations.[14]

A second factor driving temporal lagging is *persistence*. This has multiple sources. One example is that, other things being equal, molecules of carbon dioxide typically spend a long time in the atmosphere once emitted, continually affecting climate so long as they remain.[15] A second example of persistence is the time it takes the global system to find a new equilibrium even once emissions come down. A third example is the ongoing effects of being in that new equilibrium state once it is realized, which may play out over the very long term. The upshot of persistence is that, other things being equal, the *full, cumulative* impacts of our behavior will not be realized for decades, centuries, or even thousands of years into the future.[16]

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[13] Some doubt temporal lagging is no longer a significant factor given the risk of large impacts soon. I disagree (see Gardiner 2009; 2011a, chapters 6 & 10; 2024c).

[14] For example, by 2150, standard projections suggest a threat of around 1 meter across various scenarios, with highs of around 2 meters, and lows around 0.4 meters (IPCC 2021, 28). The IPCC also states that bigger, faster rises – of 2 meters by 2100 and 5 meters by 2150 – cannot be ruled out. Over 2000 years, sea level is tentatively projected to rise by 2-3 meters for 1.5°C of warming, 2-6 meters for 2°C, and 19-22 meters for 5°C (IPCC 2021, 28). To put those numbers in perspective, Tuvalu is thought to become uninhabitable at sea level rise of 0.20-0.40 meters (Patel 2006), while a similar shift would put around 20% of Miami underwater at high tide (Kormann 2018). A rise of around 2 meters would swamp cities such as New York and Shanghai. More generally, "up to 630M people live on land below projected annual flood levels for 2100, and up to 340M for mid-century, versus roughly 250M at present" and "one billion people now occupy land less than 10m above current high tide lines, including 230M below 1m" (Kulp and Strauss 2019).

[15] An MIT explainer quotes Ed Boyle: "The first 10% goes quickly, but it's not very much of it. The second part goes on a scale of centuries to millennia, but that only gets 80% of it" (MIT 2023). The IPCC states that "15 to 40% of an emitted CO2 pulse will remain in the atmosphere longer than 1,000 years, 10 to 25% will remain about ten thousand years, and the rest will be removed over several hundred thousand years" (IPCC 2021, Glossary, AVII-36; see also IPCC 2014, 472–73). Such estimates can be changed if other things are not equal, for instance if humans engage carbon dioxide removal technologies on a massive scale. Still, even these efforts will likely take considerable time.

[16] For example, a new equilibrium may take a hundred years or so, and the ongoing effects may continue for five thousand years (e.g., Hansen et al 2023).

The various drivers of temporal lagging suggest that while the main benefits of current emissions – and especially the energy produced by burning fossil fuels - are realized now, many of the burdens are substantially deferred. Given this, the potential for intergenerational buck-passing should be clear.[17]

(ii) Moral Corruption

A second central feature of the perfect moral storm is the problem of moral corruption. Any temporal group engaged in bad behavior will be tempted to obscure or conceal what it is doing. A primary mechanism is the propagation of distorted ways of talking which assume away, minimize, or render less visible the threat of intergenerational tyranny. Corruption of this sort can be facilitated in a number of ways, including distraction, complacency, unreasonable doubt, selective attention, delusion, pandering, false witness, and hypocrisy. The most obvious example is promoting unreasonable levels of doubt about the basic science which are impervious to evidence. Delusion and false witness are also clear risks, especially when we see extravagant praise of international agreements which then turn out to be weak and woefully inadequate to the problem they are supposed to address.

(iii) Shadow Solutions

In this paper, the form of corruption I will highlight is *pandering*. Specifically, given the temporal dispersion of causes and effects, there will be a strong temptation for the current generation to indulge in *shadow solutions*: proposals for climate action that do not respond to the real problem, in this case the central ethical challenges of climate change, but instead focus on the much more limited concerns of those with the power to influence policy. For example, a generation of political leaders may find it attractive to accept climate deals that are good only for protecting vested interests, the status quo, and the interests of their immediate political constituencies narrowly understood, but nevertheless present them to the wider public as great victories for humanity and future generations.

[17] To illustrate, consider just one example of how the temporal profile of impacts varies across shorter time periods. A study that examined lifetime exposure to extreme events under current climate policy pledges claims that "changes in extreme event frequencies have relatively little effect on lifetime exposure for cohorts above age 55 in 2020, but this rapidly changes for younger cohorts as they experience increasing extreme events in the coming years and decades" (Thiery et al. 2021, 158). For instance, "people younger than 10 years in 2020 will experience about a fourfold increase in extreme events if global warming is limited to 1.5°C, an increase that older cohorts will never experience, even if a scenario toward 3.5°C warming is followed . . . . Under a 3°C global warming pathway, children under 8 years will face an almost fivefold increase in extreme event exposure" (159). Worryingly, such differences suggest that older, affluent generations (who typically dominate the current generation of decision-makers) may be tempted to engage in intergenerational tyranny, passing burdens onto the future in ethically irresponsible ways.

To illustrate the problem of shadow solutions, it is helpful to notice that once one identifies the intergenerational storm, it emerges that any given generation really confronts several versions of the global storm (i.e., the spatial dimension of the climate problem) especially as seen by individual countries at specific times. Three are particularly perspicuous (Gardiner 2011a, 127-128).[18]

The first version of the global storm assumes *effective intergenerational stewardship*: each generation of leadership in each country takes on the task of protecting the interests of all citizens of that country indefinitely into the future, and is reasonably reliable in doing so. The stewardship account envisages the global storm as one in which nations aim to cooperate to protect their own populations across many decades, centuries, and perhaps millennia.

The second version of the global storm assumes *current generation bias*. For instance, imagine that each generation of leadership in each country aims to promote only the interests of its current citizens, or perhaps just its older and more powerful citizens. Next, suppose that the members of each current generation are predominantly concerned only with the benefits and burdens arising during their own limited generational horizon (e.g., while they are still alive). Then, in the generational bias version of the global storm, governments will focus on how to distribute this restricted set of benefits and burdens *alone*, and primarily among the current generation of their citizens. Plausibly, they will not truly consider the claims of future generations, or not give them any real weight.

A third version of the global storm assumes *elite bias*: the current generation of the world's political and economic leaders promote only their own interests, focusing on the next few elections or business cycles. This sharply reduces the range of considerations taken as relevant. On the elite version of the global storm, political actors are concerned only with how best to promote a very limited range of elite interests over a few decades.

Given these different versions of the global storm, the prospect of shadow solutions emerging should be clear. When making agreements and constructing policies, while leaders claim to be addressing the moralized, stewardship version of the global storm, in

[18] This subsection draws extensively from Gardiner 2011a.

reality they are focused on how best to facilitate generational or elite bias. Moreover, success on the latter two agendas are likely to involve deep failures on the former. Importantly, in such a situation, we might expect moral corruption in how proposals for climate action are presented. It is predictable that policies originally motivated by the need for effective intergenerational stewardship are at high risk of becoming perverted to facilitate generational and elite biases.[19]

The existence of different versions of the global storm gives rise to an obvious problem. Collectively appealing solutions to these distinct commons problems may be very different. For instance, with climate change, it is probable that a generationally-biased version of the global storm focused on protecting older people calls for much less mitigation of greenhouse gas emissions than the stewardship version. Similarly, each global storm probably calls for different *kinds* of action. For instance, other things being equal, we might expect a policy biased toward older people to be skewed toward efforts such as solar geoengineering, 40 year adaptation plans, and military investment, and much less friendly to enhanced mitigation (Gardiner 2011a, 127). A plausible reason would be that solar geoengineering, medium-term adaptation plans, and military investment are likely to be much more useful to current people with a limited focus on their own lifetimes than an ethical mitigation policy grounded in a longer, intergenerational time-horizon (of many decades and centuries).

One implication of all this is that even if a particular generation of decision makers or the public appeared to resolve *some version* of the global storm—say by generating some kind

[19] Given this, three points are particularly notable. First, surprisingly, the stewardship version of the global storm is typically *assumed* (albeit implicitly) in the policy literature, under the dominant prisoner's dilemma or tragedy of the commons analyses. These analyses usually take it for granted that the political leadership in each country endorses the aim of protecting all current and future citizens against dangerous climate change. Notably, this claim is implicit in one of the central claims of the prisoner's dilemma analysis of climate change: that each country takes it be collectively rational to cooperate in engaging in robust climate action (e.g., to achieve 1.5°C or 2.0°C).

Second, the stewardship version assumes away the intergenerational storm, and the threat of intergenerational tyranny in particular: notably, effective intergenerational stewards are assumed, by definition, not to be tempted to engage in a tyranny of the contemporary (at least over their own populations). The upshot is that, taken in isolation, the stewardship framing is liable to facilitate moral corruption. It distracts us from the central threat of intergenerational tyranny, the inadequacy of existing institutions, and the governance gap for protecting future generations.

Third, if effective intergenerational stewardship were really true – if it were the case that current institutions were reliable in protecting future citizens indefinitely into the future – then the risk of defection from cooperation on that goal would presumably be at least radically reduced and may disappear altogether. This raises the possibility that the global storm could be transformed under appropriate intergenerational institutions. For a generation genuinely committed to protecting the future and with appropriate institutions to put that commitment into practice, short-term gains from defection would cease to be salient. Strikingly, one important implication would be that the second core claim of the traditional prisoner's dilemma analysis – that each country takes it to be individually rational to defect from robust climate action – would be fatally undermined (Gardiner 2011a, 127-8).

of global agreement—we should not infer from this that they have really succeeded in confronting *the most morally relevant version*. For example, perhaps it is only the elite or generational bias version that has been confronted, rather than the stewardship version. In practice then, we must scrutinize climate agreements and policies to assess whether they constitute shadow solutions. For any given proposal may involve significant action, but fail to respond to the true nature of the moral problem. For instance, it might address only those aspects that affect the concerns of present political and economic leaders, the current generation more generally, or the affluent, narrowly construed (Gardiner 2011a, 128).

Plausibly, in early periods of international negotiations, shadow solutions mainly took the shape of either no or very limited action, based on a moderated wait-and-see policy.[20] However, there is no reason to assume that this will always be so. On the contrary, we should expect shadow solutions to *evolve* over time**,** in response to the increasing severity of the problem and the ageing of the generation in question.

For instance, back in 2011, I suggested, based on a simple model, that a shadow strategy based on generation-relative concerns would become "more friendly towards mitigation as time goes on, and the threats increase" (Gardiner 2011a, 378).[21] In pushing forward with some, limited mitigation: "[the shadow strategy] is suggestive of increasing intergenerational concern, without actually incorporating such concern. While obviously not doing enough, it appears at least to do better, even when its action is presumably biased in the wrong directions. The shadow strategy is thus subversive of more serious action on climate policy, and in a way that supports moral corruption. People can continue

[20] For example: "Faced with significant evidence of warming, perhaps some countries are concerned primarily with the possible short- to medium-term impacts on their present populations and so see it as in their interests to try to slow down the rate of increase of emissions during that period, in particular by not committing themselves to long-term capital investments that increase the risks. This would explain why some may be willing to take small, cautious steps that can be reviewed on a decade-by-decade basis. Perhaps taking low-cost measures to slow down the warming (as opposed to arresting it) is perceived to be in the interests of those who may be around for another twenty to forty years, and so a solution to the current generations' global storm." (Gardiner 2011a, 135)

[21] The model was very simplistic and deployed for the sake of making a broader point. It envisioned four generations of the rich and powerful, seen across five time periods of 20 years. The model suggested: "In Period 1 (1990–2009), the decision makers are the first and second generation. One resists action, the other favors win-win mitigation. Given this, one might expect very weak action in the period. In Period 2 (2010–2029), the second and third generations hold sway. One resists mitigation, the other supports it beyond win-win, but modestly so. Both are in favor of modest geoengineering research. Given this, the expectation is for improved, but still modest, all-around action. In Period 3 (2030–2049), the third and fourth generations decide. One resists mitigation, and the other supports a substantial effort, though less than it did before it came to power. Both support substantial adaptation efforts, military spending, and geoengineering research. Given this, mitigation efforts should improve, but the real push will be elsewhere." (Gardiner 2011a, 375)

to say: "To be sure we've done badly in the past; but we are getting better, that's something isn't it?" And so it goes on." (Gardiner 2011a, 278). One upshot of the expected evolution of shadow strategies is that it will not be enough to argue against the perfect storm analysis that Paris makes *some* progress. We must be convinced that it makes *such substantial* progress - and progress of the *right kind* - that it is no longer plausible to see the international process as a shadow solution masquerading as the real thing.

(iv) Skewed vulnerabilities

The perfect moral storm analysis also highlights the neglect of fairness. Within climate ethics there is an enduring consensus around the 'burden claim': richer, more developed countries should shoulder most of the burden of action, at least initially (e.g., Shue 1999; Singer 2002; Gardiner 2004b, 2011a, 2016; Morrow 2017). However, in practice the reverse is much more likely: that the poor and more vulnerable will end up bearing the burdens.

One factor is *skewed vulnerabilities*. Typically, those most at risk from negative climate impacts tend to be those much less responsible for causing the problem; indeed, they are often already in compliance with what would be very stringent climate goals. For example, Bangladesh is extremely vulnerable to coastal flooding, yet has such low per capita emissions that it would already be in compliance with a global cut of 50-80%. Many small island states emit even less but may not survive the rising waters.[22] By contrast, the main perpetrators are much less vulnerable, at least relatively and in the short- to medium-term. Moreover, one central reason for differential vulnerability is sharp disparities in wealth and power. Because of the asymmetries, more vulnerable populations are typically not well placed to hold higher emitters accountable. Notably, the asymmetries are often themselves driven in part by fossil fuel use and investment.

(v) Background injustices

A second factor is the influence of *background injustices*, such as those involving inequality, race, gender, class, and the legacies of colonialism and feudalism (e.g., Agarwal and Narein 1991; Shue 1990, 2014; Gardiner 2011a, 119; Whyte 2016; Blomfield 2019;

[22] Moreover, while part of the vulnerability results from geographical bad luck, much is due to poverty and some the forced relocation of marginalized populations.

Tuana 2019; Taiwo 2022). The current circumstances of many actors approaching the climate problem emerge from a troubled history that is compromised from the point of view of justice and other moral values. For example, while some of the enhanced vulnerability to negative climate impacts results from geographical bad luck, much is due to poverty and some due to the forced relocation of marginalized populations. More generally, "it seems clear that ultimately climate must be seen within the context of wider issues of justice, such as historical injustice (e.g. the legacies of slavery and unjust wars), international justice (e.g. trade and immigration), global justice (e.g. poverty, human rights), and the looming ecological crisis (e.g. species extinction, ocean acidification)" (Gardiner 2011b, 312).

Among other things, this suggests that acting on climate justice creates a moral risk for the richer nations. Implicitly, it embodies an acknowledgement that there are global norms of ethics and responsibility, and reinforces the idea that international cooperation on issues involving such norms is both possible and necessary. Hence, it encourages attention to moral defects of the current global system, such as deep poverty and inequality, human rights violations, structural racism, and so on. If richer nations are not ready to engage on such topics, this gives them further reason to resist serious climate action.

(vii) Unholy alliances

A third factor is the threat of *unholy alliances against the future.* Not everything that might improve or correct for skewed vulnerabilities or background injustices in the present is also protective of the future. Instead, there is a profound risk that the first two concerns may be set against the third. For instance, perhaps the current poor might be paid off, through benefits to themselves in the present, to become complicit in passing the buck to the future. Perhaps affluent groups will bribe currently marginalized groups into accepting greater fossil fuel expansion by offering them a greater share of the short-term spoils, but only in exchange for support in continuing to inflict intergenerational tyranny on the young and other future generations. Such alliances (of the current generation of rich and poor against the future) would be entirely predictable in a perfect moral storm.

3. Some Modest Criteria

How does Paris fare in the context of the perfect moral storm? Does it escape or encourage intergenerational tyranny, moral corruption, shadow solutions, skewed vulnerabilities,

background injustices, and unholy alliances against the future? To focus our discussion, let us let us return to my Kyoto article, where I listed a number of characteristics a defensible successor regime ought to have, which I took to be both clear and not at all utopian. They were:

1) **Ambition**: A global cap on emissions should (a) be tighter than Kyoto envisages, and (b) gradually and explicitly lower over time.

2) **Universality**: Full cooperation is required, so that all countries should be explicitly included in the regime, and restrictions accepted by (almost) everyone.[23]

3) **Compliance**: The compliance regime should be:

(a) stricter (e.g., no opt-out clauses; no opportunity to "renegotiate" future commitments based on past failures), and

(b) tied to other global issues, such as trade and security.

4) **Fairness**[24]:

(a) **Equitable shares**: Climate action should aim at an equitable allocation of benefits and burdens from the green transition (e.g., it should account for barriers to development);

(b) **Responsibility for impacts**: unavoided impacts (such as those connected with adaptation, loss and damage) must be addressed in accordance with appropriate norms of justice and fairness.[25]

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[23] Anticipating Kyoto's failure, I argued that "combating climate change requires full cooperation of at least all countries of significant size, including the United States, China, and India," that "the countries that might not be needed are only those with low emissions and small populations", that "all countries should be explicitly included in the regime," that "costs must be borne by almost everyone", and climate policy should be linked to other global cooperative ventures, such as trade (Gardiner 2001, 2004a).

[24] Principles of fairness such as appropriator pays, polluter pays, beneficiary pays, and ability to pay may be relevant here. In 2004, the example offered was that "something like a convergence of per capita emissions entitlements should be a core objective over time". This might be pursued under the appropriator pays or beneficiary pays approaches. There is now a huge literature on principles. For initial discussion, see Shue, Caney, Page, and Gardiner and Obst (2023).

[25] The example offered was: "distribution of costs of adapting to warming to which we are already committed needs also to be considered since these appear to fall disproportionately on poor countries who were not themselves responsible for the bulk of the past emissions causing them" (Gardiner 2004a).

What then are the major ways in which Paris departs from Kyoto, and how well do they respond to the issues highlighted by the list? I shall consider two assessments, one optimistic, the other pessimistic.

3. Optimism

For a long time, optimistic appraisals have been prominent among political insiders involved in the process, such that Paris "has been widely hailed as a diplomatic triumph and a breakthrough in global climate cooperation" (Dimitrov 2016), in part because, insiders say, Paris represents a "decisive break from the unsuccessful Kyoto regime" (Keohane and Oppenheimer 2016). What then are its key features? Proponents tend to emphasize five, and these line up well with my criteria.

1. Ambition

The first key feature is ambition. As we saw earlier, some declared Paris "a success for the high ambition coalition". One of the few achievements of Copenhagen was officially to recognize the idea that avoiding dangerous anthropogenic interference meant staying below a 2°C rise in global average temperature. Paris confirmed this goal, and then strengthened it in two ways. The objective became to hold the increase to "well below" 2 degrees, while "pursuing efforts" to limit it to 1.5°C [article 2.1(a)]. Paris also reiterated the aim of reaching a global peak in emissions "as soon as possible" [Article 4], and adds the objective of achieving net zero emissions "in the second half of the century". Moreover, it included the idea that "each Party's successive nationally determined contribution will represent a *progression* beyond the Party's then current nationally determined contribution and reflect its *highest possible ambition*" [Article 4.3; emphases added]. At first glance, then, Paris appears to achieve my first criterion for success, of putting in place a stricter cap than Kyoto and one that tightens over time.

2. Universality

The second key feature of Paris lauded by its proponents was its inclusiveness. For example, Ban Ki-moon claimed: "We have entered a new era of global cooperation … For the first time, every country in the world has pledged to curb emissions …. This is a resounding success for multilateralism." Presumably, this is because Paris states that "all

Parties are to undertake … ambitious efforts … [that] will represent a progression over time" [article 3]. Moreover, proponents emphasize that the agreement covered more than 90% of global emissions in 2015, and has since increased its coverage. This contrasts with Kyoto, where only some countries committed to reductions, and these countries represented only around 30% of the global total. Thus, Paris appears to fit well with my second criterion demanding universal participation.[26]

3. Commitments

The third key feature of Paris often singled out is its "bottom up" structure (Keohane and Oppenheimer 2016). By "bottom up", commentators mean that each country voluntarily generates and then submits its own climate action plan, called its Nationally Determined Contribution (NDC). This is said to contrast with the Kyoto model, where countries negotiated with each other to produce targets and timetables that were then enshrined in the agreement. It is also said to induce motivation. For one thing, countries do not have to act in the same ways, on the same basis, but can bring their own values and priorities to bear (Keohane and Victor 2016). For another thing, countries are expected to compete to outdo each other in becoming green, in a "race to the top" that has material advantages (e.g., in "getting ahead" in new markets in green technology), but also confers status internationally. In addition, the very public nature of NDCs is supposed to provide a "name and shame" mechanism as no country will want to be seen as a "climate laggard" (e.g., Falkner 2016, cited in Dimitrov 2019; Light 2016).[27]

4. Accountability

The fourth feature emphasized by some is Paris' accountability mechanisms. The agreement promised a "global stocktake" occurring at five-year intervals, beginning in 2023, where the parties would "assess the collective progress towards achieving the purpose of this Agreement and its long-term goals". This stocktake was intended to be "comprehensive and facilitative manner, considering mitigation, adaptation and the means of implementation and support, and in the light of equity and the best available science" [article 14.1]. Paris also establishes a "mechanism to facilitate implementation of and

[26] Notably, some made similar defenses of Copenhagen (e.g., Schmidt 2010).

[27] Some evidence for this may be President Biden's very public initiation of the US re-entry into the Paris Agreement on his first day in office.

promote compliance" [article 15.1], consisting of an expert-based committee which makes annual reports.

5. Fairness

The fifth feature of Paris some mention is its attention to fairness. Procedurally, the key principles of equity, and "common, but differentiated responsibilities" were retained from earlier agreements, despite ongoing resistance from some, such as the US.[28] Substantively, the 1.5°C goal reflects a core concern of some LDCs and particularly the most vulnerable. Moreover, further sections address the need for assistance to LDCs, in terms of technology transfer, adaptation, loss and damage. For example, Copenhagen aimed at providing $100 billion dollars per year by 2020 to help poorer countries deal with climate impacts. Architects of Paris, such as Christiana Figueres, say "under the Paris Agreement, the provision of finance from multiple sources will clearly be taken to a new level, which is of critical importance to the most vulnerable." Perhaps most strikingly, there also seems to be progress on the vexed topic of "loss and damage". Paris left in place provisions pursuing the topic that the US in particular had sought to have removed.[29] Subsequently, this resulted in a new loss and damage fund (2022), and enhanced commitments to international climate finance (2024).

6. Conclusion

In light of these features, it is possible to argue that Paris represents meaningful progress on my criteria from 2004. It tightens the cap, makes moves to lower emissions over time, achieves close to full participation, and makes provision for responsibility in dealing with unavoided impacts. While it does less for compliance, some may argue that this is less important in a treaty where the primary mechanism is countries' own, voluntary contributions through their NDCs. In other words, if countries are already saying only what they themselves are willing to do, then there may be less need to have a robust compliance regime and no need to link it with other areas, such as trade and security. Similarly, while the agreement does not address fair shares [see my fourth criterion], it does emphasize the pursuit of net zero emissions. Thus, some may argue that this issue has become less

[28] For the first time, the agreement also notes "the importance for some of the concept of "climate justice", when taking action to address climate change", though it appears to interpret that phrase rather narrowly.

[29] "Where the United States clearly failed was on the issue of loss and damage, where agreed provisions were a victory (albeit a moderate one) for island nations (Article 8). The United States made strong efforts yet did not succeed in keeping loss and damage completely out of the PA, or in folding it under the adaptation chapter (Fry, 2016)." (Dimitrov et al. 2019)

urgent given subsequent pledges of target years for net zero by particular countries. The thought would be that, if net emissions are soon to be eliminated for all, then perhaps the notion of fair shares of what is left is of limited importance. Similarly, progress on climate finance for developing nations – for loss and damage as well as adaptation – seem to head firmly in the right direction. At first glance, then, Paris looks more promising than Kyoto and seems to deal with many of its shortcomings.

4. Pessimism

Nevertheless, as should be clear by now, we should be wary of initial appearances. This is an area in which there are profound risks of moral corruption, and especially of shadow solutions and dangerous illusions. Thus, there is not just the possibility but a serious threat of a smokescreen. Given this, it is worth making a closer inspection.

One general concern is that when some declare Paris a "success", it is worth asking what standards are being applied. Two are unhelpful, but often invoked. The first standard is simply that the agreement *exists*. Clearly, coming to any sort of agreement was difficult, as the disasters of Copenhagen and to some extent Kyoto attest. Thus, some argue that the existence of Paris reflects considerable diplomatic skill on behalf of the hosts and negotiators from around the world. This achievement – existence – matters deeply to some involved or invested in the UNFCCC process.

Nevertheless, much as we may respect the efforts of those who genuinely tried to deliver real progress, we should resist this line of argument. Ultimately, the Paris agreement must be judged on what it does, rather than on its mere existence. The same goes for the UN process itself. If, when the histories are written hundreds of years in the future, it turns out that the UNFCCC was mainly successful in maintaining dangerous illusions of progress, and that Paris was just one more example, then the existence of both will be lamented, rather than celebrated.

A second unhelpful standard is that of *bare possibility*: the idea that it is at least conceivable that the future will evolve in such a way that the goals of the agreement are met. Sadly, this sometimes amounts to not much more than blind faith in a *post hoc* vindication that may never come. Many things are possible, especially when one is talking about the future. Similarly, some problems are solved by blind luck. Yet relying on luck to

save the day is often morally impermissible, and a sign of deep corruption (e.g., Gardiner 2011a, 440 note).

Policy should aim at higher standards. So, let us turn now to a more substantive evaluation, by revisiting each of the features listed above.

1. Ambition

To begin with, serious worries remain around ambition, and in ways that raise tangible concerns about the tyranny of the contemporary, skewed vulnerabilities, background injustices, and moral corruption.

(i) Status

First, the *status* of many of the Paris commitments is questionable. On the one hand, some apparently regarded the more ambitious 1.5°C target as merely "aspirational". This suggests that the idea that Paris contains a real commitment to 1.5°C may be illusory, and so only a hollow victory for the more vulnerable nations. For instance, during the Paris meeting John Kerry, the US Secretary of State, reportedly "described the target as an add-on to the agreement, and more of an aspiration than a must-do", saying specifically "I think you can write that aspiration into the agreement in a way that doesn't make it the target or guidepost for the agreement" (Goldenberg 2015).

On the other hand, the legal framework is weak, and deliberately so. On weakness, we are told, not only is Paris not a binding treaty with mandatory targets, but "the legal nature or enforceability of any of the pledges and promises either on mitigation and adaptation or on finance, technology, capacity building and support remains debatable" (Sethi 2015). Much of this was intentional on the part of key actors, such as the US and China, who drove decisions to downgrade the wording of what remains. For example, the drafting process saw a drift from mitigation "commitments" to "contributions", the "deletion of 'fulfill' in relation to NDCs, thereby weakening legal obligations to implement and achieve policy results", and the replacement of the strong word "shall" with the legally weaker "should" when describing developed countries' contributions (Dimitrov 2019).

The last change was particularly notable, as it occurred very late in the process. The French organizers dismissed it as a "typographical error". Other negotiators were less sanguine. One African representative said "frankly speaking, nobody's buying that"; the Malaysian spokesperson for the Like Minded Developing Countries (LMDC) group, which includes India, China and Indonesia, added: "We [the LMDC] found the [original] text a little convoluted, but we felt we could consider it. … there was balance and our red lines were somewhat preserved. Then when we went to the hall, we were shocked to find that the US was objecting … They came up with this incredulous thing that it was a mistake. The EU approached us and said that there is a problem and asked us if we could change the 'shall' to 'should'. … We said that we have done so many things to get the US on board and they were diluting everything. In this case they were diluting something which was our super-red line."

Arguably, both concerns – the idea that 1.5°C is merely aspirational, and the deliberately negotiated weak language of the agreement itself – suggest the influence of moral corruption, intergenerational tyranny, skewed vulnerabilities, and background injustices.

(ii) Realism

Second, there are questions about how *realistic* the 2015 targets were given the Paris architecture. As early as 2018, an IPCC special report suggested that although both 2°C and 1.5°C could still be achieved, the conditions were stringent. For 1.5°C, global net emissions would need to decline by about 45% from 2010 levels by 2030, where this would require "*rapid and far-reaching transitions* in energy, land, urban and infrastructure … *unprecedented in terms of scale*".[30] Even for 2°C, global net emissions needed to decline by around 25% by 2030.

Sadly, it is reasonable to be skeptical about whether Paris was ever capable of delivering the unprecedented economic and social transformation required for meeting these goals. For one thing, its purely voluntary approach seems inadequate to the depth and scale of the challenge. For another thing, the action is largely left to other processes, particularly at

[30] "In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030 (40–60% interquartile range), reaching net zero around 2050 (2045–2055 interquartile range)." (IPCC 2018)

the domestic level. As one critic put it, Paris lacks both substance and a plan, and ultimately ignores reality: "the Agreement has been reached by removing almost all substantive issues … The targets and promises of the Paris Agreement bear no relationship to biophysical or social and economic reality"; "it is a *fantasy* which lacks any actual plan … The divorce of economic and energy policy from the targets … can only be seen as either *total cynicism or total delusion*" (Spash 2016, Abstract & 928-30; emphases added). Again, concerns about intergenerational tyranny and moral corruption loom large.

(iii) Emissions Gaps

Third, so far the needed progress has not been forthcoming. To begin with, even if all countries stuck to their early pledges in Paris, those NDCs would be insufficient to realize the 2°C goal, let alone the aspiration to get closer to 1.5°C. The initial set of national commitments under Paris reflected "shallow coordination: not negligible, but not nearly ambitious enough to stop the build-up of warming gases in the atmosphere" (Kehohane and Victor 2016, 573). Immediately prior to Paris, mainstream analyses suggested that the first round of NDCs would only achieve somewhere between 3.6°C and 2.6°C. This was a substantial improvement on projections of business as usual, which suggested 4-5°C. Nevertheless, much of the success of Paris was left to depend on later action. Given more than a decade of negotiations since Bonn-Marrakesh, this was a major disappointment.

Subsequent developments were also discouraging. After Paris, emissions continued to tick up, rather than down. The UNEP Emissions Gap report for 2020 stated that in 2019, global emissions reached a new record high, having grown around 1.4% over the previous year. As a result, it concluded: "government pledges under the Paris Agreement … are still *woefully inadequate*" and "the levels of ambition in the Paris Agreement must be roughly *tripled* for the 2°C pathway and increased *at least fivefold* for the 1.5°C pathway". This was a stunning statistic five years beyond Paris. UNEP also highlighted the extent to which matters had worsened over the previous decade: "By now, they [reductions required per year] are approximately *more than double [for 2°C]* and *four times [for 1.5°C]* what they would have been respectively had serious collective climate action started in 2010 [i.e., after Copenhagen]" (XI; emphases added). Summing up, António Guterres, the UN Secretary General, warned:

"Emissions are 62 per cent higher now than when international climate negotiations began in 1990. … We are headed for a thundering temperature rise of 3 to 5 degrees Celsius this

century. The science is crystal clear: to limit temperature rise to 1.5-degrees Celsius above pre-industrial levels, the world needs to decrease fossil fuel production by roughly 6 per cent every year between now and 2030. Instead, the world is going in the opposite direction — planning an annual increase of 2 per cent." (Guterres 2020)

By 2022, UNEP's Emissions Gap Report was describing itself as "testimony to inadequate action on the global climate crisis" (UNEP 2022, XVI). It highlighted: "globally the NDCs are highly insufficient" (XIX); "there has been very limited progress in reducing the immense emissions gap for 2030" (XVI); and G20 members - responsible for around 75% of global emissions - are "*far behind* in delivering on their mitigation commitments for 2030", causing "an implementation gap", as well as an ambition gap (XIX). The 2023 and 2024 reports continued on the same themes, as reflected in their increasingly desperate titles: *Broken Record: Temperatures Hit New Highs, Yet World Fails to Cut Emissions (Again)* (UNEP 2023) and *No More Hot Air … Please!* (UNEP 2024).

All of this makes it difficult to have a positive impression of Paris or the UNFCCC process to this point, especially given the IPCC's emphasis on the need for speed and the unprecedented nature of the challenge. Serious concerns about moral corruption and shadow solutions seem more than apt.

(iv) Inappropriate Baselines

The fourth problem surrounding ambition concerns the *inappropriateness* of the *baselines* against which the various projections are being made, and particular the notion of what it takes to be "on track" for a particular outcome.[31]

The first issue concerns basic assumptions in how emissions are modelled. We noted above that different assessments of the Paris pledges give different results for expected temperature in 2100. One reason is the choice of probability. Paris calls for holding global temperature rise below 2°C and pursuing efforts to limiting it to 1.5°C. Many analysts interpret this as requiring at least a 50% chance of staying below each threshold, but some model higher probabilities, such as 66%, 90% or even 95%. As you might expect, asking for a higher likelihood pushes up the temperature estimate. For example, just before the Paris

[31] Drawn from Gardiner 2023b & 2023c, which also question the choice of climate sensitivity

meeting, Climate Action Tracker projected that the 2015 commitments would provide a 50% chance of limiting global warming to 2.7°C, and a 66% chance of limiting it to 3.0°C, based on a mid-range climate sensitivity. (UNEP typically uses 66% to capture being "on track".)

This use of probabilities raises important questions: Which probability *should* global climate policy be aiming at? In particular, which likelihoods of holding temperatures below 2°C or at 1.5°C would count as offering a *reasonable level of protection* for future generations (including the children, grandchildren and the further future)? Such questions are normative, and *ultimately ethical*, raising important issues of justice and responsibility.

One problem is *procedural*: neither the modelers, nor, more importantly, the parties to Paris are called on to answer such questions. There is also a *substantive* problem. The core objective of the UNFCCC and so of international climate policy is to protect current and future generations from dangerous climate change. Yet, offhand, providing the future with only a 50-50 chance of avoiding such change (the equivalent of a coin-toss) seems *shamefully irresponsible*. Even 66% - a 2 in 3 chance – hardly seems a robust commitment to saving the future from a severe threat. Moreover, we might ask, aren't the 50% and 66% probability baselines overly generous to the current generation? Is this a case of intergenerational buck-passing? And does the general silence and complacency on this issue suggest moral corruption lurking in how much of the mainstream climate debate is being framed? Sadly, I suspect it does. At first glance, these are not reasonable levels of protection to provide for the future. Strong arguments would be needed to defend them; yet as far as I am aware, so far such arguments are not being made, especially in public venues.

To put this point into focus, notice that, arguably, aiming for higher probabilities, such as 90 or 95%, would be much more appropriate. Yet these would, of course, be much more demanding objectives. For example, if securing a 90% probability of success were the benchmark, we would be emphasizing the risks associated with 3.6°C, not 2.7°C.[32] Given the more extreme outcomes likely at 3.6°C, that is a dramatic difference. Arguably, it exposes the complacency of relying on mid-range probabilities and playing dice with the future.

[32] While Climate Action Tracker still use 50% for "on track" to produce 2.7°C by 2100, their recent update helpfully notes – perhaps in response to criticism - that "our knowledge of the climate system tells us that there is a 33% chance of it being 3.0°C or higher and a 10% chance of being 3.6°C or higher" (CAT 2024).

A second baseline issue is equally worrying. Surprisingly, mainstream projections rely on the assumption that there will be large contributions to mitigation from negative emissions technologies, and from 2030 onwards. According to an influential study published shortly after Paris, "it is impossible for the Paris commitments to reach 1.5°C with a 50% chance without significant negative emissions", and "even for 2°C, very few scenarios have explored mitigation without negative emissions" (Anderson and Peters 2016). Notably, the authors emphasized that "the scenarios *assume* that the large-scale rollout of negative-emission technologies is technically, economically, and socially viable", yet the main technology assumed to deliver the negative emissions, BECCS, "remains a *highly speculative technology*" (what is sometimes called 'a technological imaginary'). Moreover, if BECCS and other negative emissions technologies "fail to deliver at the scale enshrined in many IAMs, their failure will be felt most by low-emitting communities that are geographically and financially vulnerable to a rapidly changing climate". The authors conclude, "negative-emission technologies are not an insurance policy, but rather *an unjust and high-stakes gamble*" (see also Shue 2017, Clark 2024). In other words, (in their view) it is ethically irresponsible to base climate policy on such questionable assumptions, especially since the fate of billions of people is at stake. We might add that to do so is reckless, a severe abdication of responsibility, and hardly something to be proud of. Sadly, the fact that much mainstream discussion of Paris conveniently obscures this issue looks like a prime case of moral corruption: of a deep distortion of the ways in which we talk about climate policy that helps to disguise what is really going on, ethically-speaking.

I conclude that, with respect to ambition, global climate policy continues to rest on dangerously shaky ground. I am not alone. Echoing criticisms made after almost all previous meetings, Surya Sethi, a former core negotiator for India commented:

> the universal promise … to remain below the aspirational warming limit under the Paris agreement is nothing more than *a feel-good statement at best and a patently false promise at worst. The hard choices have been kicked down the road for at least eight years.* (Sethi 2015).

Others went further. Jim Hansen, the former NASA scientist who sounded the alarm in Congress in 1988 and remains perhaps the world's most famous climate scientist, said:

> *It's a fraud really, a fake*. It's just bullshit for them to say: '*We'll have a 2°C warming target* and then try to do a little better every five years.' It's just *worthless words*. *There is no action, just promises*. As long as fossil fuels appear to be the cheapest fuels out there, they will be continued to be burned.

Similarly, the climate policy expert David Victor stated that "even a realistic crash program to cut emissions will blow through 2 degrees", that "1.5 degrees is *ridiculous*", and that new targets are needed (Victor 2015).

In light of all this, I conclude that it is difficult to defend Paris on grounds of ambition, and all too easy to see key features of the perfect moral storm at work, especially intergenerational tyranny, skewed vulnerabilities, and moral corruption.

2. Universality

Let us turn now to inclusion. Advocates of Paris sometimes claim that "for the first time" their approach includes virtually all countries.

(i) Universal Anyway?

Unfortunately, this phrasing is a little misleading, since it is also true that almost all nations of the world ultimately ratified other previous agreements, such as Rio, Kyoto and Copenhagen. They had therefore already agreed in principle to respect the objective of avoiding dangerous climate change. Thus, the key difference in Paris is not about inclusion writ large. Instead, it is about the kind of action envisaged.

Defenders of Paris typically emphasize that in Kyoto, countries were divided into distinct groups of developed and developing countries, and only the developed countries were asked to make significant cuts. Many criticized this division, and in particular the exclusion of the fast-growing economies in China and India from limits. By contrast, it is said that Paris asks all countries to submit a climate action plan, and so in that sense all countries are treated alike. Many believe that this is fundamental advance.

(ii) Lingering Divisions

Sadly, that Paris represents major progress is far from clear.[33] First, procedurally, much of the relevant language in fact remains the same. Closer inspection of the Paris document reveals several mentions of developed and developing countries, of common but differentiated responsibilities, of the developing countries taking the lead, and of special considerations for developing countries. So, most of the earlier ideas remain, and affect how countries are to understand their commitments. For example, on mitigation Paris says:

> "Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances." [Article 4.4]

In general, it is difficult to see a "decisive break" in Paris; at best there is a slow evolution, as countries like China, India, Brazil and Indonesia make explicit and deeper commitments over time. Moreover, this is hardly a new idea; such an evolution was always anticipated under Rio and Kyoto.

Second, in terms of substance, there remain significant differences between the kinds of action proposed by different countries, and along the lines prevalent before. So, for instance, while the developed countries work on cuts, the rising economies are allowed further time in which to grow. Consider the original commitments.

China, for example, set its target as peaking emissions by 2030, even though it is the largest emitter. As Sethi puts it, China, the "world's largest current polluter, accounted for about 16.6% of global GDP in PPP terms and 28% of GHG emissions in 2014", yet "Paris classifies

[33] I say that as a critic of Kyoto. In 2004, I maintained that a meaningful treaty had to be universal, in the sense of making demands on everyone to respect a ceiling on global emissions, in part because a ceiling could be undermined by any country of significant size. Paris does not avoid this problem.

China as a developing nation whereby it can claim extra time to grow its absolute and relative emissions" (Sethi 2015).

Similarly, India did not take on an overall reduction target, but instead committed to reducing the carbon intensity of its economy by 33-35% below 2005 levels by 2030, basing 40% of its power capacity on non-fossil fuel sources, and creating an additional 'carbon sink' of 2.5 to 3 billion tonnes of CO_2 equivalent through additional forest and tree cover by 2030. However, it also made its pledge conditional on substantial economic aid from developed countries, based on a preliminary estimate "that *at least USD 2.5 trillion* (at 2014-15 prices) will be required for meeting India's climate change actions between now and 2030" (India's NDC, 2015).

In short, both the agreement itself and the NDCs continue to reflect the previous divisions. Moreover, the current commitments of the big emerging economies raise worries about unholy alliances, since they emphasize the importance of continued fossil fuel growth to their development in the short- to medium-term. For example, the Indian NDC emphasizes the energy needs of its current population:

> "The average annual energy consumption in India in 2011 was only 0.6 tonnes of oil equivalent (toe) per capita as compared to global average of 1.88 toe per capita. It *may also be noted that no country in the world has been able to achieve a Human Development Index of 0.9 or more without an annual energy availability of at least 4 toe per capita*. With a HDI of 0.586 and global rank of 135, India has a lot to do to provide a dignified life to its population and meet their rightful aspirations." (India 2015; emphasis in original)

Unfortunately, it remains unclear how or whether such demands can be reconciled with respecting the global limits of 1.5°C and 2.0°C. The worry is that, under current realities, they cannot (cf. Cf. Gardiner 2016, 2017).

Let us turn now to the institutional arrangements. The two key ingredients of Paris are the "bottom up" NDCs, and the global stocktake. Unfortunately, each has notable weaknesses.

3. Commitments

We can begin with the (allegedly) bottom-up strategy of self-declared targets. Again, we see ample evidence of moral corruption and the lurking presence of the tyranny of the contemporary.

(i) Voluntary

First, the NDCs are voluntary contributions. Alas, voluntary approaches have a poor record so far. Promises were also made in Rio, Kyoto, and Copenhagen. Often they were inadequate; sometimes they were not kept. For example, in Rio the developed promised to stabilize emissions at 1990 levels by 2000; but they failed. Similarly, in Kyoto several countries made commitments that they did not keep, including the US, Canada, Japan and New Zealand.

In the case of Paris, many analysts emphasize that "the voluntary system of differentiation was essential to winning agreement at Paris, yet it meant sidelining and postponing the most contentious issues" (Sachs 2019). Moreover, they claim that the basis for that agreement was simple:

> … the agreement places only modest burdens on states and … is vague at key points. The symbolic reputational gain of adherence, and the advantage of having one's own non-enforceable pledges acknowledged in the agreement, exceeded the costs. On the other side of the ledger, the reputational costs of opposition would have been high for most states. The same reputational logic does not apply to … meeting the NDC targets and enhancing targets progressively … Unlike the promises incorporated in the NDCs, these decisions will be costly. (Keohane and Oppenheimer 2016, 147)

(ii) Vague

Second, as just noted, NDCs are often subject to vagueness, both in themselves and in comparison to the commitments of other countries. One big advantage of the NDC approach was supposed to be transparency, that it opens up each country's commitments

to scrutiny from experts and from the rest of the world. This is an essential element of the "name and shame" strategy that is supposed to inspire a "race to the top". Still, unfortunately, as it turns out, many of the provisions of Paris are elusive at best. Notably, the section on transparency has been described as "*elevating vagueness to an art form*" (Keohane and Oppenheimer 2016).

This problem reflects the lack of common benchmarks and unified metrics to determine responsibilities. One example is that NDCs often use different baseline years, which makes them difficult to compare. More importantly, the NDCs themselves are not made in light of the global targets and countries are not required to take a certain share of the burden, nor to defend their conception of their share based on any common set of criteria (Brown and Taylor 2015, etc.). This smooths the prospects for agreement on the mechanism, but severs the connection between overall ambition and the NDCs. It is tempting to conclude that, under such circumstances, "*elevating vagueness to an art form*" is a perfect vehicle for ongoing moral corruption.

(iii) Bottom-Up

Third, it seems a mistake to fixate on the ways in which Paris is "bottom up", whereas Kyoto was allegedly "top down" and based on negotiations about targets and timetables.

For one thing, countries still look to each other in determining what they are willing to do, in part because major issues of competitiveness are at stake, especially in the short-term. This is one of the reasons why bilateral meetings between China and the US, and the US and India remain important. Negotiations about what each is willing to contribute still matter. They are likely to become even more important as the remaining carbon budgets for 1.5-2.0°C continue to shrink or disappear.

For another thing, since Kyoto's enforcement mechanisms were so weak, the sense in which its commitments were really "top down" is minimal. In reality, countries were relatively free to exit or to weaken the terms of their participation, as in the end Canada, Japan and New Zealand did. In other words, Kyoto was also already "bottom up" in the sense that the decisive issue was always what particular countries were willing to do.

Lastly, being "bottom up" is not always an advantage. As well as the ongoing history of defection from voluntary agreements, there is also a marked tendency for many successes to be preordained: they reflect progress already made, not fresh ambition. In Kyoto, several countries agreed to targets that they had in effect already met, or were likely to meet, for other reasons (e.g., given cuts already achieved or underway in Germany and the UK in the early 1990s, the EU was always likely to meet its overall target by 2012 and made its commitments with this in mind). Similarly, some speculate that some who have signed up to Paris are doing the same thing, in that many NDCs do not deviate from a business-as-usual scenario (Torstad 2018, cited by Dimitrov 2019).[34]

In conclusion, the differences between Kyoto and Paris in terms of structure seem overblown. One might say, as one commentator put it, that the Paris Agreement is actually "a dangerous form of incrementalism" that largely "repackages existing rules that have already proven inadequate to reduce emissions and improve resilience" (Allan 2019). Given this, it inherits many of the weaknesses of Kyoto. In particular, given the vagueness of the NDCs, there is plenty of latitude for keeping up appearances, where most countries remain officially on board, but "pursue essentially business as usual under the cover of an agreement (thereby protecting their reputations)… [where] … poor countries and some of the BRICs … pretend to combat climate change and the rich countries … pretend to pay them for doing so." (Keohane and Oppenheimer 2016, 149-150)

4. Compliance

The main mechanism intended to achieve a reconciliation between global goals and voluntary national commitments is the global stocktake, which is supposed to assist with the intent to "rachet up" ambition over time. The stocktake promised to "assess the collective progress towards achieving the purpose of this Agreement and its long-term goals … in a comprehensive and facilitative manner, considering mitigation, adaptation and the means of implementation and support, and in the light of equity and the best available science" [Article 14]. This process is genuinely novel. Still, there are reasons for hesitation.

[34] For instance, China may have accepted peaking its emissions in 2030 because it had already achieved that just before the negotiations were concluded in 2014 (Keohane and Oppenheimer 2016, 149). Thus, even among the big contributors, often what appears to be ambition may be merely a statement of the status quo. This is problematic in a situation where there is an urgent need for quick progress and some countries clearly should do more.

(i) Untested

One reason is that at the point the Paris agreement was made, a global stocktake had not yet been tried. No one really knew how it was supposed to work, let alone succeed in its task. This was true both of how it would do its basic assessment and how it would carry out its vital role as the mechanism intended to rachet up ambition over time. This was an almost astounding level of uncertainty this late in the UN process.

(ii) Contentious Issues Unresolved

A second reason for concern is that success appears to require taking positions, either explicitly or implicitly, about appropriate shares and ambition. This implies that to achieve its ultimate objectives the stocktake process would need to confront many of the issues that have proven most contentious over the last thirty years, such as equity (which is specifically mentioned in Article 14), responsibility, and so on.

Arguably, the move to a global stocktake was therefore a huge gamble on a mysterious and untested process in a context where previous wagers have failed (or, put more diplomatically, "a high-stakes experiment in multilateral cooperation" (Dimitrov 2019, citing Doelle 2017)). That this would still need to occur *after* Paris, and under such uncertain circumstances, suggests a *repudiation* of the idea that Paris provided a new and enduring framework that moved beyond the obstacles of the past. On the contrary, for real progress, it looked likely that the tense negotiations of Rio, Kyoto, Copenhagen, Cancún and Paris would have to *reoccur* and on a regular basis, perhaps even every five years at each new stocktake. Indeed, without such negotiations it is difficult to see how the Paris mechanisms themselves could provide any route toward success. Instead, much of the hope would (again) need to rely on luck or dramatic new developments elsewhere (e.g., in technology, or in social or political will). Yet again, the crucial conversations were deferred until later.

(iii) Constrained

A third reason for skepticism is that matters were actually worse than this. For the stocktake process was set up under specific constraints that seem to stand in the way of a frank assessment. According to Paris, the mechanism "to facilitate implementation of and promote compliance" is to be "expert-based and facilitative in nature and function in a manner that is transparent, *non-adversarial* and *non-punitive*", paying "*particular attention*

to the respective *national capabilities* and *circumstance*s of Parties" [article 15, emphases added].

In general, this is a bizarre way to set up a compliance regime. First, the requirement that the assessment is non-adversarial and non-punitive clearly has defects, including as a vehicle for "naming and shaming". Indeed, shaming appears already ruled out.

Second, the clause about attention to capabilities and circumstances introduces much latitude for further obfuscation and delay. In the absence of, indeed the longstanding resistance to, any agreed standards for determining appropriate responsibilities, it is unclear how it can function to determine when any particular country falls short.

Third, worse, the stocktake is to assess only "collective progress", so there appears to be no specifically individual accountability here for particular nations. Instead, everything is left to individual countries, their NDCs, and their own interpretations of them.

Fourth, worse still, the fact that this approach is enshrined in the long-term architecture is likely to provide a further obstacle to progress. Arguably, what is needed is a shared understanding of responsibility and what equitable shares of the burden look like. Yet under the collective, non-adversarial and non-punitive approach no mechanism for assigning responsibility is provided, or perhaps even possible.

So, how are things turning out? The first stocktake took place in 2023. At first glance, the news seemed positive. The UNFCCC's stocktake document begins by giving Paris credit for major reductions in overall climate risk: "since its adoption, the Paris Agreement has *driven* near-universal climate action … [and] *inspired* significant progress in global mitigation …" (UNFCCC 2023, 4; emphases added). The UNFCCC also praised the international process (i.e., itself), saying "significant progress has been made since the entry into force of the Convention almost 30 years ago". It cites as evidence "significant shifts in projections of global temperature increase in 2100", down from 3.7–4.8 °C in Cancun in 2010, to 3.0–3.2 °C in Paris in 2015, to 2.6–2.7 °C in Glasgow in 2021, to 2.4–2.6 °C in Sharm el-Sheikh in 2022, and "with the possibility of reaching 1.7–2.1 °C when taking into account the full implementation of long-term net zero targets" (UNFCCC 2023, 13). In short, the stocktake

document creates the impression that Paris has made a major contribution to climate action, and one that makes key targets of 1.5-2°C viable.

Unfortunately, this positive framing of Paris seems dubious at best. This is not the place for a full analysis, so consider just three concerns. First, correlation is not causation. Thus, that climate risk has (allegedly) declined does not imply that Paris or the UNFCCC are entitled to take credit for that decline. Most notably, other factors may be in play. Second, the baselines against which Paris is being assessed are questionable. Third, the projections themselves are ethically misleading. Let me say a little more about each of these concerns.

In 2009 – the year of the infamous Copenhagen meeting - the United Nations' Environment Program (UNEP) began producing its well-known Emissions Gap Report. Conveniently, in 2019 UNEP reflected on the report's first ten years by comparing the world then with 2009's "business as usual" trajectory. Sadly, it concluded that "essentially there has been no real change in the global emissions pathway", since emissions were roughly those originally predicted for 2019 under a "no new policy [after 2005]" scenario. It therefore characterizes 2009-2019 as a "lost decade". The main reason, UNEP says, is that "the effects of climate policies have been *too small to offset* the impact of key drivers of emissions such as economic growth and population growth" (UNEP 2019, 3; emphases added). Thus, any climate advances were overwhelmed by setbacks in other areas.

Did things change between 2019-2023? Yes and no. On the one hand, the COVID-19 pandemic had a dramatic short-term effect in reducing emissions by around 6% in its first year, and so temporarily lowering the trajectory of emissions. Yet clearly the UNFCCC should not give itself or Paris credit for this. On the other hand, there was a swift rebound, such that overall emissions are now higher than before the pandemic and continue to grow. This is damning in itself. In addition, arguably, the pandemic drop of 6% in 2019 was a missed opportunity, and the international process should share in the blame for not building on that opportunity.

What might Paris take credit for? Some point to structural changes put in place in some countries that (they say) will bring down emissions in the longer-term. On this narrative, focusing on 2009-2024 puts too much emphasis on recent history, and not enough on the

future trajectory of emissions. Paris, the thought goes, deserves credit for winning the long-term even as it struggles in the short-term.

However, this narrative should be treated with caution. First, Paris is not really "winning the long-term". Mainstream projections still hover around 2.7-3.2°C for 2100, and other estimates are higher (e.g., at the extreme, some scientists infer that committed warming may be as much as 10°C at equilibrium (Hansen et al. 2023)). Moreover, 2100 is hardly the end of the long-term, and projections for 2200 and 2300 can run higher still.

Second, gains in one area can be overwhelmed by setbacks elsewhere, as the "lost decade" reminds us. For instance, even if the structural changes endure, they may be more than offset by growth elsewhere. One might see more green energy and more efficient infrastructure in certain areas, but this may simply result in higher energy use overall (e.g., as fossil fuels migrate to other parts of the global economy).

Third, we should remember that Paris cannot necessary take credit for those gains that have occurred. Some structural improvements may have already been "on the cards", as countries took changes they expected anyway and enshrined them in their NDCs as "commitments".

Fourth, the structural gains might unravel. Progress might be fragile, for political, economic or other social reasons. For example, some countries who made more ambitious pledges appear now to be walking back on them.

Finally, perhaps the most serious problem with the long-term infrastructure narrative is that in the climate context emphasizing long-term progress can be deeply misleading. Serious cuts need to come soon, yet the biggest emitters are woefully behind in making those cuts. Specifically, achieving the mainstream climate targets was predicated on massive drops in global emissions between 2010-2030, of the order of 45% for 1.5°C and 25% for 2°C. Yet the reality is that global emissions have increased over that period and continue to do so. Indeed, by the 2024 report, UNEP was saying that sustained cuts of 7% were needed *every year* until 2030 or 2035. Paris has no mechanism to achieve that. Moreover, that such

drastic cuts are deemed necessary is partly due to the predictable failures of the UNFCCC process.

In short, the positive picture of Paris' progress suggested by emphasizing declining climate risk is seriously misleading. The situation is now desperate. In general, it seems clear that to this point Paris and the UNFCCC process have failed. More specifically, the "high-stakes gamble" on the "new" global stocktake has been lost. 2023 did not see a "ratcheting up" of ambition; instead, international climate policy is failing to meet even the low ambition of the past.

To be fair, the second part of the UN's stocktake document acknowledges that much work remains to be done and that overall countries are falling short. Nevertheless, it calls only for renewed commitment and a redoubling of efforts. Conspicuously, it does not even mention the idea that Paris itself might be the wrong vehicle or that the UNFCCC process might be part of the problem. Again, the level of political complacency is striking (Gardiner 2019, 2024b).

(iv) Fragility

A final reason for hesitation about compliance is the lack of a serious enforcement regime. Parties submit their own commitments and are free to revise them as they see fit. As with Kyoto, there are no meaningful penalties for failing to deliver, and in particular no connections to vital issues such as trade and security. It is also easy to exit the agreement: there are no sanctions and a short waiting period (cf. Gardiner 2004, Spash 2016).

This raises concerns about the political fragility of the agreement moving forward. Most prominently, the US already exited twice. This is *despite* the fact that the whole Paris agreement was largely designed with the US in mind, under US leadership, and with other countries placing a high priority on keeping America engaged.[35]

[35] Notably, "insiders tend to ascribe virtually all [Paris'] weaknesses and less binding provisions to the United States" (Dimitrov 2019). This is not a new thing. The Kyoto deal was also strongly motivated with US interests in mind, and with the Clinton administration playing a leading role. Yet, in both cases, the result was a swift US withdrawal under the next Republican administration (then G.W. Bush; this time, Trump). For instance, as David Doniger said of Kyoto, "The system is made in America, and the Americans aren't part of it" (Pohl 2003). Moreover, the official complaints remained roughly the same. In 2001, 2017 and 2025, Presidents Bush and Trump insisted that Paris treats the US unfairly, emphasized the latitude given to China and India, and bemoaned the effects on US competitiveness.

While the Trump administration is responsible for both withdrawals, even the (self-described) pro-climate Biden administration fell far short of producing the scale of change needed. On the one hand, emissions reductions remained patchy. The Inflation Reduction Act delivered an investment of $391 billion, but also opened up new leases.[36] The Biden administration was criticized for permitting the construction of the Line 3 pipeline (e.g., Dolsak and Prakash 2022), opening up more drilling in the Arctic, and supporting further oil supplies from Saudi Arabia "to support global economic growth" (White House 2022). Notably, some issues may involve unholy alliances against the future. For instance, perhaps some marginalized populations in Alaska supported new oil fields for the sake of near-term economic growth even knowing the negative long-term effects.

On the other hand, there is an elephant in the room. Exports of oil and natural gas have accelerated rapidly since 2009 (the year of Copenhagen), under both Democratic and Republican administrations, to the point that the US now "produces more crude oil than any country, ever" (USEIA 2024). One central campaign pledge of President Trump was to push even harder ("drill, baby, drill").

The fragility of US commitment to climate action is no side issue. If, as many have claimed, Paris should be seen holistically, the logic of the whole structure rests strongly on the US being inside and committed (Allan 2019). Even given their dismay at the weakness of the deal, many other countries stayed on board largely to achieve that end, having essentially been told to "take it or leave it". Thus, without US compliance and indeed leadership, much of the rest of the agreement risks unravelling.

As with Kyoto, many other countries also look less than fully committed.[37] The last few years have seen several step back from previous pledges. It is also unclear how seriously to

[36] Even under the best case scenario where IRA was retained by the next administration and led to significant carbon emission reductions, there are substantial uncertainties about the range of its effects (e.g., Bistline et al. 2023).

[37] Discussion often centers around large developing countries, such as Brazil (e.g. Sordi 2022; Bearak 2024). However, developed countries also struggle. Recall that Canada, Japan and New Zealand failed to deliver on their Kyoto pledges. Looking forward, not so long ago the Canadian PM, Justin Trudeau, usually described as a pro-climate politician, said: "No country would find 173bn barrels of oil in the ground and just leave them there." (McKibben 2020). This remark stands in stark contrast to the warning of mainstream science that most fossil fuel reserves (around 80%) are likely stranded assets: burning them is incompatible with basic climate goals such as 2°C and 1.5°C.

take the commitments of some major emitters that Paris' enthusiasts claim great credit for including. For example, India's contribution is officially contingent on receiving a trillion dollars in aid from the rest of the world, and (as President Trump among others has argued) this is a questionable proposition. Moreover, India's demand bears close resemblance to the long-standing idea that the LDCs should receive compensation from the DCs for foregoing fossil fuel development, since their need to do so is caused in part by the historical emissions of the rich countries, who are said to have used up more than their share. The rich countries, and especially the US, have long been resistant to these ideas. Thus, one can reasonably ask, has Paris resolved any of these issues, or has it just allowed them to resurface in other places?

We can conclude that Paris is weak on accountability and enforcement. On accountability, the targets are murky and self-interpreted. There are no standard benchmarks to compare them either with each other or with the global ambition. On enforcement, there are no sanctions, let alone any external sanctions that include links to other cooperative ventures, such as trade and security (as I insisted on for post-Kyoto). Moreover, the "name and shame" strategy appears to be undermined by the "non-adversarial, non-punitive" stocktake mechanism, which appears to foreclose shaming. The risk of failure seems extreme.

All of this is very hard to understand if one is looking for a serious global effort to face the defining challenge of our time. Sadly, the perfect moral storm analysis, with its emphasis on moral corruption, helps us to make sense of things. As Keohane and Victor put it: "the combination of general promises about acting on climate change with an unwillingness to pay substantially to achieve nominal goals leads … to *organized hypocrisy*" (Keohane and Victor 2016). Again, we see evidence that Paris provides only another dangerous illusion of serious climate progress.

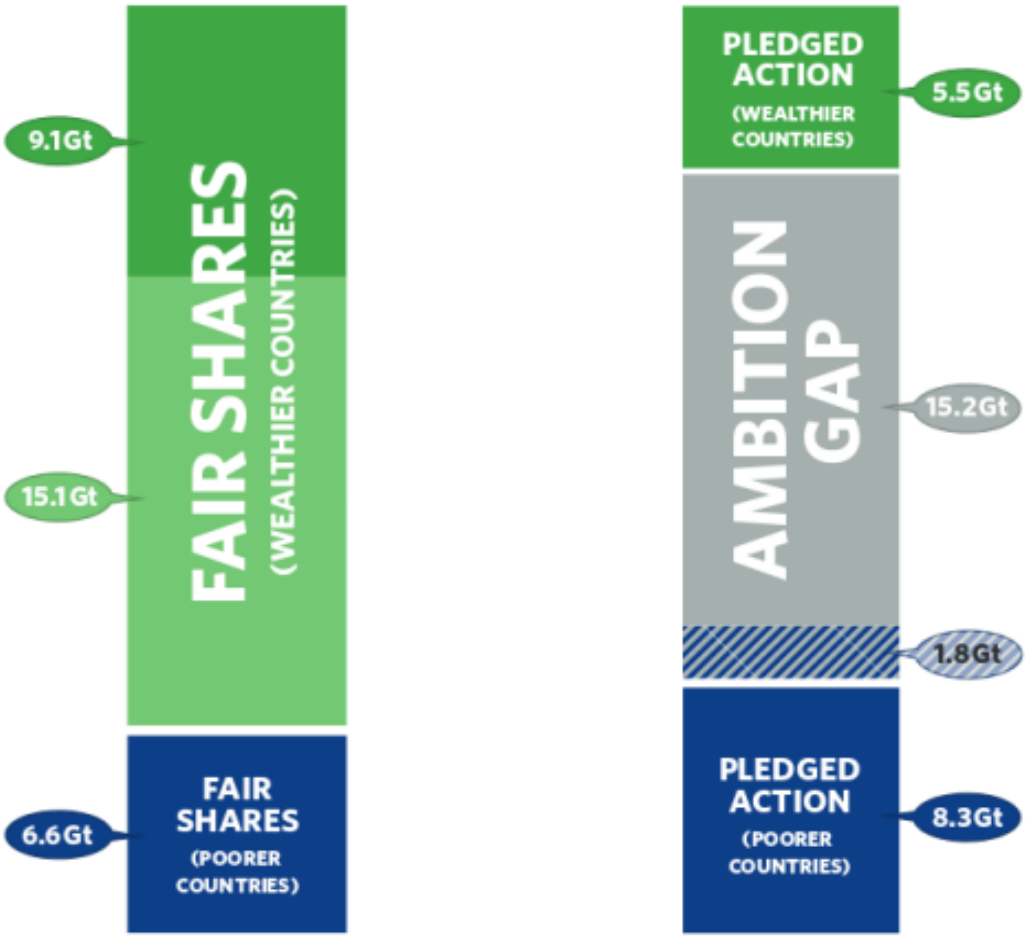
5. Fairness

What about fairness? Again, there are serious reasons for pessimism. To begin with, despite the fact that key terms like 'equity' and 'responsibility' remain prominent in the agreement itself, there is scant evidence of progress, raising the specter that they are retained more out of politeness than serious commitment, as window dressing.

(i) Skewed Implementation

There is also little sign that the concerns of the more vulnerable play a central role. Instead, the implementation seems substantially skewed. In general, analysts tell us that Paris favors the developed countries, and is least fair to Africa, arguably the most vulnerable continent: "Politically, the PA arguably favors developed countries of the North, who won most major battles … The new climate deal meets all key demands of the United States, while being least fair to the African Group and other least developed countries by not including references to their special circumstances" (Dimitrov et al. 2019).

Moreover, the NDCs themselves indicate a significant "fairness gap". Many analyses suggest that the initial Paris pledges were seriously skewed relative to what one might expect against common indicators of responsibility, such as capacity and historical responsibility. In particular, while the contributions of developing nations look reasonable in light of such benchmarks, those of the developed nations fall far short. Consider, for example, the following visual representation from a major NGO report (Oxfam 2015):



This suggests that from the outset the reality of Paris stood in sharp opposition to the consensus in climate ethics on the burden claim - that the rich countries should take the lead – and did so even though that idea is reflected in the agreement itself.

(ii) Equitable Shares

Paris is also weak on equitable shares. Consider Sethi's comments: "there is nothing in the Paris Agreement that assures, or even seeks, an equitable sharing of the limited carbon space that the global commons provide"; moreover, its actual structure may work against equitable sharing: "the [combination of the] ambition gap and postponing stock taking to 2023 ensures that the carbon budget available for remaining below the more ambitious 1.5°C limit is *almost completely exhausted* and the chance of keeping temperature rise to

"well below" the 2°C limit is severely impaired"; thus, "by allowing the above ambition gap to continue, the Paris Agreement has allowed the developed countries to *usurp* much more than their fair share of even the remaining carbon budget/space just as they have done since 1750". He concludes: "this effectively turns the historical responsibility of developed nations into their historical right" (Sethi 2015; emphases added).

Concerns about equitable shares arise both between nations and within them. For example, UNEP notes:

> The combined emissions of the *richest one per cent* of the global population account for *more than twice the poorest 50 per cent*. The elite will need to reduce their footprint by a factor of at least 30 to stay in line with the Paris Agreement targets. (UNEP 2020)

Yet there is no attempt within Paris – or elsewhere – to address this gap. At the level of policy, no one, for instance, is currently suggesting that those countries with large groups in the top 1% or the next top 10% should take much bigger cuts than those in the bottom 50%. Nor is anyone proposing policies which would specifically target those groups, while being more generous to low emitters.

As noted above, some may argue that these issues are less pressing than they once were given the small (perhaps nonexistent) carbon budget that now remains. Still, one limitation of this argument is that it ignores the fact that fairness need not be achieved in terms of allowable emissions alone. So, for instance, those denied fair shares (now or historically) could be compensated for this by other means, such as through direct payments, technology transfers, or other kinds of redress, such as Nansen-style passports (e.g., Heyward and Odalen 2016). Yet even discussing compensation has long been resisted by rich countries, and especially the US. Paris does nothing to address these aspects of fairness, but rather allows them to drift further into the background once again.

(iii) Impacts

What about responsibility for impacts? Unfortunately, again there are multiple reasons for pessimism.

The first reason is that there are realistic fears that the notion of compensation has been eliminated, effectively "negating" claims of historical responsibility, in favor of (at best) the idea of humanitarian aid (e.g., Sethi 2015). Even this idea is now increasingly under threat, as discussions emphasize *loans*, often at market rates. Reportedly, loans made up around 70% of funding provisions in 2022 (EcoEquity 2024).

The second reason involves more general concerns about how climate finance has evolved, which do not auger well for its future or that of the loss and damage fund. First, the process has been slow. On the one hand, rich nations have been "lagging badly" in making individual contributions and reaching collective goals (Guterres 2020). The US, for example, was consistently behind in its contributions, and the overall Copenhagen target of $100 billion by 2020 was reached in 2022 (OECD 2024). On the other hand, the pace of dispersals has been disappointing. For instance, while dispersals from the Green Climate Fund (the largest) began in 2016, and 2023 the GCF had committed funds of US$12.8 billion, by 2023 only $3.6 billion had been disbursed (Ahmed et al. 2023).

Second, against the initial understanding of "new and additional" funds described when the fund emerged in Copenhagen, donor countries have typically tried to *repurpose* existing humanitarian aid, so as to make their contributions by "relabeling or redirection of existing official development flows" (Clemencon 2016; cited by Dimitrov et al. 2019).

Third, the recipient projects themselves were typically skewed in problematic directions. For instance, while the Green Climate Fund was meant to prioritize funding to less developed countries and small island states, by 2023 only $2.18 billion out of $12.8 billion had been allocated to adaptation there, "suggesting that the percentage of funding going towards adaptation needs in these contexts is low" (Ahmed et al. 2023). Similarly, in 2018, 80% of the funds available were allocated for mitigation in the bigger LDCs, with only 20% for adaptation, when countries like Bangladesh had been advocating for a 50-50 split (Huq 2020).

In light of such factors, a recent analysis concludes that "an overarching lesson" is that, despite a "veil of objectivity …", the process "remains subject to the same North-South

politics that have long hindered progress …" (Ahmed et al. 2023).[38] A prominent fear in the climate community is that the newer loss and damage fund will go the same way.

The third reason for pessimism is the Baku meeting of 2024 which was widely perceived to be a disaster. Initially, billed as "the finance COP" that would finally put finance at the heart of the global agenda, Baku did produce an agreement to increase funding to $300 billion. However, this sum was much less than the benchmarks suggested by major players (including the Global South and an independent expert group) in advance of the meeting, of around $1.3 trillion. Moreover, Baku delayed the delivery by a decade, until 2035, devaluing the commitment by means of inflation and through the increase in expected needs by then.

Consequently, some said the deal in Baku was "too little, too late", that negotiators had again "kicked the can down the road", and that the process was a "trail of broken promises". Chandai Raina, lead negotiator for India, called the deal "an optical illusion", "a paltry sum", "abysmally poor" and a "travesty of justice", adding "we cannot accept it … [it] will not solve anything" (Noor and Carrington 2024). The negotiating bloc for the LDCs – representing 45 nations and 1.1 billion people - said: "It sacrifices the needs of the world's poorest and most vulnerable to protect the narrow interests of those who created this crisis.", adding "This is not just a failure. It's a betrayal." (Anderson 2024). Others concluded: "Baku can be read as … a final repudiation by the rich countries of the obligation to do their fair share they took on when they signed the UNFCCC" (EcoEquity 2024). In short, once again, we have ample evidence of failure and moral corruption.

6. Summing Up the Evidence

It is difficult to come away from this assessment of Paris without thinking that the evidence for the persistence of the perfect moral storm is strong. There are so many examples that here I will simply remind us of just a few.

First, there are multiple lines of evidence for *intergenerational tyranny* in its various forms. As has become customary in climate agreements, most of the important decisions have again been deferred. Actual ambition remains low, and assessed against dubious

[38] The authors explicitly say only "hindered progress on loss and damage", but the point is plausible much more generally (and I doubt the authors would disagree).

baselines (e.g., of probability and technological imaginaries). What ambition there is stands in conflict with more concrete realities on the ground. Moreover, again there are no serious efforts at either enforcement or linking progress to other central global issues, such as trade and security. Instead, we are left with a voluntary, murky, and non-adversarial regime in a situation where a more robust institutional architecture is clearly warranted and needed. As is typical in climate negotiations, "the hard choices have been kicked down the road".

Second, the evidence for *moral corruption* is, if anything, even stronger. There is a huge gap – a gaping chasm – between the way the deal is presented to the global public and how much it actually achieves. Paris is more of a "repackaging" than a "decisive break" with the past. Key elements "elevate vagueness to an art form". Support for it is shaped more by "narrow contemporary political interests" in many countries than by concern for future generations. This is why some prominent experts have been moved to describe Paris as "a fantasy", "a delusion", "a fraud", "worthless words", "an optical illusion", "organized hypocrisy", "nothing more than a feel-good statement at best and a patently false promise at worst", embodying "either total cynicism or total delusion" and bearing "no relationship at all to the reality of what governments, and their business partners, are actually doing today".

Third, the relevance of *skewed vulnerabilities* and *background injustice* remains extreme. In practice, the actual agreement reflects the concerns of the most powerful and is weakened as a result. Those promises that are in place, such as on climate finance, remain neglected, underfunded and easily diverted to other agendas. Structurally, the deep-seated issues of fairness persist, including equitable shares and responsibility for impacts. Once again, the need for shared standards to adjudicate the transition, such as how to understand equity and responsibility, are left to be dealt with later, which in practice encourages not at all.

Fourth, and more tentatively, there is some risk of *unholy alliances* against the future. Suggestions of this might be found in the remarks from the Indian INDC, the opening up of drilling in Alaska with support from some marginalized communities, and the persistence of anti-climate political movements in many countries that claim to be promoting the interests of the poor and working-class (e.g., the so-called "yellow vests" in France). While

protecting current people is a key goal of ethical climate policy, it should not be at the expense of the young and other future generations.

In short, once again, almost everything is left to do.[39] Alas, the door or window for effective climate action is now closing very quickly (e.g., UNEP 2022, 2024). This is a dire position for the international process to be in after thirty years of trying. Moreover, arguably Paris is partly responsible because it has wasted precious time and political attention.

5. Is Paris the Real "Enemy of the Good"?

1. A Conventional Rebuttal

Some believe that focusing on the flaws of Paris is a mistake, and all this pessimism overblown. Generally, they say, we simply have to be patient: Paris is "a first step"; it is the best or only kind of agreement available; and eventually progress will come. We should not "make the perfect the enemy of the good".

Consider a few examples. In the immediate aftermath of the agreement, Nancy Knowlton, a coral reef expert with the Smithsonian Institution, said: "[Paris] doesn't go far enough, but that really misses the point. … It moves us in the right direction, finally, and future efforts can be even more ambitious. To paraphrase Voltaire, *we can't let the perfect be the enemy of the good*." (Hance 2016) Similarly, President Obama claimed: **"**Full implementation of this agreement will help delay or avoid some of the worst consequences of climate change, and will pave the way for even more progress, in successive stages, over the coming years." The international relations expert and former diplomat Anne-Marie Slaughter wrote: "By the standards of a traditional treaty, [Paris] falls woefully short. Yet its deficits in this regard are its greatest strengths as a model for effective global governance in the 21st century. The Paris agreement is a sprawling, rolling, overlapping set of national commitments brought about by a broad conglomeration of parties and stakeholders. It is not law. It is a bold move toward public problem-solving on a global scale. And *it is the only approach that could work*." (Slaughter 2015; emphasis added). Recently, Al Hill of the Council on Foreign

[39] Early on, two prominent analysts said: "*… by itself the Paris Agreement accomplishes little*—but it opens what was a locked door. That door is now a little bit ajar – pushing hard could carry us through it to a better outcome, but *nothing will be accomplished at the international negotiation level alone* … For the Paris Agreement to put the world on a path toward limiting climate change to acceptable levels, publics, organized and mobilized in many countries and transnationally, will need to act politically, and will need to make their political actions credible by being willing to pay the necessary economic price." (Keohane and Oppenheimer 2016, 150)

Relations said: "Even at the time of negotiation, [Paris] was recognized as not being enough … [and] only a first step, and the expectation was that as time went on, countries would return with greater ambition to cut their emissions." (Maizland and Fong 2025). Strikingly, similar remarks were made about Kyoto: for instance, Yvo de Boer said, "Kyoto has had great success in putting an *architecture* in place. … I think this is a fabulous architecture that we can build on the road to Copenhagen" (Adam 2008); international relations scholar Elizabeth DeSombre labeled Kyoto a first step and called my skepticism "unwarranted" (DeSombre 2004).

Three more specific, and mutually reinforcing, lines of response seem especially prominent. The first line suggests *technological optimism*. It typically highlights the rapid acceleration of new energy technologies, whose costs go down every year as their scale increases dramatically (McKibben 2020; Gore 2020).

The second line of response insists that "*we are still in the game*", since in some sense the Paris goals of 2.0-1.5°C remain within reach. For instance, hopeful mainstream projections are often emphasized. For example, in its November 2024 update, Climate Action Tracker reported that under an optimistic scenario, the expected temperature rise by 2100 would be 2.4-1.5°C, with a central estimate of 1.9°C. Similarly, some trumpet the increase in national commitments to net zero targets for mid-century. For example, by 2023, "more than 70 countries, including the biggest polluters – China, the United States, and the European Union – have set a net-zero target, covering about 76% of global emissions" (United Nations 2023), where full implementation of these would bring a 66% chance of keeping warming to 1.8-2.1°C (UNEP 2023, XXI).

The third line of response insists that we have also made *institutional* progress, in developing multiple mechanisms under the UNFCCC. As President Obama said in 2015: "No agreement is perfect, including this one. … But make no mistake, the Paris agreement establishes the enduring framework the world needs to solve the climate crisis. It creates the mechanism, the architecture, for us to continually tackle this problem in an effective way."

2. Against the Mainstream

In many ways, I have already commented on these responses. For example, I have argued that in important ways the Paris framework is an impediment to progress, and that the mainstream targets are alarmingly complacent (see also Gardiner 2023bc). Still, I will make a few additional remarks.

The general stance - that particular negotiations are merely "first steps", and that this is the best we can do for now - seems unduly complacent.[40] After thirty years we cannot continue to defend everything as a "first step" and defer the hardest tasks. Moreover, there is no good reason to believe that first steps must be weak, or that weak first steps are especially effective. More importantly, the "best we can do" defense is simply not good enough and risks becoming part of the problem. Although we should acknowledge the limits of current institutions, we cannot accept them. Doing so would mark a deep pessimism about humanity's abilities and prospects. Given this, it seems reasonable to complain that gradualism is itself part of the problem. Its deep complacency serves as a shield for ongoing institutional failure. Moreover, this facilitates intergenerational tyranny and thereby risks moral corruption.

Part of the problem may involve institutional "lock-in" led by well-meaning key actors who are nonetheless misguided. Recently, Elisa Morgera, the UN special rapporteur on climate change, suggested: "The current climate regime was built in a way, maybe unconsciously, that locked in an ineffective approach …"; and "It's hard to re-imagine a system that's been so long in the making and the dominating views are so embedded …" (Lakhani 2025). Specifically, she speculates that resistance to change could be "in part down to a generation of good faith climate lawyers and negotiators who still believe in incremental change and that tickling with the system might work"; she also suggests "a problem of imagination" (Lakhani 2025, paraphrasing Morgera).

In addition, Morgera highlights more insidious tendencies toward moral corruption in the process: "At the opening plenary [in Baku], the *self-portrait* of the work that's been done, the progress and the *overly congratulatory* terms in which the [UNFCCC] secretariat represents their work, I find extremely problematic. I mean, it couldn't be further from the reality of the impacts we see, and the little action that's been taken"; and "I found the lack of transparency, and the *overly congratulatory* way that the secretariat responded, extremely problematic and a symptom of the broader issues around *misinformation and disinformation*" (Lakhani 2025; emphases added).

[40] The remarks in this paragraph are reproduced from Gardiner 2024b.

I will close with three cautionary remarks, and a positive suggestion. The first cautionary remark concerns technological progress. As we have seen, considerable technological optimism is already built into mainstream projections, especially in morally dubious assumptions about the availability of CDR on a massive scale. Moreover, we should not assume that progress on clean energy will necessarily result in better climate outcomes. It may just fuel an even larger expansion of energy use, as in the "lost decade". Note that the share of global energy provided by fossil fuels remains over 80% and has not shifted greatly in nearly thirty years, even as overall consumption has increased dramatically (IEA 2024).

The second cautionary remark concerns the net-zero pledges. Voluntary commitments have a poor track record in the climate negotiations (e.g., Rio, Kyoto), and these new commitments are notably distant in time, being 30-40 years into the future. Given this, UNEP says: "the litmus test … will be the extent to which [these announcements] are reflected in near-term policy action and in significantly more ambitious NDCs for the period to 2030", but so far this tends only to "highlight the *vast discrepancy* between the ambitiousness of these goals and the inadequate level of ambition in the NDCs for 2030 … [and] the inconsistency between the emissions levels implied by current policies and those projected under current NDCs by 2030, and, more importantly, those necessary for achieving net-zero emissions by 2050" (UNEP 2020). By 2023, UNEP was calling the net-zero pledges "highly uncertain" (XXI), saying that "in most cases, neither current policies nor NDCs currently trace a credible path from 2030 towards the achievement of national net-zero targets" (XXI), and "current evidence does not provide confidence that nationally determined net-zero targets will be achieved" (XXII).

The third cautionary remark concerns the plausible claim that the best hope for Paris has always been that it might provide a *rallying point* around which those committed to climate action can organize their efforts and so create institutional momentum. (A "positive illusion", if you like.) While there is something to this thought, the deep flaws of the Paris architecture should give us pause. Arguably, Paris does more to *create further obstacles* to just and effective action than it facilitates solutions. Indeed, Paris has established many mechanisms and norms that need to be undone if climate damages are to be limited. We now have a decade's worth of evidence for this.

My positive suggestion concerns the fact that, whatever one thinks of Paris, the real action is, and needs to be, elsewhere. On the one hand, when it comes to moving forward, the

pathways are much as they have always been, but now sharply narrower than ever before. Avoiding the worst still requires a dramatic and unprecedented effort in all countries of significant economic size, led by courageous leaders, supported by mass movements, and facilitated by serious social, technological and ethical innovations. Plausibly, this necessitates more "bottom up" pressure at the domestic level, especially in key countries such as the US, China and India, and within industries which might play leading roles in developing new technologies, infrastructure, and funding streams. In short, climate progress requires a spectacular mobilization of genuine political will at multiple levels (see also Shue 2021).

On the other hand, it should by now be clear that a key component of the problem is *institutional denial* (Gardiner 2024ab). Current institutions are not well designed for successfully confronting global environmental problems, and it is foolish to keep pretending that they are. While the social systems that are currently dominant (e.g., the market, elections with 3-6 year cycles) may be good at promoting short-term and narrowly economic interests, we lack institutions that are effective for intergenerational and ecological concerns. Instead, institutional reform is clearly needed.

Recent critics such as the Club of Rome hint at this when saying that current arrangements are "not fit for purpose", but then back away by offering proposals for reform that are troublingly modest and still embedded within the flawed UNFCCC structure. They therefore encourage further faith in Paris and other institutions when that seems deeply complacent. Arguably, this risks discrediting the whole enterprise and fostering despair. Instead, we must face the deep failures of Paris even as we watch it burn. We must seek to build something new and better that can rise like a Pheonix from the ashes. At the very least, this will require major reform and a radical repurposing of Paris. More likely, it involves supplanting Paris in favor of a fundamentally new approach.

While this is not the place to develop alternatives, let me signal a plausible direction of travel. My own view is that success will require recognizing and then confronting the threat of intergenerational tyranny. Elsewhere, I have proposed that we develop the idea of, advocate for, and support the establishment of a global constitutional convention (GCC) directed towards future generations (Gardiner 2014, 2019, 2024ab). This deliberative forum would be vaguely akin to other constitutional conventions that have taken place around the

world. (The resemblance is only vague, since part of the task would be to create a more ethical process that delivers just and equitable procedures and outcomes.)

The GCC would address the issue of how to design effective institutions to confront the perfect moral storm in general, and especially threats of intergenerational tyranny at the global level. It would take seriously the limitations of, but also the need to effectively integrate with, existing institutions, especially national institutions (e.g., perhaps through a system of 'checks and balances'). Perhaps the GCC need not officially replace the Paris process, but could evolve alongside it. Nevertheless, the heart of climate action would be elsewhere. Obviously, the GCC faces obstacles, some of which I address elsewhere (e.g., Gardiner 2019). I leave the details of that project for another time. For now (as in 2004), my fundamental concern is that without a robust institutional approach, or its functional equivalent, effective climate policy is likely to remain (far) beyond us.

5. Conclusion

In 2015, world leaders assured the assembled delegates and the global public that in Paris they had delivered an agreement that should make them proud. By contrast, I have argued that Paris falls far short of the robust response needed to combat climate change, and does not address the central problems of past agreements. Indeed, much of my critique of Kyoto remains on target for Paris. At best, Paris might be seen as a moderate, but deeply compromised effort, skewed toward the concerns of the current generation, narrowly understood. At worst, it is another dangerous illusion of progress that itself poses a substantial obstacle to real action. Either way, too much of the hard work remains in front of us. This is deeply disappointing given the magnitude of the threat and the time that the international community has had to prepare to meet it. As with Kyoto, those who promote Paris "should be wary of looking their children in the eye, and none should relish facing either their children's children, or current and future generations of the world's poor" (Gardiner 2004a).

Sadly, the perfect moral storm analysis provides a compelling explanation. The specters of intergenerational tyranny, moral corruption, shadow solutions, skewed vulnerabilities, background injustice, and unholy alliances against the future loom large. Charges of shadow solutions and planetary greenwashing are uncomfortable but realistic.

In my view, rather than looking away in embarrassment, we must confront the challenges directly, starting with a massive mobilization of political support and a global constitutional convention for future generations. Making progress here requires removing the Paris smokescreen. The current generation can no longer echo Captain Renault's famous line in *Casablanca* and claim to be "shocked" by Paris' disfunction. Instead, we must be honest about the threat of dangerous illusions in climate policy and resist ongoing greenwashing. Painful as it may be, we owe it to the young and other future generations to admit our failures and say "we never had Paris". In its place, we must strive to give them something better to remember us by.

References

Adam, David (2008): Analysis: Has the Kyoto protocol worked?, in: The Guardian, 08.12.2008. https://www.theguardian.com/environment/2008/dec/08/kyoto-poznan-environment-emissions-carbon#:~:text=%22In%20terms%20of%20emission%20reductions,putting%20an%20architecture%20in%20place. [last access 15.08.2023].

Agarwal, Anil, and Narain, Sunita. 1991. *Global Warming in an Unequal World: A Case of Environmental Colonialism*. New Delhi: Centre for Science and Environment.

Ahmed, I. et al (2023). What Can the Loss and Damage Facility Learn from the Green Climate Fund?. Available at SSRN.

Allan, Jen Iris (2019): Dangerous Incrementalism of the Paris Agreement, in: *Global Environmental Politics* 19 (1), pp. 4–11.

Anderson, Kevin/Peters, Glen (2016): The trouble with negative emissions. Reliance on negative-emission concepts locks in humankind's carbon addiction, in: *Science* 354 (6309), pp. 182–183.

Anderson, Stefan. 2024. 'Betrayal': Climate Finance Battle Ends in Defeat at COP29. *Health Policy Watch*. November 25.

Andreou, Chrisoula. (2006). Environmental Damage and the Puzzle of the Self-Torturer. *Philosophy & Public Affairs* 34.1, pp. 95-108.

Bearak, Max. (2024): Brazil's Clashing Goals. *NY Times*, March 13th.

Bistline, John et al. (2023): Emissions and energy impacts of the Inflation Reduction Act, in: *Science* 380 (6652), pp. 1324–1327. https://www.science.org/doi/10.1126/science.adg3781 [last access 20.08.2023].

Brown, Donald and Prue Taylor eds. (2015). *Ethics and Climate Change. A Study of National Commitments.* IUCN; Gland, Switzerland.

Brown, Paul (2001): World deal on climate isolates US, in: *The Guardian*, 24.07.2001. https://www.theguardian.com/world/2001/jul/24/environment.physicalsciences [last access 15.08.2001].

Clark, Britta. (2024) 'Negative Emissions and Excuses'. Paper presented at Friday Harbor conference.

Clémençon, R. (2016). The two sides of the Paris Climate Agreement: Dismal failure or historic breakthrough? *Journal of Environment & Development*, 25(1), 3–24.

Climate Action Tracker. 2024. As the Climate Crisis Worsens, the Warming Outlook Stagnates. November 14.

_____. 2015. The CAT Thermometer.

Club of Rome. 2024. Open Letter on COP Reform.

____. 2023. Open Letter to the UN Secretary General and COP Executive Secretary. https://www.clubofrome.org/cop-reform/

Desombre, Elizabeth. 2004, Global Warming: More Common than Tragic. *Ethics and International Affairs* 18: 41-46.

Dimitrov, Radoslav (2016): The Paris Agreement on Climate Change: Behind Closed Doors, in: *Global Environmental Politics* 16 (1), pp. 1–11.

Dimitrov, Radoslav/Hovi, Jon/Sprinz, Detlef F./Sælen, Håkon/Underdal, Arild (2019): Institutional and environmental effectiveness: Will the Paris Agreement work?, in: *WIREs Climate Change* 10 (4), e583.

Doelle, M. (2017). Assessment of strengths and weaknesses, in D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (eds.): *The Paris Agreement on climate change. Analysis and commentary.* Oxford, England: Oxford University Press, pp. 375–388.

Dolsak, Nives/Prakash, Aseem (2022): Inflation Reduction Act Is A Step Forward But Climate Policy Contradictions Remain, in: Forbes, 28.07.2022. https://www.forbes.com/sites/prakashdolsak/2022/07/28/inflation-reduction-act-is-a-step-forward-but-climate-policy-contradictions-remain/?ss=sustainability&sh=4b8ba2053fe9 [last access 20.08.2023]

Falkner, R. (2016). The Paris Agreement and the new logic of international climate politics. *International Affairs* 92 (5), 1107–1125.

Gardiner, Stephen M. (2001): The Real Tragedy of the Commons, in: *Philosophy & Public Affairs* 30 (4), pp. 387–416.

Gardiner, Stephen M. (2004a): The Global Warming Tragedy and the Dangerous Illusion of the Kyoto Protocol, in: *Ethics & International Affairs* 18 (1), pp. 29–39.

Gardiner, Stephen M. (2004b): The Ethics of Global Climate Change. *Ethics*.

Gardiner, Stephen M. (2006): A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption, in: *Environmental Values* 15 (3), pp. 397–413.

Gardiner, Stephen M. (2009): Saved by Disaster? Abrupt Climate Change, Political Inertia, and the Possiblity of an Intergenerational Arms Race, in: *Journal of Social Philosophy* 40 (2), pp. 140–162.

Gardiner, Stephen M. (2011a): *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford: Oxford University Press.

Gardiner, Stephen M. (2011b): Climate Justice. In John Dryzek, David Schlosberg and Richard Norgaard, eds. *Oxford Handbook of Climate Change and Society*. Oxford, pp. 309-322.

Gardiner, Stephen M. (2013): Why Geoengineering is Not a 'Global Public Good' and Why it is Ethically Misleading to Frame it as One, in: *Climatic Change* 121 (3), pp. 513–525.

Gardiner, Stephen M. (2014): A Call for a Global Constitutional Convention Focused on Future Generations, in: *Ethics and International Affairs* 28 (3), pp. 299–315.

Gardiner, Stephen M. (2017): 'Climate Ethics in a Dark and Dangerous Time', *Ethics* 127: 430-465.

Gardiner, Stephen M. (2019): Motivating (or Baby-Stepping Toward) a Global Constitutional Convention for Future Generation, in: *Environmental Ethics* 41 (3), pp. 199–220.

Gardiner, Stephen M. (2022): 'Is the Paris Climate Agreement Another Dangerous Illusion?', *Yearbook of the Norwegian Academy of Science and Letters* (Oslo), 157-174.

Gardiner, Stephen M. (2023a): 'The Centrality of the Tyranny of the Contemporary to Intergenerational Ethics'. In S.M. Gardiner, Ed. *The Oxford Handbook of Intergenerational Ethics*. New York: Oxford University Press.

Gardiner, Stephen M. (2023b): 'The Ethics of Climate Targets: Extinction Rebellion vs. the Climate Establishment'. In Donald Brown and Katy Gwiazdon, eds. *The Routledge Handbook on Applied Climate Ethics*, pp. 38-51. Routledge.

Gardiner, Stephen M. (2023c): 'Climate Targets and Moral Corruption', *American Philosophical Association Public Philosophy Blog*, April.

Gardiner, Stephen M. (2024a) 'Guidelines for a Global Constitutional Convention for Future Generations'. In Hiroshi Abe, Matthias Fritsch, and Mario Wenning, eds. *Intercultural Philosophy and Environmental Justice Between Generations: Asian, African, Indigenous, and Western Perspectives*, pp. 178-203. Cambridge.

Gardiner, Stephen M. (2024b) 'Climate Crisis, Institutional Denial, and a Global Constitutional Convention for Future Generations', *Social Philosophy Today* 40: 41-71.

Gardiner, Stephen M. (2024c). 'Is the Era of Intergenerational Climate Tyranny Over?'. Paper presented at APA Central.

Gardiner, Stephen M./Obst, Arthur R. (2023): *Dialogues on Climate Justice*. New York: Routledge.

Glantz, Michael. (1999): Sustainable Development and Creeping Environmental Problems in the Aral Sea Region". In *Creeping Environmental Problems and Sustainable Development in the Aral Sea Basin*. Cambridge: Cambridge University Press, pp. 1–25.

Goldenberg, Suzanne (2015): Paris climate talks: John Kerry sees hurdles to deal as deadline approaches, in: *The Guardian*, 08.12.2015. https://www.theguardian.com/environment/2015/dec/08/paris-climate-talks-deal-john-kerry.

Goldenberg, Suzanne, John Vidal, Lenore Taylor, Adam Vaughn and Fiona Harvey. (2015): Paris climate talks: John Kerry sees hurdles to deal as deadline approaches, in: *The Guardian*,

Gore, Al (2020): Al Gore: Where I Find Hope. *New York Times*, 12.12.2020. https://www.nytimes.com/2020/12/12/opinion/sunday/biden-climate-change-al-gore.html [last access 19.08.2023].

Hance. Jeremy (2016): What Does the Paris Agreement Mean for the World's Other 8 Million Species. *Guardian*, January 6.

Heyward, Clare/Odalen, Jörgen (2016): A free movement passport for the territorially dispossessed, in: Clare Heyward, Dominic Roser (eds.): *Climate Justice in a non-ideal world*. Oxford: Oxford University Press, pp. 208–226.

International Energy Agency (2024). World Energy Outlook 2024. https://www.iea.org/reports/world-energy-outlook-2024/pathways-for-the-energy-mix

IPCC (2014): *Climate Change 2014 Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland.

IPCC (2018): Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development, in: *Global Warming of 1.5°C*. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 93-174, doi:10.1017/9781009157940.004.

IPCC (2021): *Climate Change 2021: The Physical Science Basis*. Cambridge.

Light, Andrew (2016): Climate Diplomacy, in: Stephen M. Gardiner/Allen Thompson (eds): *The Oxford Handbook of Environmental Ethics*. New York: Oxford University Press.

Lykketoft, Mogens. (2015). Statement on Adoption of Paris Climate Agreement. (http://www.un.org/pga/70/2015/12/12/statement-on-adoption-of-paris-climate-agreement/).

Junger, Sebastian (1999): *A Perfect Storm: A True Story of Men Against the Sea*. New York: Harper.

Keohane, Robert/Oppenheimer, Michael (2016): Paris: Beyond the Climate Dead End through Pledge and Review?, in: *Politics and Governance* 4 (3), pp. 142–150.

Keohane, Robert/Victor, David G. (2016): Cooperation and discord in global climate policy, in: *Nature Climate Change* 6 (6), pp. 570–575.

McKibben, Bill (2020): When it comes to climate hypocrisy, Canada's leaders have reached a new low, in: *The Guardian*, 05.02.2020. https://www.theguardian.com/commentisfree/2020/feb/05/when-it-comes-to-climate-hypocrisy-canadas-leaders-have-reached-a-new-low [last access 19.08.2023].

MIT, 2023. How Do We Know How Long Carbon Dioxide Remains in the Atmosphere? *Ask MIT Climate*. *https://climate.mit.edu/ask-mit/how-do-we-know-how-long-carbon-dioxide-remains-atmosphere* [last access 01.01.2025]

Milman, Oliver (2015): James Hansen, father of climate change awareness, calls Paris talks 'a fraud', in: *The Guardian*, 12.12.2015. https://www.theguardian.com/environment/2015/dec/12/james-hansen-climate-change-paris-talks-fraud [last access 19.08.2023].

Noor, Dharna and Damian Carrington (2024). COP29 Climate Finance Deal Criticized as 'Travesty of Justice' and 'Stage Managed'. *Guardian*. November 24.

Oxfam (2015): *Fair Shares: A Civil Society Equity Review of INDCS*. Summary. https://oxfamilibrary.openrepository.com/bitstream/handle/10546/579848/ib-civil-society-review-climate-indcs-191015-en.pdf?sequence=1 [last access 19.08.2023].

Pohl, Otto (2003): U.S. Left Out of Emissions Trading, in: *The New York Times*, 10.04.2003. https://www.nytimes.com/2003/04/10/business/us-left-out-of-emissions-trading.html [last access 19.08.2023].

Rendall, Matthew. 2021. "Nuclear Deterrence: Another Perfect Storm?" In *The Oxford Handbook of Intergenerational Ethics*. Edited by Stephen M. Gardiner. Oxford. Available online at: https://academic.oup.com/edit ed-volume/34721.

Revkin, Andrew C. (2001): Global Warming Impasse Is Broken, in: *New York Times*, 11.11.2001. https://www.nytimes.com/2001/11/11/world/global-warming-impasse-is-broken.html [last access 15.08.2023].

Sachs, Noah M. (2019): The Paris Agreement in the 2020s: Breakdown or Breakup?, in: *Ecology Law Quarterly* 46, p. 865–910.

Schellnhuber, John (2007): Kyoto: no time to rearrange deckchairs on the *Titanic*, in: *Nature* 450, p. 346.

Schmidt, Jake. (2010): 'The Copenhagen Accord', *Energy Facts*. NRDC, June.

Sethi, Surya P. (2015): Ten Inconvenient Truths About the Paris Climate Accord, in: *The Wire Science*, 16.12.2015. https://science.thewire.in/external-affairs/world/ten-inconvenient-truths-about-the-paris-climate-accord/ [last access 19.08.2023].

Shue, Henry (2017): Responsible for What? Carbon producer CO2 contributions and the energy transition, in: *Climatic Change* 144, pp. 591–596.

Shue, Henry (2017): Climate Dreaming: negative emissions, risk transfer, and irreversibility, in: *Journal of Human Rights and the Environment* 8 (2), pp. 203–216.

Sordi, Jaqueline. (2022): Brazil may fail Paris Agreement targets by 137% if Bolsonaro stays in office. *Mongabay*, October 7th.

Spash, Clive L. (2016): This Changes Nothing: The Paris Agreement to Ignore Reality, in: *Globalizations* 13 (6), pp. 928–933.

Taiwo, Olufemi. (2022). *Reconsidering Reparations*. Oxford.

Tørstad, Vegard (2018). Evaluating the effectiveness of the Paris Agreement: An integrative approach, in: *Environmental Politics* 29 (5), pp. 761–780.

United Nations (1992): *United Nations Framework Convention on Climate Change*. https://unfccc.int/resource/docs/convkp/conveng.pdf [last access 15.08.2023].

United Nations (2015): *Paris Agreement*. https://unfccc.int/sites/default/files/english_paris_agreement.pdf [last access 15.08.2023].

United Nations (2015): 'COP 21: UN chief hails new climate change agreement as 'monumental triumph', *UN News* (12 December 2015).

http://www.un.org/pga/70/2015/12/12/statement-on-adoption-of-paris-climate-agreement/ [last access 15.08.2023].

United Nations Environment Program (2020): *Emissions Gap Report 2020*. Nairobi.

UNFCCC (2020): UN Secretary-General: Making Peace with Nature is the Defining Task of the 21st century. Speech published on the website of the *United Nations Framework Convention for Climate Change*. https://unfccc.int/news/un-secretary-general-making-peace-with-nature-is-the-defining-task-of-the-21st-century [last access 19.08.2023].

UN News (2015). COP 21: UN chief hails new climate change agreement as 'monumental triumph', 12 December.

USEIA (2024). US Produces More Crude Oil than Any Country, Ever. *Today in Energy*, March 14.

Victor, David G. (2015): Why Paris Worked: A Different Approach to Climate Diplomacy, in: *Yale Environment 360*. https://e360.yale.edu/features/why_paris_worked_a_different_approach_to_climate_diplomacy [last access 19.08.2023].

Vidal, John (2015): How a typo nearly derailed the Paris climate deal, in *The Guardian*, 16.12.2015. https://www.theguardian.com/environment/blog/2015/dec/16/how-a-typo-nearly-derailed-the-paris-climate-deal [last access 19.08.2023].

White House (2022): *Remarks by President Biden on His Meetings in Saudi Arabia*. https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/07/15/remarks-by-president-biden-on-his-meetings-in-saudi-arabia/ [last access 20.08.2022]