

MAKING NATURE MARKETS WORK

Shaping a Global
Nature Economy
in the 21st Century

October 2023

EXTENDED REPORT



About the Taskforce on Nature Markets

The Taskforce on Nature Markets was established in April 2022 to support the development of a new generation of purposeful nature markets, so that they deliver nature positive and equitable outcomes, and in so doing contribute to meeting climate goals.¹

The rise of nature markets does not automatically guarantee better outcomes. Indeed, left simply to evolve in their own way they could even make things worse. The Taskforce believes that the sort of recommendations set out in this final report—aimed at the carefully implemented, well-designed nature markets—are therefore essential for nature markets to achieve their considerable potential.

Guided by its 15 high-level members² and supported by its knowledge partners³ and secretariat⁴ - NatureFinance,^{5, 6} the Taskforce has mobilised analysis and debate on nature market trends and prospects. It has undertaken and commissioned multiple technical papers covering many aspects of nature markets,⁷ including a taxonomy of nature markets⁸ and a quantitative landscape analysis of the current size of each main type of nature market.⁹ Beyond this, it has focused on four market archetypes: large, mature, intrinsic nature markets - notably food commodities;¹⁰ emerging derivative nature markets - such as biodiversity credits;¹¹ illegal nature markets; and the nature-related activities of mainstream financial institutions.

Nature markets and the broader nature economy or “bioeconomy” have become even more visible over the Taskforce’s brief lifespan. From Australia to Brazil to the UK, nature market debates and practices have become more contested. The Taskforce has ultimately focused on the governance aspects of nature markets as the centrepiece of its analysis and recommendations, which include the development of a common framework for assessing and progressing the governance of specific nature markets, in-depth consideration of specific governance instruments, including legal innovations¹² such as the Rights of Nature¹³ and the application of digital technology to improve traceability and accountability.

The Taskforce’s findings and recommendations highlight the relevance for nature of both shifting geopolitics¹⁴ and a growing realisation that we are on the brink of global temperature rises well in excess of the targeted, and comparatively safe, 1.5 degrees Centigrade.

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The Taskforce on Nature Markets is an initiative of Nature Finance which also hosts its secretariat. NatureFinance is a Geneva-based, international not-for-profit dedicated to aligning global finance with climate resilient, equitable and nature positive outcomes. Its work spans initiatives that are building and using biodiversity data to better manage nature related risks, developing purposeful nature markets, advancing financial innovations including in sovereign debt markets and strengthening nature-related liabilities.

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**Nature
Markets**

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Whilst these many people and institutions have contributed to the work of the Taskforce, they do not necessarily agree with all aspects of its findings and recommendations, and any errors and omissions in its final report remain the responsibility of its authors.

Whilst the Taskforce is time-bound and will come to a close with the launch of its final report, the topic remains very much alive and in continuous development, and NatureFinance is committed to continuing and intensifying efforts to turn the Taskforce's recommendations into practice. With this in mind, we welcome all comments, feedback and suggestions, which can be channelled to us at naturemarkets@naturefinance.net.

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List of Abbreviations

ACMI	African Carbon Market Initiative
ADM	Archer Daniels Midland
AFOLU	Agriculture, Forestry and Other Land Use
AML	Anti-money-laundering
AMMOD	Automated Multisensor stations for Monitoring of species Diversity
ARMM	Automated Regression Market Makers
BCA	Biodiversity Credit Alliance
BNG	Biodiversity Net Gain
BOJ	Bank of Japan
BRICS	Brazil, Russia, India, China, and South Africa
CBAM	Carbon Border Adjustment Tax
CEA	Controlled Environmental Agriculture
COP	Congress of Parties
DLT	Distributed Ledger Technology
ESG	Environmental, Social and Governance
EU	European Union
FATF	Financial Action Task Force
G20	Group of Twenty
G7	Group of Seven
GDP	Gross Domestic Product
GBF	Kunming-Montreal Global Biodiversity Framework
IIED	International Institute for Environment and Development
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPLC	Indigenous People and Local Communities
IFRS	International Financial Reporting Standards
IUCN	International Union for Conservation of Nature
KPI	Key Performance Index
LEAF	Lowering Emissions by Accelerating Forest Finance
LMIC	Low- and Middle-Income Countries
NCAVES	Natural Capital Accounting and Valuation of Ecosystem Services
NFT	Non-Fungible Token
NGFS	Network of Central Banks on Greening the Financial System
NGO	Non-Governmental Organisation
NSIP	Nationally Significant Infrastructure Projects
OECD	The Organization for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
OTC	Over The Counter
SEEA EA	System of Environmental Economic Accounting Ecosystem Accounting
SME	Small and Medium-Sized Enterprises
'Taskforce'	The Taskforce on Nature Markets
TCFD	Taskforce on Climate-related Financial Disclosure
TNFD	Taskforce on Nature-related Financial Disclosure
UK	United Kingdom
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNCTAD	United Nations Conference on Trade and Development
VCM	Voluntary Carbon Market

1

**GETTING
NATURE
MARKETS
RIGHT**



GETTING NATURE MARKETS RIGHT

With our world on the brink of climate and biodiversity emergency, humanity is finally waking up to the disastrous consequences of our unsustainable overuse of nature in delivering economic prosperity (albeit unequal and temporary). This pathway can and must be reversed, building on societies' diverse ways of conserving nature, including culture and norms, policies and regulations, incentives, and technologies.

One part of the solution is to begin accurately and consistently pricing the value of nature in economic decision making across the global economy. This could incentivise nature-conserving market behaviour, help mobilise billions of dollars to protect and restore nature, and fairly reward those on the frontline of stewarding it, including Indigenous Peoples and other local communities.

The rise of nature markets can play a central role in reshaping our unsustainable economy if, and only if, their design and governance is rooted in a radical and robust commitment to impact and equity.

In this way, they could help to reverse extractive economic patterns that for centuries have enriched some people and countries, largely in the Global North, at the expense of citizens and countries of the Global South, and at the expense of our planet.

Without this pivot, there is a serious risk that the current enthusiasm for nature markets could cause further damage to nature, worsening the climate crisis and deepening existing inequities. The Taskforce on Nature Markets was launched in April 2022 to identify and highlight the potential and dangers of the rise of nature markets and to set out what needs to be done to ensure that emerging nature markets advance equitable, nature positive outcomes.

There are seven major recommendations, and many more detailed specific recommendations, set out in this final extended report which range from securities design to governance and regulation. These recommendations can help avoid the worst outcomes and instead make new and expanded nature markets a key driver of a Just Transition to a sustainable post-carbon economy in which all humanity, and nature more broadly, can thrive on a healthy planet.

"Without nature there is no life on our planet nor a sustainable economy – it is fundamental that Indigenous peoples are in the driving seat of designing and governing nature markets."



**Chief Almir
Narayamoga Surui**
Leader of The Paiter
Surui People

Exhibit 1**Recommendations to
Make Nature Markets Work****1****Aligning economic
and financial architecture
with an equitable, global
nature economy**

Action to align the international economic and financial architecture with the imperative of advancing an equitable, global nature economy.

2**Policy alignment
of central banks
and supervisors**

Action to broaden the mandates of central banks and supervisors to require them to ensure that actions by financial actors, markets and systems are aligned with relevant government and international policy commitments on nature and climate.

3**Aligning public finance with
the needs of an equitable,
global nature economy**

Action to align public sector financial management with international nature commitments crystallised in the Kunming-Montreal Global Biodiversity Framework.

4**Making food commodity
markets accountable to
people and the planet**

Action to make soft commodity markets more accountable for people and the planet – as the world's largest and most impactful nature market - that notably facilitates the global trade of food.

5**Securing improved
economic benefits for
nature's stewards**

Action to form one or more nature sellers' clubs comprising either/and nature rich sovereign nations and groups of Indigenous Peoples and local communities to deliver high integrity nature at agreed or, if necessary, imposed prices.

6**Addressing the
harmful impacts
of nature crimes**

Action to reduce the incidence and impact of nature crimes by establishing a requirement for investors and financiers to demonstrate that their financing value chains are nature crime free.

7**Converging
measures of the
state of nature**

Action to establish a common approach to measuring and making publicly available the state of nature anywhere on the planet.

2

**TODAY'S
INEQUITABLE AND
UNSUSTAINABLE
NATURE
ECONOMY**



100% of today's global economy is 100% dependent on nature.

In addition to the food we eat, the water we drink, and the air we breathe, nature includes all living things and the minerals under our feet. It is ever-present in the stuff of our homes and mobile phones, the movies we stream, and how we manage our health and consumption of energy.

The annual unpriced cost of nature used by the global economy (through greenhouse gas emissions, water use, land use, wild species use, pollution, waste, etc) was calculated by Trucost in 2013 at 13% of global GDP.¹⁵ Likewise, the World Bank estimates that our roughly US\$105 trillion a year global food system generated in 2019 US\$6 trillion annually in costs, equivalent to over 7% of the global economic output that year, mostly driven by malnutrition, food loss and waste, food safety, land degradation, and the greenhouse emissions from current agricultural (non-land related) practice.¹⁶

In other words, if the global economy was a single company that had to price in today's negative externalities, it would be technically insolvent.¹⁷

And that is exactly what the global economy is – inequitable and unsustainable in its current form to the point where 1.6 planets are required to feed the economy's current impact on nature, according to Professor Sir Patha Dasgupta's landmark *Economics of Biodiversity Review*.¹⁸

Biodiversity is being destroyed at an unsustainable scale and pace.

As the Chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) concludes: "Biodiversity is being lost and nature's contributions to people are being degraded faster now than at any other point in human history".¹⁹

This destruction is accelerating both the climate crisis and an alarming loss of biodiverse ecosystems, intensifying inequality, and undermining financial stability and food security.²⁰

The numbers are astonishing, even in a world overwhelmed by fear-inducing data:²¹

Global biodiversity has declined by 70% since 1970, according to the World Wild Fund for Nature's authoritative Living Planet Index.²²

The world has already lost a third of its forests – an area twice the size of the United States.²³

A garbage island the size of India, Europe and Mexico combined, floats in the Pacific Ocean, mostly comprised of plastics.²⁴

Every hour, 1,692 acres of productive dry land become desert.²⁵

Populations of freshwater species have declined by 83% in the past 50 years.²⁶

The unsustainable use of nature underpins structural economic inequalities.

Nature rich countries, rural communities, and Indigenous Peoples have been systematically disadvantaged by the unsustainable use of nature. This history has been marked by political and economic dependency, military conflict, and human rights violations. In the process, it has set the stage for — and continues to reinforce — the current economic, social, and political imbalances between developed and developing countries, and, more broadly, the Global North and Global South.²⁷

There are few robust estimates of the extent of this historic transfer of economic wealth due to the unsustainable use of nature. According to a 2021 study, between 1960 - 2018, the Global North appropriated from the South a total of US\$62 trillion constant 2011 dollars, or US\$152 trillion²⁸ (in 2011 dollars) in commodities when accounting for lost growth.

This extraction pattern has largely continued. In 2022, it was estimated that between 1990-2015 the Global North's net appropriations from the Global South amounted to 12 billion tons of embodied raw material equivalents, 822 million hectares of embodied land, 21 exajoules of embodied energy, and 188 million person-years of embodied labour, valued at US\$10.8 trillion in international prices.

That amounts to enough money to end extreme poverty 70 times over, and enough energy to cover the annual requirements of building infrastructure to meet the needs of 6.5 billion people in the Global South.²⁹

Another study estimates that the historic total drain from Global South to Global North is equivalent to a quarter of all the GDP ever generated by wealthier nations.³⁰ It is perhaps not surprising then that there are growing calls for 'loss and damage' payments for the historic depletion of nature that has benefited wealthy consumers and nations.³¹

Moreover, many countries emerging from under-development have succeeded in doing so, at least partly, through the continued unsustainable use of nature. This has brought with it nature-related development crises, from shortages in the availability of potable water to the deterioration of major biodiversity land and seascapes including major parts of the Amazon and Congo Basin, as well as the Asia-Pacific Ocean, which covers 40% of the world's surface.

The prevalence of this industrial development model in nature rich countries — while historically understandable — has further reinforced national and global patterns of inequality, while continuing to exacerbate the nature and climate crises.

“Nature markets cannot be addressed piecemeal, we need a complete system reset to deliver an equitable, nature positive economy in service of people, planet and prosperity.”



Sandrine Dixon-Declève
Co-President of the
Club of Rome

Efforts to conserve and restore nature may reinforce these structural inequalities.

As the implications of the catastrophic depletion of nature become more apparent, efforts are growing to protect economic prosperity where it currently exists by restricting the over-use of nature, both domestically and internationally. Government-driven policy initiatives have been amplified by growing amounts of civil society litigation, often targeted at increasing domestic climate action but with significant implications for nature. One example is when the Dutch Supreme Court ruled in 2019 that the Government had a duty to implement its climate change commitments, which had significant implications for reduced domestic dairy farming and increased rewilding in the Netherlands.³²

More recently, these efforts have been met with a growing backlash across the Global North. For example, the pushback in the US against action on climate and Environmental, Social and Governance (ESG) investment screens, and growing resistance in the EU to the additional costs (at least in the short to medium term) associated with the more ambitious aspects of the new EU Nature Restoration Law.³³

Internationally, there are growing fears that climate and nature-focused policy initiatives will constrain development opportunities. One example of this is the zero-deforestation requirement being imposed by the European Union on its corporate community. Many developing countries argue this will unfairly place much of the burden of the cost of transition to a post-carbon economy on poorer but nature rich nations, especially commodity exporters.³⁴ Another example is the new EU Carbon Border Adjustment Tax (CBAM) mechanism, which will introduce tariffs on carbon-intensive imports, often from lower income countries. While these efforts may achieve some of their short-term intended impacts on climate and nature, if designed and applied in crude and unilateral ways, they will fail to account for negative equity and political impacts in poorer, nature rich countries and may ultimately be counter-productive.

“We are entering into an era of political and legal battles of jurisdictions, with nature and climate as the centre of gravity, resulting in new forms of trade and protectionisms becoming viable again.”



Carlos Lopes

Professor, Mandela School
of Public Governance &
African Climate Foundation
Advisory Council Chair

Securing nature's contribution to tackling climate challenges is essential.

The unsustainable use and destruction of nature, combined with the direct impact of climate change on people and the planet, is precipitating a multi-faceted crisis, which the nature-climate nexus is core to addressing:

Food security is increasingly at risk, impacted by water scarcity, land encroachment, declining soil productivity, and species extinction on land and at sea. More than 800 million people do not know where their next meal will come from, according to the World Food Programme.³⁵

Human encroachment on wider nature increases the risks of cross-species diseases and pandemics, exemplified by the human tragedy and extraordinary economic costs of COVID-19.³⁶

Strategic minerals critical to the green economic transition are increasingly a focus of economic and potentially militarised competition, already leading to devastating social and environmental impacts.³⁷

“Earmarking funds for new environmental projects is not enough. Countries must also stop subsidising nature-harming industries and deploy national resources to support sustainable activity that can change the trajectory of the global economy.”



Carlos Manuel Rodriguez
CEO and Chairperson of the
Global Environment Facility

Exhibit 2 Nature's health is essential to tackling climate challenges

Nature and climate are indivisible when it comes to efforts to restrict the rise of global temperatures. This is most critically true of nature's capacity to absorb and store carbon. The world's vegetation, from Amazonian rainforests to Eurasian grasslands, is estimated to hold around 450 billion tonnes of carbon today, equal to the amount that humans would pump into the atmosphere over 50 years at current emissions rates.³⁸ According to the Intergovernmental Panel on Climate Change (IPCC) natural terrestrial ecosystems absorbed around one-third of anthropogenic CO₂ emissions from 2010 to 2019.

Nature also directly impacts our climate. Trees are estimated to reduce global warming by one third of a degree through the humidification of air.³⁹ Oceans not only absorb around one quarter of global carbon emissions but also capture 90% of the excess heat generated by them.⁴⁰

There are key examples of how effective wildlife can be as natural carbon sequesters, from the largest mammals to the smallest insects.

Elephants, for example, ingest large amounts of carbon-rich vegetation as they forage. When they defecate, this carbon is returned to the soil in the form of dung – which can then be used by other plants for growth. Mangroves and seagrass are not only carbon sequesters but also protect against the worst impacts of flooding, helping to retain soil nutrients and active biodiverse marine and terrestrial ecosystems.

Protecting and restoring nature therefore plays a vital role in buffering communities – particularly those in the most vulnerable areas – from climate risks and extreme events.

The statement that ‘nature is local’ is dangerously wrong.

There are grave global implications to the unsustainable and inequitable use of nature. The inter-linked nature and climate crisis is already posing existential risks to a growing number of countries. Climate impact and nature destruction do not respect national borders. The direct and indirect effects from the climate crisis, now and cumulatively over time, is creating a vicious cycle that exacerbates unsustainable debt and ongoing fiscal instability in low- and middle-income countries, precipitating social and political unrest, undermining livelihoods, and economic disruption. All of this tends to weaken the resolve and capabilities of countries to effectively steward nature, independently and collectively, at the very moment the world needs it most, and adds to local and international financial incentives to utilise illegal nature markets. The domestic challenges of nature rich countries that are struggling to combat the climate and nature crises while staying economically afloat will continue to compound over time. This will have exponential impacts on global efforts to stem temperature increases and nature loss.

Such upheaval would be hard to contain, let alone reverse, under optimal conditions. Yet global temperatures are likely to exceed 1.5°C, enhancing extreme climate events, further exacerbating trans-national humanitarian crises and placing pressure on every collaborative platform and instrument of governance from the local to the global level. As these unprecedented nature and climate-driven shifts increasingly upend the geopolitical order, uncertainty is certain to increase. This will increasingly call into question our ability to collectively confront the ever more global twin crises of climate and nature.

Making nature count is essential to achieving a more sustainable and equitable global economy.

Recognising nature's intrinsic and economic value is an existential need. Taking this agenda seriously requires us to embrace the need to transition the global economy away from its current addiction to the unsustainable use of nature. This requires radical changes to the shape of businesses, markets, and economies. And whilst beneficial to everyone, there will be winners and losers. For such a massive shift to be a genuinely Just Transition, it will require a fundamental reset of the terms of trade between nature and other parts of the global economy, and between the Global North and Global South, with far more of the global economic cake going to nature's stewards, including sovereign nations, local communities, and Indigenous Peoples.

“An international nature markets governance framework would enable financial, scientific and government communities to work together on protecting marine and terrestrial health, climate resilience and food security for billions of people.”



Bruno Oberle
Director General, International
Union for Conservation
of Nature (IUCN)

3

**THE RISE
OF NATURE
MARKETS**



THE RISE OF NATURE MARKETS

The idea that nature should be valued explicitly in economic activities is catching on.

Recent years have witnessed a major shift towards counting nature properly in markets to drive positive and equitable outcomes, rather than under-valuing it or ignoring it entirely.⁴¹ This pivot towards ‘nature markets’ – in which an explicit economic value of nature is identified and can be traded – is being catalysed by four main drivers: public awareness and citizens’ intrinsic valuing of nature; the increasingly visible negative impacts of nature’s fragile condition; a growing understanding of the dependency of economic assets on nature; and an explosion of cheap and timely biodata making clearer the true condition of nature.

Nature markets take many forms, sizes, and impacts.

These four drivers are being reflected in increasingly scaled nature markets, both via directive policies and as a de facto result of business and technological innovation. We have developed a taxonomy of nature markets to distinguish the principal forms (see Exhibit 3).

“Game changing data innovations like geospatial insights and ground truthing are giving investors the power to measure, monitor and manage nature-related risks and opportunities with a level of transparency and precision not yet seen before in the market.”



Vian Sharif
CEO of NatureAlpha
and Head of
Sustainability
at FNZ

Exhibit 3 The Many Forms of Nature Markets – a Taxonomy

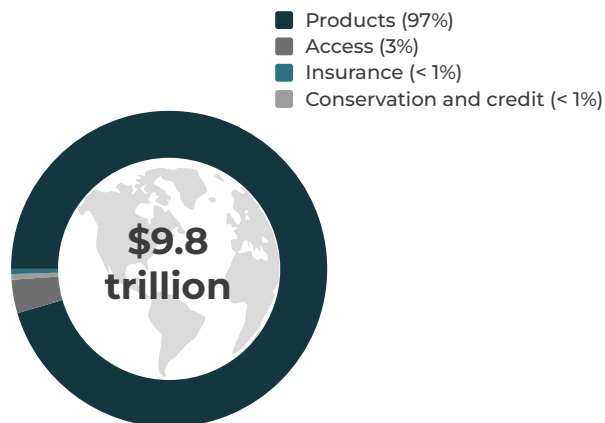
Type	Description	Category	Traded element	Segments
Asset Markets	Markets in which the right to use ecosystem assets with long-lived value are traded	Real assets	Rights to use an entire ecosystem asset and resulting services	Agricultural land, timberland, water rights, biodiversity IP, additional ecosystems assets
Intrinsic Markets	Markets in which provisioning, regulating, or cultural ecosystem services are traded	Products	Use of provisioning services	Hard and soft commodities, legal and illegal wild species trade, genetic materials, water rights leases
		Conservation	Conservation of nature for direct economic benefit or altruistic value	Payments for ecosystem services, overseas development aid, philanthropic grants, sustainability-linked debt
		Access	Access to/use of cultural services	Wildlife tourism
Credit Markets	Markets in which credits that reflect efforts to enhance or conserve ecosystem assets or services are traded	Nature-specific credits	Credits that reflect the value of ecosystem services	Mitigation banks, water quality credits, voluntary biodiversity credits
		Nature-related carbon credits	Credits that reflect the value or carbon sequestration or storage	Nature-related voluntary carbon credits, AFOLU sector compliance carbon allowances
Derivative Markets	Markets for financial products which directly reflect ecosystem values or ecosystem risks	Financial products	Financial products directly tied to ecosystem assets or services	Commodity derivatives, nature-related insurance, wildlife NFTs, biodiversity loss insurance, securitization of ecosystem assets, water futures

Source: Taskforce on Nature Markets and Vivid Economics (2022)

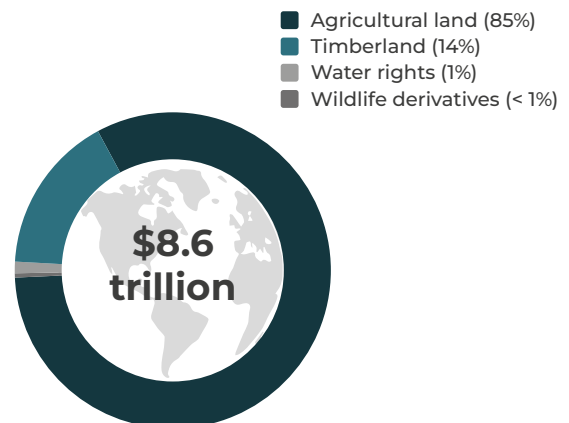
By far the largest nature markets are what we have called ‘intrinsic’ nature markets, which enable the trade of nature itself — namely agricultural products and minerals, seafood and other products derived from wild species, oil and gas, commonly understood as the world’s commodity markets (see Exhibit 3). There are markets that trade **nature assets**, notably land rights but also freshwater rights. There are public purpose ‘**credit**’ markets aimed at carbon reduction and now also biodiversity, which can seek to satisfy compliance requirements or simply conserve and invest in nature. And then there are **derivative markets**, which trade financial products that enable conservation and investment in nature or seek to mitigate and manage nature-related risks.

Exhibit 4 Overview of Nature Market Size and Distribution

Annual value of traded goods and services
2021 USD trillion / year



Privately owned asset value
2021 USD trillion



Figures exclude commodity derivatives, as market size is measured using non-comparable metrics.

Source: Taskforce on Nature Markets and Vivid Economics (2022)

“Biodiversity credit markets can help ensure private sector financing is leveraged to protect and restore nature, as long as they are scaled for integrity, impact, and equity.”



Sylvie Lemmet
Ambassador for the
Environment at the Ministry
of Europe and Foreign Affairs

Finance is the lifeblood of the global economy, and its incorporation of nature is key.

The extraordinary scale of under-valued or unpaid-for nature classified in the economics literature as 'externalities' is an indication that global finance still largely ignores the potential impact of investments on nature.

That said, recent developments show promise in building nature into financial decisions, as both a risk and an opportunity.

Nature-related financial risks are being made more measurable, standardised and transparent, including through frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD) and the Taskforce on Climate-related Financial Disclosures (TCFD).⁴²

Financial instruments and markets are emerging that both value nature's economic contribution and attribute previously externalised costs to consumers, investors, businesses, and economies, including in new nature-based carbon and biodiversity credit markets.⁴³

Central banks and financial regulators are beginning to take nature and climate into consideration in their financial policies, regulations, guidance, and practices, especially through the Network of Central Banks on Greening the Financial System (NGFS).⁴⁴

Businesses and nations are increasingly responding to growing evidence of the economic implications of nature's decline by incorporating associated risks and opportunities into a new generation of nature markets. Experience to date demonstrates many different aspects of nature where markets could be developed at scale (see Exhibit 5).

“As rule setters of the economic system, central banks and finance ministries need to promote putting a monetary value on nature - a critical step for nature to be included in key economic and financial decision making.”



Naoko Ishi
Professor and Executive
Vice President at the
University of Tokyo

Exhibit 5 Potential for Scaling Across Nature Markets

Strength of evidence to support likely market growth: ■ Weak ■ Medium ■ Strong

	Historic trends	Demand factors	Supply factors	
Nature-related carbon credits				
Nature-related insurance				Entering growth at scale
Sustainability-linked bonds and loans				
Payments for ecosystem services				Potential to scale
Nature-specific credits				
Non-fungible tokens for wildlife				Very immature with yet-to-be determined scale potential
Bilateral grants and philanthropy				
Water quality credits				Markets with likely more limited scale potential
Water rights				

Source: Taskforce on Nature Markets and Vivid Economics (2022)

Nature markets could protect nature and deliver greater equity or be part of the problem.

For some, the idea that ecosystems should have a monetary value creates a welcome route to conserving Earth's endangered regions. Pricing nature across the global economy could increase the potential for nature's conservation and regeneration to be invested in.

According to this vision, as the terms and conditions of new nature markets are negotiated, they could create greater transparency and accountability across value chains and ensure that 'financialisation' works to advance and conserve, rather than undermine nature. Key assumptions under this scenario include:

Investors will be less inclined to finance businesses that have been forced to disclose their dependency on under-priced nature.⁴⁵

Businesses will reduce their negative impacts on nature as the act of not doing so becomes more expensive, for instance, if they are forced to pay a price through regulated offset payments.⁴⁶

Funds will flow into nature restoration and preservation as the returns from such investments becomes monetised through ecosystem service payments and the appreciation in value of tradable nature assets.⁴⁷

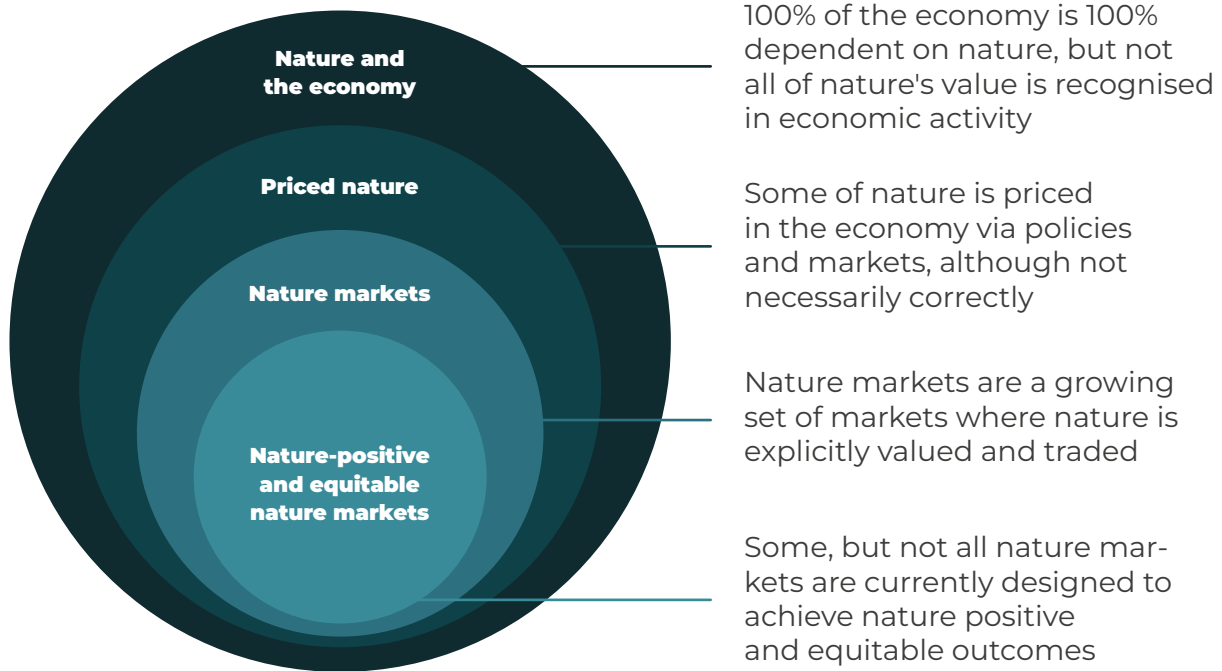
Citizens as consumers may reinforce such pricing through their consumer preferences, voting, investment decisions, and activism.⁴⁸ New technologies, such as satellite tracking, have the potential to put local communities and Indigenous Peoples more in the "drivers' seat" as the terms and conditions of new nature markets are negotiated.

Governments and regulators may play an integral part in the rise of these nature markets, through their deployment of fiscal and regulatory instruments, such as Australia's Nature Repair Bill and the UK's Nature Market Regulatory Framework.⁴⁹

Nature markets are not necessarily a force for good.

For others, there is irony and considerable risk in trying to use market mechanisms to address chronic problems originally created or made worse by markets. Certainly, historical and current experiences testify to the reality that not all nature markets have been forces for good (see Exhibit 6).

Exhibit 6 Not All Nature Markets are Equitable or Nature Positive



Source: Taskforce on Nature Markets and Vivid Economics (2022)

“There is scope for markets to transform the way we reward both nature’s contribution to the economy, and nature’s stewards, including ways to clean nature value chains by engaging consumers and ensuring greater disclosure from producers, traders and investors.”



Joaquim Levy

Director for economic strategy and market relations, Banco Safra S.A

Given nature's complexity, there are abundant opportunities for things to turn out quite differently from the optimistic vision described above. Dangers include:

Greenwashing may become a chronic problem, with nature markets camouflaging a continued destruction of nature along with inequitable outcomes for Indigenous Peoples and local rural communities. One investigation, for example, suggests that currently an astonishing 90% of rainforest carbon offsets are 'worthless'.⁵⁰

Financialising nature **could accelerate the deterioration of nature** by tilting investments towards only those aspects of nature that comply with market rules and yield short-term financial returns. Carbon markets, for example, can pay for restoring nature or avoiding its loss, but are not suited to providing financing for intact land and seascapes such as standing tropical forests.⁵¹

Turning nature into financial assets could increase the **pace of expropriation of nature** from Indigenous Peoples, rural communities, and small farmers, and lead to land conservation that maximises natural capital asset returns rather than local benefits.⁵²

Regulatory frameworks might equally become a source of **protectionism and/or reinforce structural inequality**, where more powerful jurisdictions impose their rules onto others. A "battle of jurisdictions" around nature markets could emerge.

"Nature is our life-support system. If markets continue to neglect the consequences of short-term profit maximization on nature, the human journey on the planet will become much more perilous."



André Hoffmann
Vice Chairman,
Roche Holding

Leaving it in the ground and the seabed

There may be good reason for not using some natural resources at all – not to preserve them, but to avoid their destructive impacts. Deep sea mining is increasingly an area where many stakeholders are calling for an outright moratorium to protect marine life.⁵³ Carbon intensive energy sources are perhaps the most significant case in point. Recent research found 90% of coal and 60% of oil and gas reserves should not be extracted in order to have even a 50% chance of keeping global heating below 1.5°C, the temperature rise above which the worst climate impacts would be most likely to occur.⁵⁴

Specifically, for the US, Russia and Eastern European countries have half of global coal reserves and would need to keep 97% in the ground, while the figure for Australia is 95%. China and India have about a quarter of global coal reserves and would need to leave 76% unextracted.⁵⁵

Middle Eastern states have more than half the world's oil reserves but would need to keep almost two-thirds in the ground, while 83% of Canada's oil from tar sands would have to not be extracted.⁵⁶

Virtually all unconventional oil or gas, such as from fracking, would be required to remain in the ground, along with no fossil fuels at all being extracted from the Arctic.⁵⁷

The political improbability of these nature markets being foreclosed in the near term explains why temperature rises will almost certainly exceed the ceiling targeted by the Paris Agreement on Climate, further underlining the risks to nature and urgency of preserving and restoring what remains of it at scale.

That said, there are signs of hope. France for example recently led the establishment of a sovereign coalition to hold off on deep sea mining until further scientific evidence of its impact. Initially, 13 countries joined, including Pacific Island States.⁵⁸ In the meantime, some companies have backed the World Wildlife Fund's call to pledge to avoid using minerals that have been mined from the planet's oceans.⁵⁹

“Nature markets should have hard limits. Deep sea mining, for example, would be an environmental disaster and cause irreversible damage on a staggering scale, impacting marine life and carbon sequestration.”



Nakul Saran
Entrepreneur, Advocate
and Oceanographer

Nature markets can only be fixed as part of a wider ecosystem reset.

While it may be tempting to want to keep nature and markets entirely separate, the reality is that nature is fundamental to all our economic activities. Our real choice is not whether there should be nature markets – some already long established, and newer ones emerging – but rather how they can best be designed and governed to deliver equitable outcomes and sustainable positive impacts on nature and communities.

This is made clear in the recently agreed Global Biodiversity Framework, and new scenarios set out by the International Panel on Climate Change. Both of which stress that to have any chance of meeting the new global biodiversity goals, direct government interventions via public finance alone will not be enough – nature markets will need to be mobilised at scale. Nature markets can be addressed one by one, and some progress can certainly be made on that basis. Yet they are part of a wider ecosystem of precedents, norms, incumbent interests, rules and governing processes – characterised largely by system-wide collective inertia. Ultimately, fixing nature markets to deliver equitable, nature positive outcomes have to be part of a wider reset of the financial and economic architecture.

“Emerging technologies like blockchain, tokenisation and smart contracts are the best in the toolkit for delivering on principle-based nature market design, so that in the future, taxpayers do not need to bail out private invested interests.”



Katrina Donaghy
CEO, Civic Ledger

Making nature markets work can draw on the climate playbook, but only in part.

Integrating climate risk, mitigation and adaptation into the global economy is an unfinished journey, yet there are lessons to be drawn that can inform how nature markets can be shaped. Most obviously, the build out of national and international climate policy commitments and their execution has to date driven financial risk pricing, enterprise and product innovation, and more national and regional economic strategies.

There are however at least three major differences between the climate and nature playbooks.

When it comes to nature:

There is no equivalent to carbon, e.g., a single variable and metric to address. Among the many ways that this complicates efforts to address the nature crisis, it means that for nature markets specifically there is no obvious equivalent to a carbon price.

There is an accentuated **critical importance of engaging nature's stewards**, in particular Indigenous Peoples and local communities, in formulating and executing effective solutions that require their ongoing engagement to maintain impact.

There is **no equivalent** to the **clean energy revolution**, at least not yet, which is core to reducing emissions and underpinned by technologies with dramatic down-sloping cost curves.

The implications of both the similarities and differences are paramount. They will tilt the balance of solutions away from technology-price pathways and necessarily towards policy and broader governance drivers of much-needed enterprise and market transformations. This is not simply a job for governments and regulators — consumer pressure and citizen action, as well as voluntary corporate leadership and innovation, all have a crucial role to play.

4

**THE NEW
GEOPOLITICS
OF NATURE**





THE NEW GEOPOLITICS OF NATURE

Nature is becoming a centre of gravity in global economic competition.

Aspects of nature have long been central in global politics and economics, most obviously in oil and gas. Similarly, the sourcing of key minerals, such as uranium, played a decisive role in the proxy wars and regime support of the Cold War. In fact, colonial expansion and extraction as well as modern industrialisation can not be understood outside of the central role of nature and power. Sourcing minerals has been and remains a lightning rod for global competition, again on the rise with those minerals that are critical to the new generation of green technologies.

What is new is the increasing importance of living nature, as biodiversity (including water) becomes an ever more significant factor in global economic competition, especially in the context of climate challenges. As the World Bank concluded in a landmark study, “economies, particularly in low-income countries, cannot afford the risk of collapse in the services provided by nature”.⁶⁰ Green economic strategies are moving beyond the vital but narrow focus on decarbonisation to also incorporate nature considerations, climate resilience and related economic opportunities, exemplified by the UK’s recently announced, ‘Nature Market’ Framework.⁶¹

The widespread recognition of the central role and economic and political importance of nature ideally would encourage the sort of greater international cooperation exemplified by the successful conclusion of the Kunming-Montreal Global Biodiversity Framework. Increasingly, however, nature and related climate imperatives are adding to economic and broader geopolitical tensions.

Nature markets could benefit nature rich countries but might have the opposite effect.

Growing recognition of nature in global markets can and should benefit nature rich countries, notably through increased earnings and investments. Yet perversely, taking account of nature-related risks could disrupt food production systems, which in turn could precipitate a surge in rural unemployment and increases in the cost of nutrition.⁶² Similarly, pricing in the fragility in nature is already leading to some nature rich countries finding themselves penalised in global financial markets, including through increases in the cost of capital for some climate vulnerable countries.⁶³ Further efforts to reduce nature’s continued destruction could become entangled in cross-border trade and investment rules and flows.⁶⁴

In short:

Nature rich countries, often economically more constrained, are seeking to reverse historical inequalities by shifting the terms of trade for nature more in their favour, including through the conversion of nature into a source of monetary benefits.

Economically wealthier countries, often nature-depleted, are seeking to secure nature as a strategy for slowing climate change whilst not having to pay too much for this service, and as a means of ensuring food security and safeguarding critical inputs to their global value chains.

The prospect of catastrophic climate crisis will reshape nature-related economic strategies.

The likelihood of catastrophic climate crisis is growing, despite efforts to restrict the rise of global temperatures in line with the Paris Climate Agreement. Indeed, for increasing numbers of people, such catastrophes are already part of daily life. This scenario may increasingly demand very different forms of economic and related nature strategies:

Nature rich countries, whilst seeking to sustain their natural assets for as long as possible, may accelerate the pace and scale of their monetarisation to generate financial support for what would undoubtedly be a painful economic transition.

French wine makers already investing in land in Norway or even further afield may seem insignificant. But imagine the equivalent for Brazil, with agribusiness investing in land in Siberia as part of a long-planned shift away from domestic agricultural market. In such a situation, Brazil's global agri-businesses might survive or even prosper, but the livelihood and displacement implications for the Brazilian people would be enormous.

Economically wealthier countries, whilst continuing to support nature protection and restoration domestically and internationally, might adopt more technologically intensive economic strategies designed to reduce dependence on rapidly depleting aspects of nature through major investments in de-coupling and circularity.

Food production is to nature as energy is to climate, although there is no simple equivalent to clean energy in the transition to a viable food production system. Yet there is an emerging technological ecosystem that might prove critical to future food security. This includes a range of new ways to deliver alternative protein (to meat) sources, and the development of capital intensive but low nature footprint Controlled Environmental Agriculture (CEA, often referred to as vertical farming).

In this new competitive context, pricing nature should and could benefit nature rich nations and support sustainable development – but it may not. The risks of rapidly introducing a financial (and properly risk-adjusted) price for nature into markets without appropriate governance safeguards and real economy reforms in place include:

Taking account of nature-related risks and impacts could disrupt food production systems, precipitating a surge in rural unemployment and increases in the cost of nutrition. This was highlighted in a recent quantitative simulation of the impact on the pricing of food and financing flows of integrating nature and climate risk into investment decisions.⁶⁵

Pricing in the fragility of nature due to historic over-exploitation is already leading to nature rich countries being penalised in global financial markets, increasing the cost of capital for some climate vulnerable countries. Eventually this might deny international capital market access to the most vulnerable countries.⁶⁶

Efforts to reduce nature’s continued destruction could become entangled in cross-border trade and investment rules and flows. This is already happening in the context of the EU’s zero deforestation due diligence imposed on its domiciled business community, which is now linked to threats of restricting imports from non-compliant commodity exporters.⁶⁷

It would be easy to envisage the emergence of a ‘nature curse’ comparable to the ‘natural resource curse’ associated with mining oil and gas revenues, with new nature market income and wealth becoming concentrated in the hands of a few, weakening key governing institutions.⁶⁸

A new era of geopolitics is beginning to emerge.

Seismic ongoing shifts in geopolitical affairs have many features and causes, with uncertain consequences that can be both localised and structural. It is increasingly clear that nature as well as climate will be part of this shift, especially through contentious issues around finance, market access, and pricing. These dimensions of the new geopolitics and associated tensions were already becoming clear at key recent political events, including COP27 in Sharm El Sheik in late 2022 and the Summit for a New Global Financing Pact hosted by President Macron in Paris in mid-2023.

Geopolitical factors will increasingly influence the ways in which integrating biodiversity and other aspects of nature into the global economy will happen. For example, it will shape trade, investment and financial policies, regulations, and flows, as well as broader dimensions of international cooperation.

Actions by governments and market actors will be influential in how these dimensions play out in practice, informed by experts, by citizens' preferences and by civil society organisations. In many cases the key factor will be how nature shapes and is shaped by existing and emerging geopolitical configurations.

Early, loose coalitions have started to appear in recent years, including:

The **High Ambition Coalition for Nature and People**, a coalition of governments from the Global South and the OECD to secure the 30 x 30 target (protect 30% of nature by 2030) set out in the Global Biodiversity Framework.⁶⁹

The **Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition** bringing together governments and international and expert organisations to halt deforestation by financing large scale tropical forest protection, building on their success in 2021 in mobilising US\$1bn in financing.⁷⁰

Brazil, Indonesia, and the Democratic Republic of the Congo, which possess the world's largest tropical forests, have formed an alliance to cooperate on the bioeconomy and the sustainable management, conservation and restoration of tropical forests and critical ecosystems.⁷¹

Such coalitions have technical and political features but are not yet focused on the core matter of pivoting away from historic inequities. This pivot would entail a fair price and scaled volumes of finance paid for ecosystem services to nature's stewards, including sovereigns, Indigenous Peoples, and local communities, as well as project developers. A next step might be the formation of one or more 'sellers' clubs' for nature. These 'sellers' clubs' would draw on important lessons, both positive and cautionary, learned from the experiences of older sellers' clubs, such as the Organization of the Petroleum Exporting Countries (OPEC).

Sellers' clubs that set fair prices in return for guarantees of high integrity ecosystem services would make even more sense in the context of a catastrophic climate scenario. Under such a scenario, there will be a need to both protect and restore nature for as long as possible, and to create some form of 'transition fund' that can later support these countries' painful economic and physical transitions in a climate disrupted world. Such an approach would not be materially different from that taken by oil and gas-rich countries, such as Norway and Saudi Arabia, in building up their sovereign wealth or 'future generations' funds.

The focus on financing of course implies an accelerated monetarisation of nature, and the related risks, highlighting the need to ensure effective governance. This direction of travel might be all the more urgent if the projected rise in global temperatures beyond the agreed 1.5 degrees centigrade, leading to more rapid crossing tipping points, puts nature and many nature rich countries at even greater risk.

Nature must be embedded in a reformed international financial and economic architecture.

Faced with both common concerns and divergent strategic interests, all countries need to align the broader international economic and financial architecture with what is required to transition to a more equitable, nature-positive global economy. This would include a reformed global debt architecture, trade and investment policies, financial and monetary policies, regulations and standards, anti-money laundering rules applied to nature crimes, and rules governing public procurement and subsidies. Reforms could and should also cover the regulation of how nature is considered across specific and significant markets, notably commodity markets, and nascent markets such as those for digitally sequenced information on genetic resources.⁷²

Exhibit 7 Embedding Sustainability in the Sovereign Debt Architecture

Low- and Middle-Income Countries (LMICs) are facing unprecedented fiscal stress and diminished access to finance. According to the IMF, about 15% of low-income countries are already in debt distress and an additional 45% are at high risk of debt distress. The precarious combination of high levels of public debt, restricted access to international debt markets and the adverse effects of the twin climate and biodiversity crises on their economies pose both immediate and long-term risks to sovereigns and investors.

Without practical and ambitious reforms to the global debt architecture, the sovereign financing crisis will become chronic in the face of growing costs of climate and nature risks. Overburdened by these rising debt service bills, sovereigns lack the fiscal space to invest in urgent resilience-enhancing measures or build up buffers to absorb climate- and nature-related shocks. As these contingent liabilities crystallise, vulnerable countries risk being trapped in a downward spiral of escalating fiscal pressures, widening infrastructure and protection gaps, and deteriorating creditworthiness.

Sustainability-linked sovereign financing is a critical emerging tool to address the three-fold design challenge of increasing sustainable productivity-enhancing investments, reducing debt service burdens, and avoiding chronic financial crises. Although performance-based sovereign financing is not new, the model has recently evolved in several critical ways. First, the performance model and related indicators are defined by the debtor rather than a one-size-fits-all model imposed by creditors or third parties. Second, the model and indicators are focused on substantive supply-side drivers of sustainable development, such as clean energy and forest cover preservation. Third, performance commitments are linked to variations in the cost of capital (e.g., lower interest rates if performance benchmarks are met), which are embedded into the financing instrument offered to the market.

The G20's role in embedding climate and nature dimensions in monetary and financial regulation.

Likewise, the IFIs and a global sovereign “coalition of the willing” have moved to incorporate sustainability into the sovereign financing architecture via efforts such as the Bridgetown Initiative. More recently, there have been a number of positive developments on which basis nature related risks are understood, quantified, and disclosed.⁷³

Initially considered during the Turkish G20 Presidency in 2015, the Taskforce on Climate-related Financial Disclosures (TCFD) was established under the Financial Stability Board.⁷⁴ Shortly after, the Network of Central Banks and Financial Supervisors for Greening the Financial System (NGFS) was established to consider climate related aspects of financial stability.⁷⁵ Building on this, the G20 Sustainable Finance Working Group, established under the Chinese G20 Presidency in 2016 (then called the Green Finance Study Group), is now more actively considering nature-related risks together with the Taskforce on Nature related Financial Disclosures (TNFD).⁷⁶ Likewise, the NGFS is now considering biodiversity aspects of financial stability. Similarly, the G7 has launched the Alliance for Nature Positive Economies, although its initial focus is modestly on advancing disclosures of nature-related risks.⁷⁷

Such progress, though welcome, remains ad hoc and incomplete. It is important to make use of ongoing international climate and nature negotiations: the UNFCCC COP28 in the United Arab Emirates in 2023, and the CBD COP16 in Turkey in 2024, through to Brazil's UNFCCC COP30 Presidency in 2025. Another option would be to broaden the G7's Alliance of Nature Positive Economies. However, advancing progress through the G20 in 2024 under the Brazilian Presidency may be preferable in building a more inclusive approach that includes significant leadership from nature rich countries in the Global South.

There are numerous aspects of the international financial and economic architecture that could and should advantage equitable, nature positive markets and economies, but currently do not, or are not even taking nature into account. The risk is that ad hoc developments create more problems and contestations that further erode the potential for international cooperation, such as nature-linked trade restrictions.

5

**GOVERNING
NATURE
MARKETS**



Our analysis of nature markets has focused on four specific market archetypes.

The work of the Taskforce on Nature Markets has been to develop insights and recommendations that apply across all established and emerging nature markets. At the same time, the Taskforce has taken an in-depth look at, and set out recommendations for reform of four specific categories of nature markets that require the most urgent attention:

Nature credit markets, especially focused on carbon markets and emerging biodiversity credit markets, with a current combined annual value of less than US\$5 billion.⁷⁸

Illegal nature markets, covering the trading of the results of nature crimes, the third largest source of illegal financial flows estimated at up to US\$1.5 trillion-2 trillion.⁷⁹

Soft commodity markets, the largest and arguably the most important set of nature markets, trading food valued at upwards of US\$4 trillion annually.⁸⁰

Financial Markets, which have the most influence on all nature markets, shaping the global economy and the terms of its relationship with nature and climate.⁸¹

Each of these four archetypes is considered in depth, highlighting the opportunities and risks that shaped the Taskforce recommendations. Beyond these archetypes, the Taskforce has considered other related markets, notably broader financial markets and surging bio-data markets, and those focused on or making use of the digital representation of nature.

5.1 Biodiversity Credit Markets

Biodiversity credit markets — highly nascent but evolving quickly — have become a lightning rod for many substantive nature market design considerations,⁸² especially in light of the all-too-visible shortfalls in voluntary carbon markets.⁸³

The Global Environment Facility (GEF) recently concluded that, “...with clear policy frameworks and signals, good governance, improved institutional capacities, and inclusive and transparent rules of engagement, biodiversity-positive carbon credits and nature certificates have the potential to markedly complement other financial mechanisms towards meeting the goals and targets of the Global Biodiversity Framework and the Paris Agreement.”⁸⁴

A Global Roadmap for Harnessing Biodiversity Credit Markets for People and the Planet was launched by France and the UK at the ‘Summit for a New Global Financial Pact’ held in Paris in June 2023.⁸⁵ The development of this Roadmap has been supported by NatureFinance as part of the Taskforce’s initiative-based approach.

The roadmap highlights five key design challenges to address in building equitable, nature positive biodiversity credit markets, and broader nature credit markets:

Exhibit 8

Nature Positive Biodiversity Credit Markets – Core Design Challenges

- A** Measuring the state of nature.
- B** Stimulating timely, sustained, and effective demand for credits with associated financing.
- C** Ensuring sufficient, high-integrity supply of credits offering a nature-positive outcome.
- D** Securing equitable distribution of rewards to project developers, sovereigns, and Indigenous Peoples and local communities.
- E** Establishing robust and participatory governance and broader institutional arrangements.

These five design challenges are all inter-linked and should be brought together in the governance of biodiversity credit markets. For example, scaling demand will require substantial policy direction, whether compliance-based or through upside incentives. An equitable distribution of economic rewards certainly will not be delivered automatically by free market dynamics alone, given the asymmetries in information and negotiation capabilities, especially for many (not all) local communities and Indigenous Peoples. High integrity supply, likewise, will almost certainly need more than the combined efforts of project developers and private certification bodies.

Exhibit 9 Addressing Design Challenges in the Governance of Water Markets

The problem of water scarcity is planetary in scale. Today, at least one-third of the rivers, lakes and aquifers on our planet are being heavily tapped for their water resources.⁸⁶ A quarter of the global population are already living in water stressed countries, and this figure is expected to grow with the effects of the climate crisis and population growth. Burgeoning water markets have a critical role to play in helping put a real financial value on water and to help direct scarce resources where they are needed most.

There are a number of promising examples of this playing out across the world. Farmers in the Murray-Darling Basin of Australia have prospered from an active water market in which more than 40 percent of water use comes from trade in annual water allocations. This water trading has provided an innovative new revenue stream for farmers and helped them manage the impacts of irrigation shortages during severe droughts. Similarly, the San Diego County Water Authority in California (United States) negotiated an agreement with a large irrigation district that pays farmers to reduce their consumptive water use. The water saved is transferred to the metropolitan area, providing more than one-third of its water supply each year.

The Nature Conservancy is advancing an innovative new concept based upon the strategic trading of water use rights (a form of credits) within select river and lake basins, called a “Water Sharing Investment Partnership.” These institutions operate with investor capital, within existing water markets, for the purpose of redistributing water use in a manner that enables water productivity to increase, economic benefits to grow, and water to be returned to nature. Realising the promise of these nascent markets and avoiding the traditional pitfalls of increased commodification of water will require, above all, robust public sector governance to shape the water economy and align all stakeholders around the goals of equitable access, resilience, and sustainability.⁸⁷

With global temperatures projected to exceed a 1.5°C within the next five years, droughts are already depleting reservoirs, rivers and water tables at an alarming rate. The onset of associated risks is approaching faster than anticipated by investors and elements of the financial sector. As these impacts place strain on local economies and communities, they give rise to instability and opportunities for illicit markets to emerge. Water cartels may become more common as opportunities to monopolize and profit from water distribution, as already seen in Karachi, Pakistan, where criminal gangs engage in water theft and black-market sales. According to the World Bank, an estimated 20-40% of global water sector finances are lost due to criminal or corrupt activities.⁸⁸ Without common and robust principles governing the risk of criminal elements of finance those engaged in nature crimes will continue undermining legal nature markets.

Measuring nature, especially biodiversity, in ways that aspires to shape market behaviour has become a growing area of innovation and development. Driving a surge in public and private data sources, many businesses and public-private partnerships have entered the field, joining a growing list of established global data providers that have stepped up their offerings of biodata. However, data coverage and quality remain a significant issue. This is increasingly being addressed not just through new supply, but through sophisticated AI machine learning that extrapolates analysis and findings to otherwise data-weak land and seascapes.

Exhibit 10 Measuring Nature and Making it Count

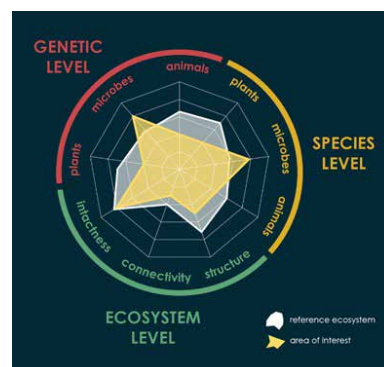
Natural capital accounting has a long history, accelerating since the launch in 2017 of the UN Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) project, with pilot testing of System of Environmental Economic Accounting – Ecosystem Accounting (SEEA EA) in Brazil, China, India, Mexico and South Africa.⁸⁹ This led to the adoption of SEEA EA as a statistical standard by the United Nations Statistical Commission in March 2021, now reflected in the UN common agenda and SEEA implementation is now recognized as SDG indicator 15.9.1.⁹⁰ The NCAVES project also helped establish the African Community of Practice on Natural Capital Accounting.⁹¹

Since then, innovative approaches have continued to develop ways of more effectively counting nature, for example:

ETH Zurich in Switzerland, for example, has developed **SEED, a biodiversity complexity index** which enables governments, companies and financial institutions to measure the state of biodiversity for any pixel (30 meters by 30 meters) on the planet.⁹²

The Landbanking Group is taking a **balance sheet approach** and combining the latest technologies to assess nature along four defined dimensions to create individual natural capital accounts. Through the Landbanking Group, nature stewards can sell verifiable claims on nature improvement or preservation claims (hydrosphere 'water', pedosphere 'soil', atmosphere 'climate' and – especially – biosphere 'biodiversity'). Buyers are strategic insetters, 'offsetters', commodity buyers, investors and insurers.

Intrinsic Exchange Group has introduced **Natural Asset Companies (NAC)**, a special equity listing on the New York Stock Exchange, which captures the value of natural assets and the ecosystem services they produce. The objective is to use this monetisation to generate the funding needed to manage, restore, and grow healthy ecosystems around the world.



Source:
ETH Zurich,
SEED

Without doubt, the greatest design challenge is to secure an equitable distribution of rewards. This must include the Indigenous Peoples and local communities whose participatory role in the governance of these markets will be essential to their success, as well as project developers and nature rich sovereigns.

Indigenous Peoples and local communities currently steward about 80% of the planet's nature.⁹³ They play a crucial role in protecting its capacity to provide global greenhouse gas emission mitigation, sequestration, and storage.

Some efforts are being made to involve Indigenous Peoples in the design and governance of both voluntary carbon markets and emerging biodiversity credit markets. The Integrity Council on Voluntary Carbon Markets, for example, is committed to including representatives of Indigenous Peoples in all of its deliberations.⁹⁴ The Biodiversity Credit Alliance is also building a 'Community Advisory Panel' to promote a strong bottom-up voice across all of its work.⁹⁵ Likewise, for the Peoples Forests Partnership's Principles for Working with Forest Communities.⁹⁶

The Taskforce has collaborated with the International Institute for Environment and Development (IIED) to initiate a first mapping of the involvement of Indigenous Peoples and local communities in the development of biodiversity credit markets globally.⁹⁷ Overall, the findings indicate there is currently minimal involvement beyond a small number of pilot schemes, despite Indigenous Peoples' and local communities' vital role in protection and restoration of nature. The Taskforce has framed this as a call to action to both collaboratively evolve this mapping and scale up support for Indigenous Peoples and local communities' engagement with emergent biodiversity credit markets to effectively embed their agency in governance and market outcomes.

The Amazon Sacred Headwaters Initiative exemplifies attempts to develop a bioeconomy in accordance with traditional indigenous principles of cooperation and harmony. Working with NGOs, the philanthropic community, social entrepreneurs and governments, its goal is to establish a bi-national protected region that is off-limits to industrial scale resource extraction and yet open to raising funds in ways consistent with a harmonious relationship between humans and the planet.⁹⁸

A few carbon and biodiversity credit traders, such as Terrassos⁹⁹ in Colombia, Respira International,¹⁰⁰ and rePlanet¹⁰¹ in the UK, have committed to ensuring fairer deals, with some building explicit co-benefit arrangements, in some cases including profit sharing clauses into their contracts with project developers.

Despite such examples, the design of carbon and biodiversity credit markets to date has not, at their core, integrated a fair deal for project developers or nature rich sovereigns, let alone Indigenous Peoples and local communities. The most challenging issues are presented by 'Over the Counter' (OTC) trades which are mostly bilateral deals between buyers and sellers outside of any formal market structure. These OTC trades are not subject to structured information disclosure, trader quality control, or even basic information about the state of the market.

Exhibit 11 Illustrating Indigenous People and Local Community (IPLC) Engagement in Nature Credit Markets

- 1 The Nakau Projects in the Solomon Islands, Vanuatu and Fiji**

Nakau emphasises sustainable financing for indigenous-led conservation, assigning 60% of returns to Indigenous landowners. These funds support community resilience efforts, including forest management and community development.¹⁰²
- 2 The Nusantara Fund in West Java, Indonesia**

The new Indonesian fund launched in May 2023 is a first for direct climate finance schemes for Indigenous Peoples and local communities, aiming to support them in forest preservation and land restoration with an initial US\$3 million in investments. The fund is planning to attract US\$20 million from donors in five years, which will be channelled to Indigenous Peoples and local communities across the archipelago.¹⁰³
- 3 The Hinemoana Halo Oceans Initiative in New Zealand**

A consortium of seven indigenous 'iwi' groups secured US\$4 million for an indigenous-led blue carbon strategy. A portion of the value derived from these ocean credits will be focused on protection of whale migratory routes, a critical component of the ocean's carbon cycle.¹⁰⁴
- 4 Acorn by Rabobank**

Acorn sells CO2 sequestered through smallholder agroforestry into carbon credits. These are sold to organisations with strong emission reduction commitments and return 80% of income from sold credits to the original smallholder. Acorn's current active projects now involve 154k farmers globally.¹⁰⁵

The Taskforce, working with senior advisor Ralph Chami and co-author Andreas Merkl, has undertaken an assessment of possible approaches to embedding equity considerations into nascent nature credit markets (including carbon and biodiversity).¹⁰⁶ The work highlights the need to:

Get market fundamentals right in improving equitable outcomes, **such as transaction level transparency and shorter-term contracts** (avoiding long-term lock ins at low prices).

Improve market integrity by **moving away from OTC trades** towards a greater use of well-regulated credit exchanges and trader accreditation.

Use funds and trust structures to ensure that project developers including Indigenous Peoples and local communities get paid, and that money is set aside to ensure long-term financing of the preservation of nature.

Introduce price floors or other institutional mechanisms for regulating prices paid and how profits are shared.

Adopt and enhance safeguards for Indigenous Peoples and local communities developed through work on voluntary carbon markets, including the IUCN Global Standard for Nature-based Solutions and 'High-level Governance and Integrity Principles for Emerging Voluntary Biodiversity Credit Markets'.¹⁰⁷

Not only is it right that nature rich sovereigns and project developers — including Indigenous Peoples and local communities — are paid a fair price, but the viability of these markets also depends on it. This is exemplified by the recent decision by the government of Zimbabwe to 'reset' the terms of existing voluntary carbon credit deals in an effort to change the terms of payment and the allocation of receipts.¹⁰⁸

Exhibit 12 Growing National Nature Credit Market Initiatives

There are many initiatives and schemes seeking to develop biodiversity credits that can make a positive difference to both people and the planet. Many forms of credits are currently being designed and piloted, including biodiversity certificates, bio-enhanced carbon credits, biodiversity 'insets' to finance natural resource productivity in supply chains, biodiversity credits linked to statutory offset spending, and full-blown biodiversity credit markets involving offsetting and secondary trading. This exhibit presents the different approaches being taken in different parts of the world:

Colombia leading Latin American biodiversity offsetting space, with voluntary action in pursuit.

Colombia has had biodiversity offset regulation in place since 2013, targeted at planned development projects such as mining, oil and gas infrastructure, to offset residual biodiversity impacts by restoring or protecting an equivalent habitat elsewhere. The equivalence ratios range from 1:4 to 1:10. Colombia has since established the approach of habitat banks which are public or private areas managed for their significant environmental values. Habitat banks offer credits to those entities under regulatory compliance, yet credits can also be bought by individuals or companies on a voluntary basis.¹⁰⁹

Mandatory and voluntary biodiversity schemes in Australia

The Australian Government is developing a new legislative framework to support a national voluntary biodiversity market called the 'Nature Repair Market' scheme.¹¹⁰ The market aims to provide financial incentives for environmental projects and deliver benefits for landholders, investors and the environment. The Australian Government acknowledges that maintaining integrity is paramount to ensuring that the national voluntary biodiversity market operates effectively. To this end, the legislation would establish an expert advisory committee to provide advice and recommendations on compliance with biodiversity integrity standards. Additionally, an independent regulator would administer a compliance and assurance system (as published by the Taskforce on Nature Markets and Pollination in 2023).

Mandatory obligations and 'Nature Markets Framework' in the United Kingdom

The UK has established mandatory obligations in England, with potential to expand mandatory regulations across the UK for project developers with high negative impacts on biodiversity (Nationally Significant Infrastructure Projects (NSIPs)). The biodiversity net gain (BNG) regulations foresee a minimum of 10% BNG for most future developments. The UK, through its 'Nature Markets Framework' released in March 2023, has embraced tradeable credits as a means to stimulate private investments in nature markets, also via secondary markets.¹¹¹

Launched at COP27, the Africa Carbon Markets Initiative (ACMI).

ACMI is a forum for parties to develop opportunities for mobilizing climate finance in Africa through voluntary carbon markets. ACMI has announced that it is compiling a catalogue of African carbon credit projects to increase visibility and transparency of the continent's diverse existing and pipeline supply. The ACMI Roadmap outlines the establishment of a biodiversity / nature credit model as an opportunity to address the issue and shortcoming of the VCM towards high forest, low deforestation areas/countries.¹¹²

With the many challenges in mind, there is clearly a key role for policy and regulation in both catalysing and overseeing the integrity of biodiversity credit markets. The Taskforce, working with Knowledge Partner, Pollination, has explored current international legal and regulatory experiences as they relate to the development of biodiversity credit markets and, to nature markets more broadly.¹¹³ The resulting recommendations include:

Governments should consider legislating to clarify the ownership of rights in biodiversity and land/ seas to provide legal certainty for biodiversity credit markets and ensure clarity regarding a buyer's 'right to claim' on buying a biodiversity credit. Recognizing the rights of Indigenous Peoples and local communities, and land rights in particular, will be challenging but essential, including those rights granted under customary law.

Governments and consumer protection agencies should develop clear guidance regarding eligible claims associated with the use of voluntary biodiversity credits. While this guidance may have some specific jurisdictional characteristics, there should be coherence across all jurisdictions on critical elements, including Indigenous Peoples and local communities' safeguards and the separation of land ownership from the 'right to claim'.

As the biodiversity credit market matures and participants move towards secondary trading of biodiversity credits, including securitisation and derivatives, **governments and financial services regulators should ensure that biodiversity credits are regulated as financial instruments.**

As these markets evolve, and targeted policy and regulatory oversight increases, digital technologies will have a complementary role to play. They will be able to ensure the ongoing integrity of credits, the verification and accreditation of traders, and the equitable compensation for Indigenous Peoples and local communities.

Exhibit 13 Utilising Digital Technology for Equitable, Nature-Positive Financial Markets

A high degree of transparency and accountability in nature markets can be costly. **Distributed Ledger Technology (DLT) enabled tools can lower barriers to entry**, and multiple DLTS exist that are also secure, and stable in their technical governance. AI-driven systems, such as Automated Multisensor stations for Monitoring of species Diversity (AMMODs), can integrate diverse nature-related data sources through in-situ, airborne, and satellite-based sensors. These data sources, in combination with computational prediction models, **can lower the cost of information synthesis and prediction of ground-based information about the current and future state of nature.**

Tokenisation of biodiversity credits is also being explored as a means of creating more **liquid and transparent nature markets**. Transforming these credits into digital tokens has the potential to deliver **standardised production processes, transparent transactions, remove information asymmetry, and create robust fraud prevention mechanisms**. Civic Ledger is applying this to the enabling of watersheds to be transparently accounted for and managed, and water efficiently traded. This creates 'one source of truth' for the water we have, the water we use, and the water we share – so the sustainable yield of the watershed can never be transgressed. This can empower governments and regulators to respond quickly to resource management pressures due to climate change and adjust the governance of Water Plans to ensure equitable, fair and transparent access. See Exhibit 9 on water markets for more.

Initiatives like the Guardian on Hedera, Nature Credit, Rebalance Earth, and Value Nature are developing frameworks and digital solutions for these tokenised biodiversity credits. By integrating these tokens into decentralised trading platforms, such as the Automated Regression Market Makers' (ARMM) these initiatives can contribute to shaping accessible, equitable, nature positive markets. In addition, **they can help with visibility and fair distribution to all stakeholders, empowering buyers of these credits with accessible information and the sellers of these credits with fair compensation.**

5.2 Illegal Nature Markets

Illegal trade in wild species is defined by the International Consortium on Combating Wildlife Crime (ICWC) as “any criminal activity connected with the taking, trading (supplying, selling, or trafficking), importing, exporting, processing, possessing, obtaining and consumption of wild fauna and flora, including timber and other forest products, in contravention of national or international law”.¹¹⁴

According to the UNEP–Interpol, the value of illegal trade in wild species, including logging and fishing, is an estimated US\$69 billion - 199 billion annually, likewise the Global Financial Integrity’s estimate is US\$73 billion-216 billion.¹¹⁵ The gains generated from ‘environmental crimes’, defined by the Financial Action Task Force (FATF) – the inter-governmental agency charged with combating money laundering and financing of terrorism – and which include illegal mining, waste dumping and other offences, are estimated at around US\$110 billion-281 billion a year.¹¹⁶ Illegal trade in wild species decreases tax revenues mainly in poorer, nature rich countries by an estimated US\$30 billion per year, and if its broader impacts on ecosystem services are considered, the illegal trade in wild species is globally estimated at US\$1 trillion-2 trillion per year.¹¹⁷

That makes illegal nature markets the third largest source of illicit financial flows after drugs, and counterfeit crimes, prostitution and human trafficking, and the illegal sale of arms.

There are major lessons to be drawn from the world’s experience of tackling nature crimes that could be applied to the governance of nature markets. These lessons, described below, draw on a Taskforce paper prepared on this topic by Knowledge Partner, TRAFFIC.¹¹⁸ It also draws on further research undertaken by NatureFinance on behalf of the UK Government’s Global Resources Initiative,¹¹⁹ and active engagement during the course of the Taskforce with mining organisations, law enforcement, civil society and policy makers in Brazil and Switzerland focused on the problem of illegal gold mining in the Amazon.

Overall, it is clear that the effective governance of nature markets demands a multi-faceted approach, a combination of international cooperation, national laws, and regulations, established financial mechanisms, market-based initiatives, accurate, up-to-date data and information, traceability, and transparency. This must include market monitoring and enforcement systems, establishing clear regulations on the access, use and trade of natural resources from the points of land use planning and allocation of resources to harvest, to the end of the supply chains.

Exhibit 14 Illegal Gold Mining in the Amazon

Globally, illegal mining generates an estimated US\$12 - 48 billion annually in illicit proceeds, with illegally mined gold and diamonds being the primary commodities traded.¹²⁰ This illegal activity is interlinked with other nature crimes, contributing to 10% of illegal deforestation in the Amazon, the unlawful dumping of toxic waste, and severe violations of Indigenous People's rights.¹²¹

Switzerland holds a significant position in the gold trade, accounting for approximately 70% of the global trade volume. It serves as a hub for gold refining and jewellery production, with four major refineries collectively refining around 2,500 tonnes of gold per year, amounting to a value exceeding US\$100 billion.¹²² Gold trade with Switzerland constitutes 74% of the total trade between the two countries.

Furthermore, Switzerland is ranked as the second-largest importer of Brazilian gold overall, with gold being Switzerland's primary imported commodity from Brazil, surpassing soy. Switzerland is also the largest importer of gold from the Amazon region overall, with at least one-fifth of the gold imported by Swiss refiners from Brazil originating from the Amazon in 2021.¹²³

Instituto Escolhas found in 2022 that indications of illegality could be seen in 52.8 tons of the gold traded in Brazil in 2021 — more than half (54%) of the national production.¹²⁴ They also found that two thirds of all Brazilian gold (61%) is extracted in the Amazon.¹²⁵ That same year leading Swiss gold refiners and traders made a commitment to cease importing illegal gold from Brazil, necessitating substantial changes to the existing gold supply chains. The risk to legitimate financial institutions in financing illicit activities from illegal gold mining is evident, and this risk is repeated in other mineral markets as well.

Protecting rights and ensuring the agency of Indigenous Peoples and local communities must be at the core of any meaningful approach to governing nature markets. Good governance must provide legal protection for their rights for effective conflict resolution when these rights overlap with those of other actors, especially business. Such engagement will require a comprehensive and integrated approach to take account of economic, social, and environmental contexts.

Effective community-based management is crucial and requires community engagement and consultation to support access to and use of natural resources while also providing opportunities for sustainable livelihoods and benefit-sharing arrangements. Legal frameworks and regulations must also be in place to address the limitations of communities in terms of resources, structure, knowledge, and financial capital. Additionally, monitoring and enforcement measures are necessary to ensure that these communities participate in nature markets sustainably and equitably, while addressing the associated risks of organized crime.

A complementary, more top-down approach to dealing with many types of nature crimes emerged from the UK Global Resources Initiative work.¹²⁶ This can be summed up as a ‘follow the money’ approach. Some financial institutions invest in nature-dependent sectors such as food and infrastructure, the profitability of which can be potentially increased through nature crime. For example, illegal logging can make more land available for agricultural production, thereby lowering costs, increasing output, and increasing higher profits for businesses and their investors. While the investments may technically be legal, the returns are partly a consequence of criminal activity, thus amounting to illicit proceeds.

Anti-money-laundering (AML) rules are intended to prevent the conversion of proceeds from illegal activities into clean money, just as tightened rules and strengthened enforcement have made it more difficult to finance terrorism. But for environmental crimes, the application of AML rules is particularly weak. To its credit, the FATF has raised its profile in this area.¹²⁷ Yet even if existing AML rules were applied to more environmental crimes, they would not be sufficient as, to date, these have ignored the link between nature crimes and the financing value chain.

One way forward would be to broaden the scope of AML to include profit taking linked, however indirectly, to nature crimes. This would offer the benefit of directly involving financial regulators, rather than relying on often-weak regulatory agencies where the nature crimes are taking place. Another option is to advance an equivalent of the Kimberley Process, an international, multi-stakeholder initiative that increased transparency in the diamond industry that has helped to reduce trade in so-called conflict diamonds.¹²⁸

A promising development is the emerging criminal offense of ecocide, defined by Stop Ecocide as, “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts”.¹²⁹ Including ecocide in the Rome Statute would help establish an international framework for holding those responsible for environmental harm accountable. Importantly, ecocide is now included in the EU’s forthcoming updated Environmental Crime Regulation.¹³⁰ This will introduce criminal liabilities for individuals responsible for severe environmental harm, with punishments including global revenue-based fines and imprisonment.

5.3 Soft Commodity Markets

Trading in soft commodities, encompassing crops, livestock, dairy, fisheries and aquaculture, as well as forest products, is the oldest and second largest set of nature markets.

These markets are characterised by hugely profitable dominant firms. For instance, the profits of the world's largest agricultural trader, Cargill, increased by 141% in the financial year from June 2021 to May 2022, to a record level of nearly US\$6.7 billion.¹³¹ Other large agricultural traders have made record profits in the recent years of crisis. For example, Archer Daniels Midland (ADM) described 2021 as a “watershed year”, yielding the highest profits in its nearly 120-year history.¹³²

The market power and lobbying of the industry giants has made reform extremely difficult, despite considerable effort. Although there has been a surge of ‘sustainable commodities’ initiatives over the last decade, the vast bulk of soft commodities are traded with no reference to their nature, climate or societal impacts. Equity issues are paramount given that it is food being bought, traded and sold, in the context of a global food insecurity crisis likely to worsen as global temperatures rise and the frequency and intensity of extreme weather events increase.

The Taskforce has explored some of the governance aspects of this critical market with its knowledge partner, the Igarape Institute.¹³³ Notwithstanding this market's dynamic complexity, three classes of governance challenges emerge as clear front runners to address:

- 1 Poor market wide governance:** overconcentration vertically and horizontally gives the biggest actors across the value chain major influence over inter-dependent financial investment markets. Their dominance makes the market resistant to changes that would require addressing this market concentration head on.
- 2 Perverse incentives:** for most participants in these markets financial incentives still reward nature destructive outcomes across agricultural supply, food production, distribution, and consumption. Reshaping these markets so that by design they can deliver nature positive and equitable outcomes, requires embedding appropriate incentives and penalising nature destructive and social inequitable outcomes much more harshly.
- 3 Information asymmetry:** fuller disclosure of information on sourcing, pricing and distribution is needed, spanning production and supply chains to the end consumer. Only with clearer and firmer regulation and governance of data and information can these markets support effective traceability, transparency and accountability to drive the sustaining of nature.

There is no simple fix to these problems, as food commodity markets are not easily subject to simple, effective interventions to improve equity or nature and climate outcomes.

That being said, most soft commodity markets have ancient origins and recognising the role of indigenous groups as original cultivators and knowledge holders can be a powerful way to embed equity in these markets from the ground up. Including by rewarding this knowledge in ongoing sales and giving these groups a voice in market design and practice. One such case, is South Africa's rooibos industry which formally signed an Access and Benefit-sharing (ABS) agreement between the Rooibos Industry, represented by the South African Rooibos Council (SARC) and the Khoi-Khoi and San, represented by the National Khoi-San Council (NKC) and the South African San Council (SASC), representatives of indigenous groups. A levy of 1.5% of the farm gate price of the herbal tea will be paid into a trust each year controlled by the Khoi and San people, to be used to improve the lives of these indigenous communities.¹³⁴ The agreement (several years in the making) acknowledges the rights and knowledge contributions of these indigenous groups as the original cultivators of the plant and the development of its various uses over centuries, before Dutch settlers started to arrive in the 17th century, and therefore their founding role as market shapers.

Most successful interventions have focused on improving the sustainability of specific production systems, such as the Roundtable on Sustainable Palm Oil,¹³⁵ rather than seeking to influence broader market dynamics and associated governance arrangements.

Likewise, corporate buyers have either not tried or have given up on improving their sustainability performance through their commodity-market activities. They have developed workarounds that enable them to buy sustainably sourced commodities directly from farmers and their representatives. Whilst demonstrating some success, such direct purchasing is costly, quite inefficient, and hard to scale.

Public campaigns targeting commodity markets themselves have largely made little impact so far, though this could change. One example is the Swiss-based Public Eye's multi-year campaign to establish effective domestic regulatory arrangements over what is one of the world's largest commodity trading venues and the source of an estimated 8% of Switzerland's GDP.¹³⁶

The Taskforce is proposing several recommendations to make soft commodity markets sustainable and nature positive. These focus on:

Regulators: to strengthen regulatory oversight through both conventional competition policy and specific nature and climate-related mandates.

Corporate governance: to ramp up basic disclosure requirements, including on the impacts on nature and climate of activities all along the corporate value chain.

Incentives: to introduce nature and climate-linked executive remuneration incentives.

Transparency: to require full value chain transparency, enabling back-to-farm traceability and disclosure of climate, nature and people impacts.

Exhibit 15 Opportunities for Positive Change in Soft Commodity Markets¹³⁶**Improved incentives:**

- Tiered tariff structures that price interventions into the market, reward companies that meet certain criteria, and minimise backlash.
- Transformation of lending conditionalities into incentive mechanisms that reward traceability, transparency and data sharing with debt relief or debt-for-nature swaps.
- Niche contracts and targeted funding of sustainable production practices (e.g., regenerative agriculture).

Enhanced corporate and market governance:

- More sophisticated analysis of annual reports and Key Performance Indicators (KPIs).
- Executive compensation tied to environmental targets.
- Green bonds must include penalties for missed targets to prevent greenwashing.
- Global regulatory frameworks with rigorous criteria to verify whether a supply chain is free from illegalities.

Mitigation of commodity market speculation and concentration:

- Pressure on competition authorities to require large traders to divulge real-time information around commodity prices, food reserves, exports, and market concentration (acquisitions, mergers, etc.).

Expanded smallholder access to credit:

- Allocation of 'patient capital' to improvements in technical capacity and added value.
- Preferential interest rates from banks to farmers employing specific nature-positive growing methods.
- Lower deposit rates from central banks to other banks that meet lending targets to the agricultural sector.
- Increased market alignment (e.g., targeted financial products, creation of lender databases).

In particular, this will require an immediate focus on three main goals:



Get banks, investors and insurance companies to improve market governance.

Call out banks, investors and insurance companies that lend to companies whose practices and operations exacerbate or perpetuate environmental and social issues.

Exhort financial institutions to demand genuine transparency and accountability from investee companies through a combination of:

- 1) enhanced analysis of annual reports and KPIs.
- 2) meaningful measures like tying executive compensation to the achievement of environmental and social targets.

Advocate for the rigorous incorporation of accurate and appropriate nature-based risk evaluations into trading contracts, insurance conditions and loan requirements - potentially via contributions to the TNFD framework.



Mobilise cooperative frameworks to promote proper commodity pricing.

Build commodity-specific coalitions to organise the creation of cooperative frameworks through which countries systematically set commodity prices according to the real consequences for nature.

Raise the cost of nature-negative industry practices to such a degree that incentivises producers, traders and distributors to change their behaviour.



Reduce the current high levels of vertical and horizontal consolidation in soft commodity sectors, as well as the political influence of large trading companies.

Create a more level playing field for farmers and for small and medium-sized enterprises (SMEs).

Stimulate innovations in technology and supply chain structures.

Mitigate distorted prices due to commodity speculation.

Evaluate the types of monetary and antitrust authorities needed to address consolidation in a decisive and sustainable fashion (e.g., United Nations Treaty on Competition).

5.4 Financial Markets

Nature is becoming a ‘thing’ in financial markets.

The recent rise in visibility of nature in financial markets, and of biodiversity in particular, has been remarkable. This includes the call by financial institutions representing over US\$24 trillion in assets under management to adopt an ambitious post-2020 Global Biodiversity Framework at the UN Biodiversity Conference COP15 and the 1000+ organisations, including many financial institutions, that have joined the Forum of the TNFD.¹³⁷

Central banks and supervisors are beginning to focus on nature as a factor driving financial instability,¹³⁸ and there is a surge of financial innovation supporting the measurement of nature-related exposure, such as nature-linked sovereign debt issuance and debt for nature swaps.¹³⁹ There has also been an increase in self-declared specialised biodiversity-focused funds, with assets under management estimated to have passed US\$984 million at the end of 2022.¹⁴⁰

Financial policy and regulatory dimensions of the nature-finance nexus are on the move.

An encouraging development has been the intensification of efforts to better measure and disclose nature-related risks. A recent Goldman Sachs Equity Research Briefing concluded, “we think investors may increasingly adopt the TNFD’s framework ... which could lead to greater pressure on companies to enhance biodiversity-related reporting starting in 2024”.¹⁴¹ It is likely that this disclosure will, on its own, only impact asset allocation over a prolonged period of time, even if it becomes a statutory requirement, as it has for example in France through Article 29 of its climate law.¹³⁴² Nature-related risk disclosures via TNFD and its mandatory offshoots is expected to gradually become more influential, helped by the growing political support from the G7,¹⁴³ and through links with the International Sustainability Standards Board tasked to develop a global sustainability reporting standard baseline.¹⁴⁴

Beyond disclosure, there is growing attention being paid to biodiversity by central banks and supervisors. The European Central Bank has taken a lead in addressing biodiversity risks, emphasised by its recent pronouncement that “This is not some kind of a flower power, tree-hugging exercise... this is core economics”.¹⁴⁵ It also reported the results of research showing that 72% of Eurozone companies and three-quarters of bank loans in the region are exposed to loss of biodiversity.¹⁴⁶ The ECB’s aggressive stance is aligned to moves by the broad-based Network of Central Banks and Supervisors for Greening the Financial System (NGFS) to broaden their scope of activities to consider biodiversity related financial risks.¹⁴⁷

Notwithstanding such progress, this incremental approach is inadequate to positively impact nature and climate at scale in a timely manner. This is demonstrated by the global records over the last two years for deforestation rates as well as the deterioration of other aspects of biodiversity.¹⁴⁸ Likewise, 2022 was a record year for coal consumption, with 8 billion tonnes burned, partly driven by Europe's pivot to coal in the face of energy security concerns. A massive fleet of new coal fired plants is expected to be built over the rest of this decade. China alone plans 270 gigawatts of new coal-fired plants by 2025. Coal companies remain far from being economic pariahs, with the largest three Australian companies making US\$6 billion profit in 2022.¹⁴⁹ As recent research suggests, this is largely made possible by the continuous availability of financing, by global banks such as Bank of China, Citigroup JP Morgan, and Standard Chartered.¹⁵⁰

From investor and financial stability risk to policy alignment.

Drawing on the conclusions of a keystone analysis by the Council on Economic Policies, it is clear that neither the lens of "material financial risk" nor that of "financial instability risk" is working to align financial flows with existential nature and climate goals.¹⁵¹ There is an urgent need for a stepwise change in the governance of financial markets. We need to move beyond finance-related risks to require financial institutions to align their investments with policy, and often legal commitments, to climate and nature action made by the governments of countries in which they are domiciled.

Policy-directed financing has garnered a bad reputation, mainly because of fears of populist policy intervention in monetary matters, or inefficient and ideologically driven lending requirements imposed by governments. There are, however, many precedents for such an approach:

In June 1934, President Roosevelt signed a bill into law that authorised the Federal Reserve System to "make credit available for the purpose of supplying working capital to established industrial and commercial businesses."¹⁵²

France's central bank has engaged in credit allocation to support the country's industrial policy. The Bank of Japan has also been intricately involved in channelling capital flows to priority sectors and targeted infrastructure. The Bank of Korea and many others have played similar roles.¹⁵³

The dynamic complexity of the systems we now live in challenge conventional approaches to policymaking, associated rule-setting, and even enforcement. The financial system is undergoing dramatic change. Today, any corner shop or global technology company might potentially create, mobilise, and channel money. Major parts of the financial system are being disintermediated, and new actors with strongholds in the digital economy are building game-changing financial products and services.

Twentieth century approaches to ‘good governance’ are most often top-down, hierarchical and focused on the control of non-state actors. They have proved inadequate in effectively guiding increasingly complex, dynamic societal processes, especially markets. In response, a new generation of governing approaches are being developed, involving more permeable, transitory, collaborative decision-making and fostering rapid feedback, learning and action.

In that context, the governance of finance cannot be indifferent to global challenges, such as inequality and climate change. As the USA Federal Reserve Chair, Jerome Powell, remarked in 2019, “As we look back over the decade since the end of the financial crisis, we can again see fundamental economic changes that call for a reassessment of our general framework”.¹⁵⁴

Some central banks and financial supervisors have already taken first steps in engaging on these issues. Yet, their analysis and actions remain largely driven by a narrow interpretation of their goals. Unchallenged, nature’s destruction and climate change, for example, will eventually destroy lives and economies. However, through a conventional frame of reference, action by central banks and financial regulators remains tied to their assessment of whether this existential threat impacts on price and financial stability over a relatively short time horizon.

The Taskforce therefore proposes three core shifts to bring the governance of finance into alignment with planetary goals for nature and our climate:

1 Aligning Purpose: The institutions governing finance can and should pursue instrumental goals such as price and financial stability, but these must be embedded in a broader set of objectives.

3 Aligning Institutions: The institutions governing finance should be more effective, ensure rapid and cooperative learning, and involve a greater diversity of actors and decision-making venues. The right balance should be struck between having stable rules and the need to keep pace with the dynamic evolution of complex systems in an era of perpetual poly-crisis.

2 Aligning Instruments: The toolbox which the institutions governing finance deploy should reflect this broader purpose as well as the changing landscape in which they operate. The use of existing instruments must be grounded in a robust analysis of their effectiveness in contributing to sustainable prosperity and adapted accordingly, where required. New instruments should be assessed according to their potential contribution to societal priorities.

Lessons in Governing Nature Markets

There are cross-cutting lessons and recommendations for the governance of nature markets.

Nature markets vary dramatically, as do their existing governance arrangements. Nonetheless, several broadly applicable lessons can be drawn from our analysis of the four selected nature market archetypes: **nature credit markets, illegal nature markets, soft commodity markets and financial markets.**

These cross-cutting lessons include:

Governance must be designed to meet the complexity of the system it seeks to govern: delivering a nature economy that is equitable and nature positive requires new business models and markets. It ultimately requires a transformation of the international economic and financial architecture from one that is largely 'nature-ignorant' to one that is 'nature and people-centric'.

Top-down governance will only work if it is integrated with bottom-up market shapers and governance: top-down approaches to governing nature markets need to nurture and complement bottom up, community-led action and efforts across many complementary governance layers.

Dynamic, multi-faceted approaches cannot be ad hoc: ambitious, coherent action to harness nature markets for equitable, nature positive outcomes demand a common vision, agreed goals and a framework that in turn allows for multiple actors to align over time, similar to the intent of the Paris Agreement on Climate.

Fundamental changes to governance can be built on tested building blocks: making fundamental changes to governance can often simply involve the more effective deployment of existing approaches. Examples include the adoption of tried and tested approaches to market transparency, the ways in which traders themselves can be certified,¹⁵⁵ and establishing meaningful and effective price floors.¹⁵⁶

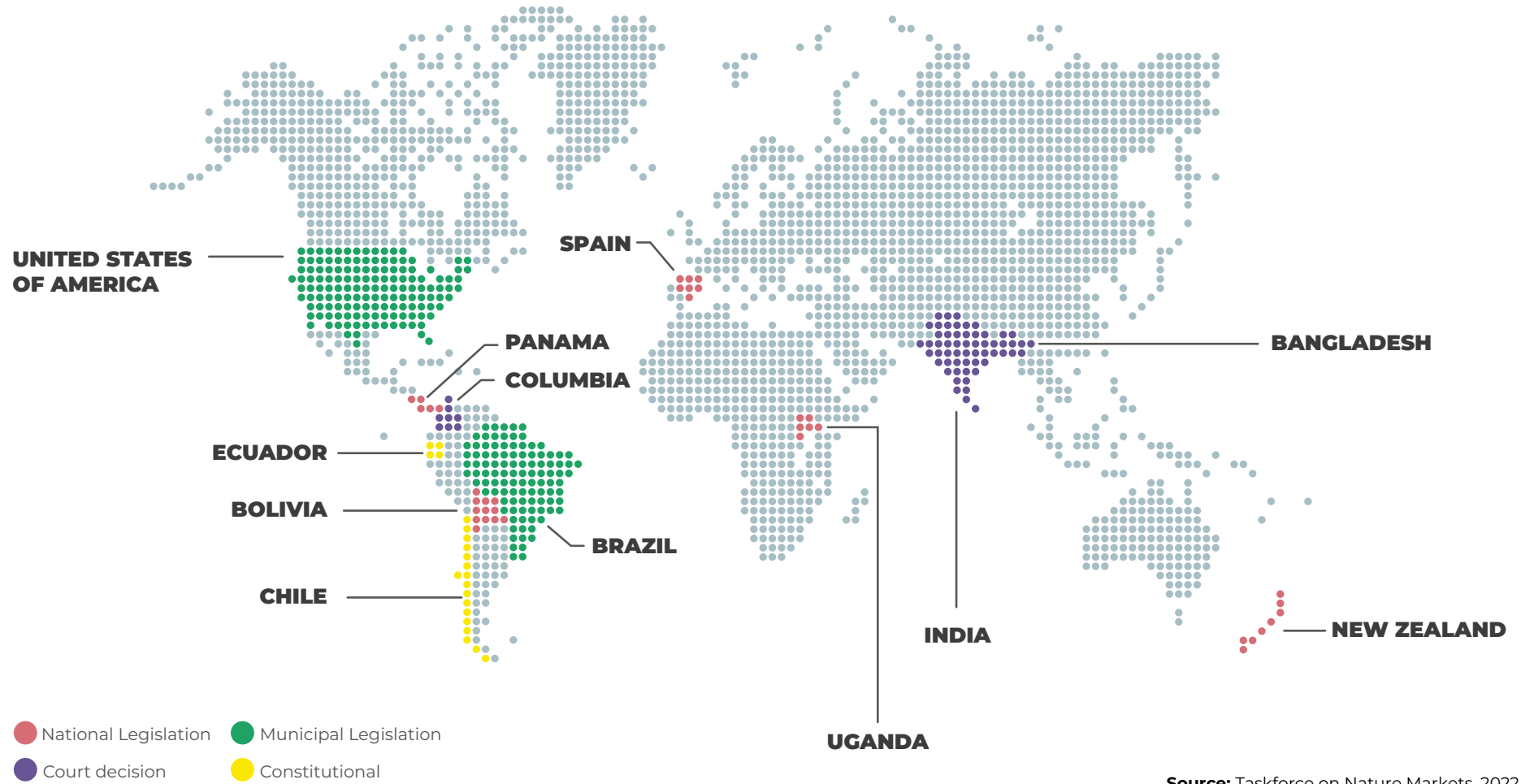
Governance of nature markets can deploy scalable innovation: governance innovations can be effectively deployed at a global scale. Examples include open-source platforms for biodata, using blockchain to enhance price discovery and market liquidity and legal innovations such as the legal 'rights of nature'¹⁵⁷ – see Exhibit 16 below for the legal rights of nature precedents across the globe.

A 'governance' stack can be deployed flexibly across diverse nature markets.

Drawing on these lessons, policymakers should combine existing and innovative elements together in a 'governance stack' of basic building blocks from which the governance of nature markets can be flexibly yet systematically developed. In some instances, the key may be to advance greater transparency, amplify stakeholder voices, or improve price discovery and liquidity. In other instances, regulatory developments may be the essential piece – whether judicial action, deploying innovative legal instruments, financial regulations or setting new standards.

This governance stack should be embedded within a broadly agreed Nature Market Governance Framework. This would provide a basis for comparative assessments of the state of governance in specific nature markets, informing market design efforts and improvements in practice.

Exhibit 16 The Developments of the Legal Rights of Nature Across the Globe



Source: Taskforce on Nature Markets, 2022

Exhibit 17 Building Blocks for Governing Nature Markets

- 1 Integrity Principles:** establishing the vision and purpose of nature markets, and so guiding their technical design and oversight, exemplified by the Integrity Principles developed by and through the World Economic Forum to be applied to biodiversity credit markets.
- 2 Nature Measurement:** including the quality, terms of access to and use of data, including agreed measures of the state of nature, exemplified by sophisticated measures such as ETH Zurich's Biocomplexity Index and UNEP-WCMC's Forest Intactness Index.
- 3 Capital Accounting:** including the basis on which measures of the state of nature are translated into accounting that can in turn be represented financially, exemplified by the underpinning of Intrinsic Exchange's Nature Asset Companies and the work of The Landbanking Group.
- 4 Transparency and Traceability:** including a radical approach to both transaction-level and trader transparency, and full traceability, almost certainly making greater use of enabling digital technologies including blockchain and tokenisation.
- 5 Equity and Respect:** including mechanisms for empowering weaker market actors, including as appropriate Indigenous Peoples and local communities, in securing fair prices and where relevant, embedding cultural characteristics into nature market's products, rules and broader governance arrangements.
- 6 Stakeholder Voices:** including more traditional means of involvement of impacted stakeholders on relevant market governance bodies and leveraging digital innovations to embed voices into product characteristics, for example, as through the use of distributed ledgers.
- 7 Business Accountability:** including the well-trodden approach to risk and impact assessment and disclosure requirements, augmented by extended fiduciary responsibilities reflected in innovative corporate governance frameworks and interpretations.
- 8 Legal Architecture:** including national and international legal and regulatory developments for governing nature markets, exemplified by recent nature market regulations developed by Australia and the UK, whilst advancing the use of more ambitious legal approaches such as the maturing emerging 'rights of nature' framework, and the application of ecocide proposals.
- 9 Purposeful Regulators:** regulators need to have nature policies and international commitments built into their mandates, requiring them to ensure that market actors within their purvey are required to demonstrate an alignment pathway over an acceptable time.

6

**RECOMMENDATIONS
TO MAKE
NATURE MARKETS
WORK**





Ambitious and targeted interventions are needed to trigger scaled nature market transformation.

Making nature markets work – where nature is more effectively priced to deliver equitable, nature positive outcomes – does not imply an exclusive or even primary focus on market-based solutions. Indeed, the balance of the Taskforce’s findings argue that the opposite is the case – that most solutions are underpinned by political and policy actions needed to transform the basis on which enterprises, markets and economies use, invest in, trade, and pay for nature. The engagement of citizens (consumers, taxpayers and voters) is paramount to shaping markets for a positive outcome and to ensure effective implementation of regulatory requirements or public policy frameworks.

Informing this general framing of recommendations is the entirely inadequate pace of change witnessed in addressing climate challenges. This shortfall has occurred despite the availability of a unitary measure of carbon and the opportunity to harness the extraordinary clean energy technology wave.

When it comes to nature, there is no equivalent basis for scaling a unitary price of nature. Moreover, there is no equivalent investable technology wave for nature, notwithstanding the growing interest in technology intensive food and soft commodity production - from laboratory protein and cotton to closed environment agriculture.

Recognising these fundamental differences, addressing the interlinked but distinct climate and nature crises will therefore require different playbooks. For nature, at its core, the major difference is a much more intensive (although by no means exclusive) reliance on policies and associated instruments to trigger shifts in market behaviour and innovations. Nature does not have the benefit of big tech plays or simplified price discovery helping independently accelerate market development.

The nature playbook includes policy incentives, regulation, and new governance frameworks at the local, regional, and international levels. It will also require mechanisms to ensure that nature markets can be effectively influenced by local communities and Indigenous Peoples, to a degree not previously seen in financial markets.

Exhibit 1

Recommendations to Make Nature Markets Work

1

Aligning economic and financial architecture with an equitable, global nature economy

Action to align the international economic and financial architecture with the imperative of advancing an equitable, global nature economy.

2

Policy alignment of central banks and supervisors

Action to broaden the mandates of central banks and supervisors to require them to ensure that actions by financial actors, markets and systems are aligned with relevant government and international policy commitments on nature and climate.

3

Aligning public finance with the needs of an equitable, global nature economy

Action to align public sector financial management with international nature commitments crystallised in the Kunming-Montreal Global Biodiversity Framework.

4

Making food commodity markets accountable to people and the planet

Action to make soft commodity markets more accountable for people and the planet – as the world’s largest and most impactful nature market - that notably facilitates the global trade of food.

5

Securing improved economic benefits for nature’s stewards

Action to form one or more nature sellers’ clubs comprising either/and nature rich sovereign nations and groups of Indigenous Peoples and local communities to deliver high integrity nature at agreed or, if necessary, imposed prices.

6

Addressing the harmful impacts of nature crimes

Action to reduce the incidence and impact of nature crimes by establishing a requirement for investors and financiers to demonstrate that their financing value chains are nature crime free.

7

Converging measures of the state of nature

Action to establish a common approach to measuring and making publicly available the state of nature anywhere on the planet.



Aligning economic and financial architecture with an equitable global nature economy

Action to align the international economic and financial architecture with the imperative of advancing an equitable, global nature economy.

Pivoting a global economy that is dependent on the unsustainable overuse of nature and generates structural inequalities will require fundamental changes to the prevailing conventional wisdom that underpin today's economic and financial architecture. Changes are needed in key areas pointed to in the recommendations below, such as financial and monetary policies and regulations, and also trade and investment rules.

A piecemeal approach is unlikely to be effective, being too slow, creating new levels of inconsistency and not preventing, and therefore itself being disrupted by, growing tensions and conflict. What is needed is a more systematic and ultimately, systemic design undertaken collaboratively at the highest levels, encouraging ambition, leadership, trust and increased coherence.

Such an approach is best advanced where possible through existing international cooperation channels. This should notably include the G20, starting with Brazil's Presidency in 2024, given the country's pre-eminence as a major nature economy and its public commitment to equity and addressing the climate and the nature emergency. Alongside this, the agenda can and should also be progressed in related and parallel fora including the G7, climate and nature COPs, the IMF Annual Meetings, the WTO/UNCTAD and the BRICS Summits.

2

Policy alignment of central banks and supervisors

Action to broaden the mandates of central banks and supervisors to require them to ensure that actions by financial actors, markets and systems are aligned with relevant government and international policy commitments on nature and climate.

Efforts to advance the incorporation of nature-related risks in private sector financial decisions and stability considerations must be encouraged through initiatives like the TNFD and the NGFS.

Such approaches will not, however, deliver the timely pivot needed towards net zero, nature positive outcomes. A pivot towards a 'policy alignment' approach is needed. First and foremost, this requires those that govern financial markets - central banks and supervisors - to have broadened mandates that obligate them to direct financial market actors to deliver and execute timed plans that transition their portfolios to align with well-defined nature positive and net zero carbon impacts.

Policy aligned central banks and supervisors are today more common in developing countries that have not embraced the contemporary practice amongst most OECD countries to separate substantive policies (such as climate and nature targets) from financial policy and regulation. That said, such an alignment approach has historically been adopted by major economies during emergency 'war time' periods, and there is little doubt that the combined nature-climate crisis warrants a comparable approach.

3

Aligning public finance with the needs of an equitable, global nature economy

Align public sector financial management with international nature commitments crystallised in the Kunming-Montreal Global Biodiversity Framework.

Alongside the focus on private financial flows highlighted in the first recommendation, there is the need to ensure that public finance is aligned to nature and climate policy commitments, taking effective account of both expenditures and the raising of funds through taxes and borrowing.

Green fiscal budgeting that is both climate and nature sensitive is a growing practice that needs to be encouraged through national action and international initiatives such as the BIOFIN programme of the United Nations Development Programme (UNDP).

Perverse public subsidies that incentivise the destruction of nature, notably linked to fossil fuel use and intensive food production, need to be terminated, as highlighted in numerous international fora and commitments including the GBF.

Sovereign financing, raised through international capital markets and for many developing countries through development finance institutions, needs to be sensitised to nature risks and outcomes. This includes, where relevant, the use of performance-based financing instruments such as sustainability-linked sovereign debt.



Making food commodity markets accountable to people and the planet

Action to make soft commodity markets more accountable for people and the planet – as the world’s largest and most impactful nature market – that notably facilitates the global trade of food.

An integral part of aligning global finance with equity and nature impact imperatives is the need to make these soft commodity markets, that trade the world’s underlying food supply, fit-for-purpose. There is no simple fix in pivoting food commodity markets to take greater account of their impact on people and the planet, not least because of the corporate and sovereign interests that maintain the unresponsiveness of these markets to broader sustainability concerns.

Innovative advances made through diverse so-called ‘sustainable commodities’ initiatives have only succeeded, if at all, by in effect circumventing the core soft commodity markets through direct purchasing. Such practices are, and are likely to, remain marginal to these multi-trillion-dollar markets, whose dominant trading enterprises remain extraordinarily untransparent and largely unresponsive to serious and much needed change.

The starting point must be a commitment by policy makers and regulators to advance governance arrangements that require at a minimum full traceability and enhanced transparency about impacts. The next stage would require major commodity traders to issue publicly available transition plans to nature positive and net zero, with enhanced mandates given to relevant regulators to ensure compliance.



Securing improved economic benefits for nature's stewards

Action to form one or more nature sellers' clubs, comprising either/and nature rich sovereign nations and groups of Indigenous Peoples, to deliver high integrity nature at agreed or, if necessary, imposed prices.

Reversing the historic unsustainable extraction of under-priced nature from nature rich countries and from Indigenous Peoples and local communities by establishing coalitions of suppliers that can together establish higher prices in return for guaranteed high integrity nature/ecosystem services in terms of equity and sustainability. Such developments already exist in various forms, such as OPEC and the recent attempt by the Democratic Republic of the Congo to establish a sellers' club for cobalt.

One approach would be to kick start such a club building on existing financing challenges, such as the urgent need to establish approaches to funding sovereigns and Indigenous Peoples and local communities to conserve intact land and seascapes, notably for standing forests that are critical to collective efforts to address climate challenges.

Such an approach could be linked to current efforts to develop biodiversity credits and more sophisticated and effective bio-enhanced carbon credit markets. It could build on, as an example, the recently launched Global Roadmap to Harness Biodiversity Credits for People and the Planet, and parallel and connected efforts to develop bilateral and plurilateral nature financing 'country packages'. These efforts will not succeed if they remain purely at the level of sovereign states—Indigenous Peoples and local communities will need to be directly involved as equal partners in the design, governance and ownership of nature markets going forward, and receive their appropriate share of benefits.

6

Addressing the harmful impacts of nature crimes

Action to reduce the incidence and impact of nature crimes by establishing a requirement for investors to demonstrate that their financing value chains are nature crime free.

Nature crimes are without doubt one of the greatest causes of the destruction of nature and related social and human rights abuses. Many efforts are underway to address such criminal activity through the use of multiple actors and channels, but the problem remains chronic across many natural land and seascapes.

Much of nature crime is linked to contaminating existing legal nature markets with illegal inputs. Examples include illegal gold, illegal timber, or agricultural commodities, which are tainted by illegal activities such as deforestation and slave labour. A growing number of progressive actors in agribusiness understand the need, value and importance of traceability, transparency and a value chain free from deforestation and slave labour, for all commodities. Nonetheless, the extraordinary challenges involved in addressing these issues mean that the legal food system is still tainted to a serious degree with the products of nature crimes. These products, in turn, are largely financed by entirely legal investors, often from the world's most prestigious trading and financial institutions.

While no one is intentionally seeking to finance nature crime, adequate steps are not yet being taken either, at the systemic level, to ensure that supply chains and investment portfolios are free from the fruits of nature crime. Likewise, combating illegality — often a survival strategy for the poorest and most vulnerable — requires not only disclosures from financial market, but also real economy policies. This could be through rewarding of nature preservation including through market mechanisms and other sources of livelihood support in combination with law enforcement in the face of highly organised criminal networks.

In the absence of that and in such a deeply embedded and extensive situation, investors are effectively benefitting financially from the under-priced ecosystem services associated with nature crimes, with local populations in nature rich countries often bearing the weight of the costs.

A major opportunity exists, and today remains untapped, to significantly reduce the level of nature crimes by requiring legal investors to demonstrate that their financing value chains are nature crime free, and to incur penalties for failing to do so. Such an approach could be embedded in existing institutional arrangements governing anti-money laundering — amplifying and accelerating the leadership already being demonstrated by the Financial Action Task Force (FATF). Alternatively, reform could be advanced through a 'conflict diamond' type approach embedded in specific national or supra-national agreements and corporate governance rules, potentially coordinated through the G20 or other platforms. The efforts placed to halt illegal gold from entering the jewellery market or the bank reserves as an asset class is another good example of how finance can address nature crimes in its value chain.

In addition, it is critical to engage consumers and citizens at large to demand nature crime free value chains and use their purchasing power as well as voting rights to help stem nature crime.



Converging measures of the state of nature

Action to establish a common approach to measuring and making publicly available the state of nature anywhere on the planet.

The surging availability of biodata through many mechanisms and from many sources is improving our understanding of both nature-economy dynamics and the nature-climate nexus. Much is being done to encourage or require the business community to make use of such data in assessing and reporting on nature dependencies, risks (as well as opportunities) and impacts.

Agreement on the fundamentals of measuring the overall state of nature, however, remains elusive. This is despite decades of work in developing natural capital accounting methods, and more recently, innovative approaches to delivering composite measures of biodiversity intactness that take account of its complexity and heterogenous elements. We have to reach a common basis for measuring the state of the current stock of nature. the risk of using partial measures, for example looking exclusively at water, soil, or air quality in isolation, is likely to distract, distort and ultimately undermine attempts to ensure that markets price, use and impact nature in a sustainable manner.

Alongside the need for a robust, convergent approach is the need to ensure that such foundational data is publicly available, rather than becoming locked up behind paywalls that institutionalise information asymmetries and increase the likelihood of greenwashing and a broader lack of accountability of market and state actors. What is needed is a large scale, institutionally robust and sustainable basis for such data to be made freely available and easy to access, perhaps building on early experiences in designing and developing open-source public data utility platforms.

7

**MAKING IT
HAPPEN**



Overcoming our ‘collective cognitive dissonance’ is the key.

Pivoting to a sustainable, ecological global economy is a task fraught with challenges and risks. As with the need to address urgent climate challenges, there is a ‘collective cognitive dissonance’ that constrains our will to act ambitiously faced with the magnitude of what needs to be done, combined with the immediacy of multi-faceted, ongoing crises. As the full extent of the twin climate and nature crises becomes more apparent, there is a perverse danger that this self-imposed constraint to act incrementally vs ambitiously becomes ever stronger.

Overcoming this collective behavioural impulse to act incrementally — instead of ambitiously and decisively — is the single greatest challenge of our time.

Our recommendations are game-changing, already in motion, and absolutely achievable.

Our seven main recommendations, individually and together, would make a significant difference to the way in which nature is integrated into, priced and traded in individual markets and the wider global economy. As a result, this would make a major contribution to our efforts to address climate change, and advance greater equity across many parts of the global economy.

Crucially, each and every one of these recommendations builds on what is already happening. We have highlighted some of these emergent shifts that we can and must harness. Ranging from the early considerations of climate and broader sustainability issues by the world’s central banks and financial regulators through to windows on the workings of soft commodity markets, and convergence in approaches to measure nature.

There is, in short, nothing in the recommendations that is not practical and implementable.

Observing and reporting on progress has its place in catalysing systemic change.

Although our ambitious recommendations are all actionable, the system tendency is to move slowly, avoid conflict, and reduce ambition. A clear danger is that those who should and could act will focus on, and claim victory in securing, lower-hanging fruit, rather than risking visible shortfalls by focusing on more fundamental system wide changes.

Ongoing monitoring, measuring and public reporting on what progress is being made can make a difference — market by market, place by place — highlighting the roles of different actors in making this transition possible, or not. Whilst many actors will play important roles in observing and commenting on progress, there is an important role to play of an “observatory” that can periodically consolidate an overview of progress set against increasingly ambitious needs. Given the first recommendation to elevate the agenda to the level of the G20, a good place to start would be to establish a “nature economy scorecard” of G20 member countries.

Contributing to change, not the last word.

The Taskforce on Nature Markets was established to advance the potential and mitigate the risks of growing nature markets, with the aim of -nudging their development in pursuit of more equitable, nature positive outcomes. Its intended contribution to such an ambitious mandate needs to be understood in the broader context of the many other actors seeking to advance aspects of the same agenda, including those focused on specific markets, jurisdictions, and governance instruments as well as others already working on more systemic aspects related to elements of nature or climate. The recommendations need to be understood and acted on in this broader context.

The thinking and practice around nature markets, the nature economy and the nature-finance nexus are rapidly evolving. New thinking and novel pathways and approaches will continue to emerge and need to be embraced. That said, we hope our recommendations will help form the core pillars of any serious attempt to pivot the global economy towards one that is more equitable and sustainable in its use of, and investment in, nature.

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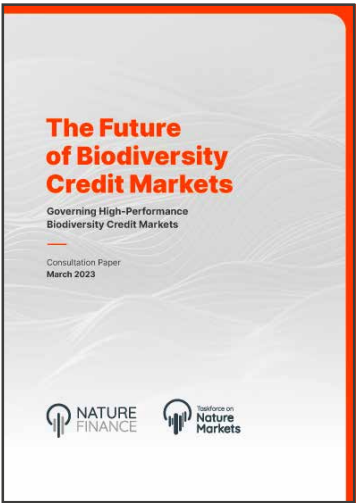
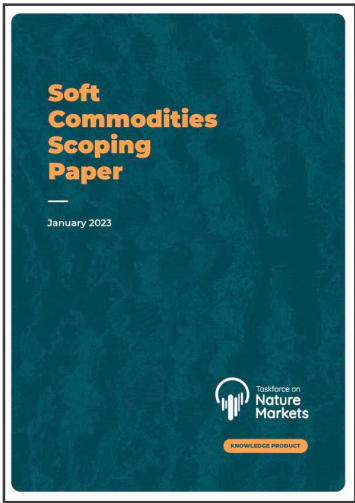
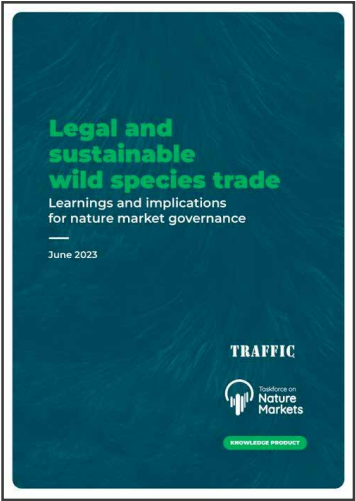
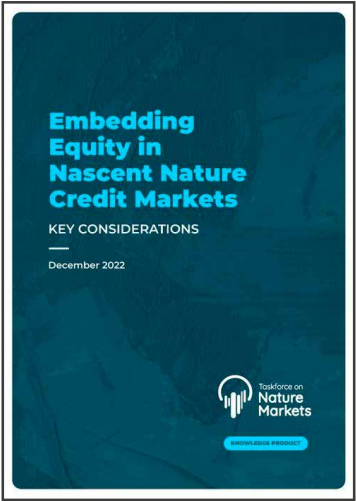
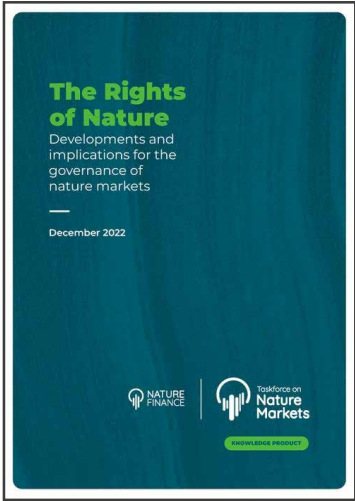
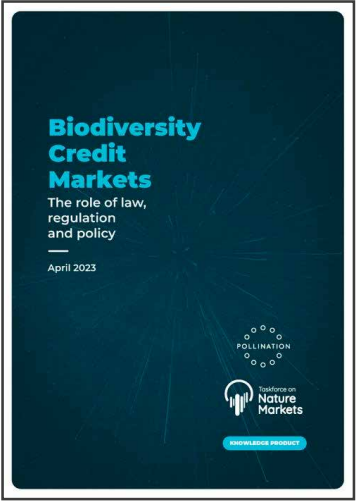
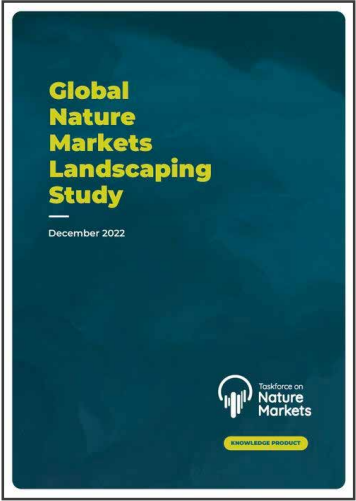
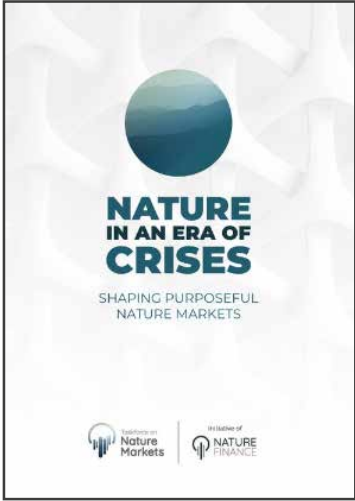
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EXTENDED REPORT

