# REIMAGINING THE HUMAN-ENVIRONMENT RELATIONSHIP

## A New Political Economy for a Healthy Planet

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**This paper forms part of the volume *Reimagining the Human-Environment Relationship* for Stockholm+50. This curated collection of ideas captures, interrogates, and elevates alternative paradigms of the human-nature relationship – existing and new, and from various disciplines and societies – creating a space to recast our relationship with the environment and inform future policymaking.**

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## Introduction: The Crisis We Face

Let us begin with a simple observation – one that most of us understand on some level, even if we do not vocalize it. We are failing to stop climate breakdown. We are failing to decarbonize. Things are not going well. Summit after summit ticks by, decade after decade, and global emissions remain dangerously high. Concentrations of carbon dioxide in the atmosphere have increased inexorably, exceeding the maximum safe planetary boundary of 350ppm in the late 1980s and reaching 412ppm as of 2020.

The COP26 summit in Glasgow did little to change this. Remarkably, the pledges made at Glasgow are projected to deliver zero reductions in global emissions over the coming decade, during precisely the period that, according to the Intergovernmental Panel on Climate Change (IPCC), global emissions must be cut in half if we are to have any reasonable chance of keeping temperature rise to no more than 1.5 degrees.[1] According to Climate Action Tracker, 73 per cent of countries' existing "net-zero" pledges are weak and inadequate – "lip service to climate action."[2] What is more, a yawning gap remains between pledges, which are easy enough to make, and implementation of actual policies, which is all that really matters. Existing government policies have us hurtling toward at least 3.2 degrees of global heating this century, in other words, within the lifetime of the present generation.[2] This represents an extraordinary failure of our political leaders and of our international system.

What will the planet look like under these conditions? What is the future we are headed toward? As global heating approaches 3 degrees, around 30 to 50 per cent of all existing species could be wiped out.[3] In the absence of effective adaptation measures, more than 1.5 billion people could be displaced from their home regions, forced to flee climate impacts – a refugee crisis orders of magnitude worse than we already face today.[4] Yields of staple crops are likely to face major decline. The UN already warns of multi-breadbasket failure and sustained food supply disruptions globally.[5] Large parts of the tropics, including densely populated regions, could be rendered virtually uninhabitable for humans.[6] It is difficult to fathom the social and political chaos all of this could cause. Such a world would not be compatible with organized civilization as we know it.

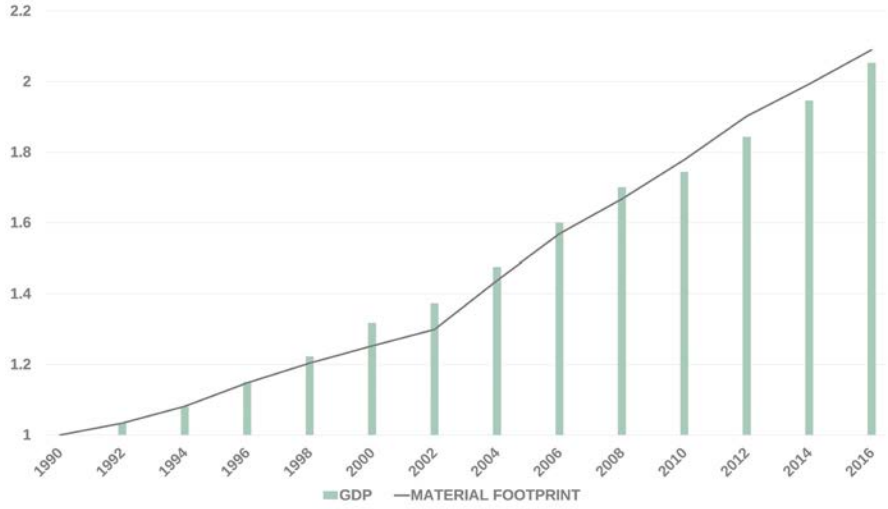
Climate breakdown is not the only crisis we face. The global economy is presently overshooting several other critical planetary boundaries, exceeding safe limits of land-use change, biogeochemical flows, chemical pollution, and biodiversity loss.[7] The rate of biodiversity loss is particularly concerning. Extinction rates are now up to 1,000 times faster than prior to the Industrial Revolution. In a comprehensive review of existing evidence, the UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) finds that, on our present trajectory, around one million species are now at risk of extinction, many within decades.[8] This trend is indicative of widespread habitat fragmentation, ecosystem disruption, and ecological breakdown. Robert Watson, the Chair of the IPBES, called the report 'ominous'. "The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever," he said. "We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide." Anne Larigauderie, the IPBES Executive Secretary, put it even more bluntly: "We are currently, in a systematic manner, exterminating all non-human living beings."[9]

## The Capitalocene

People have a tendency to refer to this crisis in the language of the "Anthropocene," a term that highlights how, for the first time in geological history, human activity is dramatically reshaping our planet and our climate. But the term is also misleading. It is not humans *as such* driving this crisis. Rather, it is being driven by our economic system, namely, capitalism.[10] It is important to be clear about what we mean by capitalism here. People often equate capitalism with markets and trade or even business; however, markets, trade, and businesses existed for thousands of years before capitalism, and are innocent enough on their own. What distinguishes capitalism from other economic systems is that it is organized around, and dependent on, constant expansion: perpetually increasing levels of industrial production and consumption, which we have come to measure in terms of Gross Domestic Product (GDP). Growth is the prime directive of capital. As far as capital is concerned, the purpose of increasing production is not primarily to meet concrete human needs, say, for decent housing, or healthcare, or nutritious food. It is not, in other words, primarily about "use-value", livelihoods or provisioning. Rather, the purpose of increasing production is to extract and accumulate an ever-increasing quantity of profit. And, unlike the objective of meeting human needs, the process of capital accumulation has no identifiable endpoint. The dominant assumption of economics is that growth along these lines should carry on indefinitely; that every industry, every sector, every national economy should continue to grow, regardless of whether or not we actually need it to, and regardless of how rich a country has become.

The imperative of perpetual expansion might not be a problem if growth was just plucked out of thin air. But unfortunately this is not the case. The empirical record is clear that GDP growth is tightly coupled to resource use (Figure 1).[11] The more an economy grows, the more resources it uses. Aggregate resource use is in turn the main driver of ecological breakdown, accounting for more than 90 per cent of the variation in environmental damage indicators,[12] and more than 90 per cent of total global biodiversity loss.[13] Industrial ecologists indicate that global resource use should not exceed a total of 50 billion tons per year, in terms of both biotic and abiotic materials.[14] The world economy shot past this threshold in the late 1990s and resource use has continued to accelerate since then. As of 2020, the economy is using more than 100 billion tons of resources per year, thus exceeding the sustainable limit by a factor of two.

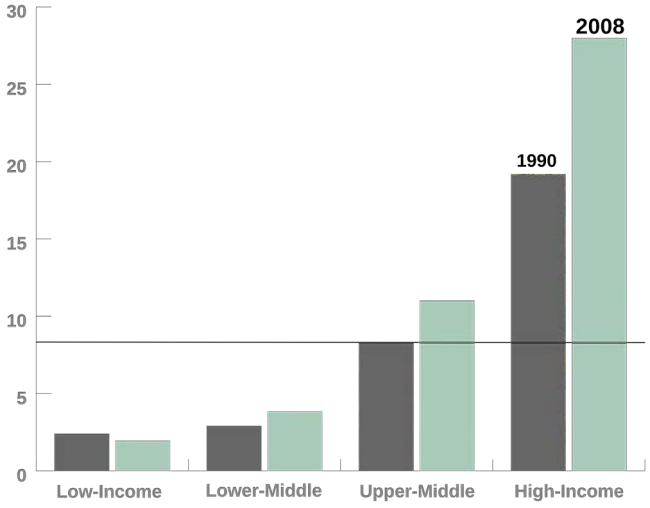
**Figure 1:** Global GDP and Material Footprint




Global GDP and resource use, 1990–2017. Indexed to 1990=1. (Source: UNEP International Resource Panel and World Bank)

Growth is also coupled with energy use. Despite constant improvements in energy efficiency over the past half century (referred to as “relative decoupling”), a strong positive relationship remains: more growth means more energy use than would otherwise be the case under any given technological regime.[15] And, given our reliance on fossil fuels, energy use is the primary driver of carbon dioxide emissions. Of course, we know it is possible to decarbonize the energy system by switching from fossil fuels to lower-carbon alternatives, but rising energy demand makes it difficult to accomplish this at the speed required to prevent temperatures rising over 1.5 or 2 degrees, as per the Paris Agreement.[16]

**Figure 2:** Material Footprint of Nations (tons per capita)




Material footprint of nations, tonnes per capita. The horizontal black line represents the sustainable per capita boundary in 2008. (Source: UNEP International Resource Panel)

## The Colonial Dimensions of Ecological Breakdown

It is important to recognize that ecological breakdown is not being caused by everyone equally. It is being driven overwhelmingly by a small handful of high-income countries. This is perhaps clearest when it comes to the question of emissions. High-income countries have extremely high levels of energy use, around 150 gigajoules per capita per year, which is roughly ten times more than what low-income countries use and several times in excess of what is required to meet human needs at a high standard.[17] As a result, they also have very high levels of emissions. Recent research finds that the rich countries of the Global North are responsible for the vast majority of emissions in excess of the planetary boundary of 350ppm concentration of CO2 in the atmosphere – in other words, the emissions that are causing climate breakdown.[18] The US alone is responsible for 40 per cent of excess emissions, and the European Union for another 29 per cent. The Global North as a group, which includes the US, Europe, Canada, Australia, New Zealand, Israel, and Japan, is responsible for 92 per cent of excess emissions. Meanwhile, the entire continents of Africa, Asia, and Latin America, which are home to the vast majority of the world’s population, are responsible for only 8 per cent of excess emissions. And most of the countries in the Global South – including large, populous nations like India, Indonesia, and Nigeria – are still well within their fair share of the planetary boundary, and have not contributed to the problem at all.

This data indicates that climate breakdown represents a process of atmospheric colonization. The atmosphere is a shared commons, on which all of us depend for our existence. Wealthy countries have appropriated it for their own enrichment, with devastating consequences for all of life on Earth. Meanwhile, the Global South, which has done very little to cause this problem, suffers the vast majority of the impact,[19] including 82 to 92 per cent of all the economic costs and damages inflicted by climate breakdown, and 98 to 99 per cent of all climate-related deaths.[20] In other words, virtually all climate-related mortality is sustained in the territories of the Global South. It would be difficult to overstate the scale of this injustice. Climate breakdown not only represents a process of atmospheric colonization, but the consequences of it are also playing out along colonial lines. If we are not attentive to the colonial dimensions of this crisis, we are missing the point.

High income nations are also overwhelmingly responsible for resource use overshoot (Figure 2).[21] Rich countries consume on average 28 tons of resources per person per year, which is four times over the maximum boundary, and again vastly in excess of what is required to meet human needs, even at a high standard.[22] It bears noting here that not all residents of rich countries are responsible for this. Richer individuals consume much more than working class people. But more importantly, these high levels of resource use should be understood as the effect not primarily of individual consumption habits, but rather of the prevailing economic system, which is organized around capital accumulation rather than around meeting human needs. Meanwhile, resource use in lower income countries is a small fraction of that which characterizes high income countries, and they remain well within sustainable levels. In most cases, low-income countries actually need to *increase* resource use in order to build the infrastructure required for human development.

And here too, excess resource use represents a process of colonization. Here is the key fact: growth in the Global North relies on a large *net appropriation* of resources from the Global South.[23] In other words, the resources and goods that the North consumes are extracted and produced disproportionately in the Global South – everything from clothes, smartphones, bananas, coffee, tea, lithium, cobalt, rubber, and computer chips, all produced in the South, with Southern labour and Southern resources.

Recent empirical research has demonstrated the staggering scale of net appropriation by Northern economies. Each year, the North appropriates from the South a *net* total of 12 billion tons of raw materials, 21 exajoules of energy, 820 million hectares of land, and 188 million person years of labour, embodied in traded goods produced in the Global South.[24] These South-North flows happen because of power imbalances in international trade and finance.[25] Northern States and corporations are able to leverage their geopolitical and commercial power to artificially depress the prices of labour, resources and producers in the Global South, such as through their disproportionate control over decision making in multilateral institutions such as the World Bank, the International Monetary Fund (IMF) and the World Trade Organization (WTO), and through the imposition of structural adjustment programmes.[26] This means that for every unit of embodied labour and resources the South imports from the North, they have to export many more units to pay for it, thus inducing a large net flow of labour and resources South to North.

The upshot of this arrangement is that the social and ecological damages of Northern resource use are disproportionately suffered in the Global South, where the extraction and production take place, generating what scholars and activists refer to as ecological debt.[27] It also means that the South is drained of the resources necessary for meeting their own human needs and achieving

development objectives. For instance, the quantity of energy the North appropriates from the South each year would be enough to build out the necessary infrastructure to ensure that all 6.5 billion people in the Global South have access to good healthcare, housing, heating/cooling, refrigeration, sanitation, transit, internet, computers and other basic services.[28] Additionally, the quantity of land that the North appropriates from the South would be enough to provide nutritious food to 4-6 billion people, depending on land productivity and diet.[29] Instead, these extraordinary productive capacities are mobilized around servicing growth in the Global North. All told, the total quantity of goods appropriated from the South each year is worth USD 10.8 trillion in Northern prices, which would be enough to end extreme poverty 70 times over. In other words, the dual crisis of ecological breakdown and mass poverty is an outcome of the deep inequalities of the wider structure of the capitalist world economy.

## Green Growth?

We know what needs to be done. It is widely understood that rich countries need to achieve quite dramatic reductions in resource use; indeed, this objective has been recognized recently by the European Parliament.[30] Most politicians and policymakers claim this can be accomplished through "green growth," whereby efficiency improvements and technological change allow us to achieve an absolute decoupling of GDP from resource use, so that GDP rises indefinitely even while resource use declines. "Green growth" narratives have been around for half a century, with proponents always claiming that absolute decoupling is just around the corner. Unfortunately, it has never happened, and scientists now reject the claim as empirically baseless. Indeed, several comprehensive reviews have found no evidence of sustained or sufficient absolute decoupling of GDP from resource use, and all existing global models indicate that it is unlikely to be achieved in the future even under highly optimistic assumptions about efficiency and technological change.[31]

Absolute decoupling is difficult to achieve because, in growth-focused economies, gains from efficiency improvements are mobilized to expand the process of production and consumption. For instance, if a soda company finds a way to produce cans with 20 per cent less aluminium, the savings tend to be invested in increasing total unit production – such as through advertising, or expansion into new markets – to the point where the scale effect of growth (more aluminium cans) erodes the relative reduction in aluminium use per can. "Rebound effects" like this happen across the whole economy, for a variety of reasons.[32] As long as the economy is organized around growth, improvements in technological efficiency rarely reduce total resource use.

Emissions present a different problem, but one equally exacerbated by the growth imperatives of capitalism. We know that absolute decoupling of GDP from emissions can be achieved (by replacing fossil fuels with renewable energy), as this has been happening gradually in several high-income nations for some time. But this does not in and of itself represent "green growth", because when it comes to the question of emissions, what matters is the speed at which they are reduced: if we are to stay within the carbon budgets for 1.5 and 2 degrees laid out in the Paris Agreement, far more dramatic emissions reductions will be required. At present, no country is on track for this – not even the "high performing" countries, such as the UK and Sweden.[33] Furthermore, it is important to understand that high-income countries have a responsibility to decarbonize faster than the rest of the world – in other words, well before 2050 – given their disproportionate contributions to excess emissions. This principle is enshrined in the UN Framework Convention on Climate Change as "common but differentiated responsibility."[34]

Is it possible to achieve sufficiently rapid decarbonization? Yes, but it is unlikely if high-income countries continue to pursue growth at the same time. Again, as described above, more growth means more energy demand, and this makes rapid decarbonization more difficult.[35] It is harder and more time-consuming to decarbonize a larger energy system than a smaller one. This presents a problem for climate mitigation, which is evident in IPCC reports. Existing climate mitigation scenarios reviewed by the IPCC assume that all nations should continue to pursue economic growth for the rest of the century, regardless of how rich they have already become. Growth is a built-in feature of the Integrated Assessment Models on which most mitigation scenarios are designed. To square growth with the Paris Agreement goals, modellers resort to gambling on speculative technological change. Most scenarios rely on long-shot, and thus far untested, negative emissions technologies to get us out of trouble, particularly bioenergy with carbon capture and storage (BECCS). Others rely instead on the assumption that productivity improvements will drive an unprecedented decoupling of GDP from energy use. But scientists have questioned both of these approaches.[20] Scaling BECCS raises serious concerns about land use, water depletion, deforestation, biodiversity loss, and constraints on global food supply,[36] while the rates of energy decoupling that are assumed in high-productivity scenarios are not supported by the empirical literature.[37] If these approaches fail, we will be locked into a hothouse trajectory from which it will be impossible to escape.

## The Alternative: Degrowth for a Safe and Just Transition

In light of this evidence, ecological economists call for a fundamentally different approach. High-income nations need to abandon growth as a core objective, actively scale down less necessary forms of production in order to reduce excess resource use and energy use, and organize the economy around provisioning for human needs and well-being, to support strong social outcomes. This is known as degrowth.[38] Degrowth calls for a planned reduction of excess resource and energy use in high-income nations to bring the economy back into balance with the living world in a just and equitable way. The concept is supported by substantial academic literature and has been discussed in major reports by the IPCC, the IPBES, and the European Environment Agency.[39]

The first step is to realize that high-income nations do not need more growth to maintain or improve social outcomes. GDP growth is primarily a measure of the aggregate quantity of commodified goods and services produced by the economy each year, as valued in terms of market prices. There is no automatic relationship between growth and human well-being, or social progress. What *actually* matters when it comes to human well-being is *what* we are producing, whether people have access to essential goods, and how income is distributed. This explains why dozens of countries outperform the US with only a fraction of the GDP per capita. Spain, for instance, has a GDP per capita that is 55 per cent less than the US, but delivers a life expectancy that is five years longer. Portugal outperforms the US with 65 per cent less. The good news is that we know it is empirically possible to meet human needs at a high standard with much less energy and resources than rich countries presently use, and much less commodity production.[40]

What does degrowth look like in practice? Right now, the dominant assumption in economics is that all sectors of the economy should grow, all the time, regardless of whether or not we actually need them to. This is an irrational way to manage an economy at the best of times, and is particularly dangerous in the face of an ecological crisis. Instead, we should consider what forms of production we actually *need* to improve (things like renewable energy, public transportation, healthcare access

and so on) and what forms of production are clearly destructive and should be scaled down: things like SUVs, private jets, air travel, fast fashion, industrial beef, the military industrial complex, etc. We can also scale down forms of production that are organized purely around corporate profit, and which deliver no social benefit, such as the practice of planned obsolescence, whereby firms design products to break down after a short period of time in order to increase turnover, or advertising, which is quite often designed to manipulate people into feeling deficient or inadequate in order to induce additional consumption.

Of course, this will be a complicated and contested process, but it starts by recognizing that there are large chunks of our economy organized mostly around accumulation and corporate power, rather than around meeting human needs, and we would be better off without them. This approach is powerful in terms of climate mitigation because it would significantly reduce energy use, and therefore make it easier to achieve a rapid transition to renewables, fast enough to stay under 1.5 degrees, without the need to gamble on speculative technological change.[41] It would also succeed in bringing resource use down, helping to reverse other dimensions of ecological breakdown. In other words, it addresses more than just the climate crisis.

Most people would regard all of this as sensible, except for one sticking point: what about jobs and livelihoods? As we scale down unnecessary economic activity, won't this lead to unemployment? Clearly such an outcome would be politically untenable. Nobody would agree to such a future – and nor should they. Yet, ecological economists have proposed a straightforward solution to this question. As the economy requires less labour, we can shorten the working week and share necessary work more evenly. We already know that shorter working hours deliver significant improvements in well-being, health and gender equality,[42] and it happens to be resoundingly popular in opinion polls. We can also roll out a climate job guarantee. This would ensure zero unemployment, while enabling people to train to participate in the most important collective projects of our generation: building renewable energy capacity, insulating homes, producing local food and regenerating ecosystems.[43]

At the same time, we need to expand universal public services, ensuring guaranteed access not only to healthcare and education, but also housing, public transit, water, energy, internet, and nutritious food.[44] Decommodifying these core social goods is central to post-growth and degrowth policy. It enables people to access the resources they need to live good lives, without requiring ever-rising incomes in order to do so. Together with the job guarantee, these two policies help to organize productive capacity around provisioning for human well-being.

Sceptics often wonder whether there will be enough income for everyone in a degrowth scenario. The answer is yes, by definition. Income is an abstraction that represents command over goods. It is simply the obverse of the total prices of all commodities produced and consumed in the economy. There is always exactly enough income to buy everything that the economy produces. So even in a degrowth scenario, where we are scaling down less necessary forms of production, as long as we are producing what people *need*, there will always by definition be enough income to buy it. The key is to ensure that purchasing power is distributed in such a way as to ensure that all people can access the goods they require. This will be accomplished automatically to some extent by the shorter working week, the climate job guarantee and universal public services, all of which would dramatically improve the bargaining power of labour and therefore allow the working class to claim a greater share of national income (i.e., a greater share of command over the nation's goods). We can support this objective further by introducing living wage laws or minimum income standards,

and progressive taxation policies such as maximum income thresholds and wealth taxes.[45] Thomas Piketty has pointed out that taxing the rich is one of the single most powerful environmental policies we can deploy.[46] This may seem radical, but in an era of ecological breakdown, it is irrational and dangerous to devote resources and energy to supporting an over-consuming class.

Taking this approach – establishing a firm social guarantee and sharing resources more fairly – would allow us to ensure decent livelihoods for all, while de-linking human well-being from economic growth. This is the bread and butter of a just transition, and is crucial to enabling us to pursue strong ecological policies, while improving social outcomes for the majority.

## Justice for the Global South

Degrowth is not only about ecology; it is also about global justice. The demand for degrowth in the Global North has long been articulated by social movements in the South, *avant la lettre*. We can see this in the People's Agreement of Cochabamba, signed in 2010 by thousands of social movements from across the South, which recognizes that the ecological crisis is being driven by capitalist growth, and specifically by excess resource use in the rich economies. Degrowth scholarship builds on these observations, and builds on the legacy of anti-colonial thinkers like Franz Fanon, Gandhi, Julius Nyerere, Thomas Sankara, and Berta Caceres to call for an end to the patterns of appropriation that underpin Northern growth, in order to release the South from the grip of extractivism and a future of catastrophic climate breakdown. Southern countries should be free to organize their resources, labour and productive capacity around meeting human needs and achieving sovereign development rather than around servicing Northern growth. Degrowth is, in other words, a demand for decolonization.[47]

As the 21st century unfolds, we must strive for a world where everyone can live healthy, dignified lives in balance with the planet's ecosystems. This requires a radical convergence in the global economy: resource use in the North needs to decline dramatically to get back to sustainable levels, while resources in the South must be reclaimed for meeting human needs, converging at a level that is consistent with universal human welfare and ecological stability.

Achieving such a future requires putting an end to the patterns of unequal exchange that presently characterize the world economy. There are a number of steps that could be taken toward this end. One would be to democratize the institutions of global economic governance, such as the World Bank, the IMF and the WTO, ensuring that Global South countries have more control over trade and finance policy. Another would be to remove structural adjustment conditions on international finance, which would help mitigate downward pressure on wages and resource prices in the South while at the same time enabling Southern countries to build sovereign industrial capacity. Alternatively, and perhaps more directly, implementing a global living wage system, and a global system of environmental regulations, would effectively put a floor on labour and resource prices. Interventions along these lines would reduce the price inequalities that presently sustain unequal exchange, and would allow the South to capture a fairer level of income from international trade.

Such reforms are unlikely to be handed down from above, however, as they would run against the interests of the class and geopolitical factions that benefit so prodigiously from the present structure of the global economy. It is possible that enlightened political parties may take steps in this direction, or that social movements and grassroots advocacy could compel them to do

so. But there are also concrete steps that Southern governments can take – either individually or collectively – to accomplish a kind of unilateral decolonization, delinking from exploitation by Northern capital and mobilizing their resources and labour to meet domestic human needs rather than to service the interests of Northern growth. This is not easy to achieve, but insights from modern monetary theory offer pathways for how it can be done - at least in the case of nations that have sovereign control over their own currency.[48]

The first step is to reduce dependence on Northern imports where possible. For most Southern countries, the biggest import categories are food and energy. Governments can issue the national currency to fund a strategy of food sovereignty, by mobilizing land through regenerative agroecology to provide nutritious food for all, while at the same time pursuing a strategy of energy sovereignty by through renewables. This would significantly reduce governments' need for foreign currency, and thus reduce reliance on Northern creditors. To mobilize labour for these projects, as well as for other essential public services, governments can issue currency to fund a public job guarantee. This would have the added benefit of ending unemployment and ensuring that everyone has access to a decent livelihood. The second step is to build sovereign industrial capacity, using tariffs and subsidies where necessary, with production organized as much as possible around meeting national needs.[49] Empirical evidence demonstrates that countries that focus on public provisioning systems are able to achieve stronger human development outcomes than countries that do not, at any given level of economic development.[50]

To the extent that any of these policies are prohibited by foreign creditors, which is quite often the case, governments can and should take steps to default on external debts – through collective action wherever possible.[51] This might make borrowing in foreign currency more difficult for a short time, but to the extent that governments have taken steps to reduce their dependence on foreign currency, this does not matter as much as it otherwise might. Taking this approach would reduce drain through unequal exchange, but it would also make resources and labour more expensive for the Global North, and in so doing would effectively force Northern governments to pursue a transition to post-growth, post-capitalist economics, finding ways to meet people's needs with lower levels of resource use.

## Conclusion

Over the past several years, political leaders and public constituencies have awoken to the reality of climate change and ecological breakdown. There is now a mounting urgency to respond. But the challenge before us is much greater than what conventional narratives would have us believe. It is not just a matter of a technological change – some solar panels and wind turbines – while everything else stays more or less the same, such that we can carry on with growth-as-usual and maintain existing distributional dynamics. If we want to meet our common objectives of keeping global temperature rise to less than 1.5 or 2 degrees, while also stopping and reversing biodiversity loss and other forms of ecosystem damage, and if we want to do so while also ending poverty and ensuring that all people have access to the resources they need to live decent lives, this requires a more profound reckoning. It requires grappling with the core logic of capitalist growth and challenging its colonial dimensions. Empirical evidence demonstrates that it is possible to meet human needs at a good standard while respecting planetary boundaries, but in order to get there we will need to transition to a post-growth, post-capitalist economy.

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