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Regeneration first

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Regeneration First

Avoiding Climate Collapse through the Regenerative Economy
A Provocation for Business Leaders and Policy Makers
Rethinking Sustainability for the Next 30 Years
A Paradigm Shift in Corporate Sustainability
The Manifesto for Saving the Planet
Ideas to Cure Planetary Fever
Our Last Chance

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Written by Drs. Simon JD Schillebeeckx & Ryan K Merrill – Powered by Handprint

Executive Summary

Every individual who has somewhat followed the sustainability conversation over the last three decades knows we are not on track to keep global warming well below 1.5 degrees centigrade, which, scientists agree, is required to avoid the worst of the climate change. While governments and companies have recently started to escalate their commitments, often pressured by activist citizens or shareholders, the climate crisis demands more significant and more immediate action at a larger scale. Regeneration First argues that corporate sustainability should focus on significantly increasing investment in the restoration of the natural world, especially for companies that are not active in the making or moving of things. The current sustainability paradigm which pays attention to footprints, prioritizes actions that fit the "reduce, reuse, recycle" dogma and aspires only to carbon neutrality, is economically and ecologically misguided. We need to focus more on handprints, act following "reserve, restore, rewild" principles, and aspire to planet positivity to give humanity a fighting chance to thrive this century. We see this as three necessary shifts to salvage the natural world. In combination with the digital transformation which shifts the capacity to lead from large firms with economies of scale to any organization benefiting from economies of collective action, these shifts will not only drive ecological regeneration but also social rejuvenation.

Specifically, we believe that changing our attention, actions, and aspirations, we will meet increasingly powerful demands from investors, employees, and consumers. The investor community is asking for a new reporting style, away from the glossy sustainability reports and towards a data-driven, verifiable quasi live-stream of both positive and negative impacts. At once, by changing how we act, Regeneration First is able to engage more employees because it entails a more inclusive call to action than the old paradigm. Finally, consumers want companies to aspire to higher order goals and heed even louder calls for global climate justice rather than focusing on local CSR activities.

As entrepreneurs and academics working on the cross-section of digitization and sustainability, we believe the approach detailed in this manifesto is ecologically necessary and economically beneficial. The seven action shifts proposed by Regeneration First are:

1. A **shift in attention** because the focus on footprinting implies the best companies can do is less bad, instead of taking deliberate positive action.
2. A **shift in our actions** to encompass a wider set of activities and targets with a stronger emotional appeal.
3. A **shift in aspiration** level because setting the goal at carbon neutrality fails to inspire sufficient action and does not assure climate wellness.
4. A **shift in technology** that empowers smaller organizations and informal communities act in ways that benefit the natural world (1-3) as well as its human inhabitants (5-7).
5. A **shift in reporting requirements** to respond to and influence what investors pay attention to.
6. A **shift in employee engagement** by creating objectives that truly empower every employee and every profession to act.
7. A **shift in consumer expectations** that reveals a need for companies to take global action to achieve maximum impact.

Introduction

Since at least the 1990s, companies have tackled sustainability through philanthropic means and through operational changes that reduce the negative impacts associated with their production processes and products. From the vantage point of combating climate change, this approach has failed miserably. Regeneration First is a manifesto that proposes an alternative course of action.

How we combat the increase in the earth's temperature is influenced by how we talk about it[1]. The phrase "climate change" invokes different sentiments than climate collapse, catastrophe, or crisis do. Like global warming and planetary fever, "climate change" obscures that the cause is something we do as people. The term "climate change" also obscures that it is something we do to people because the subject climate (or planet, or globe) is not human-centric. The reality however is that we are both the steward and the subject, the driver and the passenger, the judge, the juror, the executioner, the culprit, and the victim.

A more accurate description of our behavior may be human sacrifice. The Aztecs considered human sacrifice as essential to their survival, so do we apparently. While for the Aztecs a solemn and rare occasion, for us it is our daily reality. Akin to our current economic system, the victims of human sacrifice are typically outsiders with little power and responsibility. Aztecs were honouring the Sun God or praying for a good harvest, while we are sacrificing humans on a different altar altogether. However, it is unclear that if people look back on our society 500 years from now, they will consider us any less barbaric than we consider the Aztecs. We need a new plan.

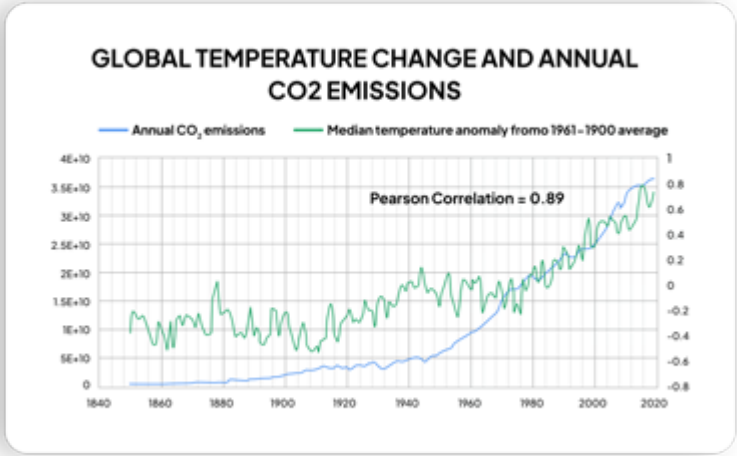
> *The way things are going right now, the most sustainable thing to do is to reuse your plastic bags to suffocate your children*
>
> *- Frankie Boyle, Comedian*

The most pressing issue of our time is arguably the increasing greenhouse gas (GHG) concentration in the atmosphere. While the greenhouse effect is a useful component

[1] *Makower, J. (2019): What's the (right) word on climate change? https://www.greenbiz.com/article/whats-right-word-climate-change*

of our planetary ecosystem[2], we started realizing in the 1950s that too many GHGs in the atmosphere may cause problems. By the 1970s, evidence of human-caused heating became clear.

In 1989, leaders all over the world came together to sign the Montreal Protocol to phase out the CFCs that were digging holes in the Ozone Layer. By then, the evidence of man-made climate change was almost impossible to ignore and we came extremely close to a global agreement on capping CO2, but we failed[3]. A few years later, Milankovitch theory on the changing temperature on earth had been empirically confirmed and scientific agreement on man-made climate change was all but total. Despite the 1997 Kyoto Protocol and the 2015 Paris Accord, we have spent the last 30 years failing to halt, let alone reverse, the GHG build-up in the atmosphere.



Nowadays, national legislatures are declaring climate emergencies as political leaders promise sweeping reforms (rarely to be enacted within their terms of office...). Citizens are suing their governments for failure to act, forcing the judiciary into action. Yet, while Montesquieu's three branches of government are starting to get their act together, it will take the tools of commerce to change the trajectory of history.

[2] *the fact that gasses like methane, CO2, CFCs, and water vapor trap heat in the atmosphere*
[3] *https://www.nytimes.com/interactive/2018/08/01/magazine/climate-change-losing-earth.html*

Witness in 2020, despite a global contraction of economic activity due to covid-19 and a temporary cut in emissions by 6.6%, we still added 34 billion tons of carbon dioxide to the atmosphere and are rapidly approaching 420 parts per million[4]. Historical records indicate that the last time the GHG concentration in the atmosphere held above 400ppm was about 3 million years ago, when sea levels stood close to 30 meters higher than today[5].

Atmospheric pollution is not the sole environmental challenge we face. Globally, our environmental footprint now amounts to 1.7 earths, meaning our collective demand for resources is 70% higher than what the earth can regenerate a year[6]. In 2021, we started adding environmental debt (by "spending" natural capital) on June 29. At once, the overexploitation of the oceans through commercial fishing and plastic pollution in combination with our unsustainable farming practices further harm the environment and threaten our food supply.

We have known about climate change for at least 50 years, and corporate sustainability has been advanced as a (partial) solution for at least as long. If we are to heed the lessons of the Easter Island and create genuine development that meets the needs of the present without compromising the ability of future generations to meet their own needs, we need a bold new vision. We call it Regeneration First.

[4] *https://www.carbonbrief.org/global-carbon-project-coronavirus-causes-record-fall-in-fossil-fuel-emissions-in-2020 ; https://www.co2.earth/ ; https://www.iea.org/news/after-steep-drop-in-early-2020-global-carbon-dioxide-emissions-have-rebounded-strongly*
[5] *http://oceans.mit.edu/news/featured-stories/5-questions-mits-ron-prinn-400-ppm-threshold.html*
[6] *https://www.footprintnetwork.org/our-work/ecological-footprint/ ; https://www.overshootday.org*

Regeneration First

> *Imagine this is for a design assignment: Design something that makes oxygen, sequesters carbon, fixes nitrogen, distills water, accrues solar energy as fuel, makes complex sugar and food, creates microclimates, change colours with the season, and self-replicates... Why don't we knock that down and write on it?* [7]
>
> *- William McDonough*

[7] *W. McDonough, Cradle to Cradle Design Ted Talks, 2007: https://www.youtube.com/watch?v=loRjz8iTVoo*

We must think differently about nature.

Regeneration First is an action principle that assigns all organizations (and individuals) the responsibility to integrate the conservation, preservation, and restoration of natural ecosystems into their daily activities and processes.
As an action principle, it challenges dogmatic beliefs that are pervasive in the corporate sustainability space. The ideas laid out here may therefore be considered provocative, naïve, or downright offensive. That's okay, we cannot solve the problems of today with the same thinking that created them.

Regeneration First asks every organization to play its part in strengthening and rebuilding our natural world and to start developing a positive impact. A focus on regeneration prioritizes the care for and restoration of the aquatic and terrestrial fauna and flora. It is about restoring the environment, so that we can give humanity a fighting chance to avoid the worst of the impending Climate Collapse.

Regeneration First shifts sustainability priorities and thus requires a new language[8]. We call for a shift in attention (Handprint), actions (Reserve, Restore, Rewild), and aspiration (Planet Positivity) to achieve different outcomes than the ones achieved in the past 30 years. While the benefits of regeneration are inherently public, organizations can own legitimate claims to regenerative contributions and in turn appropriate some returns and enjoy real world rewards. This is enabled by a digital transformation that is making it much easier for decentralized groups and individuals

[8] *https://fs.blog/2013/01/reality-is-shaped-by-the-words-we-use/*

to coordinate collective action and achieve results that are disproportionate to the resources they possess[9].

Finally, as attention shifts to handprints, investors will require new types of positive impact data and will want them faster and more reliably. As our actions shift, so does our ability to include every employee and every sector, which enhances employee engagement. And lastly, as our aspirations shift, so should companies' ambitions evolve from optimizing locally and improving process efficiencies to solving global problems and achieving climate justice. These seven shifts form the core of the Regeneration First Manifesto.

- From Footprint to Handprint
- From Reduce, Reuse, Recycle to Reserve, Restore, Rewild
- From Carbon Neutral to Planet Positive
- From Economies of Scale to Economies of Collective Action
- From ESG Reporting to Ecosystem Regeneration Feeds
- From Exclusion to Inclusion

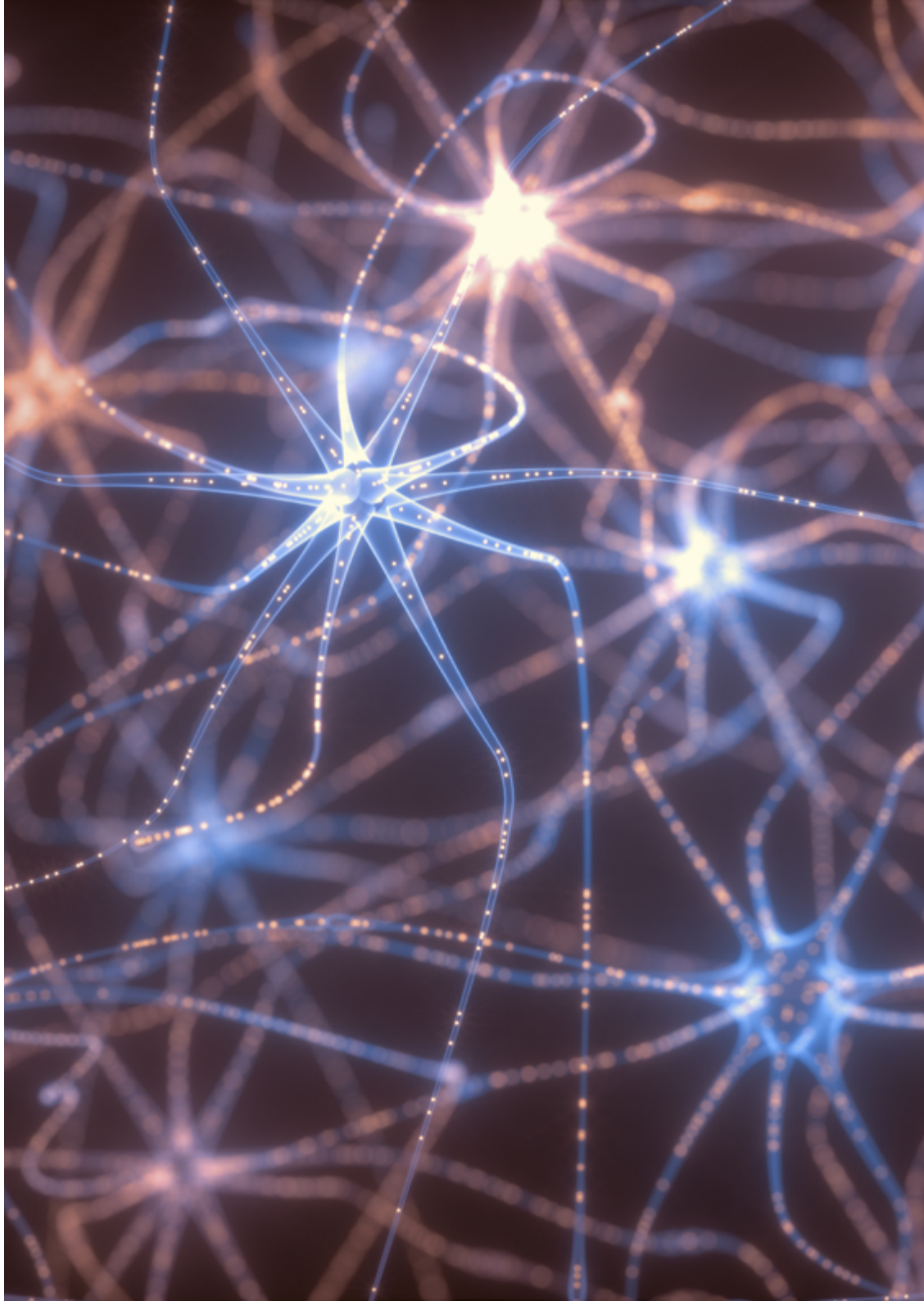
&

- From Corporate Social Responsibility to Climate Justice

[9] *George, G. Merrill, RK, Schillebeeckx SJD 2020: Digital Sustainability and Entrepreneurship: how digital innovations are helping tackle climate change and sustainable development Entrepreneurship, Theory and Practice - George, G. & Schillebeeckx, S.J.D. 2021. "Digital Sustainability and its Implications for Finance and Climate Change". MAS Macroeconomic Review April https://www.mas.gov.sg/publications/economic-essays/2021/digital-sustainability-and-its-implications-for-finance-and-climate-change*

Shifting priorities

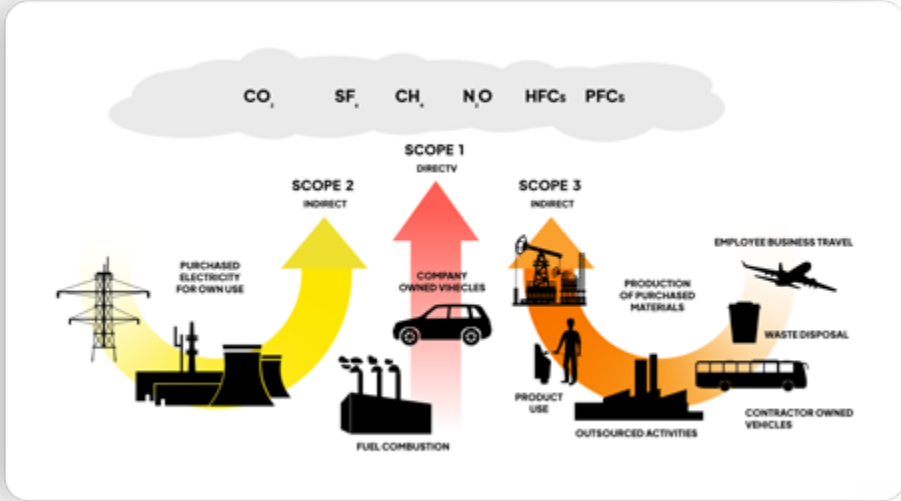
If companies put regeneration first, they would need to evolve what they pay attention to (from footprint to handprint), how they act (from reduce, reuse, recycle, to reserve, rewild, restore), and what they aspire to achieve (from carbon neutrality to planet positivity). A focus on regeneration thus shifts the priorities of sustainability work by turning the existing sustainability paradigm into a regenerative paradigm. The following three sections explain the problems in the old paradigm and how the new paradigm addresses them.



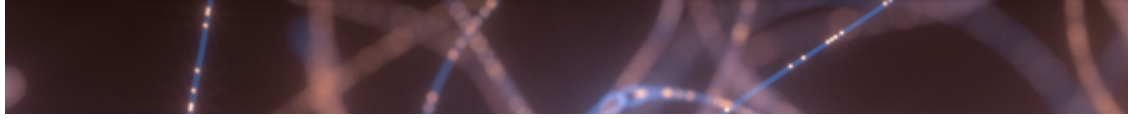
1. From Footprint

A footprint is the sum of negative impacts that are linked to a company's operations[10]. Footprints have types and scopes. The *footprint type* reflects a choice of the focal ecosystem or natural resource that is affected. The three best-known examples are the carbon footprint (focus on the greenhouse gas [GHG] effect), the water footprint (focusing on the use of different types of water), and the environmental or ecological footprint (a holistic approach to mapping all types of negative impacts on the earth). The latter offers the most holistic approach to understanding how much nature we consume but is rarely used by companies[11].

The *footprint scope* refers to the determination of a company's area of influence. For water footprints, we consider direct and indirect water usage as well as the source of water[12]. For carbon, the GHG protocol[13] has defined scope 1 as the emissions that are directly related to the company's internal processes, scope 2 as the emissions associated with the energy the company buys, and scope 3 as the emissions of all goods and services that are linked to the company's primary activities. As the company widens the scope of its sphere of influence, its power to reduce associated emissions decreases.



[10] *Footprints can also be determined for individuals, products, or countries, but we focus on companies.*
[11] *https://www.footprintnetwork.org/our-work/ecological-footprint/*
[12] *https://waterfootprint.org/en/water-footprint/what-is-water-footprint/*
[13] *https://ghgprotocol.org/*
[14] *Emissions here are used as a shorthand for all negative impacts emitted in the natural world, and thus go beyond CO2 and other GHG.*



1. From Footprint

Over the last decade, companies have become more and more interested in calculating their footprint. This exercise is useful if it is associated with monitoring of and improvement goals for processes, inputs, and products associated with high emissions[14]. Unfortunately, for many companies this is not the case. Monitoring leads to glossy sustainability reports but too often the monitors lack the power to change the direction of the company if sustainability objectives are not met. If this is the case, spending money on putting monitoring and reporting systems in place quickly becomes a poor allocation of resources.

If all companies would neutralize their scope 1 and 2 emissions, we would live in a net zero world. However, because most businesses take no responsibility for their footprint, a growing number of sustainability leaders is starting to consider scope 3 emissions as well. This is especially key when the product use phase is polluting, as is the case for the fossil fuel industry and for producers of electrical goods.

While good in intention, the mere existence of scope 3 footprint accounting, can change corporate behavior in ways detrimental to the environment. Take BP. While stakeholders applaud BP's commitment to reducing its environmental footprint and its willingness to include a broad scope of activities in its footprinting work, the simplest way for them to reduce their footprint is by selling highly polluting assets. These assets are typically acquired by smaller, non-public, entities that do not face the scrutiny of public markets and thus get away with murder. While BP's footprint plummets, the emissions associated with its now former asset are likely to go up, and we do not even know about it[15]. The focus on footprints facilitates this abrogation of responsibility.

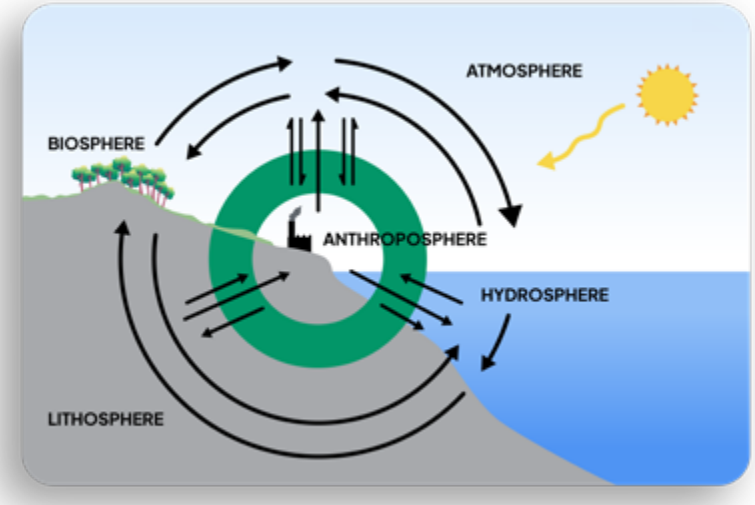
[15] *https://www.bloomberg.com/graphics/2021-tracking-carbon-emissions-BP-hilcorp/*

to Handprint

We need a shift in attention because the focus on footprinting implies the best companies can do is less bad, instead of taking deliberate positive action.

Handprint is the sum of regenerative actions taken to make a positive impact on the planet. Handprints are quantified by measuring the positive effect an action has on various ecosystems. The atmospheric Handprint of planting a mangrove measures the amount of carbon the tree will absorb, while the biospheric handprint determines the mangrove's contribution to biodiversity and the hydrospheric Handprint captures the benefits of the mangrove's roots on water while the lithospheric Handprint tells us something about how the roots stabilize the soils. Finally, the anthropospheric Handprint informs us about the benefits of a mangrove to people. We thus anchor Handprint in the ecological systems approach in which four carrying spheres (see figure) are influenced by the invasive anthroposphere and vice versa.

While a footprint focuses on demarcating boundaries of responsibility by dividing negative impacts into different scopes, a handprint focuses on the positive impacts on various ecosystems created by a deliberate action. Handprint is thus action-centric while a footprint is essentially firm-centric.



to Handprint

The action-centric nature of a handprint ensures handprints can be integrated in every business transaction (regardless of its footprint) or linked it to employee KPIs, strategic objectives, or entrepreneurs' north star metrics. As long as you can establish a link between what your business is trying to achieve and a positive action, you can start growing a handprint.

> *No one gets remembered for the things they didn't do*
>
> *- Frank Turner*

Developing nations are facing a 2.5 trillion dollar annual shortfall in SDG sectors[16]. And this is a market opportunity. World Economic Forum[17] argues there is great value in nature-based solutions for carbon sequestration. UNPRI[18] estimated the value of the NBS market to be 800 billion per year by 2050. By integrating handprints in their daily processes, companies can pioneer new business models, engage with customers in new ways, improve their reputation, and build a better brand.

Trailblazers 1

Ecosia has built its entire business model around creating a positive Handprint by making reforestation a seamless part of the online search experience.

Adidas connects its core running business to ocean clean-ups by partnering every year with Parley for the "run for the oceans" campaign.

[16] *https://unctad.org/press-material/developing-countries-face-25-trillion-annual-investment-gap-key-sustainable*
[17] *https://www.weforum.org/agenda/2019/10/rewilding-could-make-money-grow-on-trees-heres-how/*
[18] *https://www.unpri.org/news-and-press/new-investor-guide-to-negative-emission-technologies-and-land-use/6655.article*

2. From Reduce, Reuse, Recycle

Since 1975, the sustainability agenda has been dominated by Lansink's ladder; a waste hierarchy named after the Dutch politician who proposed it. Reduce encourages us to lower our consumption of natural resources, including fossil fuels and raw materials used in packaging, while reuse advocates the extension of the primary product life cycle to secondary and tertiary cycles. Finally, recycle proposes that products should be converted into raw materials again so that they can be used in similar or lower value applications (i.e., downcycle). Let us be clear, reducing energy usage, material waste, and water consumption are important and every company and individual should actively work on these.

But is it not time we stop applauding companies for changing processes that have a payback period of a few years? Too many alleged sustainability actions have a near-certain positive net present value for the company and hence implementing these measures simply makes business sense. Milton Friedman would approve. Ecologists and environmentalists should ask for more. Philosophically and practically, the relevant question is whether businesses should make investment decisions with a purely economic logic if the outcome of non-investment has a non-zero risk of "death to all". The answer is apparently not obvious.

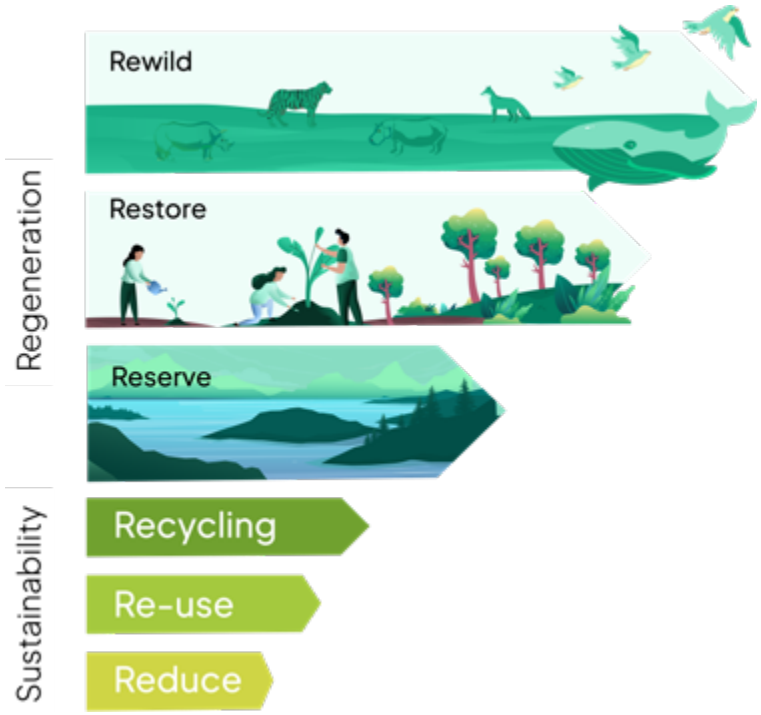
2. From Reduce, Reuse, Recycle

The key problem with the triple R approach however is not its objectives, but that it has become a sustainability dogma. The primacy of reduce, reuse, recycle has created a false belief that this is the only way of tackling sustainability. Consequently, too many companies have been excluded from taking action or have been allowed to sit on the sidelines. Companies that are not actively engaged in the extraction and conversion of natural resources (primary industries and manufacturing) have little power to reduce, reuse, recycle. While companies in the business of moving things are starting to act, specifically in terms of packaging and energy efficiency, too many organizations in the developed world are inactive. Pharmaceuticals, lawyers, government employees, marketers, tech companies, digital nomads, consultants, health workers, PR agencies, educators, banks, FinTechs, insurance companies, brokers, unions, politicians, and every SME that lacks the power to change its supply chain from the inside out are outside of the purview of triple R. That is a majority of GDP in Europe and the USA that can simply look the other way because they have very little to reduce, reuse, or recycle.
We need all companies, and especially those 21st century businesses and age-old service providers, to move beyond the triple R and engage a distinct and more ambitious set of goals.

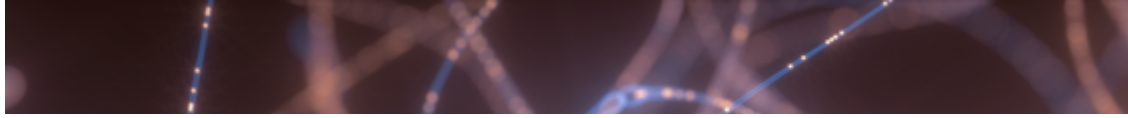
to Reserve, Restore, Rewild

We need a **shift in the actions we take** to encompass a wider set of activities and targets with a stronger emotional appeal.

Regeneration goes "beyond sustainability and mitigating harm, to actively restoring and nurturing, creating conditions where ecosystems, economies, and people can flourish"[19].
We propose a regeneration ladder.
Reserve argues we need to maintain and expand our nature reserves. Increasing the prevalence of protected nature reserves from its current 11% to 30% of the earth's surface is not only possible but even sensible economically[20]. By growing our reserves, we are finally doing what good businessmen and women, governments, and fiscal conservatives have always known: You cannot keep eating away at your capital reserves indefinitely without repercussions. Building up our reserves, implies recognition of nature reservations belonging to indigenous tribes and providing ample space for nature to re-emerge.



[19] *Wunderman Thompson (2021): "Regeneration Rising: Sustainability Futures", p. 7*
[20] *Waldron et al. (2020) Protecting 30% of the Planet for Nature https://www.campaignfornature.org/protecting-30-of-the-planet-for-nature-economic-analysis*



to Reserve, Restore, Rewild

Restore is a call for proactive, human-led, restoration of degenerated lands and waters. In the oceans, we need to restore populations of fish, sharks, whales, and plankton to allow oceans to thrive again. We need to halt plastic disposal into the oceans and clean up beaches, rivers, and creeks to reverse plastic pollution in the hydrosphere. This will require massive investments in technology as well as a behavioural revolution. At once, we need to increase surveillance of fishing practices to ensure sustainable fishing is not simply a pipedream but a reality.

On land, we need a global moratorium on deforestation and an actionable reforestation plan. There is enormous wealth to be created for the planet and for vanguard businesses that recognize this opportunity. E.g., supporting mangrove reforestation in regions like Indonesia and Myanmar costs about 3,000 USD per hectare. The carbon sequestration alone (which typically is the reason companies would support this) is estimated to be about 1,000 tons per hectare, which at current prices for "blue carbon" is worth between 8,000 and 60,000 USD. The value of ecosystem services provided by such a hectare could reach 190,000 USD[21]. It is an enormous investment opportunity.

Trailblazers 2

Restor, started by Tom Crowther's lab at ETH Zurich, is building an open digital platform to store restoration information[22].

UN Environment and **FAO** have declared 2020-2030 the decade on restoration[23]. This will incentivize millions to work towards a greener, healthier planet.

The Leaf Coalition[24], Apple's Restore Fund[25], and Livelihoods Funds[26] are just some examples of organizations that are attracting investment in regeneration.

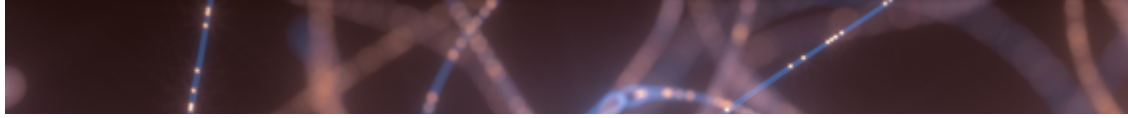
[21] *Romañach, S.S., DeAngelis, D.L., Koh, H.L., Li, Y., Teh, S.Y., Barizan, R.S.R. and Zhai, L., 2018. Conservation and restoration of mangroves: Global status, perspectives, and prognosis. Ocean & Coastal Management, 154, pp.72-82*
[22] *https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/*
[23] *https://www.decadeonrestoration.org/*
[24] *https://leafcoalition.org/*
[25] *https://www.apple.com/sg/newsroom/2021/04/apple-and-partners-launch-first-ever-200-million-restore-fund/*
[26] *https://livelihoods.eu/*

to Reserve, Restore, Rewild

Rewild is the third piece of the puzzle. Popularized by George Monbiot's beautiful narrative about the Yosemite wolves[27], rewilding requires the introduction of keystone species like wolves to reinstate a lost balance. But on top of that, it must also entail the withdrawal of humans. To truly rewild nature, we need to take our modern society out of the equation. Our inability to live in harmony *in* nature forces us to live in harmony *besides* nature. Singapore is an example of a country where large areas of its tiny landmass are simply not accessible to the public. Let the wilderness be the wilderness again as Sir David Attenborough pleaded.

> *But rewilding, unlike conservation, has no fixed objective: it is driven not by human management but by natural processes. There is no point at which it can be said to have arrived. Rewilding of the kind that interests me does not seek to control the natural world, to re-create a particular ecosystem or landscape, but – having brought back some of the missing species – to allow it to find its own way.*
>
> *- George Monbiot*

[27] *https://www.youtube.com/watch?v=8rZzHkpyPkc*



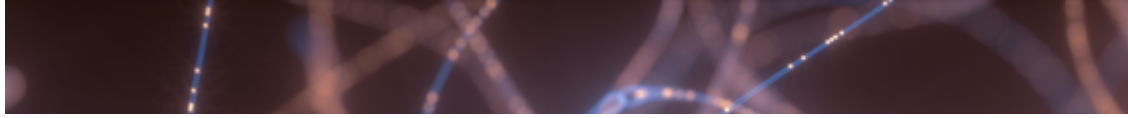
3. From Carbon Neutral

Taken to the extreme, the focus on reducing our footprint leads to unacceptable conclusions such as Malthusian population control or a return to the stone age. An equally disappointing conclusion is that the highest aspiration of sustainability is non-participation in the fate of the planet. The goal is zero impact, to leave no trace. This would make us less important than virtually any species on the planet. This abrogation of responsibility for positive care fails to inspire real effort. It fights, literally, for nothing.

The approach to carbon neutrality or Net Zero focuses on efficiency (footprint reduction) and the buying of offsets (carbon, plastic, water) that seek to neutralize the negative impacts that cannot yet be avoided. They are thus tied to the company's footprint. Metaphorically, offsets are indulgences for historical sins and determining one's footprint resembles sin accounting. Taken from the Catholic School, the celebration of guilt and the acquisition of indulgences as a way into heaven was bound to fail. The Church could not fast-track the rich into Heaven any more than the organizations controlling offsets can assure climate clemency. By starting with blame and guilt, too many people and companies simply feel they want to ignore their own responsibility because they do not want to be confronted with their own transience.

> *I need this product. It is not my fault that it has a negative impact. They should fix this problem.*
>
> *- Every person, 2021*

This simple sentiment explains the often-observed schism between stated preferences for a more sustainable planet and the revealed preferences in our purchasing behavior. We do not feel responsible for living a life that is considered normal within our own social circle. Maybe we should not?



3. From Carbon Neutral

While reducing negative externalities caused by industrial processes is extremely important, it simply is not enough. The zero-sum objective, if achieved, only *might* be able to sustain us. But people want to thrive, not sustain themselves. If all companies and individuals can do is undo harm, we will never thrive. As Desmond Tutu famously said, "he who is neutral in the face of oppression, sides with the oppressor". Neutrality can barely get the Swiss excited, let alone anyone else.

> *He who is neutral in the face of oppression, sides with the oppressor*
>
> *- Desmond Tutu*

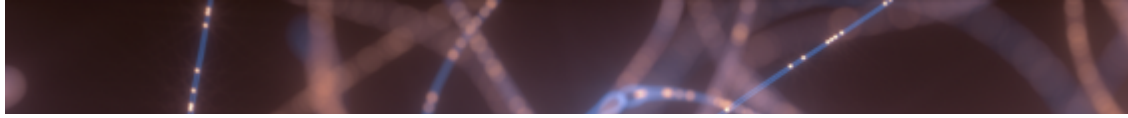
Thus, the focus on neutrality and Net Zero fails to inspire sufficient action in the fight against climate change. Not enough people are excited by a goal of zero, and struggles are not won on the sidelines. "Aiming for zero" also cognitively clashes with capitalist principles that compel organizational leaders to strive for more profit, more impact, more value. Such cognitive dissonance creates goal ambiguity, which has paralytic effects.

> *There's no problem so awful that you can't add some guilt to it and make it even worse!*
>
> *- Calvin (Bill Watterson)*

to Planet Positive

*We need a **shift in aspiration level** because setting the goal at carbon neutrality fails to inspire sufficient action and does not assure climate wellness.*

A company's actions or activities become planet positive when they contribute to the regeneration of the earth's ecosystems. Doing something active that is positive for the planet leads to increased reserves, restoration, or rewilding. Importantly, planet positive need not imply a positive balance between footprint and handprint. It is not about sin counting and edging over to the positive side. As argued, the association with guilt is something we deem ineffective. This is not to say that some companies are not more guilty of deception and responsible for environmental harm or even biocide, than others. Fossil fuel producers for instance are to blame for hiding the science and lobbying against climate action time. But we too were all too often complacent and wilfully blindfolded by their PR spinsters. Their ability to hide the truth was facilitated by our willingness to be deaf and blind to it.
Planet positivity empowers every individual, company, and government to take action to grow the earth's natural capital. It implies that, when in one supply chain, a pioneer decides to offset its scope 1, 2, and 3 emissions, the other actors do not get a hall pass. By decoupling footprint from handprint, we set companies free to engage in planet positive actions so that we can reach a point where the anthroposphere is a force for good and humanity's handprint far supersedes its footprint. This is the only way we can rebuild our natural reserves and regenerate the biomes and ecosystems that industrialized society has destroyed.



to Planet Positive

We need to align our individual, corporate, and planetary objectives with the language with which we normally set goals. We strive, we increase, we maximize, we aspire to greatness, we long to make a difference, to leave a legacy, we attempt to design things that make people better off. The language of regeneration is aspirational and inspires people. Over 80% of survey respondents from UK, USA, and China agreed that brands should focus on positive impact instead of on mere harm reduction[28]. Companies can grow a handprint and integrate planet positive actions into every business transaction.

Trailblazers 3

Microsoft follows the science and recognizes that the 2 trillion metric tons of GHGs (mainly CO2) pumped in the atmosphere needs to be removed. They argue that companies that can do more need to move beyond carbon zero and become "carbon negative". They want to remove more carbon from the atmosphere than all their operations since 1975 have emitted into it[29].

Starbucks announced its aspiration to become "resource-positive" for carbon, water, and waste by 2030[30]. Whatever the name, going planet positive is a new trend that investors reward.

Cariuma. This Brazilian shoe brand plants trees for every pair of sneakers it sells.

[28] *Wunderman Thompson (2021): "Regeneration Rising: Sustainability Futures", p. 11*
[30] *https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/*

Digitization

In some of our prior work, we explained how the convergence of digital technologies (i.e., blockchain, AI/ML, IOT, mobile, 5G, cloud) is creating incredible sustainable development opportunities[31]. Tokenizing natural capital and making it shareable, creating immutable proofs of impact, and instrumenting information about the natural world are just some examples. At a deeper level, what we are witnessing is a technological shift in a key driver of competitive advantage, away from economies of scale and towards economies of collective action[32]. This shift creates new opportunities for small-scale actors and transforms the planetary benefits that flow out of the shifting priorities towards clear people benefits that affect investors, employees, and customers.

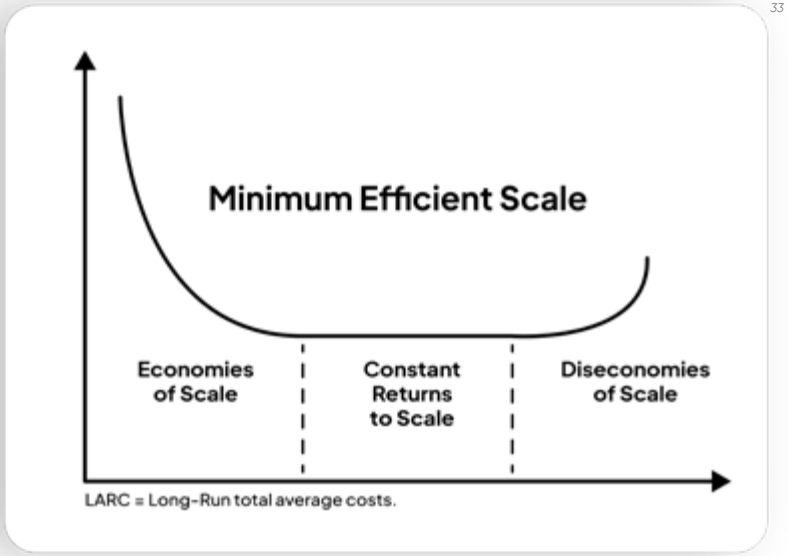
[31] https://stories.starbucks.com/press/2020/reaffirming-starbucks-commitment-to-a-resource-positive-future/
[32] Merrill, R. K., S. J. D. Schillebeeckx and S. Blakstad (2019). Sustainable Digital Finance in Asia: Creating environmental impact through bank transformation. Sustainable Digital Finance Alliance. Switzerland, SDFA, DBS, UN Environment.; George, G., R. K. Merrill and S. J. D. Schillebeeckx (2020). "Digital Sustainability and Entrepreneurship: How Digital Innovations Are Helping Tackle Climate Change and Sustainable Development." Entrepreneurship Theory and Practice: 1-28.

4. From Economies of Scale

The technologies that have powered the destructive and extractive form of capitalism since the industrial revolution have given rise to large corporations that benefit from the centralized ownership of resources and power underpinning economies of scale. Production costs came down as a company manufactured more and more goods, until a certain threshold was met where the coordination costs associated with managing an ever-growing organization would overtake possible scale economies.

Having economies of scale as the dominant growth engine has an important downside. Ballooning organizations become increasingly inert, creating at best incremental innovations that marginally improve existing processes. This tendency of large firms to exploit rather than explore is linked to their eventual demise in "gales of creative destruction"[34]. Innovation scholars have long argued that firms collapse because they persist to search for local optima while the technological trajectory of their chosen path is all but exhausted.

[33]



[33] George, G. and S. J. D. Schillebeeckx (2021). "Digital Sustainability and its Implications for Finance and Climate Change." MAS Macroeconomic Review April(Special Features): 103-109.
[34] https://www.investopedia.com/terms/m/minimum_efficiency_scale.asp March, J. G. (1991). "Exploration and exploitation in organizational learning." Organization Science 2(1): 71-87; Schumpeter, J. A. (1942). Capitalism, socialism and democracy, Routledge.

4. From Economies of Scale

Moreover, from a sustainability perspective, the search for local optima has nefarious effects because it leads to the persistent neglect of system-level optimization in which for instance by-product synergies can be achieved. A firm's footprint may need to increase to facilitate the production of a product that will be easier to upcycle and to ensure that its process waste becomes a technological nutrient in other companies' productive processes. But because those improvements happen outside firm boundaries, a footprint-focused firm will never engage in them as long as the sustainability audience ignores system-level approaches. This is why BP gets applauded by "sustainable investors" for shedding polluting assets while ecologists cry foul. By selling its most polluting assets, BP© footprint will indeed go down but these polluting assets are now in the hands of different organizations that face less public scrutiny, and hence risk becoming more polluting. At the ecosystem level, we all lose. Economies of scale as a driver of corporate success bank on the belief that the current process and way of doing things is the best possible process that simply needs to be optimized. This leads incumbents to ignore more disruptive ideas and approaches like Cradle-to-Cradle design, biomimicry, or biofabrication, all of which are needed to give our grandchildren the same opportunities we inherited from our grandparents. An important question is thus whether we have sufficient time for the normal economic boom and bust cycles to run their course? The urgency of the climate crisis requires a pragmatic answer. No. The organizations that got us into this mess will need to help us out of it.

to Economies of Collective Action

*We witness a **shift in technology** that empowers smaller organizations and informal communities to take effective action.*

Trailblazers 4

Greta Thunberg and **Disha Ravi** have used the power of protest and social networks to bring massive attention to their causes[35].

Impact Market created a decentralized dashboard to invest cryptocurrencies in positive impact projects[37].

Envirate created an app to empower individuals to rate the natural world around them. This info is used by companies to identify geographic areas for volunteering and philanthropic work[36].

For almost two full centuries, economies of scale have been the dominant force driving business success. However, with the advent of the internet and especially the recent boom in digital technologies like AI, blockchain, and mobile, the balance of power is shifting. Scale still matters (ask companies like Amazon, Alibaba, and Foxconn) of course, but digitization has enhanced our capacity to coordinate in non-hierarchical systems, which, in combination with growing environmental awareness, has empowered actors all over the world to make an impact that far supersedes the resources they control.

[35] *https://www.bbc.com/news/world-asia-india-56060232*
[36] *https://www.envirate.net/*
[37] *https://www.impactmarket.com/global-dashboard*

to Economies of Collective Action

Digitization has increased knowledge access and sharing (e.g., information storage; open source), decentralized knowledge creation (e.g., Wikipedia, distributed computing), literally freed knowledge exchange (e.g., mail, messaging, social networks), and is decentralizing value exchange (via blockchain). All these irreversible trends lead to more decentralized power. This gives businesses that are driven by a higher-level purpose, the tools to create meaningful change, irrespective of their size.

> *There is no power for change greater than a community discovering what it cares about*
>
> *- Margaret J. Wheatley*

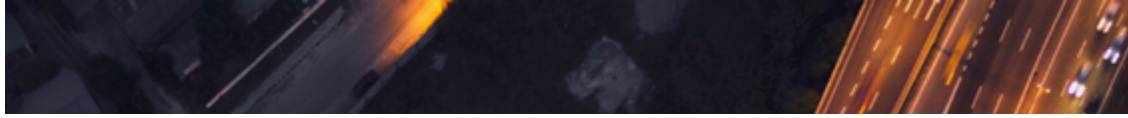
The result is the emergence of economies of collective action that compete with economies of scale[38]. This has shifted the basis of competition from valuable, rare, and hard-to-imitate resources[39] to open-source resources that are deployed to obtain collective goals. While centralized resource control and firm size previously protected against competition, now, decentralized resources accessible through large networks create significantly stronger moats.

Rather than merely extending the minimum efficient scale before coordination problems start creating diseconomies of scale, economies of collective action are driven by new dynamics. In this increasingly networked world, learning (primary driver of scale economies together with linearly growing infrastructure costs) does not need to occur in incremental ways in a single organization. Antonopoulos convincingly argued that learning and innovation nowadays happen more at the fringes of networks in a decentralized fashion[40]. This makes the trajectory of innovation less predictable (because there is less marginal innovation) but more resilient (because many actors are concurrently building new ideas). Because much of this learning (in blockchain, AI/ML, and mobile) rapidly creates public knowledge, this has accelerated innovation. These dynamics are underpinning the digital sustainability revolution that is changing how companies engage the Sustainable Development Goals[41].

[38] *George, G. & Schillebeeckx, SJD. (2021) Digital Sustainability and its Implications for Finance and Climate Change MAS Macroeconomic Review April*
[39] *Barney, J., 1991. Firm resources and sustained competitive advantage. Journal of management, 17(1), pp.99-120.*
[40] *Antonopoulos, A. (2016). The Internet of Money, a Collection of Talks by Andreas M. Antonopoulos. Volume One, Merkle Bloom LLC.*
[41] *George, G., Merrill, R.K. and Schillebeeckx, S.J., 2020. Digital sustainability and entrepreneurship: How digital innovations are helping tackle climate change and sustainable development. Entrepreneurship Theory and Practice, p.1042258719899425.*

Shifting Outcomes

We have introduced three shifting priorities that are needed to preserve, protect, and heal the natural environment we inhabit. By changing our attention, our actions, and our aspirations we can slow down climate change and hopefully avert its worst consequences. Yet, from a capitalist mindset, serving the natural environment may not seem like an appealing business proposition. However, we contend that these shifts in attention, action, and aspiration correspond well to changing demands from investors, employees, and consumers that will drive company success in next decades. The tectonic technology shift that underpins the evolution from economies of scale to economies of collective action facilitates and enables the six other shifts and connects them to each other.



5. From ESG Reporting

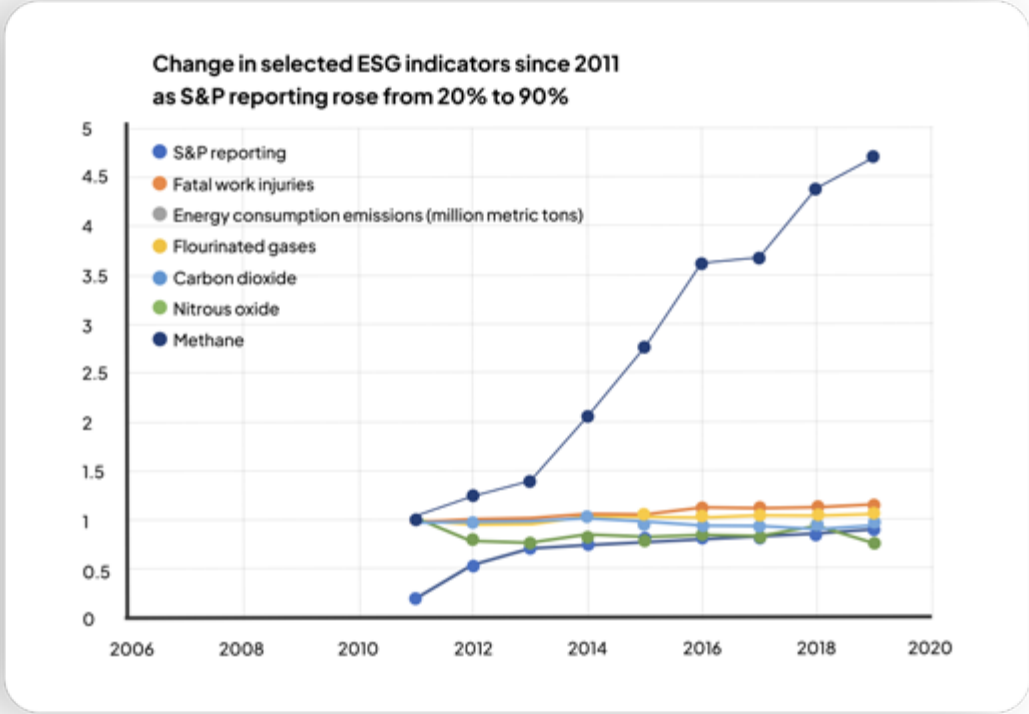
When it comes to attention, the focus on footprinting has coincided with the rise of sustainability reporting. One of the first such reports was published by Shell in 1998, under the title People, Planet, and Profit, based on John Elkington's triple bottom line. Elkington formalized Freeman's stakeholder theory by proposing that companies balance three "bottom lines". In modern parlance, the people dimension of corporate sustainability has been split up in the Social and Governance dimensions while the planet dimension persists as the environmental dimension of ESG. The profit dimension has of course not disappeared.

To make the sustainability efforts of companies intelligible and comparable, institutions like GRI and SASB have created standards for companies to follow. These standards have strongly focused attention on the reporting of negative externalities, specifically those that are associated with efficiency concerns. Under the motto "what gets measured gets monitored", the goal of ESG reporting is to make companies both internally and externally accountable to their revealed impacts. Internal accountability happens when not meeting targets results in improvement programs and budget reallocations to address the issues while external accountability focuses on the materiality of topics, the appropriateness of the target, and market repercussions for failing to meet ESG expectations.

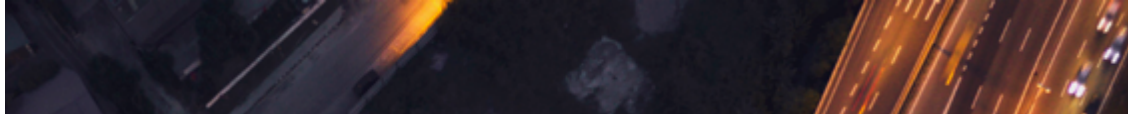
The current state of ESG reporting is summarized in KPMG's most recent trend analysis. In 5,200 sustainability reports published in 2019, KPMG noted that less than 25% of 'at-risk companies' reported on biodiversity loss, while 43% reported on the financial risks of climate change but only 20% reported on climate risk aligned with the Taskforce for Climate-related Financial Disclosures. Reporting on SDGs was found to be quite common but largely disconnected from business goals[42].

5. From ESG Reporting

More pressingly, ESG reporting has failed to address key ecological and social issues at a systems perspective. More reporting simply does not mean more progress because nowadays measurement and reporting have become ends in and of themselves[43]. It is time to change what and how we report. The figure is a painful illustration to this effect. As reporting increased from 20% to 90% between 2011 and 2019, fatal work injuries, methane emissions, and fluorinated gasses emissions rose sharply while only NOx emissions showed a marked decline (24%).



[43] *https://hbr.org/2021/05/overselling-sustainability-reporting*



to Ecosystem Regeneration Feeds

We envision a shift in reporting requirements to respond to and influence to what investors pay attention.

While the rise of ESG reporting has undoubtedly augmented awareness about social and environmental issues, the current practice has three problems that the Regeneration First agenda wishes to address.

First, companies should more explicitly account for their positive impact. This means quantifying their contributions to the environment and putting them on the books as Natural Capital Contributions[44]. From an ecological perspective, firms could consider their impacts on the lithosphere, the biosphere, the hydrosphere, the atmosphere, and the anthroposphere and report on what they are doing to build regenerative natural capital.

Second, impact reporting should not be an annual event. In the foreseeable future, investors (and other stakeholders) will expect quasi-real time reporting in the form of trustworthy data feeds instead of annual reports. Companies will need those data to manage climate risks and stakeholders will demand those be publicized on blockchains or public databases. Ideally, companies should not have exclusive control over those data, so that they cannot be tampered with. Reporting thus needs to evolve from the company-centric, glossy magazines to ecosystem-centric data disclosure with corporate attribution.

[44] To balance the books, Natural Capital Contributions can be tied to increases in reputation, goodwill, and brand value that are proportional to conservative estimates for the created value for ecosystem stocks (i.e., capital) and flows (i.e. dividend). Individuals should engage in similar actions and account for them on their tax bills. However, this report focuses on enterprises.

to Ecosystem Regeneration Feeds

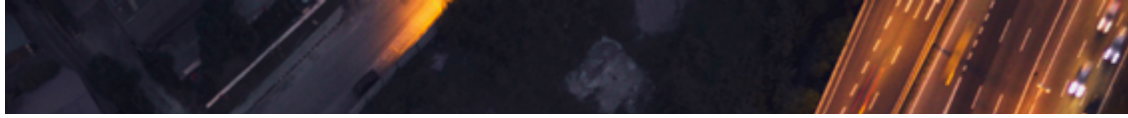
Finally, materiality reporting should evolve from what is material to the company (i.e., which ESG indicators are best aligned with the company's profit objective), to what is material for the natural world (e.g., the four spheres, the nine planetary boundaries, the SDGs). Companies should be assessed on both their footprint and their handprint and for the latter, the global urgency of the climate and biodiversity crises should be more salient than the corporate desire to operate a low impact project in their backyard.

Trailblazers 5

MIT's Sustainability and Health Initiative for NetPositive Enterprise has proposed a framework to quantify company's positive impact on the environment[45].

GreenSTACS standardizes ESG data and makes them transparent on a public blockchain[46].

[45] *https://news.mit.edu/2021/handprints-accounting-firms-positive-impacts-environment-0329*
[46] *https://stacs.io/solutions-live-industry-use-cases-esg-financing-on-dlt/*

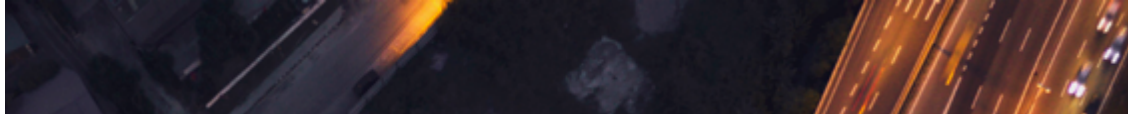


6. From Exclusion

In terms of actions, we have proposed a stronger focus on building natural reserves, restoration, and rewilding. We have highlighted that the old Triple R approach prevents lots of sectors from meaningfully engaging with sustainability goals. Moreover, because the old paradigm is rooted in an antiquated and machinist viewpoint on the goods-producing corporation that turns physical inputs into physical outputs, it leads to the de facto exclusion of most professions, jobs, and thus employees as well. US (EU) GDP from services is about 79% (75%) with employment in the sector close to 75% (67%) of the working population[47]. People who work in the knowledge and service economy are generally far removed from being able to take meaningful action in supply chains, industrial processes, and electricity consumption. While these people often have higher awareness and more disposable income, their jobs do not empower them to become agents of change. This needs to change.

Even within the manufacturing, mining, and agro-industries, the majority of employees will not have the power to make actionable decisions about how to optimize processes and material selection from an environmental perspective. This excludes an even larger percentage of employees from the sustainability movement. Looking forward, many sought after 21st century jobs (e.g., data science, marketing, e-com, services, digital goods) are also detached from the extractive and manufacturing machinery. Hence, the old approach to sustainability disenfranchises probably north of 90% of employees to take meaningful action within the scope of their jobs.

[47] *https://www.statista.com/statistics/270001/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-the-us/*
https://www.statista.com/statistics/270072/distribution-of-the-workforce-across-economic-sectors-in-the-united-states/
https://www.statista.com/topics/4095/employment-in-europe/



to Inclusion

Regeneration First enables a shift in employee engagement by creating objectives that truly empower every employee and every profession to act.

72% of gen Z only wants to work for a company with a good environmental record[48]. 40% of millennials have accepted a pay cut or chosen an employer because of their sustainability record[49]. And yet, some surveys indicate that 83% of employees think their company is not taking sufficient climate action[50].

> *Diversity is being ivited to the party: inclusion is being asked to dance*
>
> *- Verna Myers*

By putting regeneration first, every employee, and every individual, can become an active contributor to the sustainable future we need to build. This is of vital importance because eco-anxiety risks paralysing people who feel powerless to act. While people can be hopeful about the future in general, their ability to worry about things is finite and the more the climate narrative scaremongers, the less likely it results in action.

Regenerative activities are tried and tested and can create enormous engagement. In Singapore, the recently announced goal to plant a million extra trees with the help of volunteers has resulted in a massive oversubscription of volunteers. In Pakistan, PM Khan has enacted a 10 billion tree planting program to radically change the face of a nation that only had 5% tree cover before the program started. Yet the program faces livelihood challenges as people cut down trees to make firewood and most fertile land is used in agriculture[51].

Ethiopia's PM and Nobel Prize winner Abiy Ahmed announced the nation planted 350,633,660 trees on 29 July 2020, part of a larger program to plant 4 billion trees in a 3-month period. The government claims that its Green Legacy program has mobilized over 20 million people[52]. Whether those numbers pass the mustard is debatable. The survival rate of the planted trees will only be known in a few years, but the ambition to restore 15 million hectares of degraded forests is one the entire world should be grateful for[53].

[48] *Wunderman Thompson (2021): "Regeneration Rising: Sustainability Futures", p. 10*
[49] *https://www.ga-institute.com/newsletter/press-release/article/millennials-really-do-want-to-work-for-environmentally-sustainable-companies-according-to-a-new-su.html*
[50] *https://www.reutersevents.com/sustainability/employees-want-climate-positive-action-companies-heres-how-they-can-deliver*
[51] *https://www.bloomberg.com/news/articles/2020-12-17/a-10-billion-tree-plan-is-restoring-pakistan-s-lost-forests*
[52] *https://www.ecowatch.com/ethiopia-tree-planting-2646183737.html#:~:text=Ethiopia%20has%20set%20out%20to,by%20Prime%20Minister%20Abiy%20Ahmed.*
[53] *https://www.bbc.com/news/world-africa-50813726*

to Inclusion

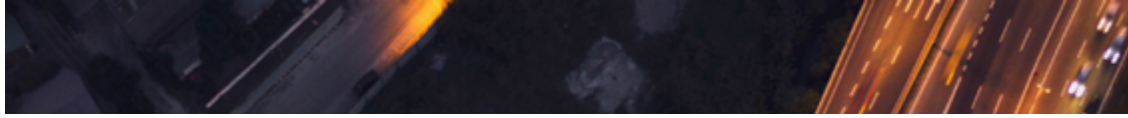
Trailblazers 6

Unilever is making sustainability a part of every employee's job description. While their focus is still on negative impact reduction, the future could become more regenerative.

Les Causantes is tying reforestation to the number of unique website visitors and **Teads** is creating planet positive advertising that links the number of digital ad impressions to positive impact contributions.

These examples show a mere glimpse of what can be done if governments start putting Regeneration First. Every company and every individual can make a similar commitment to restore part of the natural world. Companies can integrate those pledges into strategic goals, connect them to daily business processes, link them to customer touch points, or trigger them if employee KPIs are met. This will create more employee engagement and awareness, while at the same time empowering the firm to realize its broader purpose[54]. This is technologically feasible. It just requires a change of thinking about how we create impact.

[54] *George, G., Haas, M.R., McGahan, A.M., Schillebeeckx, S.J. and Tracey, P., 2021. Purpose in the for-profit firm: A review and framework for management research. Journal of Management, p.01492063211006450.*



7. From CSR

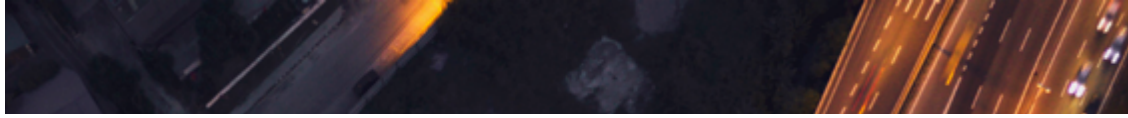
While Corporate Social Responsibility (CSR) has many incarnations including pure philanthropy and supporting employee volunteering, strategic CSR is about creating efficiency gains for the company. It is about optimizing locally within (an expansive view of) firm boundaries. Companies engage in CSR to increase efficiency (Triple R), but also to gain legitimacy and earn a social license to operate. Corporate Citizenship then typically leads companies to focus on local community support.

> *Efficiency is doing things right, effectiveness is doing the right thing*
>
> *- Peter Drucker*

More than 100 years ago, Patrick Geddes, a brilliant Scottish conservationist and urban planner, encouraged a generation of thinkers to "think globally, and act locally". This concept of getting one's house in order before tackling systems-level problems has since guided an epoch of localization of planning, action, and law. By promoting contributions to salient stakeholders in one's backyard, companies become better known in the community and are seen as good corporate citizens[55].

Supporting local communities matters in developing countries where governments are financially weak or lack the capacity or willingness to take care of their citizens at the state-level. Companies then jump in to fill the institutional voids left by failing governments. But the obsession of dealing with local problems first, while human, is flawed given the challenge we face.

[55] *Mitchell, R.K., Agle, B.R. and Wood, D.J., 1997. Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. Academy of management review, 22(4), pp.853-886.*



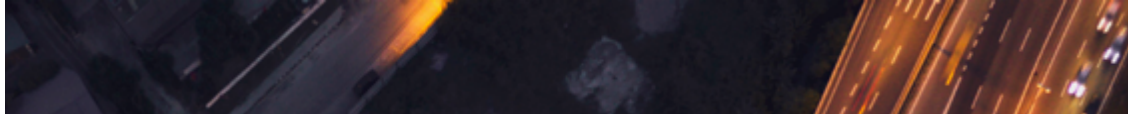
to Climate Justice

***We see a shift in consumer expectations** that reveals a need for companies to take global action to achieve maximum impact.*

The Regeneration First agenda dictates that companies should focus on system level interventions and contribute where their involvement has the largest handprint. More often than not, this is not in their backyard. This is perhaps the most important argument for why "regeneration first" should become the dominant approach to sustainability in the next 30 years. Taken seriously, it involves significant wealth transfers. The affluent North is responsible for over 90% of GHG emissions while only being home to 20% of the global population. At once, the less-affluent East and South are suffering the worst consequences. The restoration of natural ecosystems, the increase in national and international reserves, and the eventual rewilding can much more efficiently take place in Africa, South East Asia, and South and Central America than in other parts of the world. Companies must abandon their preference for dealing with local problems to the exclusion of system-level existential crises.

> *One should not look for a lighter when the house is on fire, nor should we fix the faucet in the middle of a tsunami*

Organizations should start supporting regenerative activities and integrate them into their business models. Collectively, we could move trillions of dollars to some of the poorest regions in the world. We could employ millions of people in the conservation, restoration, and protection of the environment. And yes, the financiers will be able to lay claim to the benefits of their efforts by publicly announcing that their company is now a regenerative enterprise, which will be rewarded by investors, customers, and other stakeholders. It is through these claims, which can be understood as private dividends (flow) for the investment in public goods (natural capital stock), that the Regeneration First agenda addresses the Tragedy of the Commons.



to Climate Justice

> *Environmental justice is the movement to ensure that no community suffers disproportionate environmental burdens or goes without enjoying fair environmental benefits*
>
> *- Van Jones*

For these claims to be legitimate, they must be anchored in both solid science as well as in highly scalable technologies. The old approaches of solid science alone (as e.g., initiated by Verra, Gold Standard, REDD+ in the forestry domain) can no longer be justified, simply because they do not scale down or up, thus excluding small-scale and very large-scale projects. Their bureaucratic nature is also costly, thus diverting many financial resources away from actual impact towards measurement of impact. This raises the cost of impact so much that too many companies and individuals become excluded as buyers and too many projects remain undeveloped[56]. Digital sustainability entrepreneurs using satellites, drones, machine learning, and IOT devices are on the verge of disrupting this ecosystem. They deserve our unapologetic support.

Trailblazers 7

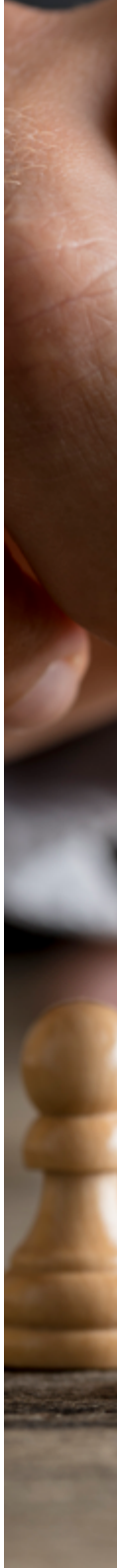
Ben & Jerry's has been an activist brand for decades, allowing their products to be inspired by themes like global warming, LGBTQ+ rights, and criminal injustice[57]. Similarly, **Nike** has spoken out against racism, famously supporting Colin Kaepernick after he took the knee during the American national anthem.

B Lab has released a climate justice playbook, highlighting the work of companies like Patagonia, Pukka Herbs, and Guayaki Yerba Mate[58]: "A fundamental mindset shift is essential. The global business community must evolve its thinking on climate action – from extractive and exploitative approaches that perpetuate a cycle of harm and injustice to equitable and regenerative ones, focused on creating sustained social and environmental well-being"[59].

[56] *Merrill, R. K., S. J. D. Schillebeeckx and S. Blakstad (2019). Sustainable Digital Finance in Asia: Creating environmental impact through bank transformation. Sustainable Digital Finance Alliance. Switzerland, SDFA, DBS, UN Environment.*
[57] *https://www.zendesk.com/blog/6-companies-tackling-social-justice-inspiring-customers/*
[58] *https://bcorporation.net/zbtcz02z16/b-lab-and-partners-release-climate-justice-playbook-business*
[59] *https://www.bcorpclimatecollective.org/climate-justice-bccc*

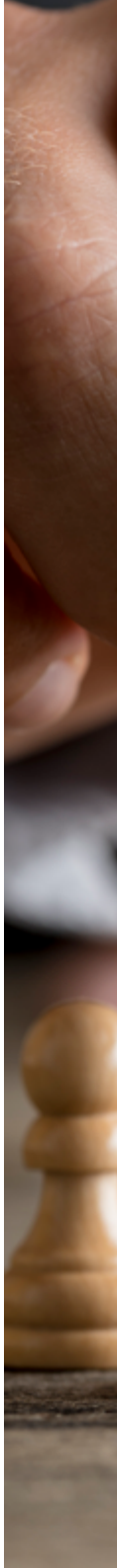
Moving forward

The Regeneration First agenda challenges the sustainability dogmas that have gotten us to where we are today. This manifesto hopes to ignite conversations among business leaders, political leaders, NGOs, and civil society that quickly turn into resolute action. We advocate for a lot more than a language shift. By decoupling footprint from handprint and abandoning the concept of corporate carbon neutrality in favour of planet positive behavior, we seek to alleviate guilt and create an aspirational objective. By challenging the legitimacy of local solutions, highlighting the shift in the basis of competition from economies of scale to economies collective action and questioning the dogmatic primacy of reduce, reuse, recycle, we hope to stimulate engagement in ecosystem growth that departs from a reserve, restore, and rewild logic and will be more inclusive, empowering all companies and all professions to become part of the solution. The latter must then be accompanied by positive impact reporting, which will be powered by the same digital technologies that underpin the economies of collective action. We have less than ten years to ensure that the next 30 years will not become known as the era in which we abandoned future generations. The time to act is now!



While governmental approaches could work, so far international and national agreements have failed to create the urgency needed and hence we must empower companies to include regeneration into their business processes. This would allow the tools of commerce to use regeneration as a competitive differentiator and appeal to the fast-rising group of conscious customers and consumers all over the world.
At the risk of being repetitive, this requires a decoupling of a company's footprint from its handprint. It is simply not defensible that large asset managers, tech companies, insurers, brokers, banks, consultancies, law firms, digital marketers, data providers, blockchain companies, and other companies with billions under management and/or billion-dollar valuations avoid their responsibility to regenerate the planet simply by virtue of having a rather small footprint. The consumption patterns they enable their employees to have are equally responsible for climate collapse as the fossil fuel and other polluting industries.

This is not about assigning blame. We need to move beyond blame and beyond sustainability and start a regenerative revolution.



It could be quite straightforward:

1 | Set an ambitious regenerative goal[60]. Ambitious means that if only 10% of the global economy would set a similar goal, the Climate Collapse can be halted.

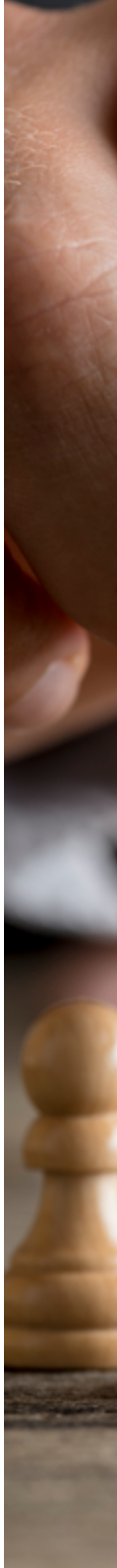
2 | Link this goal to strategic corporate and employee KPIs so that your business growth and employee engagement leads to more regeneration. That is the essence of the regenerative economy we espouse.

3 | Measure, report, visualize, and communicate your handprint. Your consumers will respond well to it. If necessary, get better shareholders and new directors or remind yours that their short-term wealth maximization is not your fiduciary duty. It is also not more important than the survival of humankind and all other species on this fragile blue planet.

4 | Think through your internal processes, your purchasing choices, and the damage you or your company does to the world. Do not get depressed. What are the key areas in which you as an individual have agency? Integrate handprints in those processes while you make them more efficient. Every change is a massive change because every change can have ripple effects that reverberate through each of the four spheres, increasing their carrying capacity over time.

5 | Start (or continue) tracking the negative impacts over which you hold some power. The portfolio of actionable negative impacts will grow non-linearly as your company's size grows. But digitization and the associated economies of collective action have empowered every small organization and every employee to become an agent of change.

6 | Start growing your handprint and report on it continuously.



[60] *We will publish guidelines on how to set regenerative goals in a future report.*

Regeneration First

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