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SUSTAINABILITY AND THE CLIMATE

Climate change poses one of the greatest threats to economic growth and development. While difficult to measure, most studies looking at the effects of climate change on economic growth predict that global warming will have a material impact on global GDP over time. A recent report by Swiss Re Group, one of the world's largest providers of re-insurance, found that global GDP could shrink by 4%–18% by 2050 depending on actions taken to slow global warming. Encouragingly, action on climate change is intensifying and there has been an increased willingness among investors to help combat climate change. According to Morningstar, global sustainable fund assets climbed to a record $2 trillion in first quarter 2021, with global flows reaching all-time highs for the fourth consecutive quarter. Unfortunately, while society has taken steps in the right direction, recent research suggests that global warming is progressing at a much faster pace than previously thought. A May 2021 report by the World Meteorological Organization found that 2020 had an average global temperature of about 2.2°F above pre-industrial levels and that there was over a 40% chance that one of the next five years will reach 2.7°F. The Paris Agreement has denoted 2.7°F of change as a benchmark of global warming to avoid. The world has little chance of meeting the conditions of the Paris Agreement, which seeks to limit temperature rises to a maximum of 2°F above pre-industrial levels by 2100, unless much more drastic action is taken now at all levels of society.

The 26th UN Climate Change Conference of the Parties (COP26) will be held in the United Kingdom in November 2021. The focus of the COP26 summit is to bring parties together to accelerate action toward the goals of the Paris Agreement and the UN Framework Convention on Climate Change. In this spirit, the second quarter 2021 edition of Research Digest features three papers on sustainability and the climate and the role of governments, organizations, companies, and investors in achieving a sustainable future.

- The first paper examines the interaction of natural capital and economic growth and concludes that our economies and well-being are at risk if we do not change how we engage with nature;
- the second paper clearly defines 'net-zero' greenhouse gas emissions at the micro-level to help individual entities set more ambitious and clear climate targets; and
- the third paper proposes that one way for investors to contribute to a successful transition from a high- to zero-carbon economy is through a multi-dimensional climate strategy that incorporates both an environmental and social dimension.

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CAMBRIDGE ASSOCIATES

THE ECONOMICS OF BIODIVERSITY: THE DASGUPTA REVIEW

Partha Dasgupta, London: HM Treasury, February 2021

This paper develops the economics of biodiversity on the understanding that nature is an asset, just as produced capital and human capital are assets. This approach helps us see that the substantial gains in both produced and human capital experienced in recent decades has come at the expense of natural capital and that continuing down this path presents extreme risks to our economies and humanity. To solve this crisis, the author argues that all actors, investors included, must change how they think, act, and measure their engagement with nature and understand that nature is essential to our economic lives.

The author contends that nature is our most precious asset. We rely (i.e., demand) on nature and it provides (i.e., supply) some of our most essential goods and services, such as nourishment, the regulation of our climate, and recreation. In that sense, nature, or 'natural capital', is an asset just like produced and human capital are assets. Yet, while growth in both produced and human capital have allowed humanity to prosper in recent decades, that prosperity has come at a devastating cost to natural capital. Estimates show that between 1992 and 2014, the stock of natural capital per person declined by nearly 40%. In other words, our demands of nature have far exceeded its capacity to supply us with the goods and services we rely on. The author argues that our unsustainable engagement with nature has pushed many of the world's ecosystems to a tipping point and that continuing down this path could have severe consequences for our economies and well-being.

According to the author, at the heart of the problem is a lack of understanding of the true value of nature and the various goods and services it provides. This is due to both market and institutional failures. Nature's true value is not properly reflected in market prices because many of its goods and services are free to all and/or have aspects (e.g., are mobile, invisible, silent, etc.) that make them difficult to capture. These features give rise to price distortions and externalities that make it hard for markets to function properly. At the same time, institutions have failed to properly address these market inefficiencies. In fact, most governments have exacerbated the problem by not properly protecting global public goods, such as oceans and rainforests, while also incentivizing unsustainable economic activities—the total cost of subsidies that damage nature is estimated at $4 trillion–$6 trillion per year globally.

For the author, the solution (and the foundation of the economics of biodiversity) starts with an understanding that we—and our economies—are embedded within nature, not external to it. This approach acknowledges that the human economy is bounded by nature and its limited goods and services and that human ingenuity or technological advancement cannot overcome this constraint. To achieve truly sustainable economic growth, we must fully account for the impact of our interactions with nature and change how we think, act, and measure success. The author suggests that the changes required should be geared toward three broad transitions:

- Rebalancing our demands with nature's capacity to supply through policies that change prices and behavior norms (e.g., consumption and production patterns, fertility choices) and conserve and restore our stock of natural assets;
- introducing natural capital into national accounting systems to better assess the benefits from investing in natural capital, the trade-offs between investments in different assets, and whether economic growth is sustainable; and
- transforming our institutions—in particular our finance and education systems—to enable these changes and sustain them for future generations.

The author admits that choosing sustainable growth will be difficult and requires transformative change and commitment from actors at all levels. However, a transformative shift to a sustainable thinking is critical to maintaining a world for current and future generations.

DEFINING NET-ZERO

Peter Boyd and Casey R. Pickett, Yale Center for Business and the Environment, July 2021

The 2015 Paris Agreement's ambitious target of achieving net-zero greenhouse gas emissions globally by 2050 will require significant actions from all participants. Yet, there lacks a clear definition of what an individual entity needs to do to achieve net-zero, resulting in varying degrees of current climate change efforts. The authors propose four measurable descriptors for any undertaking of net-zero to help individual entities set more ambitious and clear climate targets: (1) fully-scoped; (2) science-based; (3) Paris Agreement–compliant; and (4) cumulative.

The 2015 Paris Agreement set an ambitious global goal to limit the average temperature increase to 1.5°C above pre-industrial levels by achieving net-zero greenhouse gas emissions by 2050. The idea of net-zero greenhouse gas emissions may feel clear enough at a global scale. The 2015 Paris Agreement defines net-zero as "reducing human-caused emissions to the level that natural climate solutions and other methods of CO2 storage and removal effectively absorb." However, it is less clear what an individual entity (i.e., country, state, city, company, etc.) should do to help achieve net-zero globally.

As a result, individual entities' net-zero commitments vary in their degree of clarity around goals, techniques, and timing. For example, some entities have undertaken commitments to eliminate their use of fossil fuels, while others use energy efficiency targets, or renewables as a percentage of energy consumption. Although these initiatives can be pragmatic and helpful for motivating actions, they are imprecise subsets of a comprehensive net-zero goal. Other entities define their climate action targets as 'carbon neutral,' which is often understood to be a synonym of net-zero. Yet, there is a key difference between the two terms. Net-zero implies an entity is reducing its own emissions as part of its commitment, whereas carbon neutral implies an entity has paid for or offset its emissions without necessarily taking efforts to substantially reduce its own emissions.

Clearly defining what net-zero means for an individual entity is hard but vital to

achieving a transition to a sustainable society. Therefore, the authors argue for a consistent definition of net-zero that countries, states, cities, companies, etc. can use to raise the ambition and improve the clarity of climate goals and maximize the probability of achieving the Paris Agreement's aim of net-zero greenhouse gas emissions by 2050. They outline four measurable, clarifying descriptors to improve the definition of net-zero at the individual entity level:

- **FULLY-SCOPED:** Entities should define their scope of responsibility in reducing greenhouse gas emissions. This should encompass all emissions arising from sources they own and control (scope 1), from indirect and purchased sources (scope 2), and from upstream and downstream sources produced along the value chain (scope 3).
- **SCIENCE-BASED:** Entities should set a measurable target that specifies how much and how quickly they need to reduce emissions. The target should be sufficiently ambitious and demonstrate that the entity is assuming responsibility for its appropriate share of global emissions reduction that is at least proportionate to its contribution to climate change.
- **PARIS AGREEMENT–COMPLIANT:** Entities should specify if and to what extent their net-zero efforts rely on carbon credits or external investments in carbon removal measures. These offsetting investments should be tied to the global carbon budget as outlined in the Paris Agreement.
- **CUMULATIVE:** Beyond their current level of greenhouse gas emissions, entities need to accurately recognize and mitigate their historical emissions to achieve a "cumulative" net-zero.

The authors believe a definition of net-zero that includes these four descriptors will help individual entities set more ambitious and clearly defined climate goals. Ultimately, they hope that a consistent definition of net-zero will also eventually help promote even more ambitious and aggressive climate change actions that will maximize the probability of a just transition to a sustainable society.

INVESTING IN A JUST TRANSITION

Nick Robins, Vonda Brunsting, David Wood, Principles for Responsible Investing, June 2018

While the transition from a high- to zero-carbon economy has potential to deliver significant economic, employment, and social benefits, it will create challenges for key sectors, regions, and countries. To be successful, the transition will need to unify social concerns with climate progress, an approach better known as a "just transition." While investors have taken significant steps to address the environmental impacts of climate change, most investors' climate strategies are missing a social dimension. In this paper, the authors explore why investors should take an active role in the just transition and how they can do so.

The just transition is a multi-dimensional framework for action on climate change that at its core unifies social concerns with environmental progress. It acknowledges that while the shift to a net-zero economy will be a net positive for the economy, employment, and society at large, there will be significant transitional challenges for key sectors, regions, and countries. If mismanaged, the transition could not only result in "stranded assets," but "stranded workers" and "stranded communities" as well. There is

also the risk that the pace of the transition itself could be impacted if the focus turns to downside impacts. The authors suggest that while a growing number of investors have taken steps to respond to climate change risks and opportunities and better align portfolios with environmental, social, and governance (ESG) principles, the social dimension is still missing from most investors' climate strategies. By including the just transition in their climate strategies, investors can not only take a more comprehensive approach to climate action but also potentially help accelerate the transition to a zero-carbon economy.

So far, investors have not been actively involved in the just transition. Not necessarily because they think it is unimportant, but more likely because investors are a diverse group with different climate objectives and there is a lack of guidance to enable them as a whole to play an effective role. With this in mind, the authors have outlined six reasons why investors should consider an active role in the just transition. A focus on the just transition:

- integrates the environmental and social pillars of responsible investment;
- aligns investor practice with international goals and standards;
- provides a lens for identifying new investment opportunities;
- responds to beneficiary interests and preferences;
- enhances understanding of systemic risk by connecting climate and inequality; and
- offers a platform for collaboration between investors and other stakeholders.

To take one example, the just transition recognizes that a high level of activity addressing climate change takes place at the local and community level, and that investors could access an expanded pipeline of new investment opportunities by incorporating the just transition in their climate strategies.

Taken together, the authors believe these six reasons provide a compelling case for investor action. Building on this, the authors suggest four main ways in which investors could take action to promote the just transition, which all build on established practices: investor strategy, investor engagement, capital allocation, and policy dialogue. To take one example, in terms of capital allocation, while divesting from high-carbon assets and redeploying funds to low-carbon opportunities, investors must also consider the impacts on affected workers and communities. These impacts can be better understood through active engagement with management teams and shareholder resolution proposals. It is the authors view that investors do not need to completely revamp their climate strategies when incorporating the just transition into their investment practices, but instead focus on better integrating environmental and social issues when designing and making climate-related investment decisions. ■