

Strategies for Triggering Transformative Climate Change Pathways: Towards “Fit for Purpose” Philanthropic and Donor Engagement

Climate and Forests 2030

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Background

The Climate and Land Use Alliance (CLUA), with the support of Meridian Institute, is exploring the integration of climate and land use with justice, equity, health, and economic recovery through Climate and Forests 2030: Resources for Funders. This focus is intended to inspire innovation and investment in integrated work on forests, rights, and sustainable land use and will inform a new strategic plan for CLUA for the period 2021 to 2030.

To inform the thinking, CLUA commissioned a series of “thought pieces” to provide diverse inputs into developing a more integrated approach for forests and land use. These are meant to stimulate discussion and debate and are not intended to reflect the views of CLUA, its member foundations, or Meridian Institute. The views expressed in this paper are those of the author, and have been informed by commentary and input by a range of other experts.

APPROACH

In this paper, the author first reviews his individual and collaborative research on public policy, private governance, and global affairs over the last decade to reflect on the underlying conditions and techniques for engaging in “fit for purpose” policy analysis. Second, based on this, he develops principles and corresponding strategies for policy officials and philanthropic and donor organizations who seek to meaningfully influence the climate crisis and related environmental challenges.

ACKNOWLEDGMENTS

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Introduction

What do 1) an endangered owl in the US Pacific Northwest; 2) collaborative management of Newfoundland cod fisheries; 3) poverty-stricken people in Borneo, Indonesia; and, 4) forest-dependent communities in Kumaon, India all have in common?

In all of these cases, policies that were successful in improving their plight played a role in creating or accelerating other vexing problems. In this way, these cases are illustrative of the challenge that global sustainability policy has faced over the last two generations: great strides have been made in improving some problems, such as poverty (Figure 1), while others, such as the climate and mass species extinction crises, have accelerated at alarming rates (Figures 2 and 3).

Unpacking the mysteries surrounding the pervasiveness of these “win/lose” outcomes — or what I refer to as “whack-a-mole”¹ effects — is important for three related reasons:

1. First, it directs attention to understanding how to close the gap between accelerating climate and biodiversity crises and the last 40 years of well-intended sustainability initiatives on the part of philanthropic, governmental, private sector, and

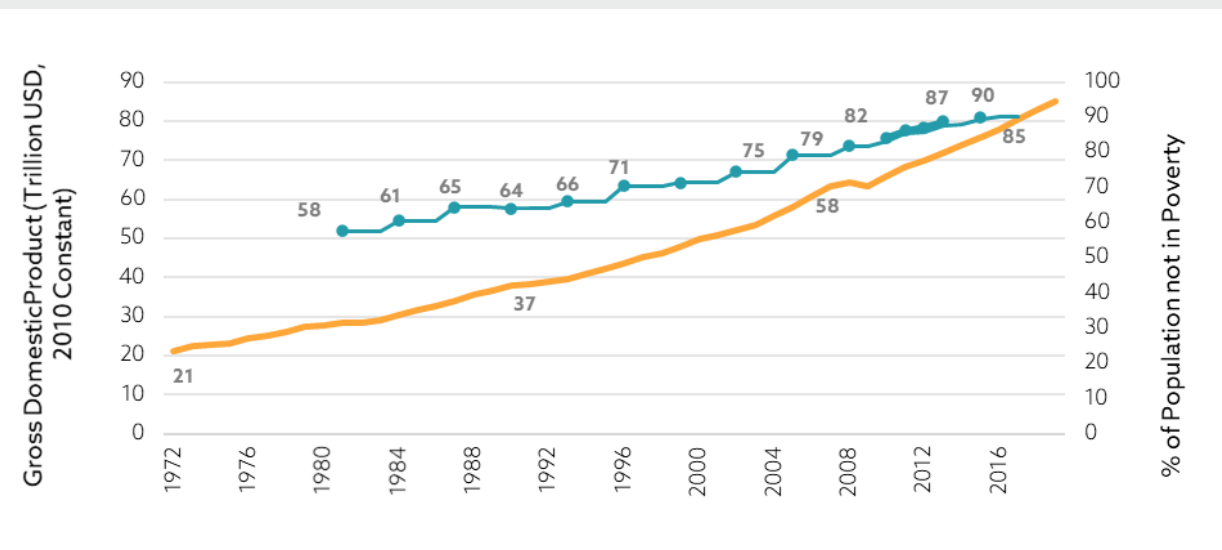
non-governmental organizations.

2. Second, it helps shift attention from “implementing” what are often competing sustainable development goals, to instead developing “fit for purpose” policy designs for effectively achieving a clearly specified sustainability challenge.

Third, and as a result, fresh insights will emerge that are relevant for philanthropy and donor organizations and that will help whack the climate and mass extinction “moles.”

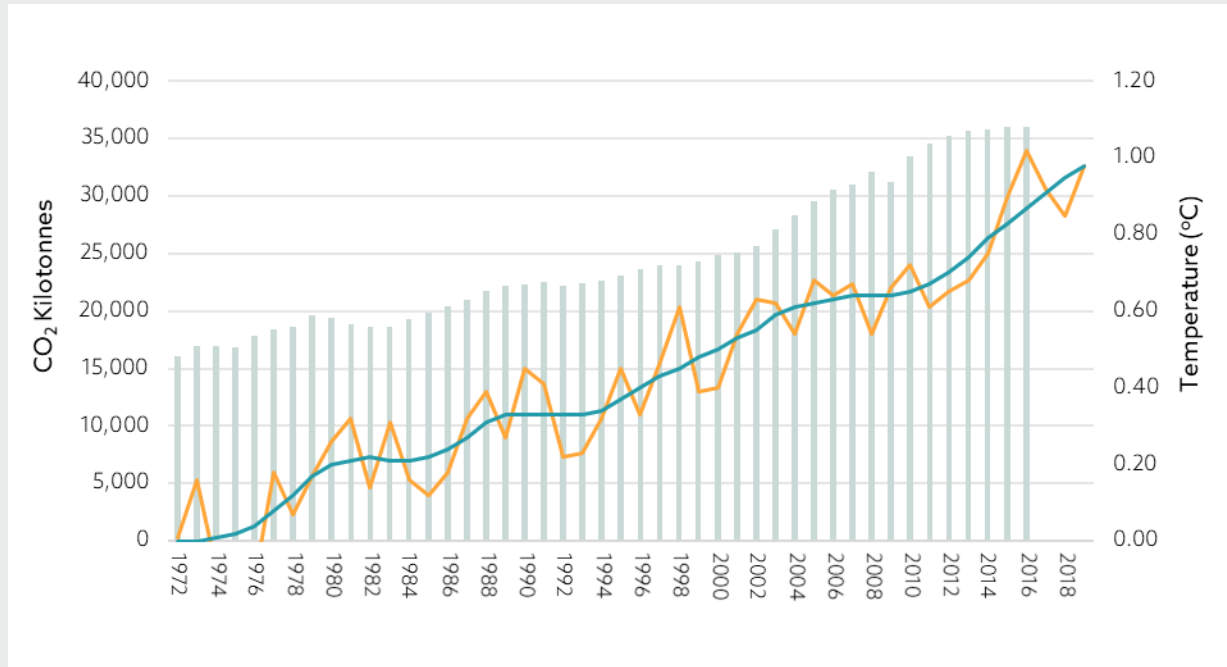
This essay contributes to unraveling these “whack-a-mole” mysteries by reviewing, and assessing, the role of four competing schools of thought (Cashore and Bernstein 2021) that champion four ways to think about sustainability challenges: **commons** (Type 1); **economic optimization** (Type 2), **compromise** (Type 3) and **prioritization** (Type 4).² Each school’s origins can be traced back to profoundly important, but distinct, moral and ethical beliefs about how to view and improve the world’s policy challenges. Cashore and Bernstein (2021) review how these moral foundations are often hidden, and/or are masqueraded by seemingly objective and sophisticated “data-driven” and “evidence-based” methods and analytical frames used to identify, and make sense of, each school’s “on the ground” biases.

FIGURE 1: World Economic Growth and Poverty Alleviation



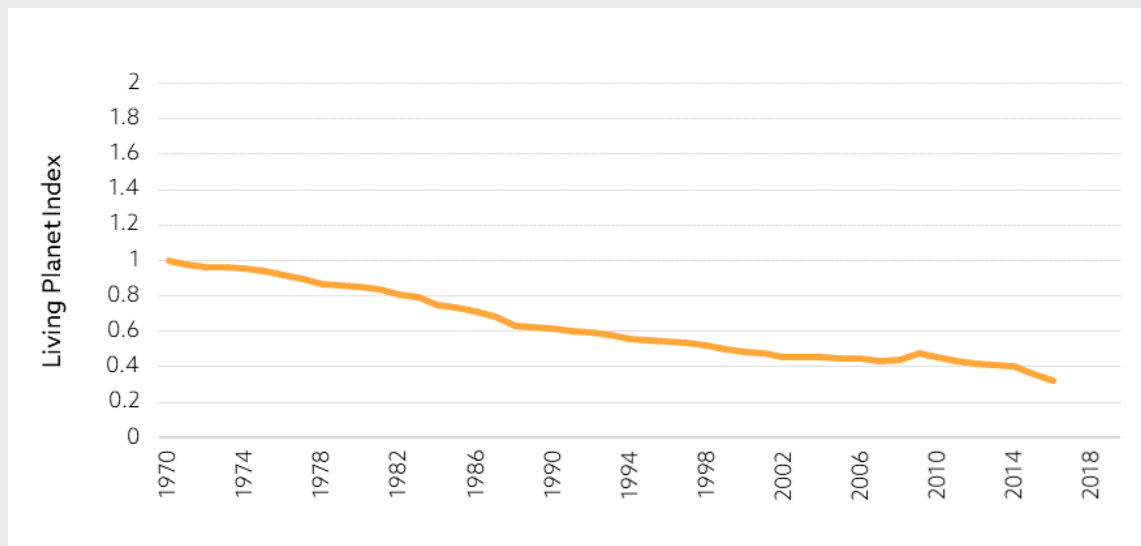
Source: World Bank, cited in Cashore and Bernstein (2021)

FIGURE 2: CO₂ Emissions and Global Temperatures



Source: World Bank, cited in Cashore and Bernstein (2021)

FIGURE 3: Species Abundance (1970s Baseline)



Source: Living Planet Index (2016), cited in Cashore and Bernstein (2021)

The conundrum is: these schools might succeed in ameliorating their preferred “corner of the world” – but in doing so, they usually exacerbate problems targeted by other schools.

I elaborate these lessons and insights in two steps. First, I review these different schools and problem “Types” or conceptions drawing heavily on my individual and collaborative work (including Cashore 2013, Cashore 2019d, Cashore 2019b, Cashore and Bernstein 2021, Cashore and Lupberger 2015, Humphreys *et al.* 2017, and Cashore and Nathan 2020), and Cashore and Bernstein (2021) in particular. I focus particularly on Cashore and Bernstein’s (2021) review of how each school’s analytical frames bias some problems over others. I refer to sustainability scholarship in general, as well as the cases of the US Northern Spotted Owl, Newfoundland cod fishery collaborative governance, poverty alleviation in Borneo, and forest-dependent communities in Kumaon, India to give illustrative examples of how each school’s frame targets different kinds of “real world” problems. From this review, I then reflect on and identify overarching principles and resulting

micro-level strategies for philanthropy and donor organizations as they navigate and decide how to support global and local policies that help ameliorate, rather than undermine, the climate and mass extinction crises.

I. Four sustainability schools and their competing problem conceptions

Through individual and collaborative deliberations over the past decade, I have identified four sustainability problem conceptions (problem “Types”) that dominate today’s sustainability policy thinking. They are distinguished according to two relatively straightforward questions (Cashore and Bernstein 2018):

1. Is the analysis justified based on its ability to solve a clearly specified “on the ground” problem, such as the loss of fisheries or an endangered species?

BOX 1: Summary of the Four Schools

- **The Commons School (Type 1-Reinforcing)**

Champions economic utility to address a clearly specified collective action problem. The overarching moral concern is to identify policies and behaviors that will result in the most advantageous outcome for humans for the particular problem at hand.

- **The Economic Optimization School (Type 2-Reinforcing)**

Makes the ability to ameliorate a specific problem contingent upon whether a policy solution can be found that enhances aggregate economic utility for society as a whole. Its moral foundations rest on the principle that it is unethical to solve a specific problem on the policy agenda if doing so makes society worse off.

- **The Compromise School (Type 3-Reinforcing)**

Advances efforts to find synergies across economic, social, and environmental problems, and to advance compromise solutions when “moles” are deemed to be unavoidable. The compromise school’s moral philosophy rests in a belief that participation of marginalized interests and values is necessary to enhance legitimacy, trust, and authority in policy processes and outcomes.

- **The Prioritization School (Type 4-Reinforcing)**

Targets environmental and social problems that usually result from, or are exacerbated by, those very policies that embrace Type 3, 2, and 1 conceptions. Offers a sequential approach to policy analysis in which lower-ranked problems can only be addressed following, and in ways that do not undermine, higher order problems. Its moral approach is to address harms to the natural environment caused by human activity, rather than biasing human-centered goals and problems.

TABLE 1: The Four Faces of Sustainability

		Economic utility dominates?	
		YES	NO
Specific “on the ground” problem?	YES	TYPE 1 (Commons)	TYPE 4 (Prioritization)
	NO	TYPE 2 (Economic optimization)	TYPE 3 (Compromise)

Source: Cashore and Bernstein (2021)

- Is the analysis primarily justified based on its ability to enhance economic utility?

These distinctions led me to articulate four different schools of sustainability that reinforce each problem Type (Cashore 2019b), and that are articulated in detail in Cashore and Bernstein (2021). I argue that to develop principles and strategies for guiding philanthropic and donor sustainability efforts, careful understanding is required of the ways in which these schools of sustainability – often subtly, sometimes inadvertently, but always powerfully – have worked to bias, or reinforce, one Type of problem at the expense of others (Cashore and Bernstein 2021, 2020). Each school’s moral underpinnings uniquely affect both the *conception* of sustainability challenges (cognitive differences), and the resulting targeted empirical *data and evidence* (empirical outcomes).

Specifically for this analysis, it is important to note that the commons, economic optimization, and compromise schools all offer analytical approaches that *narrow* strategies for solving Type 4 environmental problems to policy designs that are synergistic with their preferred Type 3, 2, or 1. In contrast, the prioritization school’s primary task is to identify solutions for solving an “on-the-ground” problem – such as species extinction or ecological effects of climate change – irrespective of whether doing so will create other whack-a-mole effects. Understanding how these biases have occurred in practice is a first step to developing policy and practice strategies for smashing undesired moles.

The Commons School (Type 1-Reinforcing)

The commons school derives its moral foundations and theoretical roots from concerns about how to understand and resolve “collective action” dilemmas (Olson 1965) that undermine collective and individual interests (Cashore and Bernstein 2021).³ One classic example is the colossal amount of time humans have wasted on highways due to the practice of “rubber necking” on a highway following an accident. **The overarching moral concern is to identify policies and behaviors that will result in the most advantageous outcome for humans based on the specific collective action challenge at hand.**

Within sustainability studies, the commons school has applied the collective action metaphor most notably to “tragedies of the commons” (Hardin 1968) in which “open access” situations lead to resource collapse. Ostrom (1990b) notably contributed to this school by identifying a particular subclass of commons tragedies in which – for either biophysical reasons (such as the ability of fish to swim long distances) or traditional community practices – *excluding* access was not a viable solution. She argued that applying privatization of land as the preferred solution at the time would make “matters worse” for her class of “common pool resource” (CPR) situations.⁴ Ostrom would spend two generations studying with her students and colleagues (Araral 2014), including in Kumaon, India (Agrawal and Ostrom 2001), to understand and develop design principles for promoting local community governance as a way to either maintain

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or foster long-term sustainable management of the resource in question.

The moral frames and ethical obligations of the commons school in sustainability studies are derived from a concern about maintaining the long-term sustainability of resources. This is why Ostrom and her students spent so much time researching the “resilience” of forest-dependent communities including those in Kumaon, India (Agrawal and Ostrom 2001). What is most important about this school — but largely forgotten or downplayed in recent years — is that its moral frames and resulting sophisticated analytical approaches derive from **conceiving of sustainability of resources as economic challenges, not environmental ones**: “[t]he issue in this case — and many others — is how best to limit the use of natural resources so as to ensure their long-term economic viability” (Ostrom 1990a, 1), cited in Cashore and Bernstein (2021).

WHACK-A-MOLE EFFECTS

As Cashore and Bernstein (2021) review in detail, treating resource sustainability as a Type 1 economic challenge often leads to the creation of, or inability to address, three other moles.

The first mole consists of the foregone greater **economic benefits** that might have accrued if *resource collapse* had been allowed to occur: for instance, if the land was replaced with more lucrative crops such as palm oil or soya beans or by manufacturing and real estate. A second “cultural **loss**” mole can subtly appear because the commons school’s analytical foundations narrowly focus on the subset of cultural practices that help reduce the risk of resource collapse, rather than incorporating culture as intrinsically important (see, for example, Sethi and Somanathan 1996).

The third and most important mole for this analysis is that this school does not directly incorporate the problem structure and function of **ecological**

systems, as observed in Cashore and Bernstein (2021). Often, as a result, concerns about environmental problems are narrowed to those that are synergistic with economically-optimal sustained yield resource management, despite widespread empirical evidence that doing so almost always degrades nature in some way. This helps explain why Ostrom and a few of her students focused on studying or measuring economically-undermining environmental regulations within forests (McDermott, Cashore, and Kanowski 2010), and targeted attention on sustaining those flora and fauna that provided human benefits, such as medicinal plants and food (Singh *et al.* 2014). This context helps explain why so many of the undisputed “lessons learned” principles for resource-dependent communities, and Kumaon, India in particular (Agrawal and Ostrom 2001), have also coincided with moles in the form of flora and fauna extinction and extinction threats within the same landscape (Acharya, Vijayan, and Chettri 2010).

It is also for these reasons that so many members of the commons school assess how forests might be managed with, and for, people (Gibson, McKean, and Ostrom 2000) rather than as lands that needs to be protected from people. When discussing the topic of increased protected areas within forests, followers of this school frequently say that such an approach is “elitist” and/or “unethical” because such actions ignore the millions of people whose livelihoods depend on extracting economic value from these forests (Andersson and Agrawal 2011). In response, Type 4 scholars often critique the Type 1-reinforcing commons school’s causal beliefs that collective action resource management systems are, if designed well, synergistic or synonymous with improving environmental outcomes (Agrawal and Chhatre 2006, Lemos and Agrawal 2006).

The Economic Optimization School (Type 2-Reinforcing)

Whereas the Type 1-reinforcing commons school champions economic utility to address a clearly specified collective action problem, Cashore and Bernstein (2021b) review how the economic optimization school advances the moral belief (drawing explicitly or implicitly on welfare and development economics⁵) that the ability to solve any problem at hand is conditional upon finding policy solutions that enhance aggregate economic

utility for society as a whole (Kenny 2011, Sen 1979, Luke 2009). **Its moral foundations — reinforced through a range of sophisticated literatures, including utilitarianism — rest on the principle that it is unethical to solve a public policy problem if doing so makes society worse off** (Pinchot 1987). The underlying moral obligation among scholars and organizations focused on economic optimization sustainability is to ameliorate human poverty (Rich 2018, Sharma 2017), which they almost always define using some sort of economic utility measure, or comparator, such as income or economic growth. The core belief is that championing economic welfare will result in a range of social, health, and security benefits.

This approach has been incredibly successful in promoting economic growth around the world — highlighted by China's Type 2 policies in lifting hundreds of millions of its citizens out of poverty. It also provides the ethical rationale for like-minded policies aimed at improving the plight of poverty-stricken communities including those in Borneo, Indonesia (Brookfield and Byron 1990, Tharakan 2015). It is these moral frames, and corresponding enabling policies, that paved the way for the conversion of natural forests in Borneo to more lucrative crops including rubber and then palm oil, as well as the advance of commercial tourism, real estate, and manufacturing sectors. As Cashore and Bernstein detail, this school has also profoundly impacted the last 30 years of climate policy initiatives: the sub-field of environmental economics has successfully advanced the **causal belief that the only way to tackle environmental challenges is to convert them into economic values, and then to search for corresponding market-friendly solutions** (Nordhaus 1991, Stavins 1995, Sachs *et al.* 2020, Thomas and Chindarkar 2019).

Type 2 policies cause humans to prioritize land uses that promote greater outputs by converting natural systems to more lucrative crops or uses.

WHACK-A-MOLE EFFECTS

The most important but largely hidden mole for the purposes of this analysis draws from Cashore and

Bernstein's observation that **successful policies promoting sustainable economic development almost always coincide with, and usually directly cause, environmental degradation**. This is because Type 2 policies cause humans to prioritize land uses that promote greater outputs by converting natural systems to more lucrative crops or uses, and because pollution and consumption usually come with increased wealth and resources. Hence, successful policies for ameliorating poverty in Borneo through rubber and palm oil have also coincided with Type 4 ecological degradation (Cashore, Mukherjee, *et al.* 2021), including species extinction threats — highlighted by the perils faced by Orangutan species (Voigt *et al.* 2018).

To be sure, economic optimization scholars are aware of these moles, but view them as "externalities" that must be incorporated into better designed policy tools that still maintain, and champion, Type 2 conceptions (Thampapillai and Ruth 2019). This explains the support for innovative finance, market-driven, and corporate social responsibility/ESG policy tools such as eco-labelling, private finance, nature based solutions, and climate bonds that attempt to embed environmental concerns within markets to create "win/win" economic outcomes (Kareiva, Chang, and Marvier 2008, Manorum, Baird, and Shoemaker 2017, Cashore, Auld, and Newsom 2004). In their review of the scholarship, however, Cashore and Bernstein found that this narrowing also explains the acceleration, and acceptance, of environmental tragedies and downplaying of historical trends that show how **economic growth has coincided with — and even played key role in causing — climate and species extinctions crises** (Sinden, Kysar, and Driesen 2009, Meadows *et al.* 1972) (Figures 2 and 3). For example, Nordhaus (2017: cited in Cashore and Bernstein) recently projected that the most economically "rational" policy responses will produce a 3.1 degree world (Nordhaus 2017), despite Type 4 scientific projections recognized in the Paris Accord asserting that averting catastrophic ecological effects of the climate crisis requires staying below a 1.5 or 2 degree world (Hansen 2016).

The Compromise School (Type 3-Reinforcing)

The compromise school emerged, in part, from frustrations with the moral frames of the economic

optimization school (Cashore and Bernstein 2021). The compromise school draws its moral foundations from a rich literature devoted to understanding how inclusionary processes and deliberative spaces might foster meaningful involvement of disempowered actors and generate new ideas (Dryzek 1990). **The compromise school's moral philosophy is reinforced by significant evidence that, if well designed, the participation of marginalized interests and values can enhance legitimacy, trust, and authority in policy processes and outcomes** (Eckersley 1992). These themes have also been prominent at the international level since the 1987 Brundtland Commission (WCED 1987, Bernstein 2001) which articulated a moral imperative (now widely-diffused) of sustainability that requires "meeting the needs of the current generation without compromising the ability of future generations to meet their own needs." The result was the metaphorical rise of the "three legged" stool of sustainability as a way to adjudicate inevitable whack-a-mole effects among environmental, social, and economic goals. This moral philosophy is behind the rationale for the development of today's UN Sustainable Development Goals (Bowen *et al.* 2017) – the latest in a long line of (largely unsuccessful) global efforts to find "win/win/win" economic, social, and environmental solutions.

WHACK-A-MOLE EFFECTS

Cashore and Bernstein (2021) identify two key moles that can result from applying the compromise school's analytical frames. First, stakeholder engagement at domestic and global levels often results in **"incremental" approaches** that rarely veer far from the status quo, in part owing to the role of powerful business interests who steer concerns about their environmental impacts towards "win/win" business-friendly policy solutions, rather than costly regulatory approaches (Barnett *et al.* 2021). Second, and incredibly important for my recommendations below, stakeholder engagement can also result in **policy decisions that are inconsistent with the nature of the problem at hand**, in the name of creating respectful dialogues among stakeholders with competing interests.

Cashore and Bernstein illustrate this through the case of Newfoundland's Type 1 cod fishery. Biologists found that overharvesting was threatening the economic viability of the (Type 1) commercial cod

fishery. However, instead of invoking design principles and stakeholder engagement consistent with Ostrom's Type 1 design principles, the government initiated a Type 3 multi-stakeholder process that ended up producing a compromise harvesting rate that was higher than what biologists projected was necessary to maintain long-term Type 1 sustainability (Chase 2003, McKenna 1992). The result was the collapse of the Type 1 commercial cod fishery (Berrill 1997) and further degradation of the Type 4 marine ecology.

The Prioritization School (Type 4-Reinforcing)

Cashore and Bernstein (2021) identify the prioritization school as the mirror opposite of the commons school. This is because while it focuses, as Ostrom also did, on deriving policy analysis from specific features of "on the ground" problems, it targets environmental and social problems that usually result from, or are exacerbated by, those very policies that embrace Type 3, 2, and 1 conceptions (Taylor 1992, Cléménçon 2021). **Its moral framework is guided by the belief that some problems are so important that they cannot be "traded away", or compared to, others.** This has led the school to identify two central analytical tasks:

1. how to *rank* or prioritize problems; and,
2. then how to address them *sequentially* rather than all at once.

These moral concerns emerged from a critique of the moral philosophies of the compromise and economic optimization schools, whose efforts to compare and contrast multiple problems and goals all at once was found to bias human-centered goals and problems, rather than addressing harms to the natural environment caused by human activity (Carson 1962, Paehlke 1992). Tribe famously argued that environmental problems ought to be granted Type 4 prioritization status, especially "...vulnerable or 'fragile'" problems including "...ecological balance, unspoiled wilderness, species diversity, and the like... [that are]...are intrinsically incommensurable, in at least some of their salient dimensions, with the human satisfactions..." (Tribe 1972: 96).

WHACK-A-MOLE EFFECTS

Rather than chasing elusive "win/win" solutions, the prioritization school accepts that moles are

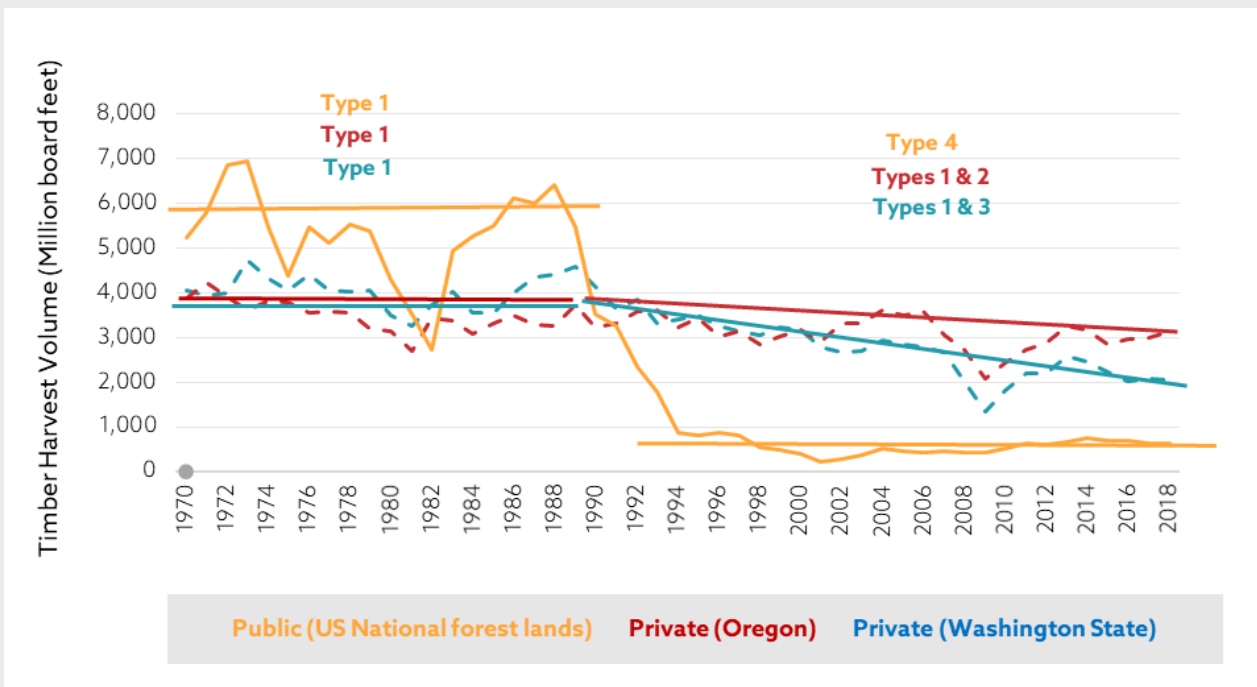
inevitable. It offers a **sequential approach to policy analysis**: lower-ranked problems can only be addressed after, and in ways that do not undermine, higher order problems. For these reasons, adherents to this school frame the climate and species extinction crises as Type 4 problems in order to avert the emergence of what they argue are now thousands of Newfoundland-esque outcomes around the world (IPCC 2018, IPBES 2019).

The prioritization school as has been criticized by members of all of the other schools for advancing an approach to the environment that undermines important human challenges, including those of Indigenous communities and rural livelihoods. However, prioritization school scholars would counter that it is entirely possible to manage lands and climate in ways that give prioritization status to both problems, but just not in the way offered by the economic optimization or compromise schools, which, in many cases, result in “lose/lose” outcomes that undermine ecosystems and local cultural traditions.

One of the most starkly illustrative cases of the

success of Type 4 conceptions, and the prioritization school’s approach to policy analysis, is illustrated through the case of the Northern Spotted Owl (Cashore 1997). As Cashore and Bernstein review, building upon Cashore *et al.* (2001) and Cashore and Howlett (2007), scientific evidence began to emerge in the 1980s that existing logging practices in old growth forest ecosystems were threatening a species known as the Northern Spotted Owl with extinction. Until the 1990s, most timber harvesting practices on both private and national forest lands followed generally similar Type 1 long-term “sustained yield” conceptions (Figure 4).⁶ However, in response to scientific evidence about the owl being endangered, forest management on national forest lands shifted from Type 1 to Type 4 conceptions (Spies *et al.* 2018), while private lands management responded, just like in Newfoundland, in ways that were not consistent with maintaining the viability of the owl. The result was that Type 1 logging was banned in almost all remaining old growth forests on national forest lands, while harvesting that remained was subject to some of the world’s strictest environmental regulations (McDermott, Cashore, and Kanowski 2010).⁷

FIGURE 4: US Pacific Northwest Timber Harvest Volume



Source: USDA Pacific Northwest Research Station, data cited in Cashore (1997) and updated in Cashore and Bernstein (2021)

WHACK-A-MOLE EFFECTS

What is important for our analysis is not simply that Type 4 approaches can, and do, occur, but that efforts almost always lead to the creation of several moles. In the case of the owl, vast reductions in timber decimated forest-dependent communities, and led to a decline of the timber sector in the US Pacific Northwest.⁸ As a result, significant political opposition arose from timber and community interests championing Type 1 conceptions and from Type 2 resource economists (Lippke *et al.* 1990, Perez-Garcia 1993).

strategies for philanthropic and donor engagement

How might philanthropic and donor communities apply Type 4 analysis in order to treat the climate crisis with the priority status that is required? In other words, how might donors develop strategies that treat the environmental climate crisis as an environmental climate problem, the species extinction crisis as a species extinction problem, environmental justice challenges as environmental justice problems, and Indigenous rights challenges as Indigenous rights problems?

By reviewing my own intellectual journey into these questions and the development and application of the four schools of sustainability, I have identified a number of principles and strategies. This review also prompts reflexive conversations about how all of us,

II. Towards “fit for purpose” policy analysis for Type 4 problems: Principles and

TABLE 2: Successful Policies and their Problem-Causing Moles

		Economic utility dominates?	
		YES	NO
Specific “on the ground” problem?	YES	<p>TYPE 1 Resilience of forest-dependent communities in Kumaon, India</p> <p>MOLES:</p> <ul style="list-style-type: none"> → endangered flora and fauna (Type 4) → reduced likelihood of converting forest lands to potentially more lucrative crops (Type 2) 	<p>TYPE 4 Viability of the Northern Spotted Owl</p> <p>MOLES:</p> <ul style="list-style-type: none"> → decline of forest-dependent communities (Type 1) → economic welfare losses (Type 2) → stakeholder consensus processes (Type 3)
	NO	<p>TYPE 2 Poverty alleviation in Borneo</p> <p>MOLES:</p> <ul style="list-style-type: none"> → extinction/endangerment of species, including Orangutan (Type 4) → conversion of forests (Type 1) 	<p>TYPE 3 Collaborative management of the Newfoundland cod fishery</p> <p>MOLES:</p> <ul style="list-style-type: none"> → collapse of commercial cod fishery (Type 1) → decline of ocean ecosystems (Type 4)

Source: Applies, and draws on, Cashore and Bernstein (2021)

as individuals and members of organizations, might have participated in drifting our conceptions over time – sometimes quite unwittingly. Indeed, Cashore and Bernstein's (2021) review of scholarship on domestic approaches to species extinctions, global environmental climate governance, and private authority reveals how, over a period of 40 years, **the influence of the Type 4-reinforcing prioritization school has declined significantly while the Type 1-reinforcing commons, Type 2-reinforcing economic optimization, and Type 3-reinforcing compromise schools have ascended.** These shifts also occurred alongside evolutions in organizations charged with improving sustainability and the environment. For example, I have argued that UN Environment now generally follows a Type 2 conception while the UN Sustainable Development Goals squarely reinforce a Type 3 orientation. This also permits reflection on whether leading environmental groups such as the World Wide Fund for Nature (WWF) and the Rainforest Alliance, have, over the past few decades, drifted towards the positions of their historically conservative competitors, such as the Nature Conservancy and Conservation International. By being aware of these drifts, we can lay the foundation for returning to treating climate change as a Type 4 challenge.

A. Principles

#1: Begin, and end, with “problem conception” assessments

The most important lesson for those who tackling environmental tragedies resulting from the climate crisis is to begin, and end, with problem conception assessments. This is the most important first step because each problem conception, and corresponding “real world” challenge, has a fundamentally different purpose which leads to highly distinct and usually countervailing “design principles” about how to achieve the given empirical challenge. I cannot think of any design principle – from Ostrom's work on CPR governance designs, to the economic optimization school's conclusions for enhancing economic welfare, to the compromise school's attention to legitimate and trustworthy governance, to the prioritization school's attention on contingent “critical junctures” – that cuts across all problem conceptions. Even research into the “drivers of deforestation” will lead to fundamentally different answers, as the owl example demonstrated,

depending upon whether the problem is conceived of as Type 1 or Type 4 challenge. This means that **failure to engage in problem conception assessments could lead to tragic diffusion of “lessons learned” from one problem Type to another.** In fact, Cashore and Bernstein detailed examples of such conflation among Type 1, 2, and 3 scholars to address Type 4 problems – even among those social scientists working on the IPCC reports that rhetorically identified Type 4 problems but analytically narrowed their attention to scholars from the compromise, economic optimization, and commons schools.

Consequently, the only solution is to determine upfront which problem conception is driving policy analysis and tools, and to subsequently design and evaluate based on the problem Type in question.

#2: Confront the implicit synergies bias

A second principle that follows is to become aware of, and fend off, the “synergies bias” within sustainability studies. Cashore and Bernstein detail how across a range of applied analyses, **scholars seem to overwhelmingly assume there are synergies despite empirical evidence showing that, in fact, moles are much more likely.** This partly occurs when scholars collect data on each school's preferred problem, and then undertake moral arguments that assert (Prakash and Gupta 1996) or empirically find synergies across problem Types. It also leads from a “good governance norm complex” (Cashore 2020a, Cashore and Nathan 2020) in which well-articulated principles about designing “good governance” are offered not only as legitimate in their own right, but also justified on the causal belief that they are synergistic with other components of the complex. When evidence unfolds that moles are as likely to appear as synergies, those influenced by the norm complex treat the appearance of moles as problems within policy design. This in turn leads to fragmentation of tools and undermines Type 4 problem solving – while leading to rhetorical calls for greater research on “coherence” across tools – which further reinforces the norm complex (Appendix A). Therefore, the only way out of this conundrum is to convert unconscious “causal beliefs” into conscious and dispassionate assessments (and avoidance) of cases in which reasonable projections and/or evidence are contrary to these expectations.

To confront the implicit synergies bias, individuals

and organizations must reflect how it impacts their preferred Types. For instance, economic optimization scholars spend a great deal of time attempting to find “win/win” solutions that address both economic optimization and environmental outcomes. However, a deeper dive reveals a preference for Type 2 conceptions, limiting abilities to solve Type 4 problems to only those synergistic with Type 2. The “win/win” approach thus actually creates losing outcomes for Type 4 problems. There is, however, no *a priori* reason why the sequential preferences could not be reversed, so that policies for Type 2 problems would be contingent first on addressing the Type 4 challenge at hand.

Hence, the implicit synergies bias hides important power dynamics about which conceptions are most dominant, and which are conditional. Furthermore, as I argued in the conclusion to Cashore and Bernstein (2020), if an economic optimization school scholar genuinely believes that synergies between Type 4 and Type 2 always exist, and it is simply a matter of finding the best designs, then there is absolutely no harm in granting the climate crisis Type 4 prioritization status. This is because the second “sequential” step can be designed to uncover and promote these synergies. However, if the scholar is wrong — as the historical evidence of the last 40 years indicates and the owl case demonstrated — and there are unavoidable moles, then a belief in synergies that emphasizes Type 2 problems risks leading to catastrophic ecological devastation of our planet.

Recognizing this allows us to contextualize the argument advanced by many scholars that such catastrophic ecological devastation of our planet will also undermine, in the long run, Type 3, 2, and 1 problem conceptions. While this seems plausible and most likely, this argument has been advanced to avoid long term problem-solving by pushing policy tools that reinforce Type 2 conceptions including, for example, most of the motivations for funding “nature based solutions,” green investment, climate bonds, and even the insurance industry protocols. The result is a subtle but tragic shift from a range of policy tools that genuinely present synergies in the long run, to Type 2-reinforcing tools in the short run that are incapable of ameliorating Type 4 problems.

#3: Beware that appealing to ethics can be unethical

Another critical principle is to tread very carefully

when appealing to “ethics” or “morality” as a way to generate support to solve the climate crisis, since **all four schools derive from sophisticated and strong ethical obligations and moral foundations.** Recognizing this principle calls into question the veracity of those who favor a particular school or problem conception by critiquing those individuals, organizations, and scholars from other schools as “unethical.” It also raises questions about those who advocate for greater attention to ethics and morality, since all four schools already embrace this advice, just in decidedly different ways.

This principle also raises flags about turning to the field of “ethics” to provide approaches for adjudicating whack-a-mole effects, especially since most applied ethicists focus on developing procedures and rationales for addressing “real world” policy dilemmas, rather than beginning with a specific problem as a starting point (Johnson and Degeling 2019, Beauchamp 2007). While this approach is as important and legitimate as any other school, this orientation fits within Type 3 conceptions that, by their very design, do not guarantee that the endangered owl will be saved, nor that we will keep climate emissions to 1.5 degrees, but rather simply that *the process for deciding* will be considered ethically sound. Hence, the field of applied ethics will be considered by those advancing Type 3 approaches as ethical while simultaneously viewed as unethical by those advancing Type 4 conceptions.

At the same time — and this is very important for policy and philanthropic strategies — **ethical obligations can play an important role in conceiving of, and solving, Type 4 problems.** Consider, for example, Cashore and Bernstein’s reference to anti-slavery norms as the most universally accepted Type 4 problem. This norm of anti-slavery is so entrenched that few would ever apply economic optimization to assess whether it is “rational” to own slaves, or compromise approaches to identify who can and cannot own slaves. In these cases, the very problem definition would be undermined by the application of Type 3 and 2 approaches, because their analytical frames would allow for the consideration of slavery.

Likewise, the same reasoning applies to the climate crisis as an ecological catastrophe. However, unlike slavery, most policy analyses and designs readily accept that Type 3 and 2 approaches are appropriate for addressing the climate crisis, even though

It may make a great deal of strategic sense to shift ethical attention from the climate crisis away from Types 3 and 2 ethics to those that reinforce Type 4.

historical trends, and the Newfoundland cod fishery case, provide inconsistent evidence. What is important for this analysis, drawing on the anti-slavery example, is that it may make a great deal of strategic sense to shift ethical attention from the climate crisis away from Types 3 and 2 ethics to those that reinforce Type 4. Being aware of these nuances will allow “fit for purpose” analysis to distinguish and avoid appeals to ethics that might cause drift, while embracing those that reinforce focus on the Type 4 problem in question.

#4: Distinguish “how” from “whether”

Every strategy, communication, and funding decision must be adjudicated on whether it reinforces the problem conception, or whether it reduces ability to do based on its synergies with other problem conceptions. This is a critically important step that is often missed in how philanthropy and even governments commit scarce resources. **This leads to situations in which the very policy tools and strategies they develop determine whether the climate crisis can be addressed, rather than how to do so.** For example, Cashore and Bernstein argue that failure to distinguish “how to solve a problem” from “whether it is solvable” helps explain the widespread adoption and diffusion of the economic optimization school’s Type 2-reinforcing moral philosophy, as well as specific conclusions about whether, and to what extent, it is “rationally optimal” to address the climate crisis. This explains why UN Environment, which has drifted from Type 4 to Type 2, embraces efforts to create a “business case” for climate change by turning to economic valuations of nature rather than eschewing them (Sukhdev *et al.* 2011). The implicit addition of the “whether” calculation to previous “how” analysis explains why Type 4 prioritization scholars such as Hansen (2016) and McKibben (2006) evaluate Nordhaus’ analytical frames – which led to him to conclude that 3.1 degrees was the most “rational” response – as unethical because it did not begin, and end, with treating the climate crisis as a Type 4 environmental problem.

These distinctions are fundamentally important for those who turn to technological innovations to address the climate crisis. As I have detailed (Cashore 2019d) and spoken about elsewhere (Cashore 2019c), and as Clapp and Dauvergne noted years ago (Clapp and Dauvergne 2005), two different coalitions of practitioners and scholars have shown an interest in technological solutions. The first reflects Type 2 economic optimization ethics by championing business-friendly investment opportunities that can reduce CO₂ emissions, such as “carbon capture and storage,” solar panels, nuclear and hydro technologies, electricity storage, and hydrogen (Dhara and Singh 2021). This coalition believes that approaches from other schools will undermine economic optimality and are thus unlikely to be political feasible. They do not view technology as responding only to “how” but also “whether” the climate crisis can be addressed. Type 4 prioritization school scholars respond by asserting is that there is simply no way of knowing beforehand whether such technologies will be swift enough, or effective enough, to produce results in what climate scientists now say is a rapidly-closing eight year window for meaningful action. Prioritization school scholars also point to an already-discernible shift from the 1.5/2 degree goals to more abstract “net zero” commitments by 2050 – which many say may be far too late to achieve the Paris Accord. Prioritization school scholars also note that technological innovations have generally been associated with carbon-producing effects (Speth 2004), such as the innovations that created a viable pulp industry in the Canadian boreal forest or the energy demands of bitcoin technology.

In contrast, the prioritization school focuses on policy designs that accelerate transformations towards specified outcomes (Cashore 2019d), such as the 1.5 degree goal, in which technology can serve as an important part of the policy mix, but only if it aligns with a decarbonization pathway consistent with the problem at hand (McDermott, Levin, and Cashore 2011) (Rosenbloom, Meadowcroft, and Cashore 2019). This means that funders must be careful not to simply fund projects aimed at enhancing technological innovations – such better GIS mapping of Indonesia deforestation – and instead assess them as part of a mix of policies that pave clear and credible pathways towards achieving specific goals.

#5: Bring politics back in

Every decision made must reflect on the role of politics and power more generally. It is logical and understandable that organizations and other actors, including businesses, champion Type 3 dialogues and Type 2 economic optimality: their very organizational longevity and material interests require promoting these ethical frames. **The problem is when these interests are so powerful that they lead to actions — from funding to framing — that cause Type 4 conceptions to “drift” toward Type 3, 2, and 1 orientations.**

This can occur explicitly, such as in the timber industry following its losses in the Northern Spotted Owl case, or in the successfully lobbying for Yale’s environment school to focus its “forests dialogue” on fostering Type 3 compromise ethics between business and environmental interests. This can also occur implicitly through funding organizations that seek to narrowly promote “business friendly” policy options (Cashore 2018), rather than systematically assess whether, when, and how doing so might undermine Type 4 problems (Barnett *et al.* 2021). To be sure, **systematically engaging in politics does not mean avoiding the role of power; rather, it means assessing whether, and how, it might be harnessed**, such as Vogel’s famous empirical findings that environmental groups and businesses sometime engage in coalitions to “ratchet up” standards on less regulated competitors (Vogel 1995). However, it also requires avoiding Pollyannish assessments that reinforce the implicit synergies bias while downplaying negative cases (Porter and van der Linde 1995, Esty and Winston 2006).

#6: Disentangle private governance’s problem-causing and -solving impacts

Funders and strategists must **shift from providing resource and technical management skills to building innovative arenas of private governance**, such as non-state market-driven (NSMD) global certification systems, green bonds, and nature based solutions; and incorporate more **nuanced assessments** of their role in both exacerbating and also potentially improving specific kinds of problems (Cashore, Knudsen, *et al.* 2021). This effort must take into account **temporality**: promising arenas of private governance may take time to build (van der Ven and Cashore 2018). It must also consider whether, given their embracing of markets, some systems of private

governance are simply unable, by design, to address Type 4 problems such as the mass species extinction crisis (van der Ven, Rothacker, and Cashore 2018), and instead are better suited for developing Type 3 deliberative consensus (Bernstein and Cashore 2007) and/or long-term Type 1 commercial sustainability of a particular crop in question (Grabs 2020).

This effort, drawing on Principle #5, must assess two competing motivations of firms attempting to build private governance systems: 1) their individual interests in maintaining profits; and, 2) their long-term commitments to minimizing, or reversing, their firm’s contribution to environmental degradation. This means assessing certification’s impacts relative to other public policy efforts, and assessing how firms operate to simultaneously influence public policy and private governance processes. This is important, since there seems to be strong evidence that many firms promote private certification systems as going “beyond regulatory compliance,” while at the same time they lobby governments to relax public policy regulations on the same practices (Cashore, Knudsen, *et al.* 2021, Green 2010). For example, while the World Business Council on Sustainable Development has promoted voluntary measures to address the climate crisis and promoted business-friendly certification systems as alternatives to NGO programs that develop more prescriptive Type 4 regulations (Judge-Lord, McDermott, and Cashore 2020), many of its US members did not support Obama’s modest climate legislation (Skocpol 2013).

Similarly, so called “success stories,” such as certification of Alaska’s wild salmon fishery that caters to niche markets, coincided with, and is explained in part by, the massive proliferation of cheap protein from ecosystem degrading fish farms (Cashore, Knudsen, *et al.* 2021). Failure to stand back and assess the problem as a whole — including the role of firms in shaping private governance and public policy simultaneously — will certainly lead to incomplete conclusions, and potentially tragic policy advice. For example, many looking narrowing at the niche certification of the Alaskan wild salmon industry draw Type 1 lessons for “scaling up” — yet the project is unable to incorporate wild salmon’s niche role within the political economy of mass-produced farmed salmon.

This principle does not suggest “throwing the baby

out with the bathwater," but rather to reflect on the conditions, policies, and institutional designs that might **incorporate both the problem-solving interests and organizational material interests** of firms, non-governmental organizations, and governments, without being determined by them (Auld, Bernstein, and Cashore 2008). For example, while efforts to reduce illegal logging are not a panacea and may in fact work to legitimize environmentally-degrading practices, legality verification systems along global supply chains can, and do, play a role in shaping Type 3 dialogues around stakeholder engagement that appear to have generated greater deliberative space for Indigenous and non-governmental organizations (Overdeest and Zeitlin 2016), and may, if designed well, help generate support for Type 1 practices within forest-dependent communities (Humphreys *et al.* 2017). Such a project requires first building tracking systems that pay attention to firms' profit maximizing interests and that may, over time, produce and generate norms of responsible and transparent governance (Cashore and Stone 2014).

This principle also requires reflexive discussion of increasing reliance on corporate social responsibility, business, and the "environmental social governance" of firms to address sustainability challenges. An increasing number of corporate sustainability scholars (Barnett *et al.* 2021) and practitioners (Kishan 2021), drawing on years of research and evidence, are identifying sobering reflections about this trend. To be sure, they are not arguing that businesses cannot play a role, but that the nature of sustainability challenges facing the planet require much more attention on strong public policies if these problems are to be effectively managed.

#7: "Court clarity while being chaperoned by complexity"⁹

The degree of analytical attention paid to uncovering these nuances is time consuming, and the messaging and strategic implications that unfold over time are complex. This means that strategists must "court clarity" while being "chaperoned by complexity." However, today's focus on the need to "communicate" in simple terms has undermined this effort — resulting in sweeping statements that are either highly questionable empirically and theoretically, or are so broad they have little analytic utility. In fact, it appears that funder requirements for

"theories of change" statements from the NGOs they fund — without investments in the analytical capacities to do so — appear as likely to undermine not only theories of change, but "on the ground impact" (Cashore 2019a, Howlett and Ramesh 2016).

#8: Be aware of the power of policy solution metaphors

Finally, be aware of the power of metaphors in shaping individual and organizational excitement about the "latest and greatest" initiatives that "this time" will sharpen on the ground practices. Today the world of climate and land use governance is populated with a range of metaphors such as "scaling up," "policy centric governance," "multi-scalar," "best practices,"... all of which **reorient our focus on problems and analytical frames that seem more likely to reinforce the morality of particular schools than to address a particular problem at hand.** As Ostrom warned years ago, "[m]any policy prescriptions are themselves no more than *metaphors*" that "can be harmful," producing outcomes "substantially different from those presumed to be likely" (Ostrom 1990a, 22-23).

B. Strategies: Towards fit for purpose policy analysis investments

What then, does the above review imply about future philanthropic decisions, specifically to tackle the climate crisis? I raise the following as consideration.

#1: Give Type 4 problems the bulk of attention

I offer this recommendation not because the other Types, and their reinforcing schools, are not as legitimate and important (as I reviewed above, they all rest on profoundly important moral frames and ethical obligations) — but simply because the vast majority of funding by businesses, governments, and non-governmental organizations are being placed on problem Types 3, 2, and 1. **There are simply very few resources today being allocated to analysis of or solutions for Type 4 problems.** This arguably owes in part to the economic welfare-undermining effects that often occur by ameliorating Type 4 problems (as illustrated by the owl case); the role of corporations and the private sector in shaping environmental governance (Cashore, Auld, and Newsom 2004); and the increasing dominance of the discipline of economics in environmental policy analysis within government and intergovernmental organizations,

and the role of “free market ideology” within some philanthropic foundations (Simpson 2019). The result is that applied scholars who seek to develop environmental policy solution arenas within universities or think tanks must always, for fund raising needs alone, frame their approach in ways that appeal to Type 2 interests. Hence, infusing significant resources into Type 4 scholars, institutions, and projects is required to overcome these biases and return to a more “level playing field” across all four Types and reinforcing schools .

#2: Continue funding environmental and social movements

Funding environmental groups and social movements seems to be a necessary but insufficient approach for achieving Type 4 transformative change (Skocpol 2013). Although these efforts to date have not led to the impact donors expected, I still believe donors need to expand, rather than depart from, these efforts.

#3: Continue capacity building efforts

Likewise, it seems to make sense to continue building capacity, such as funding satellite technologies to map real time changes, engaging on the ground stakeholders in sharing such knowledge, and teaching NGOs how to engage domestic legal systems. However, capacity needs to expand from these rather technical approaches to analytical capacity skills as highlighted in this paper.

#4: Incorporate path dependency analysis into policy design techniques

One important way to counteract the drift away from Type 4 is to train the next generation of environmental policy analysts on the techniques required for solving Type 4 problems. While schools of public policy and departments of political science or economics teach sophisticated policy analysis methods, they currently pay limited attention to Type 4 techniques. As I have written elsewhere with colleagues (Levin *et al.* 2012, Rosenbloom, Meadowcroft, and Cashore 2019, Sewerin, Béland, and Cashore 2020), and as is increasingly recognized by political and social scientists working on climate change and species extinction crises (Geels 2018, Roberts *et al.* 2018), doing so requires teaching and applying what is known as “path dependency analysis” (Appendix B). **This technique attempts to find ways to trigger policy pathways that make**

solving a Type 4 problem easier over time and fend off conception drift.

While reviewing this approach in detail is beyond my scope here, it is useful to know that path dependency analysis targets innovative “policy mixes” – especially “easy to pull, hard to reverse levers” – that create some entrenchment over time and make reversibility difficult. I have reviewed elsewhere that these very designs explain why the policies for maintaining the Northern Spotted Owl were able to withstand multiple efforts to dismantle this Type 4 success story (Cashore and Howlett 2007). This requires careful attention to policy designs and mixes most capable of **producing some amount of “lock-in” – or what scholars call “critical juncture” events – that makes reversibility difficult** (Roberts *et al.* 2018, Rosenbloom, Meadowcroft, and Cashore 2019, Lockwood *et al.* 2017, Webster 2008, Geels 2005, Jordan and Moore 2020). This includes paying careful attention to the multiple steps that a particular funder’s strategy, or policy choices, might unleash (Pahle *et al.* 2018, Stokes and Breetz 2018).

#5: Include “bottom up” designs to achieve “top down” commitments

Path dependency analysis can be drawn on to help advance private and global governance innovations in domestic settings (Bernstein and Cashore 1996, Bernstein and Cashore 2012). However, it can, and has, been applied to “bottom up” approaches. For example, a number of scholars have credited the combination of policy mixes and path dependency to explain the German government’s efforts to accelerate solar energy (Meckling 2019) – known as “feed-in-tariffs” – that combined specific micro-level design features including home owners receiving locked-in 20 year contracts that subsidized solar panel installation, while simultaneously granting them the retail, rather than wholesale, rate for excess energy. Over a 15 year period, this policy mix triggered a low carbon technology pathway that, in contrast to the assumptions of the economic optimization school, produced normative and behavioral changes that dramatically changed political feasibility and calculations on willingness to pay (Schmid, Sewerin, and Schmidt 2019). Path dependency analysis has been applied to identify “real world” strategies, such as the role of hunting licenses in helping punctuate lower climate emissions in the Canadian Boreal forest (Yona, Cashore, and

Schmitz 2019)

Bottom up designs can, and must, also be incorporated into “top down” pathways analysis that directs global and transnational interventions as a way to shift and influence on the ground practices (Green, 2014). For example, I was part of a team that applied a global pathway of influence analysis to identify a “easy to pull” levers, drawing on global legality verification mechanisms, to improve Indigenous rights in Peru (Humphreys *et al.* 2017). Similarly, the “top down” pathways approach has been applied to understand why domestic governments would adopt global norms such as “biodiversity conservation” (Bernstein and Cashore 2000) and “free prior and informed consent” even in the absence of formal international rules for doing so. These diffusion trends explain, for example, why hundreds of jurisdictions have adopted some version of the German government’s feed-in tariff program despite no international treating requiring such behaviors (Alizada 2018). Indeed, Cashore, Auld, Bernstein and Levin have argued that while the Paris Accord is, on the one hand, disappointing for its largely voluntary approach, the combination of top down and bottom up pathways may offer promise in designing for Type 4 problems (Cashore, Auld, *et al.* 2016)

#6: Develop a “Marshall Plan” for multi-stakeholder policy learning dialogues for uncovering Type 4 policy innovations

My final and most important recommendation is that global philanthropists need to support innovative policy design learning dialogues capable of producing swift, multi-step policy trajectories for ameliorating Type 4 climate and species extinctions challenges. In other words, we need to find a way to make the German government’s feed-in tariff policy design the norm, not the exception.

How then, might we engage in processes for discovering, and pulling, policy mix levers? The answer is to generate thousands of **deliberative policy dialogue arenas within domestic, global, and transnational systems aimed at uncovering innovative policy and governance solutions.** My own collaborative work in Peru (Humphreys *et al.* 2017, Cashore, Visseren-Hamakers, *et al.* 2016) and the Canadian Boreal Forest (Yona, Cashore, and Schmitz 2019, Judge-Lord, Scher, and Cashore 2014) demonstrate that these efforts can, and do, lead to

the discovery of innovative “micro-level” levers for macro-level change. I was part of a collaborative team, including through the International Union of Forest Research Organizations, that developed an 11-step learning protocol architecture for engaging in this very kind of problem-focused deliberation to identify Type 4 policy designs (See Appendix B). We are now targeting this protocol around the issue of policy design strategies, especially focused on **“easy to pull but hard to reverse levers”** as an additional strategy for achieving decarbonization pathways (Cashore, 2020). While it is beyond the scope of this paper to review all 11 steps, Cashore *et al.* (2019) drew on this research to highlight five key stages including: problem definition assessments; framing; coalition building, causal framework development; scoping exercises; and knowledge institutionalization. Our review of the management skills that would be required to complete each stage were quite different from those protocols designed to generate Type 3 consensus. For example, this protocol does not assume, as many Type 3 processes do, that all stakeholders should be represented at the table initially (as this can lead to incrementalism and associated risks of drift from Type 4 to Type 3).

To be sure, I am not arguing that learning deliberations are a panacea especially in those cases where there is no consensus on problem definitions. However, I am arguing that learning dialogues convened to generate Type 3 solutions, or that have ambiguous goals of generating “constructive ambiguity” (Singer and Giessen 2017), are more likely to become examples of what Dimitrov refers to as “decoy” or “empty” institutions (Dimitrov 2019). Hence, I am arguing that we need to expand from learning dialogues that emphasize compromise (Type 3), or that limit policy tool innovations (Type 2). **We need to roll up our sleeves to create innovative, path-dependent policy designs capable of ameliorating, rather than exacerbating, the Type 4 climate crisis.** There is no question that learning and exchange among scholars and practitioners that conceive of Type 4 problems can, and do, yield “on-the-ground” results. The tragedy is that today there are scant resources for fostering these intensely time-consuming efforts, yet billions of dollars have been allocated to Type 2 solutions, and millions on Type 3 dialogues, that have coincided with, and in some cases caused, the emergence of the worst moles the world has ever seen.

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Endnotes

1. An arcade game in which a mallet is used to strike a mole popping out of one hole only to have another mole appear in another hole. The game is won when no more moles appear. This phenomenon has been raised by a number of scholars, including Levin et al. (2012).
2. The first public presentation of this problem-type approach was made during the ICPP's 2013 meeting in Warsaw, Poland (Cashore 2013). The framework was significantly advanced from three to four types on the recommendation of professor Jeremy Moon following a presentation I gave to Copenhagen Business School in January 2, 2018.
3. Collective action scholars define "better off" to mean the highest degree of "utility" possible. This is further defined by some type of economic outcome measure. There are long-standing debates about whether concept of "utility" is broader than economic values. What is important for our purposes is that the economic optimization school handles this problem by incorporating broader outcomes not always associated with economic goals by giving them "economic value" with which to compare, and assess, whether it is economically "rational" to conserve a species or allow for practices that are expected to cause its extinction.
4. Ostrom (2003, 259) made it clear that privatization was the preferred solution for sustainability challenges in which exclusion was possible: "The advantage of individual ownership of strictly private goods — where the cost of exclusion is relatively low and one person's consumption is subtractive from what is available to others — is so well established that it does not merit attention here."
5. To avoid confusion, I use the term "economic welfare" rather than "social welfare."
6. Type 3 conceptions had resulted in "multiple use" ideas that turned the US Forest Service's attention to incorporating tourism, recreation, hiking, and other human benefits into management planning. And in Oregon, forest product companies successfully maintained, until overruled by the courts in the 1990s, policies forbidding the conversion of Type 1 forest lands into Type 2 real estate and other uses.
7. The reasons for these dramatic changes were owing to requirements in the 1973 Endangered Species Act and related legislation that a federal agency must develop a plan to maintain species "viability" if listed as threatened or endangered. The legislation further stipulates that only "best available" science of species viability, not Type 2 economic impacts, must be considered when listing the species (Cashore 1997).
8. To be sure, forest-dependent communities were treated — sequentially, consistent with the morality of the prioritization school — with several millions of dollars spent on reducing the blow of economic timber losses, fostering value

added economic development, and engaging in retraining and social services. Likewise collaborative engagement was initiated about how, or rather whether, to implement policies to ensure owl conservation.

9. Advice to doctoral students from Prof. Richard Simeon, University of Toronto, circa 1993.

AUGUST 2021

Thought Piece: Strategies for Triggering
Transformative Climate Change Pathways: Towards
"Fit for Purpose" Philanthropic and Donor Engagement

Benjamin Cashore

