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HOW CAN THE PARIS AGREEMENT'S ARTICLE SIX REGIME ENSURE STATES MEET THEIR OBLIGATIONS TO "MINIMISE THE RISK OF NON-PERMANENCE OF EMISSIONS REDUCTIONS"?

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Contents

I Abstract

Article 6 of the Paris Agreement is expected to play a crucial part in global emissions reductions efforts. As rules have recently been agreed to, there are likely to soon be many Article 6 emissions reductions projects starting up. It is important that lessons are learned from some of the flaws in the Clean Development Mechanism, particularly around ensuring that projects create an impact that lasts for the long-term. In order to do so, states will need to confront the "super-wicked" nature of the climate change problem and use "sticky" policy design principles so that they can lead the transformation to a low-carbon economy. The Article 6 framework contains a number of provisions which can help to ensure states will do so. These include principles such as Sustainable Development, Environmental Integrity, Equity, and a Just Transition. They also include procedural, planning and monitoring requirements. This paper argues that such provisions are essential in supporting transformative policy, however, they must work against the fundamental nature of an emissions trading market, which can distance participants from projects and encourage sacrificing sustainability for increased financial reward.

II Introduction

The International Panel on Climate Change (IPCC)'s 6th assessment report in 2022 continues to highlight the urgent need for states to reduce emissions in order to reduce global warming by no more than 1.5 degrees.[1] This will require seismic shifts in the economic structures of nations, with enormous costs, including job loss for millions of workers.[2] These changes need to be carried out in as efficient a manner as possible, which implies nations should work together, funding the most cost-efficient projects ahead of focusing on projects within their own borders. Furthermore, as is acknowledged in the Paris agreement, as well as reducing emissions there is a need for measures that extract existing pollution.[3] The Paris Agreement seeks to encourage cooperation in these areas through Article 6, which promotes both market- and non-market- approaches to international cooperation on mitigation.[4] A major risk of the cooperative approach is that it allows states to retain harmful emitting activities if they would be too expensive to change. This creates carbon "lock-in", a long-term guarantee of emissions which means that the projects that are offsetting these emissions need to be equally long-term

[1] Jim Skea and others *Working Group III Contribution to the IPCC Sixth Assessment Report* (IPCC AR6 WG III, 2022) at SPM-15.

[2] Skea above n 1 at SPM-38. Note the World Bank estimates the coal industry alone supports 4.6 million jobs: *Global Perspective on Coal Jobs and Managing Labour Transition out of Coal* World Bank <https://www.worldbank.org >.

[3] Paris Agreement UNTC 3156 XXVII.7.d Entered Into Force 4 November 2016, art 5.

[4] Article 6.

sustainable.[5] The Article 6 rules agreed to in COP26 attempt to address this with a requirement that states "Minimize the risk of non-permanence of emission reductions".[6] This paper will consider how projects can be designed in order to minimise this through principles of good policy design. It will begin by analysing some of the issues that were identified with Article 6's predecessor created by the Kyoto Protocol[7] which should be considered in Article 6's implementation. It will then identify some of the policy challenges that international cooperative schemes face, and the ways that these challenges can be avoided. Then the principles mentioned in Article 6 will be analysed to determine how they can support the objective of minimising non-permanent mitigation. Finally, a detailed analysis of the Article 6 scheme itself will take place. From this, conclusions can be drawn about the likely success of the scheme in ensuring that states meet their obligations to minimise the risk of non-permanence of mitigation.

III Comparisons to Clean Development Mechanism Kyoto and other mechanisms

The Paris Agreement's predecessor, the Kyoto Protocol, had its own carbon trading mechanisms, which included the Clean Development Mechanism (CDM).[8] The CDM has so far resulted in 8,063 projects reducing 2000 Megatons of carbon emissions.[9] Despite encouraging heavy investment in projects, the CDM had many failings. Following a collapse of the price of a Certified Emissions Reduction unit (CER) from $20 down to $5 in 2012[10], the CDM is now encouraging only a very small number of new projects (an average of 3 per month, down from around 100 per month in 2011). [11] Other problems with the CDM include debate around "additionality" of projects[12], "races to the bottom" and companies finding ways to game

[5] Franck Lecocq and Zmarak Shalizi "The economics of targeted mitigation in infrastructure" 14(2) Climate Policy 187 at 189.

[6] Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement: Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement 2/CMA.3 At A 18 h) iii); and

Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement 3/CMA.3 at A 31 d) ii).

[7] Kyoto Protocol to the United Nations Framework Convention on Climate Change UNTC 2303 162 Entered Into Force 16 February 2005, art 12.

[8] Kyoto Protocol, above n 7, art 12.

[9] UNFCCC "CDM Insights" <https://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html>.

[10] The Economist "Complete Disaster in the Making" (2012) 404(8802).

[11] UNFCC, above n 9.

[12] Christie Kneteman and Andrew Green "The Twin Failures of the CDM: Recommendations for the "Copenhagen Protocol" (2014) 2 LDR 1 Article 9 at 237.

the system[13], producing the most credits for the least cost often without real benefits. It is important to consider how oversight of the CDM led to such issues so that the 6.4 mechanism can be managed in a way that avoids their repetition.

The CDM was created by Article 12 of the Kyoto Protocol, and was aimed at twin goals of reducing emissions of developed nations and creating sustainable development for developing nations.[14] However, market incentives were aligned only towards the former, usually to the detriment of the latter.[15] This would in turn reduce the long-term viability of projects. Developing nations were seen as best placed to determine whether a project would produce sustainable development for them, so they were given sole authority through a Designated National Authority (DNA) to allow projects on that basis.[16] By contrast, a strict universal process was used to measure the emissions reductions of a project.[17] However, developing nations were not required to reduce emissions under the Kyoto Protocol[18], reducing their interest in that part of the scheme. This meant that in order to attract investment, nations had an incentive to set the barest requirements so as to not lose projects to others.[19]

A related issue was that sustainable development is not easy to measure. DNAs developed checklists and guidelines, but often only an after-the-fact analysis could determine a project's sustainable development success.[20] Such analyses were not mandatory; in fact once a DNA had approved a project there were no further formal requirements relating to sustainable development.[21]

The market-based nature of the CDM means that the least costly projects will be the most likely to be funded. As it would be cheaper to ignore any non-mandatory requirement, this led to less sustainable projects "crowding out" the more sustainable but more expensive ones.[22] "End of

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[13] Karen Olsen and Jørgen Fenhann "Sustainable development benefits of clean development mechanism projects A new methodology for sustainability assessment based on text analysis of the project design documents submitted for validation" (2008) 36 Energy Policy 2819 at 2822.

[14] Kyoto Protocol, above n 7, art 12.

[15] Kneteman and Green, above n 13 at 236.

[16] UNFCCC "Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol" (2001) Decision 17/CP.7 at 35.

[17] Kenteman and Green, above n 13 at 231.

[18] Kyoto Protocol, above n 7, references throughout to "Annex I" countries refer to developed nations.

[19] Knetemen and Green, above n 13 at 235.

[20] Patrick Nussbaumer "On the contribution of labelled Certified Emission Reductions to sustainable development: A multi-criteria evaluation of CDM projects" (2009) 37 Energy Policy 91 at 94.

[21] Knetemen and Green, above n 13 at 235.

[22] Knetemen and Green, above n 13 at 231.

Pipe" projects (which simply capture and store carbon emissions as they are produced by factories, so rarely produce meaningful sustainable development) came to dominate.[23]

Despite these issues, as climate change continued to rise in the public consciousness, there was an increased scrutiny of projects. This came to a head in what came to be known as the "Coldplay effect", when popular band Coldplay announced a project to offset its carbon emissions by planting 10,000 trees in India.[24] It was later reported that almost all of the trees died due to a lack of supporting infrastructure.[25] Although this was a private sector project, it became part of a growing awareness of the need for long-term projects rather than feel-good publicity efforts. To address some of these problems the "Gold Standard" independent certification was created[26] with an Environmental Impact Assessment, a sustainability matrix and a stakeholder consultation.[27] This led to a complex multi-tiered system that allowed purchasers to freely choose whether to pay less for credits of equal value but that were likely doing less address climate change.

The "forward crediting" of emissions reductions units (meaning selling an emissions reduction credit before the reduction has been achieved) also caused issues.[28] The creation of a market for reductions that did not yet exist gives the illusion of progress, however projects would frequently later collapse, with only 29% of expected ER units actually being produced, for reasons including projects being abandoned, projects not achieving results, or results being unable to be validated by the required processes.[29] Some parties that pre-buy emissions reductions units may not even care about this because ER units are often used as a marketing tool.[30] The pre-bought units had already achieved the purpose of justifying *existing* emissions, and therefore actually incentivised more harmful activities, without also achieving the planned benefits. This is not to be confused with the concept of "forward purchasing", a potentially

[23] Nussbaumer, above n 20 at 92.

[24] Sam Headon "Whose Sustainable Development? Sustainable Development under the Kyoto Protocol, the "Coldplay Effect," and the CDM Gold Standard" (2009) 20 (2) Colo.J.Int'l Envtl.L.& Pol'y 127 at 147.

[25] Headon, above n 24 at 147.

[26] Headon, above n 24 at 148.

[27] Nussbaumer, above n 20 at 93.

[28] Markus Gehring and Freedom-Kai Phillips "Intersections of The Paris Agreement and Carbon Offsetting: Legal and Functional Considerations" (2016) C Hurst and Company at 4.

[29] Alain Cormier and Valentin Bellassen "The risks of CDM projects: How did only 30% of expected credits come through?" (2013) 54 Energy Policy 173 at 173.

[30] Nadaa Taiyab "The Market for Voluntary Carbon Offsets: A New Tool for Sustainable Development?" (2005) 121 International Institute for Environment and Development at 9.

valuable practice where a buyer invests in a project but does not receive the credits until they are actually created.

It is also important to note that while the two concepts are linked, "sustainable development" is not equivalent to "effective long-term policy". Giving developing nations control over definitions but not responsibility for emissions reductions meant they were incentivised to put their own interests ahead of global climate change policy interests. There was no incentive for these nations to invite projects that would innovate in the emissions reduction space, and therefore no "big-picture" design for the scheme.

Countries which have a large number CDM projects still ongoing are keen to integrate them into the new Article 6 scheme.[31] However, doing so will reduce the number of new projects that are likely to be created, which would be problematic given CDM projects were not subject to the same requirements that Article 6 projects will be.

IV Types of Mitigation Projects

Mitigation of greenhouse gas emissions can be achieved through a variety of methods which broadly fall into two types: emissions avoidance and Carbon Dioxide Removal (CDR).[32] Emissions avoidance projects seek to reduce the rate at which humanity currently emits greenhouse gases into the atmosphere, while CDR projects seek to lower the earth's levels of carbon dioxide and other gases. Each have different risks of non-permanence which are discussed below.

A Emissions Avoidance

An emissions avoidance project is a project that reduces the rate at which greenhouse gases are entering the atmosphere.[33] Common project types include renewable energy generation, increasing energy efficiency, and "end of pipe" collection of emissions before they enter the atmosphere.[34] The emissions reductions resulting from these projects can be sold through an emissions trading scheme such as Article 6. This allows purchasers to continue with the

[31] Simon Evans and Josh Gabbatiss "In-depth Q&A: How 'Article 6' carbon markets could 'make or break' the Paris Agreement" (2019) Climate Brief <https://www.carbonbrief.org/in-depth-q-and-a-how-article-6-carbon-markets-could-make-or-break-the-paris-agreement/>.

[32] Skea, above n 1 at SPM-30.

[33] "The best long-term carbon offset projects avoid carbon emissions" Global Carbon Project <https://www.globalcarbonproject.org>.

[34] Gavin Green "A quantitative analysis of the cost-effectiveness of project types in the CDM pipeline" (2008) CD4CDM Working Paper Series 4 at 17.

activities that would be the most expensive to change (ideally only as a short-term measure), therefore allowing countries to most effectively use their collective resources to combat climate change.[35] In order for this to be successful, it is important that "additionality" can be demonstrated.[36] This requires proving that the reduction in emissions would not have occurred had it not been for the cooperation scheme.[37] Additionality helps to ensure that countries are not merely selling their already planned emission reductions, and also works somewhat to avoid the moral hazard issue of companies being incentivised to overstate or even increase their emissions in order to be paid to reduce them under the scheme.[38] Another key element is the prevention of "leakage", meaning a scenario where a project's emission reductions causes a third party to increase their emissions to fill the gap in the market.[39] This is necessary to ensure states are actually concerned with global outcomes, not just the perceptions of their contributions.

One risk that countries should be aware of is the "rebound effect".[40] Increasing the energy efficiency of existing technology might seem like a good way to reduce emissions, however the resulting lower cost of energy may in fact increase the quantity of fuel consumers choose to use to such an extent that total emissions rise.[41] It would be easy to attribute this increase to other causes such as economic growth and therefore claim the increased efficiency resulted in even larger savings when it was in fact unhelpful.

A controversial type of emissions avoidance project relies on choosing not to undertake projects which would increase emissions (for example leaving petrochemicals in the ground). While this does in fact reducing emissions relative to business as usual, it is criticised for maintaining reliance on a carbon-intensive economy, being easily reversable, and bringing little to no co-benefits.

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[35] Green, above n 34 at 30.

[36] Axel Michaelowa and others "Additionality revisited: guarding the integrity of market mechanisms under the Paris Agreement" (2019) 19(10) Climate Policy 1211 at 1212.

[37] Michaelowa, above n 36 at 1212.

[38] Michaelowa, above n 36 at 1213.

[39] Frank Vöhringer and others "How to attribute market leakage to CDM projects" (2006) 5(5) Climate Policy 503 at 505.

[40] Lorna Greening and others "Energy efficiency and consumption — the rebound effect — a survey" (2000) 28(6) Energy Policy 389 at 389.

[41] Greening, above n 40 at 389.

If emissions avoidance projects are not designed to fit the local economic and cultural needs, they are unlikely to produce the best long-term benefits.[42] This may create the illusion of progress but once left alone practices may revert to old high-carbon behaviours. For this reason, states ought to have an ongoing responsibility to ensure that their projects are actually contributing. In the event that they do not, they should not be counting them towards their emissions reductions. This is further complicated where emissions reductions units have been on-sold to another state, illustrating how Article 6 risks distancing states from climate responsibilities.

B Carbon Dioxide Removal

Carbon Dioxide Removal (CDR) projects aim to extract carbon dioxide from the atmosphere.[43] Once this is achieved, the carbon is 'sequestered'[44], ideally in some permanent manner to ensure it never reaches the atmosphere again.[45] This benefit can be sold to a purchaser wishing to counteract the harmful pollution of carbon dioxide emitting activities, leading to a net carbon neutral result. Similar methods can also be used to extract other harmful greenhouse gases such as methane.[46] The IPCC's report states with high confidence that "CDR is a key element in scenarios that likely limit warming to 2°C or 1.5°C by 2100".[47] As such, the Paris Agreement envisions CDR playing an important role in mitigation efforts, giving specific mention to natural sinks and reservoirs.[48] This is because reducing our emissions are not enough – gases will remain in the atmosphere causing problems unless they are removed. This can be explained though the analogy of a bathtub, with water flowing in and water flowing out. Emissions avoidance strategies aim to reduce the flow of water into the bathtub, while CDR strategies aim to increase the flow of water out of the bathtub.

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[42] Mike Childs and Paul de Zylva *A Dangerous Distraction – Why offsetting will worsen the climate and nature emergencies* (Friends of the Earth, London 2021); Especially note the report indicating that forests managed by indigenous people have lower emissions than some privately managed forests that are part of emissions reduction schemes: FAO and FILAC *Forest Governance by Indigenous and Tribal People. An Opportunity for Climate Action in Latin America and the Caribbean* (FAO, Santiago, 2021) at 29.

[43] Skea, above n 1 at SPM-47.

[44] A contrasting technique, 'Carbon Capture and Use' (CCU) instead recycles the carbon for short term use. This does not directly reduce atmospheric CO_2 levels: "Fact Sheet: Carbon Capture and Use" American University, <https://www.american.edu/>.

[45] Skea, above n 1 at SPM-47.

[46] P Goglio and others "Advances and challenges of life cycle assessment (LCA) of greenhouse gas removal technologies to fight climate changes" (2020) 244 Journal of Cleaner Production at 2.

[47] Skea, above n 1 at TS-94.

[48] Article 5.1.

CDR can be divided into two main forms: Natural and Technological.[49] Natural CDR enhances the earth's existing carbon sinks created by organic organisms in the ocean and on land[50], which have already been known for some time to capture and sequester carbon.[51] It is therefore the more dependable option. However natural CDR is not without its own downside: while it has long been seen as a key part of the climate change fight, any benefits are reversed if the captured carbon are later burned, as is becoming increasingly common.[52] This may happen for a number of reasons: commercial interests may wish to profit from trees at some future point when they are no longer earning as carbon sinks,[53]. Worse, rising temperatures themselves are causing an increase in wildfires which could mean heavy investment in tree-planting is suddenly reversed once a tipping point is reached, itself creating a feedback loop of higher temperatures further worsening wildfires.[54]

Technological CDR claims to have methods of avoiding this issue through storing carbon in more permanent forms, perhaps even to be used in a sustainable manner.[55] Examples of storage techniques include Biochar (created by heating biomass), which can be used as a building material or to enhance soil quality, Direct Air Capture with Carbon Storage (DACCS), machines which chemically extract carbon from the air to be stored geologically, and Bioenergy with Carbon Capture and Storage (BECCS), which involves first creating biofuel, then using it to produce energy while capturing the resulting carbon to store in oil fields and other locations.[56] The promises of many of these technologies are still being explored. The IPCC states that it has a high level of confidence that anthropogenic CO_2 removal "has the potential to remove CO2 from the atmosphere and durably store it in reservoirs".[57] It does

[49] Skea, above n 1 at TS-94.

[50] Pierre Friedlingstein and others "Global Carbon Budget 2021" (2022) 14(4) ESSD 1917 at 1921.

[51] Skea, above n 1 at TS-95.

[52] Alexandra Witze *The Arctic is burning like never before — and that's bad news for climate change* (2020) Nature, <nature.com>.

[53] See for example Simon Counsell "Anatomy of a 'Nature-Based Solution': Total oil, 40,000 hectares of disappearing African savannah, Emmanuel Macron, Norwegian and French 'aid' to an election-rigging dictator, trees to burn, secret contacts, and dumbstruck conservationists" (2021) REDD-Monitor <red-monitor.org>.

[54] Will Steffen and others "Trajectories of the Earth System in the Anthropocene" (2018) 115(33) PNAS 8252 at 8255.

[55] David Morrow and Simon Nicholson *Sustainable Carbon Removal* (2021) Institute for Carbon Removal Law and Policy, American University at 23.

[56] Morrow, above n 55 at 23.

[57] Valérie Masson-Delmotte and Panmao Zhai (eds) "Climate Change 2021 The Physical Science Basis Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change" (2021) IPCC at 29.

however note also note that incorrectly deployed, CDR can potentially have a wide range of unintended adverse effects which could weaken its usefulness.[58] Furthermore, while a clear proof of concept exists, there remains uncertainty about the ability to actually implement some projects such as DACCS at scale.[59]

As it does not create a direct economic benefit, CDR needs to also have co-benefits if it is to be a long-term self-sustaining policy. Tree-planting creates many benefits, meaning it would qualify. Work is ongoing in sequestering technologically captured carbon in some useful form. This is essential in ensuring there is an inherent demand for such projects, ensuring their long-term permanence.

V Policy

This paper argues that the failures of the CDM were a result of a lack of long-term policy design. In this section a number of economic concepts are introduced which good policy design ought to address to ensure emissions reductions schemes like the CDM and Article 6 are successful.

A Path Dependencies and Carbon Lock-in

Carbon markets are based on the idea that all emissions reductions are equally valuable to climate change mitigation efforts.[60] This means for example that saving 1 Ton of carbon dioxide emissions by replacing inefficient lightbulbs in a developing nation (estimated to cost -€100 per tonne of CO_2 saved due to efficiency gains)[61] is equally as beneficial to the planet as saving 1 Ton of carbon dioxide emissions by subsidising electric vehicles in New Zealand (estimated to cost $126,000 per tonne of CO_2 saved).[62] Based on this principle, carbon markets

[58] Hans-Otto Pörtner and Debra C. Roberts (eds) "Climate Change 2022: Impacts, Adaptation and Vulnerability Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change" (2021) IPCC at SPM-19.

[59] Yuki Ishimoto and others "Putting Costs of Direct Air Capture in Context" (2017) 2 FCEA Working Paper Series at 13.

[60] Daniel Dudek and Alice LeBlanc "Offsetting new CO_2 Emissions: A Rational First Greenhouse Policy Step" (1990) 8 Contemporary Policy Issues 29 at 31.

[61] Kenneth Gillingham and James Stock "The Cost of Reducing Greenhouse Gas Emissions" (2018) 32(4) Journal of Economic Perspectives 53 at 56.

[62] Greg Hurrell "Carbon cost of clean car rebate almost 1,500 times the ETS price" Business Desk (Online ed, New Zealand, 23 September 2022).

ensure the world focuses on the cheapest emissions reduction options first, allowing resources to be used most efficiently to reduce overall global emissions.[63]

However, it is not always the case that the same amount of carbon dioxide saved will have the same benefit. This is because policy makers also need to consider the ongoing costs or benefits created by a project. Often, carbon intensive infrastructure such as power plants make use of capital with lifetimes in the decades.[64] Therefore, carbon markets may be creating what is known as "Carbon Lock-in" by encouraging firms to keep maintaining their carbon-emitting capital, an investment that will continue to have impacts long-term, and outlasting the benefits created by the emissions reduction projects.[65]

This is based on the idea of Path Dependency, an area of economics which studies how the history of a practice explains why we continue to do things in a suboptimal way, often due to the high initial cost of big changes[66] or an inability to coordinate.[67] It suggests that "temporary" or "transitional" changes are in fact likely to be normalised as society adjusts itself to become reliant on them.[68] This could be the reason that some have criticized the purchasing of carbon credits as comparable to the Catholic Church's practice of selling "indulgences" to wealthy sinners[69] (however this analogy is somewhat strained; it is almost impossible for money to annul a moral transgression, at least on the macro level carbon credits do effectively annul emissions.) It can potentially be an easy way to hide the most pressing challenges that will at some point need to be solved in order to create a carbon-neutral society.

Merely targeting 'low-hanging fruit' is not the optimal long-term approach. By only selecting the easiest projects, states can initially claim emissions reductions have low costs, but at some point there is the potential to hit a wall, leaving no obvious changes left without a sudden increase in the average cost of emissions reductions. Instead of ramping up progress, it gradually gets harder, resulting in a sigmoid curve of emissions reductions that eventually flattens.[70] This would create real difficulties at some point in the future, inviting populist

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[63] Dudek, above n 60 at 31.

[64] Lecocq, above n 5 at 189.

[65] "Fostering Effective Energy Transition 2021 Edition" (2021) World Economic Forum <weforum.org> at 28.

[66] Lecocq, above n 5 at 195.

[67] S Liebowitz and Stephen Margolis "Path Dependence, Lock-In, and History" (1995) 11(1) Journal of Law, Economics & Organization 205 at 206-207.

[68] Isabell Braunger and Christian Hauenstein "How Incumbent Cultural and Cognitive Path Dependencies Constrain the "Scenario Cone": Reliance on Carbon Dioxide Removal due to Techno-bias" (2020) 9(1) Economics of Energy & Environmental Policy 137 at 148.

[69] George Monbiot "Paying for our Sins" *The Guardian* (Online ed, London 2006).

[70] Lecocq, above n 5 at 198.

attempts to ignore the issue as too hard. Fortunately, path dependency also shows the way to develop new low-carbon societal norms, by locking in a new path. This requires emissions reduction projects that build on each other, with nations sharing their own know-how and the latest developments. This will allow them to take advantage of the network effect: the more projects that are added to a network, the more valuable that network becomes to each project, taking advantage of economies of scale to share the high fixed costs like research and development.[71] Further, if many investments in new technologies are made, some of them are likely to pay off eventually, opening up new paths to cheaper emissions reductions which may also benefit the economy overall. Once movement is started in this way, momentum will become unavoidable.

B The Risks of Putting off Change

A further challenge of putting off making changes in some activities is the concept of time inconsistent preferences. Time inconsistent preferences occur when an actor fails to take the actions that would maximise their long-term benefit.[72] This can occur because that actor has the opportunity for an immediate benefit for a large future cost. This actor cares too much about present benefits to reasonably consider the overall effect of actions. People are notoriously overly optimistic about their ability to do something in the future compared to in the present.[73] Failing to be realistic can lead to greater harms if we choose to make large investments that we later decide against going through with. This has been seen in the history of climate change policy: thirty years ago, nations agreed they would aim to stabilise greenhouse gas emissions in the United Nations Framework Convention on Climate Change.[74] Since then, emissions reduction plans have always projected that we will lower emissions in the near future, despite the fact emissions have continued to rise during these decades.[75] Buying carbon credits are a method for states to further shift difficult emission reduction projects into the future, overestimating their desire to do so once the future arrives.

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[71] Philippe Aghion and others, "Path dependence, innovation and the economics of climate change" in Roger Fouquet Handbook on Green Growth (Edward Elgar Publishing Limited, Cheltenham, 2019) 67 at 70.

[72] Larry Karp and Yacov Tsur "Time perspective and climate change policy" (2011) 62(1) Journal of Environmental Economics and Management 1 at 1.

[73] Karp above n 72 at 1.

[74] United Nations Framework Convention on Climate Change A/RES/48/189 (opened for signature 4 June 1992).

[75] J Christensen and A Olhoff "Lessons from a decade of emissions gap assessments" (United Nations Environment Programme, Nairobi, 2019) at 4.

C Populism and policy swings

Most planning for climate change action works on the assumption that states will have time consistent aims of reducing emissions. Under such an assumption, it is less important when policies are implemented because governments can be certain that their future iterations will be acting towards the same goal. However, as was demonstrated by the US exiting the Paris Agreement following the populist election of President Donald Trump, states can switch positions entirely in a short space of time.[76]

Policy debate could be framed as an effort by groups to obtain a policy "monopoly" by dominating the discourse.[77] This model leaves policies vulnerable to sudden shifts in position, especially in the situation where policies have large upfront costs that will only lead to benefits long in the future, as is the case with climate change. If benefits don't arise from the policy within the term of an election cycle, the discourse can easily be dominated by the short-term harms, allowing a populist leader to take advantage. Therefore, an approach where emissions are offset by buying carbon credits is vulnerable to a populist overthrow where the decision is made to stop buying the carbon credits. This shows the further weakness of offsetting as opposed to actually reducing emissions. Furthermore, policy designers must consider how a project will be perceived at all points in time, rather than directly weighing all final costs and benefits. The policy monopoly model is potentially useful in explaining climate inaction: polluting companies have both a strong incentive and the financial resources to promote inaction arguments as their gains from inaction are immediate, while those who wish to promote action will likely receive limited immediate benefits from achieving action, making it difficult to maintain a grip on the discourse.

Overoptimistic beliefs that we will be saved by sudden immense technological breakthroughs also frequently come in the form of "techno-biases". It has been argued that patriarchal structures place too great a weight on the ability of developing technologies such as CDR to mitigate emissions, due to a traditionalist desire to cling to the existing societal structures.[78] CDR also creates a moral hazard, a situation where parties that cause harm lack sufficient incentive to change due to a belief that others can and will solve the problem. This means it gives emitters a perceived licence to increase their emissions on the basis that they can always

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[76] Michael Shear "Trump Will Withdraw U.S. From Paris Climate Agreement" *The New York Times* (Online ed, new York June 1 2017).

[77] Frank Baumgartner and Bryan Jones "Agendas and Instability in American Politics, Second Edition" (The University of Chicago Press, Chicago, 2009) at 6.

[78] Braunger, above n 68 at 147.

be later removed from the atmosphere.[79] Moral hazard can therefore lead to reducing ambition to change, which is one of the key goals of Article 6 of the Paris Agreement.[80]

D Financialization

Financialization occurs when real emission reductions are transformed into "credits", which are all treated as equivalent to each other to make them tradable on an open market, allowing actors to decouple future aims from present realities.[81] The financialization of carbon emissions often ignores the complex realities that accompany them, allowing states to reap the benefits of projects while sheltering from the downsides in much the same way that capitalism allows firms to profit-seek by ignoring the externalities that their actions are causing. Although emissions may be neutralised on a global scale, emitting activities and mitigation efforts alike may also be causing damage to local environments and communities. In many cases, this is causing damage to indigenous peoples and their traditional lands.[82] While this process may appear on the balance sheet to be improving emissions, if it does not have local support it is unlikely to persist in the long term, necessitating costly reversals. Fortunately, financialization also produces a potential benefit, in that it allows a group to pool risks so that there is less likelihood of any individual party suffering from all of their projects failing: everyone can have a stake in a large number of projects, so that everyone benefits from the successes and shares the burden of the failures. As a result, financialization allows for a greater level of investment in emissions reductions projects than states would be willing to engage in through bilateral agreements alone.

E Good policy for a "super-wicked" problem

The policy issues mentioned above are part of the reason that climate change has been described policy researches as a "super-wicked problem", characterised by four features.[83] The most pertinent of these is policy responses discounting future irrationality, with the other three

[79] Victoria Campbell-Arvai and others "The influence of learning about carbon dioxide removal (CDR) on support for mitigation policies" (2017) 143 Climatic Change 321 at 321.

[80] Article 6.1.

[81] Max Jerneck "Financialization impedes climate change mitigation: Evidence from the early American solar industry" (2017) 3(3) Science Advances at 2.

[82] Childs, above n 42 at 8.

[83] Kelly Levin and others "Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change" (2012) 45 Policy Sciences 123 at 124.

contributing to this being: time is running out; those who contribute to causing the problem are also seeking the solution; and central authority is weak.[84]

Levin et al propose a framework for good policy that addresses super-wicked problems.[85] The aim for good policy, they argue, is for it to be "sticky", meaning once implemented it is harder to stop, as well as increasing and entrenching support for it over time, likely through more benefits flowing from such projects over time.[86]

The methods that they suggest for designing policies that achieve this are:

a) Lock-in. This is essentially the reverse of the "carbon lock-in problem". Here, capital investments in low emissions projects is so great that it would be too costly to attempt to change back to previous methods.[87] Another way of achieving lock-in could be through constitutional methods – if politicians could work together now in order to achieve a "supermajority" mandating carbon emissions reduction, it would be much more difficult for policies to be challenged in the everyday political discourse due to the need to broad consensus.

b) Self-reinforcing. As with lock-in this means it is more difficult to leave projects, but rather than achieving this through a large initial investment, changes continue to be made over time which make it more difficult to go back.[88] An example of this could be the network effect, where the more users a product has the more benefit each user derives – consider electric vehicles – with only a few users there is not enough of an incentive to create charging infrastructure, but as more people buy electric vehicles, charging stations become normalised at the expense of petrol stations.[89]

c) Increasing returns over time.[90] This makes a policy popular – once initial costs of implementation are over the policy only has upside, meaning there is no good reason for anyone to want to stop it.

d) Positive feedback. This means that the policy encourages more people to adopt its practices, rather than limiting the benefits to a select group of people.[91] This ensures that the policy will continue to grow under its own steam, rather than having to be

[84]Levin, above n 83 at 124.
[85] Levin, above n 83 at 131.
[86] At 139.
[87] At 134.
[88] At 135.
[89] Aghion, above n 71 at 70.
[90] At 135.
[91] At 136.

> constantly supported by the government. It means there isn't a linear cost of expanding the policy – it can give increasing positive outcomes for the same government investment if left to develop over time.

There are important similarities between these methods and the important international law principle of sustainable development.[92] However, it is also crucial that the two are not confused. These "sticky policy" methods are solely focussed on ensuring a policy will continue in the long term. Sustainable development aims to ensure a policy doesn't harm anyone now or in the future. The differences between the two are one area which may create the possibility of flawed policy design. These methods are also reminiscent of the differences between the Paris Agreement and the Kyoto Protocol: countries failing to meet their Kyoto commitments were effectively driven away from the framework due to strict enforcement measures.[93] The Paris Agreement instead took a 'facilitative compliance' approach which sought to build on successes and encourage effort.[94] Like Levin et al's proposals, this aims to get states moving in the right direction, even if slowly, and only then focus on increasing the rate of change.

The financialization inherent in the Internationally Transferred Mitigation Outcome (ITMO) and the 6.4 Emissions Reduction (6.4ER), Article 6's emission trading units, can make it difficult to develop "sticky" policy because it allows funders to simply decide to stop investing in a project.[95] Therefore, unless states or individuals are required to engage with the projects they are funding to deal with this challenge, they are unlikely to be good solutions to climate change.

Projects which are not designed with the aim of combatting the "super-wicked" nature of climate change are unlikely to make a meaningful contribution to carbon mitigation. The main ways that Article 6 can ensure projects have good policy design are procedural requirements, substantive bans on certain projects and penalties for project failure. Procedural requirements mean that states must engage with the ideas of good policy development before introducing a project into the scheme.[96] This may help to prevent projects which are inadvertently

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[92] Brundtland Commission "Report of the World Commission on Environment and Development: Our Common Future" (Oxford University Press, Oxford, 1987) at 16.

[93] Meinhard Doelle "Compliance in Transition: Facilitative Compliance Finding its Place in the Paris Climate Regime" (2018) 12(3) Carbon & Climate Law Rev 229 at 229.

[94] Doelle, Above n 93 at 230.

[95] COP 26 Matters relating to Article 6 of the Paris Agreement Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, I 1.

[96] Sumudu Atapattu "Emerging Principles of International Environmental Law" (Transnational Publishers, Ardsley, 2007) at 93.

problematic but it does not stop a state from pushing through an objectively bad project if it wants to. For this, substantive bans would be required. These are a lot more challenging to agree on, but could at least be attempted through establishing norms. Finally, penalties for failure will align states' incentives with the long-term goals of the scheme. Such penalties must balance the aim of prewarning states from bad projects. However, they should not be too strict, when considering the benefits of calculated risks which may not always pay off but occasionally make a big difference. The Paris Agreement aims to move away from penalties due to their failed use under the Kyoto Protocol, recognising that meaningful change is more likely when all parties are doing all that they can of their own volition rather than being dragged along. This links back to the need to procedural requirements allowing an assessment of whether states were willingly blind to the dangers of a project.

VI A Race to the Bottom?

As has been discussed, the best policies aim to build on their successes over time. The key thing to avoid is therefore a "race to the bottom".[97] Races to the bottom are a feature of competitive economic "games" which are zero sum in nature, meaning one party's gain is another's loss. Each party is therefore incentivised to remove more and more non-essential elements in order to gain an edge over their opponents. Article 6 cooperation has several features that make it likely that parties will engage in a "race to the bottom", increasing the risk of non-permanent mitigation.

The first of these it the fact that emissions reductions are incentivised above all else. With such strict rules here, and comparatively lax rules elsewhere, important policy features that encourage sustainable development are likely to be lost for efficiency.

The second important feature is the public-private partnership. Whenever the private sector is involved, the risk is heightened. This is because private sector organisations are set up with the key goal of profit maximisation. This means they will work to find the cheapest method of achieving the policy aim within the rules. The use of the private sector is therefore frequently advantageous at avoiding bureaucracy and bloat but it again comes with a risk – any requirement that is not firmly defined will likely be squeezed.

Finally, the state-based system itself creates a risk of a race to the bottom. As climate change is a global problem, an ideal solution from an economic perspective would have a global governance structure. The state-based system means that in every element, states compete with

[97] Olsen, above n 13 at 2822.

each other, which is not ideal to ensuring the most sustainable results. Despite being termed "cooperation", Article 6 in fact perpetuates the state-based system which, as many have pointed out, is not suitable to dealing with a truly global problem like climate change.[98] The Kyoto Protocol has been held up as evidence that aiming to control the state-based system from the top down is not politically feasible, because even if stricter rules are forced upon states they will continue to use their sovereignty to breach them.

VII Sustainable Development

Sustainable Development is referred to throughout the Paris Agreement, and is one of the goals of Article 6.[99] The term originates from the Brundtland report, which sought to reset the way states managed resources to ensure that economic growth was not at the cost of society or the environment.[100] The report defined sustainable development as "[development that] meets the needs of the present without compromising the ability of future generations to meet their own needs".[101] This somewhat vague definition has troubled scholars of international law for some time, and there had been argument over whether Sustainable Development is in fact a part of international law, as opposed to a relevant policy principle.[102] However, as the phrase is referenced directly in the text of Article 6, it was clearly intended to have some legal value.

The Foundation for International Environmental Law and Development identified the following key elements for sustainable development:[103]

"- the idea that the needs of present and future generations must be taken into account;
- the need to ensure that renewable and non-renewable environmental resources are conserved and not exhausted;
- the requirement that access to and use of natural resources must take equitable account of the needs of all peoples;
- a recognition that issues of environment and sustainable development must be treated in an integrated manner."

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[98] Karl-Heinz Röder "Global Problems: A Challenge to Cooperation between States of Different Social Systems" (1985) 6(1) International Political Science Review 35 at 37.

[99] Article 6.1.

[100] Brundtland Commission, above n 92 at 41.

[101] At 41.

[102] Vaughan Lowe "Sustainable Development and Unsustainable Principles" in Alan Boyle and David Freestone (Eds) International Law and Sustainable Development Past Achievements and Future Challenges (Oxford University Press, Oxford, 1999) at 21.

[103] Atapattu, above n 96 citing *Report of a Consultation on Sustainable Development: The Challenge to International Law*, convened by the Foundation for International Environmental Law and Development (FIELD), 2:4 RECIEL r1, r5 (1993).

It is therefore suggested that Sustainable Development includes a number of substantive rights. Many of these will be linked to existing treaties such as human rights and indigenous rights. Such rights would be an obvious starting point for attacking dubious carbon mitigation efforts. Unfortunately, international law has been reluctant to vindicate such rights, keeping the term "sustainable development" more useful normatively than legally.[104] This is compounded by the accepted notion that sustainable development is a "national prerogative" – which is to say states are entitled to make their own judgements about whether an activity is consistent with the idea of sustainable development.[105] This is consistent with the earlier approach of the CDM, which developed on the basis that states were best placed to determine whether a project would likely contribute to their sustainable development.[106] The national prerogative was one of the major issues with the CDM, however it continues to be a feature in Article 6 – with the COP26 decision requiring states to describe how sustainable development goals are met "noting national prerogatives".[107] While a national prerogative is valuable at the international level, it may unfairly presume that states are working to protect the interests of all of their subjects. For the moment, as there appears to be no progress in establishing substantive rights for specific harmed groups, the law around Sustainable Development has mainly focussed on the procedural rights that it creates. As with climate change itself however, it is likely that at some point scientific consensus will develop with regards to the effectiveness of some proposed forms of mitigation. At such a point, states could not use the "national prerogative" argument to press on with such a project. Fortunately, this is unlikely to be problematic due to the strong powers of the Supervisory Body.[108]

Atapattu states that the accepted procedural rights are:[109]

"- Access to information relating to the environment
- the right to participate in the decision-making process; and
- the right to remedies in the event of any damage."

The first two procedural rights are apparent throughout the COP26 rules, which create strict accounting and transparency requirements.[110] The final right has not been contemplated by

[104] Lowe, above n 102 at 21.
[105] Christoph Sutter "Sustainability check up for CDM projects" (Doctoral Thesis, Swiss Federal Institute of Technology Zurich 2003) at 18.
[106] Sutter, above n 105 at 68.
[107] IV A. 18. i. iii.
[108] Article 6.4, see analysis later in this paper.
[109] Atapattu, above n 96 at 135.
[110] Decision 2/CMA.3, and Decision 3/CMA.3 Above n 6

the rules at all. This may be in part because Article 6 is creating a framework within which standard international contract law rules can be applied. However, as climate change issues frequently involve third parties, this is a notable gap in the scheme which may eventually come to light through legal action.

There are several important issues to consider with regard to these procedural requirements: firstly, it is worth noting that much of the analysis and monitoring is being done by the self-interested state itself. While there is some oversight from the Supervisory Body and from independent auditors, there always remains the risk that states will choose to bend best policy practice in order to benefit financially from carbon mitigation projects.

A related issue is the focus on the impact of individual "projects" over at most a 15-year time frame (the longest project length contemplated by the Article 6.4 rules).[111] There is a risk that projects are abandoned once these obligations have been met, without properly considering whether they were long-term useful, and continue to contribute. Finally, the COP26 rules heavily focus on the emissions avoidance projects themselves. This is not fully in line with the idea of integration that is supposed to be at the heart of sustainable development thinking. These projects are only one half of Article 6 cooperation, the other half being the harmful activities whose emissions the projects are offsetting. Such activities are essentially ignored in terms of oversight. They are allowed to be mixed and matched freely with any form of mitigation through the financialization of emissions reductions. This approach makes little sense because mitigation is generally considered to be a stop-gap measure – eventually activities that are taking advantage of mitigation are likely to also need to transition to emission-free forms. This means that these activities are the exact things that states should be trying to develop sustainably.

A Good Practice Principles

The UN Environment Program highlights good practice principles for sustainable development. Planning elements include:[112]

> "strategic planning and life cycle assessment; Self-supporting elements including fiscal sustainability; enhancing economic benefits and resource efficiency and circularity; Ensuring social support elements include equity inclusiveness and empowerment; transparent and inclusive and evidence-based decision-making."

[111] Decision 3/CMA.3, above n 6 at 31 f).

[112] United Nations Environment Program *International Good Practice Principles for Sustainable Development* (UNEP, Nairobi, 2022).

There can be robust debate about whether a project is likely to meet the substantive elements of these principles. In a model that gives nations maximum autonomy, this makes it difficult to argue against any project. However, at least some of these elements can be objectively assessed. If good processes are being followed, there is a lower risk of failure, but ideally objective frameworks would also be used.

VIII Environmental Integrity

Environmental integrity is another key concept mentioned in Article 6.[113] Such a basic provision seems obvious, but it is an important reminder about ensuring a project is helpful from a big-picture perspective as well as simply meeting the "reduction in emissions" requirements. Part of this is the concept of "additionality". These concepts become relevant because it may not be immediately apparent that a project "reversal" has occurred. However, even if global emissions reductions are achieved, environmental integrity demands that states show that it was caused by the scheme, not by business as usual changes. This requires evidence of increasing the ambition and scope of states'[114], an approach in line with Levin et al's "sticky" policy principles which aim for policies to gain pace over time.

IX Just Transition

The preamble of the Paris Agreement notes the importance of a "Just Transition of the Workforce". This is a part of the wider concept of an equitable approach to states' responses to climate change. As the transition will require a dramatic shift in the economy, it is seen as essential to ensure that new jobs are created and available for those who work in carbon-intensive industries.

International cooperation is particularly susceptible to just transition issues.[115] On one hand, there is a risk of jobs being transferred offshore. A new low-carbon economy is being envisioned, which will naturally have winners and losers. Those who get a head-start may end up with a long-term economic advantage. On the other hand, emission trading could be used to smooth the transition to this new economy, allowing workers in sunset industries some time to prepare for the eventual end of their roles.

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[113] Article 6.1

[114] Lambert Schneider and Stephanie La Hoz Theuer "Environmental integrity of international carbon market mechanisms under the Paris Agreement" (2019) 19(3) Climate Policy 386 at 389.

[115] Raphael Heffron "Achieving a Just Transition to a Low-Carbon Economy" (Palgrave MacMillan, Cham, 2021) at 10.

In the context of good policy development, a just transition is important to ensuring citizens are supportive of changes, making the projects (or financial contributions) more likely to remain for the long term.

A Equity

Evidence suggests corporations have had great success at influencing states' policies to suit their interests, which have tended to not focus greatly on protecting the environment.[116] It is important that this trend does not also continue to apply to Article 6 projects, where private entities are just one of many important stakeholders. Equity involves ensuring that all stakeholders benefit from an action, especially those who may otherwise struggle to vindicate their rights.[117] Equity must apply both within a generation (intragenerational), and between current and future generations (intergenerational).[118] Intergenerational equity in particular has long been ignored, one of the reasons for insufficient historical climate action.

Creating financial incentives to reduce emissions may in fact be inequitable from the beginning. Even today, emitters have become emitters by making a choice to harm the environment. This means that financial incentives will be disproportionately given to those who made the choice to do the most harm for the least benefit. By contrast, those who made good choices and engaged in low-emission practices don't receive any of the financial rewards. This is likely to include many indigenous groups who have been economically disadvantaged from their stewardship decisions in the first place.

Issues of equity are an important consideration given the wording of the Paris Agreement, and in fact are likely to promote good policy. This is because if a policy is equitable it is more likely to achieve a social licence, again meaning it will be democratically popular in the long term.

B Overall Mitigation in Global Emissions

Article 6.4 Includes the requirement that parties aim to deliver an "overall mitigation in global emissions" (OMGE). This implies that the scheme must do more than offset existing emissions. This is likely to be achieved through the "mandatory cancellation" mechanism. This means that a portion of credits must be cancelled, resulting in a reduction in emissions that is not claimed by either party for their Nationally Determined Contribution (NDC). The OMGE requirement

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[116] David Levy and Daniel Egan " Corporate political action in the global polity" in Andreas Bieler and others (eds) National and Transnational Strategies in Climate Change Negotiations (Routledge, London, 2004) at 138.

[117] Katrina Brown & Esteve Corbera "Exploring equity and sustainable development in the new carbon economy" (2003) 3(1) Climate Policy S41 at S45.

[118] David Pearce "Economics, Equity and Sustainable Development" (1988) 20(6) Futures 598 at 598.

does not exist for article 6.2 (although it is "strongly encouraged")[119], which could make the use of Article 6.4 less popular if states fear OMGE will lead to higher costs.

X Article 6

Article 6 of the Paris Agreement is concerned with facilitating parties to cooperate to achieve their respective nationally determined contributions.[120] The policy goals of this Article are set out in 6.1. They are to "increase ambition of mitigation", to "promote sustainable development", and to "ensure environmental integrity". The latter two goals are particularly relevant considerations with regard to non-permanence. Article 6 can also be put in further context by Article 2's goal of strengthening the global response to climate change[121] through financing climate-resilient development[122] and awareness of equity and common but differentiated responsibilities.[123] Article 6 will primarily be used by states to achieve their NDCs as required by Article 4, which also reminds developed countries of their duty to take the lead.[124]

Article 6 is an extremely important part of the Paris Agreement, as many countries plan to utilise it heavily in order to achieve their NDC with minimal cost to their economies. For example, New Zealand's 2030 NDC envisions it purchasing 52 megatons of offshore carbon mitigation, more than half of its promised emissions reductions level, at a cost of between 2% and 12% of GDP depending on per unit costs.[125] Additionally, Article 6 is likely to have relevance beyond NDCs, with some suggestion that it could also be used for offsetting of air travel via the CORSIA agreement[126], and that its rules could become normative for the private voluntary market for emissions reductions (where companies pay to offset their own emissions not due to regulation but out of social responsibility or as a marketing exercise).[127]

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[119] Decision 3/CMA.3, above n 6 at 12(A) VII 39.

[120] Article 6.1

[121] Article 2.1

[122] Article 2.1 c).

[123] Article 2.2.

[124] Article 4.4.

[125] *The NDC and further domestic action* (2021) Climate Commission NZ <climatecommission.govt.nz>.

[126] Lambert Schneider and others "Operationalising an 'overall mitigation in global emissions' under Article 6 of the Paris Agreement" (New Climate Institute, Berlin 2018) at 11.

[127] Schneider above n 126 at 11.

Article 6 cooperation is achieved through transferring outcomes across borders, which means in theory the most cost-efficient projects are delivered earliest. There are three main forms of cooperation mentioned:

Article 6.2 discusses "private" cooperation, where parties agree the terms between themselves. There is therefore no detailed set of rules, and no independent supervision, but parties must conform to the principles of promoting sustainable development and ensuring environmental integrity and transparency, including a robust accounting process.

Article 6.4 establishes a global mechanism for cooperation. The mechanism is to have a supervisory body which oversees all transactions, and there is a more detailed set of rules, modalities and procedures agreed to at COP26 (Conference of Parties 26, held in Glasgow in 2021).[128] As this process is the most formal, it will be the initial focus of discussion of efforts to minimise the risk of non-permanence of mitigation.

Article 6.8 recognises the potential role of non-market approaches to cooperation, but at this stage has fewer established features.

A Article 6.4

Article 6.4 allows the creation a global market for mitigations, allowing states to purchase "units" to meet their Nationally Determined Contributions.[129] COP26 established the rules governing Article 6.4 mechanism, with further decisions being left up to the supervisory body composed of 12 independent experts.[130] As well as the aims referred to in 6.4, the CMA decision references the role of a just transition, nationally defined development priorities, and human rights obligations as critical for parties engaging with this mechanism.[131] If these obligations are all met, Article 6.4 projects are much more likely to have broad popular support, ensuring they can be sustained and grown for the long term.

1 The Supervisory Body

The Supervisory Body has a crucial role, both because it oversees the entire mechanism and because it has the power to disallow any projects.[132] Members serve in their individual expert capacity, which reduces the possibility of national biases.[133] They are required to possess

[128] Decision 3/CMA.3, above n 6.
[129] "Decoding Article 6 of the Paris Agreement VERSION II" (Asian Development Bank, Manila, 2020) at 13.
[130] Decision 3/CMA.3, above n 6 at 4.
[131] Decision 3/CMA.3, above n 6 at preamble.
[132] Asian Development Bank, above n 129 at 41.
[133] Decision 3/CMA.3, above n 6 at 4.

relevant scientific, technical, socioeconomic or legal expertise.[134] This means they are best placed to consider whether a project is likely to result in permanent mitigation. It is also required to have a publicly available decision-making framework and publish its decisions, including "standards, procedures and related documents".[135]

The Supervisory Body is tasked with delivering an "overall mitigation" in global emissions, aimed at achieving "the long-term goals" of the Paris Agreement, and with cognizance of the role of intergenerational equity.[136] It is therefore required to consider the big picture, thinking about whether each project is good policy, not just whether it will in fact lower GHG levels.

One important task of the Body is the development of methodologies for the scheme alongside parties and stakeholders, and then approving all methodologies.[137] Methodologies involve setting a baseline level of emissions, and then identifying the level of reduction of emissions caused by the activity.[138] Reversals are a relevant aspect of methodologies[139], but CMA.3 does not specifically mention the permanence of benefits. Article 6.4 methodologies (and Article 6.2 methodologies) will be made with reference to the IPCC's methodologies.[140] As noted earlier in this paper, measuring the level of emissions reductions is in fact the easier part of accounting for a project's benefits. The real challenge comes in measuring the more ephemeral aspects of a project, for example its level of sustainability, its contribution to increasing ambition and achieving decarbonisation, or its level of innovation; in other words, whether a project is an example of "sticky" environmental policy. The World Bank has created a tool which aims to quantify such features, the "Mitigation Action Assessment Protocol", or MAAP.[141] The quantification is based on examining a project's documentation to consider whether it has complied with (or has plans for how to comply) all of the principles from the Paris Agreement.[142] Each area is assigned a number of points, and the World Bank subjectively estimates a percentage that a project has achieved in a given area.[143] Points are then summed across all areas to give an overall score.[144] Once again, planning is seen as the major measure

[134] Decision 3/CMA.3, above n 6 at 4.
[135] Decision 3/CMA.3, above n 6 at 21.
[136] Decision 3/CMA.3, above n 6 at preamble.
[137] Decision 3/CMA.3, above n 6 at 24 a) ii).
[138] Asian Development Bank, above n 129 at 44.
[139] Decision 3/CMA.3, above n 6 at B.
[140] Decision 3/CMA.3, above n 6 at 1 b).
[141] World Bank "Mitigation Action Assessment Protocol" <maap.worldbank.org>.
[142] World Bank, above n 141.
[143] World Bank, above n 141.
[144] World Bank, above n 141.

of a project's likelihood of success. This is a far from perfect metric, but it is not easy to envision a more appropriate one that can apply evenly to a wide variety of projects.

Overall however, a neutral expert body with actual power means Article 6.4 has great potential for strong long-term policy design. The only question to be asked is whether the Supervisory Body's powers will give it sufficient control of the big picture elements of the scheme, given that so much has been left to market forces which do not consider these big picture elements.

2 Host Parties

In order to participate in the 6.4 mechanism, parties must first publicly state to the Supervisory Body how their participation will contribute to sustainable development.[145] It must also ensure on a continuing basis that its participation contributes to its NDC, and its long-term low GHG emission development strategy (LT-LEDS).[146] Of itself, a LT-LEDS has little formal rules, and is more of a vision statement for a country.[147] Therefore, while it will be useful to consider the LT-LEDS, it is unlikely to disqualify many projects due to its broad scope. These basic procedural requirements at least ensure countries are considering the long-term effects of mitigation efforts. However, they are somewhat weak – sustainable development is acknowledged to be a "national prerogative", meaning it is challenging to critique a country if it claims to be contributing to it. Some countries have more thoroughly integrated their LT-LEDS into their domestic laws, meaning they may be bound to implement it, but this is beyond the domain of international law.[148] Furthermore, Parties are only required to ensure contribution to the LT-LEDS if they in fact have one (as of 2022 only 54 states do, despite the 2020 suggested deadline).[149]

Host parties also need to "approve" each emission reduction project.[150] This approval requires communicating to the Supervisory Body information on how the activity fosters sustainable development.[151] Approval allows private actors to participate in the scheme, a key problem identified with the CDM: such actors are only interested in profit-maximisation and therefore would need to be tightly bound by rules (even still, they are likely to find loopholes). By

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[145] Decision 3/CMA.3, above n 6 at 22 h).

[146] Decision 3/CMA.3, above n 6 at 26 e).

[147] Marcia Rocha and Chiara Falduto "Key questions guiding the process of setting up long-term low-emission development strategies" (OECD, Boulogne, 2019) at 8.

[148] Aimée Aguilar Jaber and others "Long-term low emissions development strategies: Cross-country experience" (OECD, Paris, 2020) at 18.

[149] *Long-term strategies portal* United Nations Framework Convention on Climate Change <unfccc.int>.

[150] Decision 3/CMA.3, above n 6 at 40.

[151] Decision 3/CMA.3, above n 6 at 40 a).

comparison, states participating directly by running projects themselves are more likely to have general duties and interests that align with the long-term goals of the scheme. Activities must deliver "real, measurable and long-term benefits", consistent with decision 1/CP.21 paragraph 37(b).[152] Parties also authorise the issuance of A6.4ERs (Article 6.4 Emission Reductions, equivalent to the removal of 1 tonne of CO_2) once they have been achieved.[153] Finally, they must also minimize the risk of non-permanence of emission reductions, and address any reversals in full.[154]

Parties self-monitor emission reductions in accordance with requirements set out by the supervisory body, however an independent entity will also review the activity.[155]

Only following verification are A6.4ER units issued by the Supervisory Body.[156] These are then able to be transferred to "acquiring states" in order to count them towards their Nationally Determined Contributions, therefore linking up with the overall goal of the Paris Agreement of encouraging and facilitating reduction of greenhouse gas emissions.

B Acquiring Parties

Acquiring parties purchase A6.4ERs, and credit them towards their NDCs.[157] Despite their key role, acquiring parties are barely mentioned in the 6.4 rules, which focus on the emissions reduction projects. Discussions around Article 6.4 envisioned a sharing of responsibilities between Acquiring and Host parties. This would help to properly align incentives to long-term policy thinking, however the rules are yet to clearly establish how responsibilities might be shared.

The rules for 6.4 make little mention of acquiring parties, which could potentially be problematic. It is important that rules address which party has liability in the event that a project reverses outside of the mandatory reporting period. Economic theory suggests it doesn't matter which party is liable, as if both parties are equally informed, this requirement will influence the price of an ER credit. However, there may be inbuilt power differentials, with developed nations more likely to be acquiring parties than developing nations.

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[152] Decision 3/CMA.3, above n 6 at 31 d) i).
[153] Decision 3/CMA.3, above n 6 at 42.
[154] Decision 3/CMA.3, above n 6 at 31 d) ii).
[155] Decision 3/CMA.3, above n 6 at 51.
[156] Decision 3/CMA.3, above n 6 at 54.
[157] Decision 3/CMA.3, above n 6 at 43.

More importantly, the focus of the agreement is much too heavy on the mitigation projects themselves. In fact, it is equally important to consider what investments these projects are allowing acquiring parties to put off.

1 Reversals

Where a project suffers from a 'reversal', parties are required to address this in full.[158] Neither the term 'reversal', nor an appropriate method of addressing one have been defined in the rules. Remembering that projects are intended to contribute to transforming the economy and increasing ambition, it is to be hoped that reversals are given a meaning that is broader than merely a failure to reduce emissions. In terms of addressing a reversal, it is also important to remember that each project, once started, has an opportunity cost of another project that could have taken its place. This implies that addressing a reversal must go further than remedying the harm directly caused by the reversal, and also make up for the wasting of resources that it produced.

C Article 6.2

Article 6.2 allows parties to work bilaterally with each other on projects to reduce emissions without being bound by the Article 6.4 rules.[159] Currently, Switzerland leads the way in developing the process of structuring Article 6.2 agreements, as it is already engaged in the practice. The more direct partnership envisioned by Article 6.2 means there is less of a risk of "financialization", ensuring the big picture is considered when agreeing to projects, but equally creates greater risks for purchasers who contract with specific projects and are reliant on their success. Once Article 6.4 becomes operational there is a risk that states use Article 6.2 to avoid the more stringent requirements created by the statutory body. This cannot have been the intention of the treaty. This suggests that the "rigorous accounting" suggested by Article 6.2 ought to involve a similar process to the rules of Article 6.4.

The more centralised approach of a statutory body is likely partly a response to the failings of Kyoto's CDM. However, it is also not entirely in line with the Paris agreement's "facilitative compliance" approach. Article 6.2 could be seen as a balance between the two, allowing states to make their own judgements, but creating an obligation to justify the approach in a rigorous and transparent manner.

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[158] Decision 3/CMA.3, above n 6 at 31 d) ii).

[159] Asian Development Bank, above n 129 at 20.

1 Procedural Requirements

Article 6.2's rules were also agreed to in the recent decision of COP26.[160] It sets out rules for reporting on and review of projects. This reporting will be made publicly available to ensure transparency. It will also be reviewed by an expert panel, which is able to make recommendations to states to help improve their processes, however unlike with 6.4 this panel does not have any binding powers. The key reporting requirement for ensuring long-term policies is 18 h): "Describe how each cooperative approach ensures environmental integrity".[161] This has three components, ensuring there is no net increase in emissions; robust and transparent governance and quality outcomes; and minimising the risk of non-permanence of emissions.[162] The use of the word "describes" and the lack of detail means that this is largely up to the interpretation of states, which are incentivised to find ways that projects fit the criteria, rather than objectively evaluate their projects. There is one more specific element that will be of use: a description of how any reversals of emissions reductions will be addressed in full.[163] This requirement helps to ensure accountability in the event that emissions reductions do occur (of course assuming that they are recognised, which requires adequate ongoing monitoring). It furthermore encourages states to actually consider the possibility that their projects might fail. However, it is likely that other reporting requirements will also indirectly contribute to minimising the risk of non-permanence. Many of these come from considering the wider costs and benefits of a project, which helps to ensure a project will promote sustainable development and have community support. In 18 i) i), states are required to describe how the project will minimise and where possible avoid negative environmental, economic and social impacts. Once again this encourages a bare minimum effort, implicitly allowing a project to create costs. States are also multiple times reminded of their requirements to respect, promote and consider their obligations on human rights, including right to health, rights of indigenous people, rights to disabled peoples, rights of migrants and the right to development, and noted in the preamble of the Paris Agreement.[164]

States are also encouraged to measure any co-benefits where possible.[165] Ensuring that a project generates co-benefits is essential in ensuring its long-term sustainability, but this is

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[160] Decision 2/CMA.3, above n 6.

[161] Decision 2/CMA.3, above n 6 at 18 h).

[162] Decision 2/CMA.3, above n 6 at 18 h) i)-iii).

[163] Decision 2/CMA.3, above n 6 at 18 h) iii).

[164] Paragraph 11

[165] Decision 2/CMA.3, above n 6 at 22 e)

treated as an afterthought. The focus is tightly on ensuring reduction of Carbon emissions, which is rightly rigorous. However, this rigor can work in favour of projects that may reduce emissions but do little else, meaning they will never be self-sustaining and can therefore continue to prop up carbon lock-in.

2 Purchase Agreements

The process of purchasing ITMOs under 6.2 has multiple stages, with significant flexibility in exactly how it is arranged.[166] Countries will likely first engage in a legally binding bilateral agreement to cover the public international law elements.[167] Then entities from both countries will enter into a private contract with regards the transfer of emissions reductions from specific projects.[168] This agreement may be with private companies, which are able to take part in the scheme under the supervision of their sponsoring state.[169] At this stage there is an element of risk sharing, as the emissions reduction has not yet been created but the purchaser may help with the financing and development of the project. Only once the ITMO has actually been created will payment be made and the purchaser can claim the emissions reductions.[170]

In the first instance, standard international contract law rules would apply if issues were to arise with a 6.2 project.[171] However, the sponsorship of states gives an additional potential recourse unavailable in the CDM. Countries may end up making direct claims against each other on the basis of taking insufficient care in overseeing projects. This increases the incentive to use robust methods to plan for successful projects, and may be an encouragement to align practices with 6.4.

Without central oversight in the form of a supervisory committee, Article 6.2 is in danger of missing big picture guidance. However, it may be able to take cues from the 6.4 supervisory body in this area. Further, states' bilateral agreements give some form of structure compared to 6.4's free market approach. Further communication during Conferences of Parties may give the opportunity for states to organise themselves according to their particular strengths to tackle a specific aspect of the big picture challenges.

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[166] United Nations Development Program "Frequently Asked Questions on Article 6 of the Paris Agreement and Internationally Transferred Mitigation Options (ITMOs)" (2020) <ndcs.undp.org>.

[167] UNDP, above n 166.

[168] UNDP, above n 166.

[169] UNDP, above n 166.

[170] UNDP, above n 166.

[171] UNDP, above n 166.

D Article 6.8

Article 6.8 deals with non-market approaches to emissions reductions.[172] This would allow states to cooperate on projects, but not for states to trade emissions reductions units. An example of this could be a developed nation financing a developing nation's project at below-market interest rates. As it is not a market-based approach, Article 6.8 does not face some of the same challenges of the other two processes such as the "race to the bottom". For the same reason, it is less likely to contribute a large number of projects. It has therefore not been a major focus of this paper, but it will still play an important role in other ways. Ideally, Article 6.8 will lead to a sharing of expertise and resources in order to benefit everyone by increasing the rate at which climate action can be taken. This will lead to network effects which could also feed back in to Article 6.2 and Article 6.4 projects, assisting the world economy's transformation into one centred around low emissions.

XI Article 13 – Transparency of Action and Support

As well as requirements set out in the COP26 decisions, Article 6 projects need to follow the provisions of Article 13 of the Paris Agreement, which aims to increase mutual trust and confidence through a transparency framework.[173] Among other things, Article 13 reporting will help integrate Article 6 with the rest of states' NDC efforts.[174] Article 13 can also be a useful guide for the type of review to be expected for Article 6 projects. This would likely involve an expert checking reporting for overall consistency and accuracy.[175] This once again highlights how there is a heavy focus on the easily measurable emissions reduction, avoiding the more challenging issues of ensuring a policy is achieving big-picture goals. This can be somewhat mitigated with the input of appropriate Article 6 subject matter experts.

XIIWhich State is Responsible?

Article 6 creates some distance between acquiring states and the projects, through contractual measures. While contracts will be useful in resolving disputes, the real question is whether participation in the Article 6 scheme will impose broader responsibilities on acquiring states that will allow third parties that have been historically side-lined to properly vindicate their

[172] Article 6.8 1.

[173] Article 13.1.

[174] C Falduto and others "Understanding reporting and review under Articles 6 and 13 of the Paris Agreement" (2021) OECD *Climate Change Expert Group Papers* at 19.

[175] Falduto, above n 174 at 46.

rights. Emissions Reduction units can be traded between parties instantly, making it difficult to ensure a purchaser has responsibility. This could also leave unfair burdens on host countries, which are disproportionately likely to be developing nations as they have the lowest costs of emissions reductions. As projects are created in their territory, host countries are not so easily able to ignore any problems that they might create. One potential solution could be a form of collective responsibility where by participating in the scheme all participants agree to work together to address any damage that it might create.

XIII Conclusion

Article 6 will be a crucial component in global emissions reductions efforts, so it cannot risk making the same mistakes that caused the CDM to flop. This means working to alleviate the free market's natural tendency to find short-cuts which are unlikely to be helpful in the long-run. The challenge is about finding ways to account for aspects of projects that are difficult to measure, going beyond their level of emissions reductions to consider whether they are supporting the broader principles of the Paris Agreement. Sustainable development is one essential part of this, helping nations to grow without harming their communities so that the projects continue to thrive. Environmental integrity also plays a role: ensuring that projects are creating real emissions reductions additional to what the economy would naturally tend towards. Projects should also be equitable and supportive of a just transition, and aim to increase the ambition of states over time. All of these principles should contribute to creating "sticky" policy which can address the "super wicked problem" by locking in and further growing decarbonisation efforts while lowering the risk of states later backtracking.

Article 6.4, the open market approach, is well positioned to be able to steer these types of projects, especially with the efforts of the supervisory body of neutral policy and scientific experts and supported by the planning and documentation requirements which ensure transparency and can encourage states to consider how projects fit into their broader economic strategies. The financialization of such projects may distance acquiring parties from the scheme, but it does reduce state's reliance on the success of individual projects, allowing for the pooling of risk for greater certainty. Article 6.2, the private market approach, does not have this advantage and may be seen as a way to avoid scrutiny of projects. It will be crucial to consider the relative uses of these respective approaches to determine whether such avoidance is occurring. However, with sufficient leadership from Article 6.4, Article 6.2 will likely come to develop accountability norms of a similar nature, allowing success from either approach. Article 6.4 is also likely to have an important role in leading the way for private emissions

reductions, further emphasising its foundational role in global decarbonisation. If they accord to the processes and principles that surround them, projects created by both Article 6.2 and Article 6.4 have great potential to lead the sustainable transformation of the world economy towards becoming emissions free.

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