

TRANSFORMED RELATIONSHIP OF HUMANITY WITH NATURE

The Future We Envision

Humanity sees ourselves as an integral part of – rather than separate from – the natural world. We understand that our lives and livelihoods depend on a healthy, biodiverse planet, and our ethos evolve from striving to minimize our disruptive, harmful impacts on the environment to prioritizing everyday actions that nourish nature. Widespread adoption of indigenous values like the Māori’s concept of “Kaitiakitanga” and the Haudenosaunee philosophy “the seventh generation principles” has transformed the global collective view about and interaction with the natural world, and has fostered respect for oneness with nature. These values have become embedded within political, economic, pedagogical, and social systems around the world and are reinforced in film, music, art, and way of life. Frontier technologies now deliver accessible, real-time information to people, that enable the global community to make choices that benefit the environment and reinforce collective wellbeing. Communities now expect their leaders across all levels of decision-making to work together to prioritize stewardship of the planet, channel funding towards improving ecosystem health, and ensure that these benefits are shared by all, including future generations. This holistic understanding of the oneness and seeing everything as connected and interdependent fosters collective wellbeing. In this future, a resilient, vibrant world, humanity caretakes nature to care for each other, sustaining a net-positive effect on Mother Earth.

The Future We Cannot Afford

Business continues as usual. We still see nature as a force that we can control and the Earth’s resources as a capital to exploit – vast, untouched wealth that will help fulfill our insatiable appetite for economic growth. Wellbeing and prosperity, we believe, are tied to how much we consume, and the more we have, the wealthier we feel. Indigenous values of environmental stewardship and deep respect for the Earth are ignored and regarded as primitive. Instead, political leaders discount the planet’s health and the needs of future generations to support short-term election cycles, while corporate interests and profit-driven markets continue to devalue biodiversity and ecological health. This collective failure to understand humanity’s dependence on the natural world and our responsibility to care for it leads to severe environmental degradation and unabated climate change. Rich, vibrant ecosystems that once provided life-supporting services are breaking down, unable to continue taking up our carbon emissions, regulating water, and provisioning food. Human wellbeing suffers, millions fall back into poverty, inequality intensifies, and increasing conflicts claim human lives and shatter families and communities. In this future, the tragedy of the commons accelerates at an unprecedented pace and scale, aided by frontier technologies that have been employed to fundamentally degrade the environment to sustain our ever-growing demand for natural resources.

LIFELONG LEARNING FOR ENVIRONMENTAL STEWARDSHIP

The Future We Envision

The global community embraces our collective responsibility to care for each other by caretaking the natural world. We see ourselves as guardians of nature. This commitment to environmental stewardship evolves from lifelong learning that, in part, employs nature stewardship and frontier technologies to transform existing pedagogical models. School curricula foster a sense of oneness with nature by integrating indigenous values, bringing “alternative” teachers like indigenous leaders into the classrooms, and expanding classrooms to the natural world. The global community adopts universal compulsory learning for people at various stages of their lives to caretake nature as they deepen their understanding of and oneness with nature. Learning continues through art and film, in public green spaces and community events, and across digital platforms and social movements. Young and old engage in diverse, inclusive dialogues across different generations, ethnicities, socioeconomic classes, religions, and gender identities. In these spaces, we learn to connect with all life forms around us, restoring and regenerating nature. Elected officials around the world follow our lead. They listen to those whose families have sustainably managed natural resources for generations and, in return, are generous in sharing their knowledge. This newfound respect for nature and traditional wisdom, alongside a commitment to lifelong learning from one another, enables our leaders to work together in broad-based coalitions to address environmental challenges that transcend national boundaries like climate change. At long last, nature takes center stage in the pursuit of knowledge, and we remain committed to investing in these critical learning processes.

The Future We Cannot Afford

Frontier technologies have alienated humans from nature, and environmental stewardship remains a niche value. We live in concrete jungles – dense urban centers with artificial green spaces devoid of any real connection to the natural world. Our experiences with ecosystems are increasingly limited to the digital space. Our educational system prioritises individual gain, and defunds, devalues, and sidelines environmental knowledge creation and dissemination, while also discounting indigenous and traditional wisdom. In these institutions, we may come to understand the challenges we face, from irreversible species losses to unabated climate change, but without a paradigm shift, our “solutions” are little more than business-as-usual strategies. Ultimately, we lack the knowledge, incentives, and political will to change, and promising environmental movements of the past have fizzled out. Our political leaders act accordingly, and multilateral efforts to address these challenges, particularly those that transcend national borders, remain ineffective. A growing digital divide deepens this crisis, with the world’s poorest countries, communities, and people unable to access the information they need to live in harmony with nature. Disasters loom large as the world heads towards famine, water scarcity, and natural resource conflict with little means to mitigate and adapt to these crises.

UNIVERSAL AND EQUITABLE ACCESS TO AND STEWARDSHIP OF (BIG) DATA AND FRONTIER TECHNOLOGIES

The future we envision

A (big) data revolution has unfolded, with frontier technologies generating the credible, open, and accessible knowledge needed to support greater environmental stewardship and a more resilient, sustainable world. High-quality, multidisciplinary data collection and decentralized data infrastructure is available in an equitable manner globally. Instead, we now pair cutting-edge earth observation systems with information gathered on the ground to achieve global coverage, and models with tremendous computing power enable us to better understand how our decisions will impact the natural world for generations to come. Universal and equitable access to high-bandwidth connectivity is key to these efforts, allowing citizen-science to inform local data collection, processing, and fair decision-making processes and algorithms. International legal instruments govern the application of these frontier technologies around the world, ensuring data privacy, open and equitable access to information, and the ethical use of algorithms. Algorithms are transparent and align with our priorities for safeguarding the global commons and human society. Similarly, we each have full control over our data, and throughout our education, we learn how to ethically gather and process data and use frontier technologies to address environmental challenges and minimize potential risks while maximizing benefits to global wellbeing. Through this stewardship, society uses technologies to gain a deep and profound understanding of the world for a greater good, instead of for personal gain and accumulation of wealth for few. At the same time, digital technologies have made a quantum leap and found new biological and technical solutions to increase sustainable abundance, resource stewardship and circularity.

The future we cannot afford

Large corporations maintain a stronghold over big data, using frontier technologies to unethically gather information, shroud their operations in secrecy, and infringe on individual privacy. Businesses now rely on highly discerning algorithms to categorize every human being on the planet, and to use the gathered data to expand their influence even beyond those of national or regional governments. Some sell this data, while others use it to increase their profit margins to the detriment of public wellbeing, social cohesion, and global collaboration. Regulations designed to protect people, and ensure that transparent, independent, and credible data is widely available, are practically non-existent; while data privacy laws have also been severely weakened. A few corporations control search engines and social media networks. Decisions to mitigate environmental threats depend on data that categorize affected populations based on their economic value, with little consideration given to local and cultural contexts. Lack of transparency and accountability, and an increase in misinformation due to profit-driven discriminatory data management, threaten global peace and security. Seemingly humanitarian programmes, such as connecting poor communities to high-bandwidth internet, exist solely to broaden companies' customer base or direct public opinion. The gathering and processing of data continues to consume higher and higher amounts of unsustainable energy and huge amounts of resources are spent on short-lived products that are quickly disposed and not reused.

EQUITABLY AND INCLUSIVE MANAGEMENT OF WATER AND OTHER NATURAL RESOURCES

The Future We Envision

Everyone has equitable access to the natural resources that sustain our lives and livelihoods – clean water, fresh air, and fertile land. Collectively, we conserve, restore, and regenerate the world’s ecosystems, regardless of national boundaries or any single country’s jurisdiction. We coordinate these efforts at all levels of decision-making and across sectors to eliminate harmful spillover effects, reduce unintended consequences, and mitigate conflict. Take the management of a river or a transboundary lake, for example; all citizens, cities, and countries that rely on this shared natural resource now work together to sustainably care for it. Indigenous peoples and local communities guide environmental stewardship, and policymakers continue to learn from their approaches to safeguarding the global commons. Bottom-up, community-based decision-making processes that are responsive to local realities become key governance mechanisms, and all public and private sector plans, policies, and programmes now seek to achieve net-positive impacts on nature and the wellbeing of all. Equal access to frontier innovations like geospatial technology, coupled with comprehensive, open data, has helped facilitate this transition. They enable us to maximize benefits and ensure that everyone has a say in the decisions that impact the natural resources on which they depend. A peaceful, interconnected world, in turn, helps accelerate resilient economic development, while improving the wellbeing of all.

The Future We Cannot Afford

Conflict escalates over scarce natural resources. Hunger increases as climate change compounds environmental degradation to rob once-fertile land of its ability to grow food. Noxious fumes poison the air we breathe, causing millions of premature deaths around the world. Billions of people grapple with extreme water shortages, while others struggle to escape floodwaters and relocate to higher ground. Tens of millions of people are forced to abandon their homes, communities, and cultures in search of opportunities halfway around the world. These crises stem from our collective failure to sustainably, equitably, and holistically manage the global commons. Decision-making processes become more siloed and fragmented, triggering pervasive negative consequences, spillover effects, and maladaptive outcomes. Efforts to increase agricultural productivity across the world’s semi-arid lands, for example, exacerbate water scarcity, while industrial economic development that brings jobs to some cities also releases toxic fumes that cause respiratory diseases in surrounding rural communities. We see one another as competitors, and collaborative approaches have stalled. Not only do our policymakers refuse to cooperate with one another, but they also sideline poor, already marginalized communities – those most vulnerable to climate change and environmental crises. Frontier technologies support this growing competition over natural resources, empowering those who can afford them to lay claim to the world’s remaining biodiverse ecosystems, while restricting access of others and further entrenching inequity. Absent a more participatory, equitable, sustainable approach to natural resources management, the stable Earth system we know has begun to deteriorate.

EQUITABLE MANAGEMENT OF TRANSBOUNDARY CONCERNS

The Future We Envision

We collectively conserve, restore, and regenerate ecosystems that stretch across political boundaries or extend beyond a single jurisdiction through fair, trusted multilateral decision-making processes. This transformed global governance system, which preserves the inherent dignity and equal, inalienable rights of all members of the human family, also guides our efforts to prevent the emergence of wicked challenges through collective efforts of the communities, cities, and countries to advance global wellbeing across all spheres of life. Legally binding global agreements on the equitable management of transboundary resources ensure that the transformations benefit all citizens of the world, while also protecting the rights and wellbeing of those that are most vulnerable. An international enforcement mechanism upholds this treaty, including its guarantee for dignified resettlement to all displaced people, while countries engage in collaborative and unified investigations to prevent actions that create adverse, cross-border impacts, and hold wrongdoers to account. Frontier technologies have helped make this new global governance framework possible, providing the underlying data, information, and tools needed to manage transboundary issues, such as species migration, climate change, and human mobility, effectively and equitably. Understanding the need for these collective arrangements, both technocrats and multinational corporations provide their expertise, resources, and state-of-the-art technology to strengthen global cooperation. The world is finally standing together to care for our shared planet.

The Future We Cannot Afford

Countries around the world have turned inward. “Fundamental nationalists” – those who turn a blind eye to transboundary challenges, refuse to cooperate with other world leaders, and prioritize their own political and economic interests over humanity’s collective wellbeing – have taken center stage. Their withdrawal from international treaties have severely weakened multilateral decision-making processes and defunded institutions that support global sustainability – actions that, over time, have dismantled an international governance system formerly established to address transboundary and global environmental challenges. As cooperative efforts to care for the planet crumble, competition over increasingly scarce natural resources has intensified. Ecological degradation is rampant, exacerbated by climate impacts. Prolonged, recurrent drought, extreme flooding, Category 5 hurricanes, sea level rise, and desertification have forced millions from their homes. People are faced with hunger and food insecurity, loss of livelihoods and scarcity of resources for survival. Few countries have welcomed these refugees with open arms, condemning a rapidly growing number of people to chaos and hopelessness. We are on the brink of societal collapse.

OPTIMIZED FUTURE HEALTH AND WELLBEING THROUGH HOLISTIC, ECOSYSTEM-CENTERED APPROACHES

The Future We Envision

Distinct lines between the natural world and human settlements have blurred. Our now responsive, adaptive and collaborative communities blend into ecosystems and support human health and natural flourishing. These symbiotic communities incorporate ecological flows and patterns and practices like biophilic design, one health approach, integrated food production and regenerative, circular material and water cycles. Neighborhood-type units are adapted or designed to be human-scaled and socially-cohesive and can be transformed over time based on the changing needs of its natural and human inhabitants. Diversity is weaved into the fabric of our environments, creating a variety of spaces, so people of all ages, orientations, personalities can find their niche. A balance is found between adaptability and upholding communities' cultural heritage and socio-psychological anchoring points. From cohesiveness emerges collaborative governance that enables us all to play a more active role in nurturing our vibrant, diverse local environments. The living and working environments are integrated in one's locale. Flourishing is based on a wellness index and universal, preventative and connective health, both mental and physical. This is achieved by establishing refined nutrition, green health prescription, and the wealth of the indigenous knowledge integrated with new technologies and advances in applied biomedical research.

Collaboratively governed and socially connected communities are networked and share learnings, technologies and crisis assistance. Data governance is critical in managing large-scale sensor networks that feed into big data and artificial intelligence systems to provide real-time, comprehensive information on all components of these integrated human-natural systems. At any moment, we can now access all the data we need to track ecological health and the conditions that impact it, deepening our understanding of our natural world, and fine tuning to maintain balance within the ecosystems that we call home. Political process is focused on decentralized but nested communities; larger political-geographical institutions play a guiding and supporting role for those nested below. In this world, our way of life nourishes both ourselves and the planet.

The Future We Cannot Afford

Human settlements are rapidly expanding outward, fragmenting fragile habitats, displacing species, and altering local climates. Toxic chemicals, raw sewage, and other pollutants spill out from urban areas, poisoning distant communities and ecosystems. Frontier technologies allow us to keep these harmful impacts out of sight and out of mind, deepening this false dissociation of people from nature. With these innovations, we have expanded the built environment, pushed deeper into the world's remaining primary forests to extract natural resources, and construct vaster monocultures. When an ecosystem disappears, we try to replace it, but these artificial habitats never fully replace the diverse species, patterns, and processes needed to sustain ecological health. Human health used to be at the center of health policy making with no holistic perspective of ecological health. We continue to look to technological fixes while failing to see how our destruction of the natural world has harmed our own wellbeing. Increased focus on economic benefit prevents people from accessing health services, increasing vulnerabilities and discrimination among populations. We reached a tipping point and transitioned into a future from which we cannot engineer our way out.

REGENERATIVE FOOD PRODUCTION

The Future We Envision

No one goes hungry in this future – it is the future of abundance, resilience, community, and harmony between food systems and the environment. Food is the primary currency of regenerative transformation, and food systems are aligned to deliver for people, planet and prosperity. Nutritious food abounds, is reliably accessible and affordable to all. Farmers around the world have abandoned vast monocultures and unsustainable industrial farming practices in favour of regenerative food production methods that work with nature – rather than against it – to boost crop yields, while nurturing farmlands, surrounding ecosystems and human health. No longer do we strip our fields, douse them in pesticides, or cover them in chemical fertilisers that leach into our waterways and poison aquatic ecosystems. Instead, multi-strata agroforests, traditional home gardens and dynamic intercropped, no-tillage fields are our new normal. Guided by the principles of permaculture, our food system prioritises practices that improve agroecological health by, for example, strengthening water retention, returning nutrients to the soil, and restoring local biodiversity. Waste streams are recycled within the system instead of being sent to the landfills. Scientific breakthroughs and widespread deployment of frontier technologies have also helped catalyse the paradigm shift. Innovative technology platforms harnessing artificial intelligence are able to discern soil composition and build datasets that can be used to embed regenerative agriculture practices. Now, all farmers can regularly access the information they need to assess their ecological impacts and adjust their practices as biological, physical, and chemical conditions shift. These technologies also allow growers to share best practices and knowledge with one another, while supportive policies and available finance to smallholders, in particular, incentivise the continued uptake of regenerative practices. Global public awareness is also enhanced, and the world has shifted to sustainably and ethically sourced food.

The Future We Cannot Afford

With climate change, conflict and social tensions, hunger is once again on the rise. Recurrent shocks and stresses imbalance the food systems and an unprecedented number of people suffer from severe malnourishment, particularly from the Global South. More than half of the global population faces periodic food insecurity, unable to reliably access or afford safe, nutritious, and adequate food. The world is fragile and highly dependent on global trade, only focused on monoculture crops, pesticides and harmful chemical fertilizers, leading to systemic food production failures. Conflict creates multiple breadbasket failures, causing increase in food prices, and exposing the vulnerability of our food systems. Geopolitical tensions over dwindling natural resources (such as phosphorus) are making the situation more complex. The agricultural practices we relied on for decades have robbed our soils of their nutrients, compromised human health and wellbeing, consumed our freshwater supplies, and degraded our ecosystems. We hope that frontier technologies will save us, yet these innovations only led us to double down on business-as-usual measures, and to consolidate decision-making power within a few corporations. These profit-focused companies maintain a vested interest in entrenching the status quo, using their vast wealth to prevent a shift to more sustainable, regenerative practices. As a result, we are left in a brittle and fragile world with biodiversity decline, degraded soils, water scarcity, economic instability and adverse climate change impacts, exacerbating the risks associated with changing weather patterns and other environmental challenges.

A REBUILT FINANCIAL AND ECONOMIC SYSTEM FOR NATURAL AND HUMAN PROSPERITY

The Future We Envision

The rat race is over. Around the world, negative externalities have been fully internalized, and goods and services that harm human wellbeing and ecological health are accurately and prohibitively priced. Investors have divested their capital from ventures that exacerbate the climate crisis, deepen social inequities, and spur environmental degradation, and have rerouted it to fund companies, organizations, and individuals committed to building a sustainable, resilient, and equitable world. Governments and businesses work together to mobilize innovative financial mechanisms that channel funding to regenerate life-sustaining ecosystems and guarantee a dignified life for all. A global market for transformative financial instruments helps direct resources to people in need and projects that support holistic wellbeing. In this future, poverty is an artefact of the past, and we no longer measure wealth as the acquisition of material assets, but rather in terms of attaining happiness, wellbeing, goodwill, and self-fulfillment. And economic growth now denotes an increase in sustainable, equitable and just abundance. We understand that our prosperity depends on thriving, dynamic ecosystems, and we see our own wealth as inextricably linked to the welfare of others, where no one benefits while others are suffering. This shift in how we conceptualize value has also fundamentally altered the world of work. No longer do we work long hours in pursuit of limitless economic growth, creating value for wealthy shareholders. We are instead harnessing the power of our labor, alongside frontier technologies, to have net-positive impacts on the environment and human society. The paradigm of selling time for money has been replaced by one in which individuals offer their time and talents in service of collective flourishing.

The Future We Cannot Afford

Above all else, we value the pursuit of material self-interest. Governments have written a blank check to the financial industry, allowing investors to set the rules of the game. The task of governing has largely been surrendered to corporations and private actors. We no longer believe that access to health care is a human right, that we are obligated to care for the welfare of all, or that rich, biodiverse environments are a public good. We have instead commodified everything, and the chasm between the haves and the have-nots has widened. Insurance gaps have also widened, leaving billions more vulnerable to the ravages of the worsening crises. Now, access to pristine nature is a private luxury available for purchase by a wealthy minority. Clean water, air, and land are traded and sold to the highest bidder. Rampant greenwashing and reinforcement of tropes valorizing profit and greed dissuade the rich from empathizing with the poor and taking steps to create more equitable economic and financial systems. Resentment between those who have been left behind and those who have profited from the status quo financial system is growing, and conflict is the order of the day. The wealthy hire for-profit mercenaries to protect themselves and their property, including many of the world's remaining healthy ecosystems. Investors are pouring their capital into frontier technology firms that can entrench their power. Financial technologies are heightening natural resource scarcity and allowing the elite to further profit, while stakeholders investing in innovations that restore or, to a limited degree, replace once-free ecosystem services have made billions. Communities or natural resources deemed invaluable are lost forever, and Earth is fast becoming uninhabitable.