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Changing Finance to Catalyze Transformation:

How financial institutions can accelerate the transition to an environmentally sustainable economy

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How financial institutions can accelerate the transition to an environmentally sustainable economy

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About GEO for Business

The United Nations Environment Programme [UNEP] and its global partners are proud to offer this series of stimulating briefs about the environmental challenges and business opportunities that demand transformational change at a global scale. These business briefs are meant to communicate the science of the environment to a broad business audience and provide possible pathways and roadmaps that business can follow to address these environmental challenges. The audiences these briefs hope to reach include companies in the supply chains of major multinationals, multinationals themselves as well as small to medium-sized enterprises. The themes of the first five briefs include:

- how to transform in a time of uncertainty,
- how to transform business models towards a fully circular model,
- how to transform global food systems,
- how to build environmentally sustainable and resilient infrastructure,
- and the role finance needs to take in a transforming world.

Key Messages

The financial sector has an essential role to play in addressing global environmental and social crises. A dramatic transformation of energy, food and waste systems is needed to achieve the goals of the Paris Agreement and Agenda 2030. This transformation requires a transition towards sustainable businesses models and related production and consumption. How more than US$400 trillion in global financial assets is allocated over the next decade will play a critical role in determining the alignment of companies with the UN Paris Agreement objective of "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", and the UN Sustainable Development Goals (SDGs). The stability of the climate, nature, the economy, society and the financial system are at stake.

Financing is starting to be directed towards helping public and private markets make this sustainability transition. This has two major consequences on company access to finance. First, financing of new projects (debt and/or equity) will be more readily available for sustainable projects, and second, existing financial portfolios will be restructured to favour companies with environmentally sustainable business plans and performance.

Sustainability in business strategies is becoming an additional decisive factor, and an imperative for businesses to access third-party financing for debt and equity. This represents a paradigm shift in the private sector and will result in winners and losers across and within sectors during the transition to an environmentally sustainable economy.

As sustainable finance becomes mainstream, financial institutions increasingly require companies across sectors to integrate sustainability into their operations and supply chains. Non-financial companies need to understand how the financial system is changing to address environmental challenges, and how their businesses are positioned for the shift in capital allocations to transition to an environmentally sustainable economy.

To align financing with the SDGs and goals of the Paris Agreement, the financial sector needs:

- **To accelerate the transition to an environmentally sustainable economy through financial products and services.** Approaches to align with global goals include developing and scaling sustainable financial products and supporting clients that are transitioning to sustainable business models. Key areas for financing transformation include shifting food systems to regenerative agriculture, developing future-proof infrastructure, and transitioning to circular economy business models across sectors. Levers for change include scaling up sustainability performance-based financial products, integrating sustainability data into financing solutions, and company engagement. Channeling sustainable financing to small-and-medium-sized enterprises and considering gender equality performance indicators are important aspects of ensuring financial inclusion.
- **Public support can be directed to catalyse private finance through multilateral development banks (MDBs) to de-risk investments in developing countries**. Making financing more commercially viable and growing technical capacity to support operational commitments can lead to product innovation within private financial institutions to create 'blended finance products' that provide complementary finance. Unlocking the huge potential for financial institutions will require greater liquidity and increased uptake of these financial instruments.

- **Greater capacity to integrate environmental sustainability factors into core business processes and decision making.** Collective action by banks, insurers and investors through voluntary initiatives is driving change in financial systems by developing the frameworks, strategies, tools and expertise to solve challenges and develop common approaches to address sustainability-related financial risks and opportunities. Alliances are ratcheting up ambition and developing pragmatic guidance to align financing with the goals of the Paris Agreement. Industry-wide uptake of resulting approaches is required to align the financial system with the 1.5 degrees limit. Financial institutions need to ensure staff have the requisite knowledge, skills to drive transformation in the economy.
- **Transformational leadership is needed to embed sustainability in governance, incentives, skills, resources and culture across operations.** Effective integration requires embedding environmental and social sustainability objectives in roles at senior organizational levels, with effective governance to steer the alignment of financing with environmental and social priorities. Environmental and social sustainability-oriented outcomes need to be at the core of executive incentive plans. Leadership needs to ensure ambitious and pragmatic mind sets to deliver strategies with environmental and social outcomes across portfolio sectors, to implement targets to align portfolios with the UN Paris Agreement and the SDGs.
- **Transparency and accountability for environmental impacts.** Corporate disclosure frameworks using performance indicators based on science need to enable financial institutions to measure and manage the environmental impacts of lending, investment and underwriting portfolios. Disclosure requirements on companies are increasing as expectations are growing for financial institutions to understand and address the environmental and social impacts of lending, investment and underwriting portfolios through the companies they are financing. Transparency and accountability are critical to ensure global financial assets contribute to positive impacts aligned with sustainable development and climate stability, and reduce negative impacts such as environmental degradation, pollution and waste.
- **To ensure responsible advocacy to catalyze the requisite enabling environment for financing aligned with sustainable development.** The financial sector needs to support an enabling environment to address environmental sustainability challenges through policy and regulatory frameworks in finance and specific market sectors. They can prepare their organisations for monitoring by financial regulators of climate- and nature-related risks to the financial system and management of a stable transition to an environmentally sustainable economy.

Table of contents

1. The scale of the challenge

The sixth Global Environment Outlook (GEO-6), published in 2019, before the global pandemic, assessed the state of the global environment, the effectiveness of the policy responses in addressing these environmental challenges and the outlook for the future if we stay on the path that we are on versus if we decide to achieve the environmental goals that countries have already committed to. Unfortunately, GEO-6 paints a bleak picture of the future if we continue providing energy using today's fossil-based energy sector, producing food through today's food system and managing waste the way we currently manage it.[1] Some key facts include:

- Air pollution currently causes 6-7 million premature deaths each year.
- Global greenhouse gas emissions have increased every year since the UN Framework Convention on Climate Change (UNFCCC) was negotiated and global average temperature is now more than 1°C above that in pre-industrial times.
- The Living Planet Index, a measure of global biodiversity, has declined by more than 60 per cent since the 1970s.
- 8 million tons of plastics enter our oceans each year, mainly from land-based sources.
- 50 per cent of habitable land is used for food production and 77 per cent of that land is used for meat production.
- 70 per cent of all freshwater extraction is used for food production.
- About 1/3 of food is lost or wasted globally.
- Deforestation rates have declined, but they are still at about 3 million hectares per year
- 1.4 million people die each year from pathogen polluted water and 2.3 billion don't have access to safe sanitation services.
- Between 7-10 billion tons of municipal waste is generated each year.

If we stay on the path we are on, by 2050:

- The global population will reach between 9-10 billion.
- 50 per cent more food will be needed to feed a larger, more affluent population.
- Global average temperature could increase to between 2.5 and 3°C, leading to:
- Sea level rise, which will damage protective walls, create more flooding and salt-water intrusion, and inundate low-lying, coastal cities.
- Temperature increases on land, which will negatively impact food production through lengthier and more frequent droughts.
- More frequent and intense wildfires, damaging or destroying properties and homes.
- More frequent and intense hurricanes and cyclones, damaging or destroying infrastructure with the financial cost borne by national economies and the insurance industry.
- Antimicrobial resistance in humans, mainly as a result of overuse of antibiotics in our food system, could be the leading cause of death in 2050.

In its summary for policy makers, the GEO 6 recommends that environmental issues are best addressed when dealt with in conjunction with related economic and social issues, including consideration of gender equality and equity. A dramatic transformation of energy, food and waste systems is needed to:

- Eliminate about 90 per cent of fossil fuel use by 2050.
- Reduce the environmental impact of the global food system by about two-thirds.
- Design circular economies to achieve near-zero-waste by 2050.

This scale of transformation requires a dramatic shift in the models of businesses and related production and consumption. These models are influenced by what is financed and how it is financed, so the financial sector has a very important role to play in addressing these challenges.

2 The role of the financial sector

Crises such as COVID-19 [2] demonstrate the impact of significant shocks to the global economy and, at the same time, heighten awareness of vulnerabilities created by climate change, biodiversity loss and pollution stressors caused by the impact of human activities on nature. This has led to further calls to integrate environmental and social elements into economic stimulus packages and to direct private sector finance to more environmentally sustainable businesses.[3] Green economic recovery measures can represent significant investment opportunities for the financial sector as these stimulus packages can also increase the bankability of green projects and enterprises.

Initially designed to be fulfilled by governments and multilateral banks, it is now widely acknowledged that financing of the Sustainable Development Goals (SDG) cannot be delivered without private capital. A global effort among countries, international organizations, and financial institutions to mobilize capital towards the achievement of the SDGs is critical to achieve the transformations outlined in the GEO-6 main report and the other Business briefs.

Transitioning to circular business models, regenerative food systems, low-carbon energy systems and resilient and sustainable infrastructure, outlined in previous GEO for Business briefs, will require both public and private sector finance to be redirected in the real economy to avoid the environmental impacts of existing models that fuel over-exploitation of natural resources and generate excessive waste and pollution.

Finance has the potential to be a major driver of the transformation to a nature positive and net-zero carbon economy. Estimated at more than US$400 trillion, global financial assets are at their highest value since before the global financial crisis in 2008-09.[4] The global financial system – through banks, insurers and reinsurers, asset owners such as pension funds, and asset managers – is in a position to play a critical enabling role to catalyze the business transformation needed to help solve climate change and other environmental challenges outlined in Brief 1 of this series.

The core purpose of the financial system is to ensure that financial flows support long-term needs and 'balanced, sustained growth'.[5] However, there is an important risk that the financial sector will not catalyze the business transformation needed fast enough to solve the climate and nature crises. There is also a lack of transparency around the sustainable development and climate impacts of global financial assets. The United Nations Secretary General has called for more transparency to ensure that all finance - public and private – supports the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change.[6]

Urgent and significant action is essential for all parts of the financial system to play their role in addressing these crises. This brief explores ways in which the financial sector is starting to play a catalytic role in financing businesses to transition towards delivering environmentally sustainable food, energy and waste systems as discussed in GE0-6. It provides insight into how the financial sector is changing to better contribute to the UN Paris Agreement goals and SDGs. The report includes recommendations on how financial institutions can accelerate this shift in order to more rapidly transform public and private companies into businesses which contribute to achieving the SDGs while avoiding environmental degradation, restoring ecosystems and eliminating pollution. An in-depth assessment of the role of specific asset classes or types of financing is outside of the scope of this brief.

3 Financing change

3.1 Finance as a catalyst to change the impacts of economic activity

A transformed global economy that is circular, inclusive, generates decent employment, and does not result in environmentally degraded ecosystems requires a significant shift of financing towards renewable, circular and non-polluting technology business models. The private financial system facilitates the exchange of funds, goods and services between individuals, businesses and governments, including by allocating capital, diversifying risk and mobilizing and pooling savings. The financial system's main environmental and social impacts are indirect and result from the actions of the businesses that receive financing. In this way, financing can support the transformation of economic sectors towards a nature-positive economy in which climate is stabilized, critical ecosystems are protected and restored and pollution is eliminated to increase the natural system's resilience.

Financial institutions are also developing approaches to **food systems transformation** through initiatives such as the Good Food Finance Network, which is developing financial instruments and strategies to generate food systems that sustain the health of people, nature, and economies, and includes a pledge, launched during the COP 26, by 30 financial institutions with USD 8.7 trillion in assets to eliminate agricultural commodity-driven deforestation in their portfolios by 2025 [7]. Financial institutions are starting to contribute to food systems transformation (brief 3) by:

- allocating financing to catalyze new businesses, such as companies providing plant-based foods;
- scaling up sustainable, organic and regenerative agricultural loans and investments;
- undertaking engagement to transform existing business, such as upstream companies which can strengthen practices in supply chains to stop deforestation through minimum standards and transparency; and
- raising awareness and developing policies to advocate for more sustainable decision-making across stakeholders.

There is growing awareness of the positive impacts of regenerative agriculture on soil health, biodiversity and climate, with new carbon and biodiversity markets emerging linked to agricultural policy and enhanced by monitoring via new technologies.[8] Specific finance in this area remains nascent, with the need to transform mainstream financing of production, processing and sourcing across forestry and agricultural value chains to build in nature-positive impacts and benefits.[9]

For financial flows to help future proof infrastructure, financial institutions are starting to scale up financing for "green/new infrastructure" (community solar, microgrids, wind farms) and include transformation of grey/traditional infrastructure where feasible (pipelines, older utilities, airports, etc.) . Including climate adaptation criteria in the financing for water and urban infrastructure is critical for resilient cities facing longer term water shortages, more frequent and severe storms and sea-level rise. Financing new infrastructure that will still be in place in 2050 needs to include enabling infrastructure such as renewable energy, nature-based solutions or electric vehicle charging stations.[10]

Financial institutions are starting to provide financing with **circular economy** criteria for assessing business models, technologies or projects that enhance circularity and the resource efficiency of material flows while promoting restorative and regenerative business practices. Recently analyses show that the total amount of assets managed through public equity funds with a circular economy focus increased 6-fold to over USD 2 billion in 2020, with a potential for significant scale up.[11] Moreover, the circular economy could stimulate savings of USD 700 billion in global consumer good materials,[12] while shifting from a linear approach of "take, make, waste" to circularity could produce additional economic growth of as much as USD 4.5 trillion by 2030.[13] Analyses such as these help identify the risks associated with continuing to rely on linear economy models and the opportunities related to shifts towards circular business models.

However, market practice is still at the early stages of circular economy financing and is likely to accelerate as financial institutions integrate financing for the

transition to a circular economy into decarbonization plans.[12] By adopting circular economy principles, indicators and metrics, companies can generate new sources of revenue, reduce costs, spur innovation, increase resource security, and mitigate risks from material use, pollution and waste. Companies across sectors that apply the 9-R circularity concept of Refuse, Reuse, Reduce, Redesign, Repurpose, Remanufacture, Repair, Refurbish, Recycle [14] will increasingly be well positioned for capital raising, direct financing and investment as financial institutions recognise their competitive advantage during the transition to a low carbon, circular economy.

Exploring innovation and new business models creates challenges for financial institutions which typically base decisions on experience with existing clients in familiar industries. They need to overcome a 'familiarity bias' that favours incumbents and potentially hinders more transformative and disruptive financial innovation, while incurring unintended social impacts such as increasing the gender gap.[15] Creativity on environmental sustainability issues is needed to shape a financial sector that will transform the economy fast enough to deliver the positive environmental and social benefits that are urgently needed.

For example, in terms of the long-term dynamics for addressing climate change, data on the cost of carbon abatement demonstrates the underlying financial benefits of energy efficiency business models and the relative advantage of solar and wind over fossil fuel energy with carbon capture and storage (CCS). These insights should normally spur a rapid shift from investors in traditional technologies and sectors towards those long-term profitable investments in sustainability technology. However, the familiarity bias that pushes financial institutions towards incumbents and traditional investments can often be reinforced by regulatory capture (for example, in the form of fossil fuel subsidies). The result is that fewer transactions in emerging sectors and business models are made, and less transformative investments happen in new business sectors and technologies. However, there is potential to use the close relationship with existing clients to encourage the allocation of "business as usual" capital towards "green" projects or "new business" to finance transformative change.

3.2 Financial products and services

3.2.1 Financing solutions

A paradigm shift is under way in the private sector, with sustainability becoming a decisive factor in financing and an imperative for businesses to access third-party financing (debt or equity). Companies with sustainable projects and those transitioning to sustainable business models stand to gain from increased access to financial products and services that favour environmentally sustainable projects, strategies and performance. The range of financing products and services that financial institutions can deploy to drive the transition to an environmentally sustainable economy and implement targets is wide and varied, and includes short-term working capital and trade finance, risk management products such as insurance, guarantees and hedging instruments, and longer-term financing such as equity and debt. Approaches to providing this finance also vary, including project finance, syndication, collateralized obligations and private placements, with certain financial institutions choosing to provide a wide range of financing products and becoming so-called 'universal banks'.

Financial institutions are starting to deploy financial products and service offerings to clients to transform companies in areas such as decarbonizing energy systems; resource-efficient circular economy business models; nature-positive, regenerative food and agricultural production; and green infrastructure.

Developing innovative financial instruments and realigning existing financial instruments are key to supporting sectoral transformations.[16] Financial products that aim to catalyze change include:

- Environmental, social and governance (ESG) funds;
- green mortgages;
- sustainability-linked loans;
- sustainability-, green-, social impact-, gender and transition bonds;
- impact investments; and
- nature-based financial solutions.[17]

Issuance of green, social, sustainability and sustainability-linked bonds is set to reach USD 1 trillion in 2021.[18]

Banks can also directly influence environmental performance through covenants and conditions that

are in place for the duration of the loan. For example, this could apply to the monitoring and enforcement of non-financial risks: in the case of fisheries, banks could insist that borrowers were using sustainable fishing practices to prevent the risk of regional overfishing; or in the case of agriculture, farmers in drought-prone areas could be encouraged to use good water management practices.

Financial institutions can provide incentives for companies to invest in business opportunities for transformative innovation. Linking financial product features to environmental and social performance is an emerging practice which enables financial institutions to directly influence the behaviours and performance targets of companies and individuals. For example, sustainability-linked loans offered by banks to companies may vary the interest rate based on sustainability performance measured by ratings agencies, certifying bodies or audited environmental /social performance indicators, including those on gender equality. To support emerging business models, banks may reconsider what they can accept as collateral – for example in valuing what might be previously considered as 'waste' streams, instead as considered as 'feedstock' in circular business models, or using future income streams from carbon credits in project finance transactions.

As intermediaries, financial institutions must often consider multiple client groups. Green mortgages can incentivize property owners by linking interest rates and amounts that may be borrowed to energy performance labels and commitments on energy retrofits. Financial institutions can structure environmentally and socially focused financial products for retail customers, or green bonds for institutional investors. Advantageous pricing can incentivize clients to improve environmental or social performance. These differences in pricing are already showing up in bond issuance.[19]

Meaningful engagement with companies by investors and banks can take to drive positive environmental and social impacts across portfolios. Financial institutions have influence through channeling finance to corporations that sit at the top of value chains that can foster environmentally sustainable production through their supply chains and environmentally sustainable consumption across consumers.

Insurers are integrating ESG metrics into underwriting practices and developing insurance solutions to enhance environmental, social and governance performance across the system, leading to greater resilience. As risk managers, insurers and investors, the insurance industry plays an important role in promoting environmental sustainability and tackling risks, including climate change, biodiversity loss and pollution. Insurance products are likely to play an important role in providing collateral to open up new environmental markets, while providing opportunities for innovative ways to close the gender gap by targeting their products to women.[20] Initiatives such as the insurance Sustainable Development Goals (iSDGs) aim to develop approaches that utilize insurance products and solutions to support the SDGs.

For businesses, compliance is the minimum expectation for a social license to operate. Financial institutions need to consider management of positive environmental impacts alongside integration of ESG factors within their overall risk management. Across a healthy future-oriented portfolio, financial institutions may have to consider a balance between investments and loans that are either:

- **'compliant'** –subject to ESG risk assessments and from a sustainability point of view are seen to 'do no harm';
- **'incremental'** - contributing to the transition but still part of today's mature business-as-usual economy; or
- '**transformative'** – catalyzing business models and technologies that are capable of propelling us towards a regenerative and circular economy in the decades ahead. Not only are these the areas where most financing gaps presently exist, they arguably represent the most fertile area to develop the industries of the future.

Financial institutions may need to co-innovate with standard setters to advance common taxonomies for sustainable economic activities and standards for comparability and transparency in sustainable finance product development. Common classification systems for sustainable economic activities can enable different types of financing to be shifted towards new catalytic companies that seek to deliver positive impacts or shifted towards existing transitioning companies that are moving towards environmentally sustainable business models.

Financial institutions need to create mechanisms that scale up sustainability financing at a pace that matches the needs of society, while reducing the financing of unsustainable activities. For example,

where potential investments are too small or risky, financial institutions can use strategies such as financial engineering and blended finance (see section 3.4.2) to make them more feasible.[21]

3.2.2 Financial inclusion and digital technology

Financial inclusion initiatives by banks and asset managers can be accompanied by financial education programs to improve financial health and build the capacity of clients to avoid unsustainable debt. Banks are increasingly setting targets to address social issues, include financial inclusion and financial health and gender equality[22] that will contribute significantly to the overall sustainability of the financial system.

In addition, the financial sector has used needs-based research to develop several solutions to address gender equality. These include non-financial support alongside financial services to women's businesses that deliver sustainability outcomes, equity funds dedicated to investing financial institutions that invest in women's businesses (Women's World Banking), sustainability bonds that include a gender focus (International Finance Corporation (IFC), while also working towards gender parity at all decision-making levels in the institution (EDGE). The International Capital Market Association, the World Bank's International Finance Corporation (IFC) and UN Women published a guide to using sustainable debt for gender equality in November 2021.[23] Research in the venture capital industry, where many opportunities for sustainable investing lie, shows that gender-balanced teams have better returns and that female partners invest in almost twice as many female entrepreneurs than male partners.[24] Yet "women hold only 10 per cent of all senior positions in private equity and venture capital firms globally, and women-led enterprises received less than 3 percent of global venture capital in 2017".[22] Additionally, there is a need to scale up provision of sustainable, gender-responsive digital finance including for micro-, small and medium-sized enterprises.

Financial technology (fintech) has also been a key disruptor by revolutionizing how payments are made and has contributed to greater financial inclusion. Digitalization has particularly increased financial inclusion in Africa and Asia. Technology can support more diverse and inclusive investment, enabling more people to access positive environmental and social impact products. Crowdfunding is frequently applied to support community investment, for example in the new range of crowdfunded municipal green bonds offered by Abundance (UK). Crowdfunding can also demonstrate the link between investments and the SDGs – such as with La Bolsa Social (Spain). Integrating environmental and social sustainability into digital transformation initiatives is important for addressing risks such as digital exclusion, unconscious bias, lack of transparency and privacy as well as environmentally unsustainable data-mining costs.

Given the increase in the range of sources and granularity of data for assessing the environmental and social performance of companies, artificial intelligence (AI) can play an increasing role in environmentally and socially sustainable asset allocations. For example, The Singapore government has launched a national AI platform to identify 'greenwashing' and assess the environmental impacts of companies. In pension funds, where beneficiaries express preferences for sustainable investments, fintech and artificial intelligence opens up the possibility of meeting investor requirements through active or passive investment funds.

Often the rules of the financial system, which are designed to control traditional business practices, can be a barrier to innovation. Therefore, the role of regulatory sandboxes, where regulators work in an explorative collaboration with fintech entrepreneurs and innovators can help address these challenges. Organizations such as Fintech for Good and Finance Innovation Lab help support and incubate new entrepreneurs and approaches which go beyond transactional efficiency and help achieve social and environmental goals.

In some cases, technology can be applied within market sectors that open up new possibilities for sustainable investment. For example, companies such as Earthbanc and Landcore both employ satellite imagery to determine the carbon sequestration of agricultural land – enabling the potential to structure investment products based upon the availability of carbon credits and other environmental and social sustainability outcomes. In these cases, blockchain technology opens up the possibility of reducing costs of transactions and facilitating more distributed investment.[26]

New financial technology need not only be considered as competition for existing financial institutions but as an opportunity for partnership. Most fintech companies lack scale, therefore partnering with

established, well-trusted financial institutions can be beneficial. Such partnerships have emerged across a range of different products and services, including apps that help clients of financial institutions to reduce their own carbon footprints.

3.3 SME access to sustainable finance

Fintech solutions such as advances in mobile money, fintech services, and online banking have helped small- and medium-sized enterprises (SMEs) to access finance.[27] SMEs are a cornerstone of economies in most countries and the prospering SME sector is often a key actor for environmentally sustainable, inclusive economic growth. These enterprises are also an important sector in emerging market economies, representing between 30 to 37 per cent of all SMEs (8 million to 10 million women-owned firms) in emerging markets.[28] However, access to finance, accompanied by limited financial education and lack of regulatory measures to support expanded access, are limiting SME growth.

Although many financial institutions have integrated finance for SMEs in their strategies, the diversity of SMEs within national economies needs to be supported by a similarly diverse ecosystem of financial institutions [29] focused on local and market-specific needs. Retail banks can provide products such as green lending to SMEs to make progress on key sustainability issues such as energy-efficient buildings and operations.

Beyond access to products and services, SMEs also require adequate support through a relationship approach - which can often entail adapting approaches with local knowledge and providing access to advice on business transformations (such as how to integrate environmental practices).

Expanding SME access to finance without consideration of sustainability performance has contributed to worsening environmental and social impacts, especially in developing countries, associated with the cumulative impacts of SMEs on climate change, biodiversity loss, pollution, child labor, and other issues.[30] These issues can be mitigated in countries with strong regulatory systems that ensure environmentally and socially sustainable SME growth, however in many countries such a regulatory system is weak.

In many instances, financial institutions have been gradually developing relevant policies and tools for the SME sector, including financing with criteria for environmentally and socially sustainable factors. Some multilaterals, such as the European Bank for Reconstruction and Development, and the Dutch entrepreneurial development bank FMO, [25] have actively supported this process and influenced such strategies in the commercial financial sector.

Financial institutions play a role in supporting both job creation and environmental sustainability in line with the SDGs. Recovery programs for COVID-19 have illustrated the trend toward "building back better", which in some cases has meant supporting SMEs that are more environmentally and socially resilient and that have met relevant conditions to access to recovery finance. Additionally, finance is being channeled towards "greener" SMEs that embraced environmental and social innovation.[31]

In the long run, this may mean some creative destruction, where not all SMEs will survive if they are not able to adapt their business models to this new reality. Therefore, regulators must also think about programs that would allow for job creation in emerging sectors by providing support for training and livelihood restoration programs (similar to education for workers made redundant so they can shift to a new career), to facilitate a just transition to a low-carbon, nature-positive, gender-responsive, inclusive economy.

Gender equality is particularly relevant when looking at the financing of SMEs. According to the World Bank, there is a significant gap of between US$260 billion and US$320 billion a year in the provision of financial services to SMEs with female ownership, restricting their growth and development.[32] Women and women's businesses form a critical element of supply and value chains within the circular economy and applying a so-called 'gender lens' can result in improved environmental and social outcomes. For example, women are estimated to make up 43 per cent of the agricultural labour force and are "profoundly involved in the production of food and cash crops worldwide, as well as in fisheries, forestry and livestock".[33] Interconnectivity across SDGs means that gender equality is also related to other outcomes, including education and environmental performance. The economic empowerment of women also significantly improves household development statistics such as education and health, both of which are important SDGs.[34]

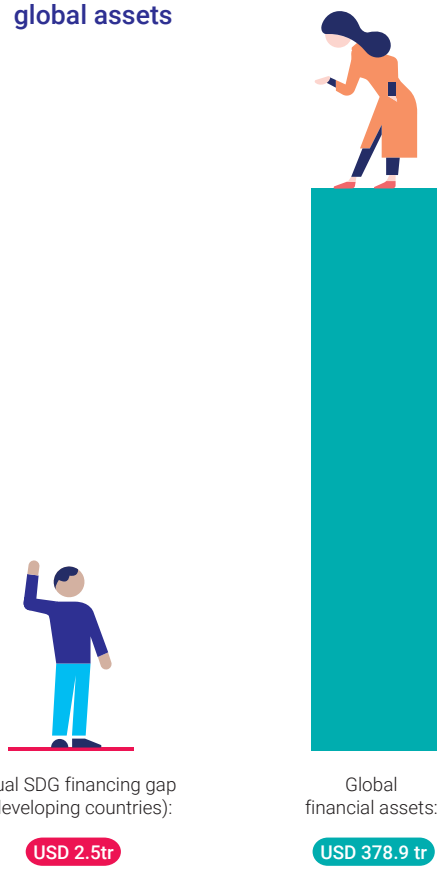
In the SME, microfinance, and housing finance sectors, the trends are to leverage local financial sectors in targeted regions or countries and, so far there has been limited space for global investors to participate. This potential can be unlocked by creating favourable conditions for investment enabling multilaterals to shift toward supporting governments in enacting corresponding reforms as well as spearheading sustainable innovation in the SME sectors to increase the "supply side" of sustainability investments beyond infrastructure.

3.4 Gaps in financing and responses

3.4.1 Public financing to mobilize private finance

Before the 2020 COVID-19 crisis, efforts to ensure adequate financing levels for the 2030 Agenda were insufficient, with a persistent annual financing gap for the SDGs of US$2.5 trillion.[35] Since the crisis, this financing gap has increased to US$4.2 trillion in developing countries.[36] Yet, this still means that shifting just 1.1 per cent of the total assets held by banks, institutional investors or asset managers would be sufficient to fill this gap in SDG financing **(Figure 1)**.[37]

Figure 1: SDG financing gap is only about 1% of global assets



Around US$1.9 trillion of some US$3.5 trillion per year in SDG financial flows on average come from private sources, however, financial systems vary from country to country, resulting in varying degrees of financial sector development and therefore varying 'gaps' in the provision of financing products and approaches. The lowest-income countries tend to have the largest SDG financing gaps. Regionally there is a particularly large financing gap for Africa of US$1.3 trillion per year.[38]

As countries' financial systems develop, they can gain access to a broader variety of actors, tools and instruments across public, private, domestic and international finance to support financing the transformation towards achieving the 2030 agenda, using what is called transition finance.[39] The World Bank assesses financial sector development in terms of depth, access, efficiency and stability.[40] Shortcomings in any of these areas of a country's financial system creates gaps that could hamper the system's ability to deliver sustainability financing.

The gap in developing countries may be due to inherent country-risk which is not being sufficiently de-risked through public or philanthropic sub-commercial investment. It can also be a function of the lack of experience and familiarity with investing in emerging and frontier markets, leading to a lack of risk appetite to make investments to adapt to climate change or address biodiversity loss or pollution and/or increase resilience to these impacts.There may also be a lack of understanding of the opportunities to deliver multiple benefits, such as decentralized renewable energy.

To help solve some of these challenges, public support can be directed through flows of funds from governments, multilateral development banks (MDBs) or other public agencies that help to de-risk investments. This can lead to product innovation within private financial institutions to create 'blended finance products' that provide complementary finance. This process could provide huge potential for financial institutions in the future. However, many of these instruments will require greater liquidity volumes (i.e. more cash) to increase uptake.[41]

Regional investors in emerging markets are also raising ambition in developing countries for environmentally sustainable and inclusive growth and can play a pivotal role in tackling climate change and other global environmental challenges such as biodiversity loss and pollution. Multilateral and bilateral finance institutions are well placed to provide

finance for achieving the SDGs while unlocking private finance. Having often compartmentalized support to the financial sector in the past in their private sector financing arms, development finance institutions (DFIs) are increasingly developing new strategies to enable collaboration and co-investment between public and private sectors, thereby creating a stronger foundation for leveraging private sector finance towards a number of critical SDG areas. This is being achieved through both mainstreaming environmental and social sustainability in financing of large industry sectors and facilitating private sector engagement in specific areas such as climate adaptation, disaster risk financing, and biodiversity loss.

Another link between private sector investors and multilaterals that could be exploited is capital mobilization via treasury operations, e.g. issuance of green and – more recently – SDG bonds, by multilateral financial institutions that benefit from the fact that the entirety of multilaterals' portfolios can be classified as "environmental and socially sustainable finance". A variation on this is assistance provided to governments to structure sovereign sustainable development bonds for various targeted thematic areas (e.g. "blue infrastructure") where there is potential for investors to take part. Fiscal measures can provide additional support for environmentally and socially sustainable investment – for example by providing tax advantages for certain types of sustainability investments or removing fiscal support for polluting fuels.

The ability of multilateral financial institutions to leverage their long-standing strength in mainstreaming and deeply integrating environmental and social issues across their entire portfolios – combined with their ability to provide technical support on the ground – can attract private sector investors to place capital in emerging markets and developing countries with challenging conditions, where lack of regulatory oversight on environmental and social issues would normally be a factor for sustainability-minded financial institutions. Support from DFIs to enable the financial sector to contribute to achieving the SDGs can include making project financing more commercially viable, and growing their internal technical capacity to support operational commitments.

In July 2017, G20 finance ministers approved a set of principles that give multilateral development banks a framework for increasing private investment to support country development objectives.[42] The G20 Sustainable Finance Roadmap released in 2021[43] sets out actions to enhance the role of international financial institutions, including multilateral development banks, and public policy incentives for mobilizing private investment to support the implementation of the Paris Agreement and the 2030 Agenda. Multilateral banks, in their effort to maximize finance for development in the environmental and social sustainability space, are now scaling up capital flows for the commercial financial sector in developing countries through many avenues and strategies, such as:

- Creating markets and enabling environments (regulatory & policy reforms, supporting industries/ services);
- Developing platforms and business models that can be scaled across regions and sectors;
- Developing early stage projects and ventures;
- Supporting country-level PPP programs;
- Providing public and concessional resources for risk instruments and credit enhancements; and
- Providing concessional financing (also known as "blended" financing).

Priority operational areas of intervention range from large infrastructure to SME finance and affordable housing. There is the potential for infrastructure finance to move from the provision of multilateral-backed sovereign guarantees to investors toward creating multi-investor vehicles and funds where multilaterals will provide "start-up" capital.

To mitigate the risk of over-estimating the costs of developing new approaches, targeted public, philanthropic and specialist impact investment companies can play a role in priming the sector. This can help create the mechanisms for de-risking and appropriately structuring transactions to create momentum for new sectors to the point at which they have the critical mass to grow on their own, thereby reducing costs to a point where finance is commercially feasible. Impact investing has recently brought the commercial financial sector and traditional development finance closer together to maximize these benefits.

3.4.2 Blended finance

Blended finance has emerged as a tool to address risks and facilitate private financing that can contribute toward the SDGs. Blended finance combines concessional financing—loans that are extended on more generous terms than market loans— and commercial funding. In these arrangements, relatively small amounts of concessional donor funds mitigate specific investment risks and help rebalance risk-reward profiles of pioneering investments that may not be able to proceed on strictly commercial terms.[44]

In this process, both public and private capital flows toward supporting environmentally sustainable and inclusive global growth in line with the SDGs. This means that financial institutions need to be mindful that investment to support the achievement of SDGs does not automatically equal meeting their commitments to integrating ESG and environmentally and socially sustainable finance into their operations.

As the landscape for blended finance evolves, there will be major opportunities for financial institutions to co-create new markets in areas where previously risks were too high. This opportunity is dependent on creativity and collaboration with partners in order to design effective solutions for patient and/or catalytic capital that address the world's most urgent environmental and social challenges. Many commercial financial institutions are embracing the SDG finance concept, by:

- mapping their portfolios to SDGs;
- making voluntary commitments; and
- adopting SDG frameworks across asset classes including equities, fixed income, real estate and commodities.

As commercial financial institutions scale-up their SDG-related investments, they will need to maintain the connection to environmental and social sustainability issues. Any SDG investment framework must be looked at through a lens of channeling finance to true sustainable development activities with specific conditions attached to such financing to achieve sustainable development outcomes.

4 Changing finance

Cross-cutting approaches are needed to transform the financial sector and realize the potential to stimulate the innovation and transformation that is desperately needed. In forming an integrated strategy, management teams can consider **collaborating with peers to drive industry-wide capacity** [45] while **developing the skills needed to drive this economic transformation**. This section outlines approaches that financial institutions can take to accelerate the transition towards long-term sustainability.

Given the urgency of the need to transform to a nature-positive global economy, transformative rather than incremental change is needed in the world's financial system. Creating individual "green" instruments on the sidelines of the traditional financing is not enough. However, shortcomings in many areas of the financial system and the wider economy within which it sits create barriers to accelerating the transformation to address the GEO-6 findings (see Section 1). These barriers include but are not limited to: a lack of the necessary knowledge of environmental issues and green investment skills in the financial sector, weak oversight mechanisms, short-termism and information asymmetries.[46,47,48,49]

Understanding how the financial system can transform to reach a state of 'environmental and social sustainability' ', where the financial system is constantly adapting and responding to the ever-changing needs of the environment and society, is an important step. To achieve sustainable development, the financial system needs to have four main characteristics: sufficient capacity, transformational leadership, accountability, and effective advocacy.[41]

4.1 Building capacity

4.1.1 Voluntary industry approaches

Financial institutions participating in voluntary initiatives are playing a critical role in providing frameworks and building momentum across the financial sector to align financing with the goals of the UN Paris Agreement and SDGs.

Early voluntary initiatives focused on risk management frameworks, such as the Equator Principles. These set out guidelines for banks' operational processes (for example to integrate environmental and social risks in due diligence processes for project finance) while also providing criteria for a minimum level of compliance. In the insurance sector, for example, 'Climate Wise' requires insurance members to annually disclose their firm's response to climate change through the ClimateWise Principles framework.

Voluntary approaches have played an important role in informing and testing new paradigms for incorporating sustainability considerations across financial institutions. The United Nations-supported Principles for Responsible Investment (PRI), launched by the UNEP Finance Initiative and the UN Global Compact in 2006, has catalyzed organization-wide change across institutional investors, such as insurers and pension funds, which own the majority of public companies[50] and seek specific risk/return expectations across asset classes on behalf of beneficiaries.

The PRI founders coined the term environmental, social and governance (ESG) investments and provided the framework to mainstream this type of responsible investment. More than 3,000 institutional investors with assets under management of more than US$120 trillion have signed the Principles and are working to incorporate ESG issues into investment analysis and decision making. Institutional investors that are PRI signatories undertake active ownership through shareholder engagement with companies to encourage investees or clients to improve ESG risk management and develop more sustainable business practices and contribute to catalyzing transformation.

Stock exchanges are also collaborating to create and develop sustainability investment instruments. The Sustainable Stock Exchanges (SSE) initiative, convened by UNCTAD, the UN Global Compact, UNEP FI and the PRI, provides a global platform for exploring how exchanges can enhance corporate disclosure on ESG (environmental, social and corporate governance) issues and encourage environmentally sustainable investment.[51]

In the insurance industry, more than 100 insurers, covering quarter of world insurance premiums, are working to embed ESG issues into decision-making in the insurance business using the UN Principles for Sustainable Insurance, launched in 2012.

The nature of voluntary agreements in the financial sector is evolving to focus increasingly on impact. The Global Alliance for Banking on Values, launched in 2009, created a network of banks committed to accelerating social, cultural, environmental and economic transformation, with criteria for membership based upon 'social and environmental impact and sustainability [being] at the heart of the business model'.[52]

Voluntary initiatives are shifting from risk-based approaches to sustainability integration, allowing them to focus on aligning financing with the needs of society. More recent initiatives such as the UN Principles for Responsible Banking (PRB), launched in 2019 by the UNEP Finance Initiative, combine process and content by committing signatories to align their business strategy with the SDGs and the Paris Climate Agreement, to increase positive environmental outcomes while reducing negative ones, and creating a cycle of accountability by requiring banks to set targets and report publicly on their progress. More than 260 banks or 40 per cent of the industry, financing both private and public companies and individuals, are signatories to the PRB and have committed to target setting as an important lever to ensure transformation in areas of significant impact such as climate change, biodiversity loss, financial inclusion and health, and gender equality. The report entitled 'Guidance on Gender Equality Target Setting'[53] sets out approaches to achieving gender equality goals under the Principles throughout portfolios. The PRB has sparked a shift in sustainable finance towards alignment with the Paris Agreement and SDGs based on target setting that is an evolution for the industry.

These sustainable finance frameworks have helped spawn, and today host, many of the latest voluntary leadership initiatives in the financial sector that target the climate crisis. The alliances are ratcheting up ambition to catalyze change across the financial system, in response to Article 2.1c of the Paris Agreement, which gave financial entities a mandate to align financial flows with a pathway towards achieving low greenhouse gas emissions and climate-resilient development.[54] Financing institutions are establishing science-based approaches to align financing with a 1.5-degree pathway. These approaches are being developed to achieve adequate scale across the financial system.

The UN-convened Net-Zero Asset Owner Alliance launched in 2019 set the gold standard for net-zero commitments, with asset owners committed to achieving net-zero investment portfolios by 2050, and establishing intermediate targets every five years in line with the Paris Agreement's goal of limiting warming to 1.5°C. This paved the way for the Glasgow Financial Alliance for Net Zero (GRANZ), [55] launched in the run up to the 26th Conference of the Parties (COP 26) as a global coalition of 450 financial institutions. This 'Race to Zero', with over USD 130 trillion of private capital, is committed to transforming the economy to net zero emissions by 2050. GFANZ will build on the pioneering work of the Net-Zero Asset Owner Alliance as well as the UN-convened Net-Zero Banking and Insurance Alliances, and the Net-Zero Asset Managers initiative. Together these initiatives are working to significantly strengthen the information, tools and the markets needed for the financial system to support the transformation of the global economy to achieve net zero carbon by 2050. Implementation approaches are being co-developed to achieve adequate scale across the financial system and ensure the credibility of pathways to drive change in the real economy.

Initiatives such as the Science-Based Targets Initiative (SBTi) and Partnership for Carbon Accounting Financials also help guide financial institutions to set targets or performance metrics needed to meet the requirements of the Paris Agreement from an emissions perspective. Commitments are also being established for ecosystem restoration, including, among others, the Finance for Biodiversity pledge.

4.1.2 Upskilling for sustainable finance

Commitments to leadership initiatives such as net-zero alliances can build momentum and know-how for change across the industry. However, accelerating sustainable finance will also require the requisite skills and available time to make these changes in financial institutions. For example, many private financial institutions do not have the environmental, social and gender specialists that development finance institutions employ to inform their sustainability strategies and carry out due diligence and risk assessments across portfolios. These financial institutions also don't yet link

executive incentive plans to environmental and social sustainability performance, making it impossible for them to adopt performance metrics in these areas. To place sustainability at the core of finance, basic levels of knowledge and competency in the area of environmental and social sustainability need to be developed across all departments within financial institutions. The finance sector needs sustainability bankers, insurers, investors and regulators who are fully conversant and competent in understanding and managing environmental and social sustainability issues. These specialists should not just be in sustainability roles but should be active across the whole institution.

A growing number of environmental and social sustainability finance courses are being developed by universities and institutes worldwide, which can be built into comprehensive programs for sustainability education. For example:

- The Chartered Banker Institute's Certificate in Green and Sustainable Finance (now delivered in 35 countries)
- The Cambridge Institute for Sustainable Leadership and
- The CFA Institute's Certificate in ESG Investing.

4.2 Transformational leadership

Ethical and transformational leadership of financial institutions requires that inspirational, ethical leadership is added to the skills of supervisory and strategic management leadership within financial sector organizations.[56,57] Such leadership results in change because transformational leaders

"inspire people without using coercive power and authority – they are enablers who engage with people, giving them headroom to perform**"**.[58]

At the same time, ethical leadership helps ensure that this change reflects the sustainability values and norms inherent in a company's accountability framework. Intent is a central aspect of initiatives such as the 'Operating Principles for Impact Management', and transformative, ethical leadership is required for such initiatives to be pervasive across a financial institution's operations. The way in which financial institutions are trying to integrate sustainability through personal leadership include:

- shifting mindsets;
- building buy-in;
- influencing relationships'
- navigating power dynamics; and
- creating enabling organizational structures.

Making real progress in these areas determines the eventual success of organizations in achieving real change.[59]

Business leaders need to ensure environmental and social sustainability is embedded in core strategies, operational processes and learning and development programs that underpin the company's competencies, values and culture. Environmental sustainability needs to be addressed in the governance systems of financial institutions, with adequate resourcing to ensure internal capacity to integrate environmental sustainability into decisions and operations across areas including management, risk, legal, corporate or retail banking, asset management, underwriting and communications.

Sustainability-focused capacity building initiatives need to become commonplace in the sector. Decision-makers need to align time horizons and risk assessments more closely with stakeholder expectations. Financial institutions motivated by short-term financial gain at the expense of long-term environmental impacts can harm business strategies that are focused on a nature-positive future. Short-term linear use of finite resources is incompatible with sustained longer-term growth.

4.3 Accountability for impacts

Financial institutions need to understand the environmental and social sustainability impacts of companies they invest in, lend to or insure, as well as the impact of environmental and social risks on companies in their lending, investing and underwriting portfolios. Continuing to allocate trillions in private sector financing towards business as usual practices risks driving more environmental degradation and worsening social impacts such as inequality [60] that current economic models treat as externalities.[61] Failure to adequately identify and price these externalities, along with a focus on short-term returns, can undermine long-term value creation and result in marginalizing or even excluding social and environmental effects. The risks that business activities pose to the environment and society, known as 'double materiality', can be recognized as material over the longer term, through the effects of sustainability issues such as climate change,

biodiversity loss, pollution and inequality on economic activity.[5]

Banks, insurers and investors involved in voluntary industry initiatives are increasingly demanding decision-useful sustainability information from corporate disclosures, as they increase their own accountability and transparency around portfolio impacts. Through cycles of monitoring and disclosure, financial institutions can ensure more meaningful stakeholder engagement to drive continuous improvement. Disclosed information will also likely be scrutinized by stakeholders – employees, investors, clients, regulators, peers and NGOs. The extent to which impact and environmental, social and governance (ESG) reporting provide insight into decisions and stakeholder inputs will be key factors in determining how a financial institution constructively engages in dialogues that could lead to productive co-creation. These dialogues could help a financial institution define its sustainability strategy – whether towards the achievement of SDGs or setting a net-zero carbon target to support the climate transformation.

Full accountability in the financial sector requires science-based performance parameters, transparency and independent oversight of financial sector players, and a system of sanctions discourage business as usual approaches while providing rewards for transformative performance.[62] Value driven and science -or evidence-based performance metrics are the starting point for accountability since they provide the guiding 'north star' for decision-making. At a minimum, to be effective, the metrics should be:

- objective and achievable;
- developed through a multi-stakeholder process;
- encourage continual improvement; and
- include an independent, third-party verification process (ISEAL).

Such parameters are already present in the financial system, due to both voluntary and regulatory efforts.

Identifying and quantifying the sustainability impacts of particular approaches to financing is a critical first step in enabling financial institutions to increase capital that supports positive environmental and social impacts (including gender equality) and decrease capital allocated towards activities that cause negative impacts.

Given the financial industry's demand for reliable sustainability information to integrate into decision-making, coupled with low internal capacity, the past few years have seen exponential growth in the production and analysis of environmental and social sustainability data. Regulators are increasingly focusing on disclosure and ESG data quality as a critical part of ESG integration, which will increase expectations for companies on accountability and disclosure of relevant environment and social sustainability information.

To support this disclosure, the International Financial Reporting IFRS Foundation Trustees created a new standard-setting board—the International Sustainability Standards Board (ISSB) in November 2021. This effort is intended to help meet demand from international investors for high quality, transparent, reliable and comparable reporting by companies on climate and other environmental, social and governance (ESG) matters. The ISSB aims to deliver sustainability-related disclosure standards that will provide financial institutions with information about companies' sustainability-related risks and opportunities to help them make informed decisions.

The financial sector needs relevant, timely and readily available information to be disclosed by companies to quantify their SDG impacts. Banks can also request information on sustainability key performance indicators from clients. Reporting of this type is an outcome of stronger internal systems and processes, and voluntary and principles-based approaches (see section 3.4) which will continue to play a critical role in supporting the sector in building harmonized information systems and technical capacity. Moreover, harmonization of ESG disclosure through mandatory standards is likely to be followed by common methodologies around ESG ratings.[63]

In the meantime, sector-based initiatives such as the World Benchmarking Alliance's planned 'Financial systems benchmark' [64] and UNEP FI's SDGs & Impact resources, and initiatives focused on harmonizing approaches to measuring and managing impacts, such as the Impact Management Project (IMP), are important to strengthen the ability of the financial sector to understand the nature and extent of the environmental and social impacts of their financing activities in a consistent and uniform manner.

Box 1: Impact Management Project (IMP) Structured Network

This collaboration of standard-setting organizations is coordinating efforts to provide complete standards for sustainability impact measurement, management and reporting. These include: the Global Reporting Initiative, Sustainability Accounting Standards Board and International Integrated Reporting Council, Carbon Disclosure Project, UNEP FI, Principles for Responsible Investment, UN Global Compact, Organisation for Economic Co-operation and Development, United Nations Development Programme, International Finance Corporation, Global Impact Investing Network and World Benchmarking Alliance, among others. The Network has issued a common vision for a system of disclosure standards, and in July 2021 released an Impact Management Platform providing an authoritative overview of impact management and disclosure and how existing standards and resources support and define these elements. The members of the Structured Network and their joint work will feed into the global standards for sustainability disclosures.

While management of financial risk is necessary, if environmental impacts are ignored then planetary boundaries could be breached and environmental and social outcomes undermined, which would increase risk to the entire economy and therefore the financial sector within which it operates. To respond to this, the financial sector could integrate environmental and social sustainability into a holistic Impact, Risk and Return framework as described by Sir Ronald Cohen.[65] This framework starts with normalizing impact-adjusted returns in the way that allows for evaluating risk-adjusted returns today.

Financial institutions can manage these risks by gathering meaningful data about the environmental and social performance of clients by engaging directly with companies and standard-setters or via industry databases. Certification schemes such as the FSC or RSPO can give good indicators of environmental and social performance based on audited outcomes. Initiatives such as the Partnership for Carbon Accounting Financials (PCAF) have helped financial institutions normalize data collection and accounting principles for allocating greenhouse gas emissions impact data to a loan or investment. As data quality improves on issues such as biodiversity loss and pollution, the information can provide greater insight into environmental performance across peers within a sector.

Integration of environmental data and outlooks from sources such as GEO-6, IPBES, the International Resources Panel and the IPCC into scenario analysis can help ensure science-based alignment of investment portfolios will underpin the shift to a more inclusive and environmentally sustainable financial system. Tools to support integration of greenhouse gas and climate data in assessments of related financial risks and opportunities include Carbone 4's Climate Impact Tool, which measures the impact of assessed portfolios on climate change. These are just some of the tools which attempt to approximate levels of exposure and potential for future financial losses of managed portfolios.

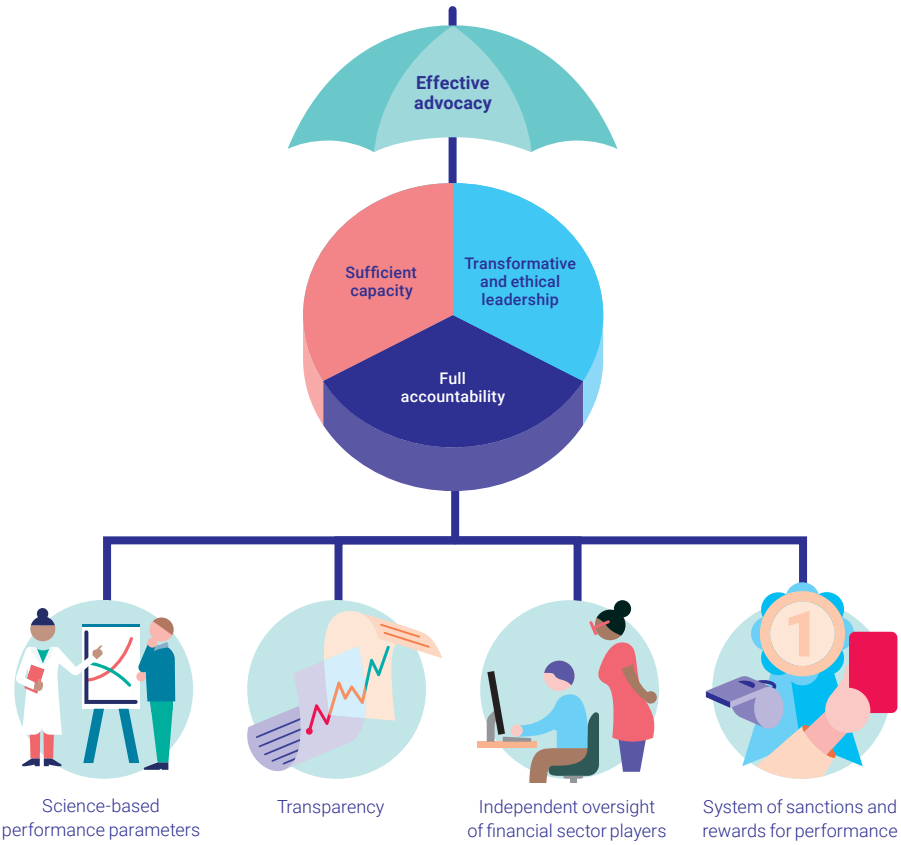
However, it is a challenge for financial institutions to achieve portfolio-wide alignment with the Paris Agreement and SDGs without adequate environmental policy and regulatory measures being applied to companies to mitigate their impacts, such as internalizing the costs of pollution (e.g. carbon taxes).[66]

4.4 Advocacy for enabling policy and regulatory frameworks

4.4.1 Aligning policy engagement with purpose

The final enabler needed to reach a state of environmental and social sustainability in finance is the existence of effective advocacy. Advocacy - defined as "any action that speaks in favour of, recommends, argues for a cause, supports or defends, or pleads on behalf of others" [67] - is particularly important as the financialization of many economies increases. [68] Advocacy can mean that financial institutions are able to exert significant influence through lobbying and directing the operations of the companies in which they are shareholders, which can slow or accelerate the pace of change towards a nature-positive economy. [69] If sustainability is seen as a secondary 'compliance' check then it risks being perceived as a more perfunctory 'bolted-on' process. If it is seen as a primary function, then it stands a better chance of being recognized in the context of organizational purpose and of achieving 'built-in' sustainability. This can be reinforced by the way in which a firm acts within the public policy arena: it can either proactively advocate for environmental

Figure 2: Particular features of a state of sustainable finance



and social sustainability legislation (in finance and in specific market sectors) or it can be self-contradictory by taking lobbying positions which are not aligned with its own environmental and social sustainability profile.

The finance system needs to transition towards this state of environmental and social sustainability **(Figure 2)**, through advocacy for policy and regulatory approaches that enable an orderly process of rapid transformation, which GEO-6 shows is needed in the business economy. Sustainability transitions and transformations in general are complex processes that involve social, economic, environmental and political shifts. The financial sector can support actions by policymakers and regulators to address climate and environment-related risks and to enable sustainable finance to accelerate while also ensuring financial stability.

4.4.2 Enabling role of financial regulators

Voluntary initiatives can provide steppingstones on the adoption curve towards regulatory enforcement while also enhancing the financial system's resilience. A key driver for greater understanding of risks has been the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD) recommendations to improve and increase reporting on climate-change-related information to facilitate clear, comprehensive, high-quality information on these risks and opportunities in financial markets, which are driven by both the physical impacts of climate change and the transition to a low-carbon economy. Adopting the TCFD recommendations can create normalized processes that strengthen financial sector responses to environmental and social sustainability challenges, paving the way for eventual mandatory action that creates a level playing field.

Financial institutions and non-financial companies can use TCFD-aligned disclosures to understand potential exposure to risks such as stranded assets. These can come from investment in economic activities that are likely to be curtailed because they are leading to planetary damage, such as climate change. For example, a phase-out of fossil fuels may happen because of:

- **Shifts in market preferences** - consumers and financial institutions already turning away from certain types of activities such as coal and oil sands extraction.

- **Regulatory costs** - restrictions on activities or direct carbon pricing that renders the activity uneconomical
- **Changes in technology** - decreases in costs of renewable energy or electrified vehicles that make the environmentally damaging asset unexploitable.

These three factors could lead to major reductions in asset value or full write-offs that adversely affect the financial position of the company holding them on its balance sheet. That can have knock-on consequences for banks (defaults), investors (loss of value) and insurers (claims). In capital markets, this is leading to divestment and revaluation at a faster rate than longer term positions (for example bank lending). Organizations such as Carbon Tracker highlight the risks of a 'carbon bubble' which is already leading to significant write downs of companies based on risks to their future income streams. The same logic could be applied to assets stranded due to the physical impacts of climate change. More than half of the climate tipping points identified in major climate assessments are now "active", threatening the loss of the Amazon rainforest and the great ice sheets of Antarctica and Greenland, which are undergoing unprecedented changes much earlier than anticipated.[70]

Investments and loans are also exposed to businesses and activities that lead to nature-related financial risks caused by deforestation, biodiversity loss or pollution. The Task Force on Nature-Related Financial Disclosure is developing a framework for enhancing understanding and action to address these. Large, abrupt or persistent environmental changes can happen through a range of slow onset processes such as over-exploitation of resources or excessive nutrient pollution that undermine resilience and push systems closer to environmental tipping points.[71]

Financial regulators and supervisors are increasingly seeking to understand how climate and other environmental risks could affect the stability of the financial system. Environmentally and socially sustainable finance looks set to become one of the biggest regulatory revolutions in the coming years.[72]

UNEP's Inquiry [73] into the Design of a Financial System called for action to ensure that the rules governing the financial system are consistent with wider government policies, for example, aligning the capital requirements for banks and insurers with environmental and social factors.[74] This could lead to ambitious regulation to ensure effective accountability mechanisms and create an enabling environment for sustainable finance. However, only recently have financial regulators started to integrate environmental and social sustainability mandates into agendas, spurred by global agreements, international cooperation across organizations and industry's advances using voluntary approaches, standards, collaborative initiatives, and innovation think-tanks.

Current regulatory trends in the European Union (EU) and elsewhere are pushing the commercial financial sector to fully embracing sustainable development mandates. Regulators initially focused on environmentally and socially sustainable finance from the risk perspective and are increasingly examining opportunities in this sector. Financial regulators are recognizing that the financial sector must adequately manage climate-related and ESG risks and that financial stability is impacted negatively by environmental degradation.[75,76] Central banks, financial regulators and standard-setters that set the 'rules of the game' governing financial and capital markets are starting to investigate the ESG impacts of financial decision-making and the related risks to the stability of the financial system, not least through voluntary collaboration under initiatives such as the Network of Central Banks and Supervisors for Greening the Financial System (NGFS)– which now includes 100 members and 13 observers.[77] Banking supervisors and regulators in NGFS are developing strategies to integrate climate-related and environmental risks into financial stability monitoring and micro-supervision. Insurance supervisors and regulators are working together in the Sustainable Insurance Forum to strengthen understanding and responses to sustainability issues. Policymakers and regulators are increasingly providing research and guidance for the financial sector to more systematically understand and address environment-related financial risks and opportunities.

Financial policymakers and regulators are also increasingly supporting alignment of financing with sustainable development **(Figure 3)**. Core approaches include creating an enabling environment, for example in jurisdictions such as the EU, where there is also a growing focus on aligning the financial system with environmental and social policy objectives. [78] The European Commission's Strategy For Financing the Transition to a Sustainable Economy aims to provide a roadmap and enabling framework to increase private investment in environmentally and socially sustainable projects and activities to support actions set out in a European Green Deal which would help manage

Figure 3: Shifting focus of assets towards sustainability and developing countries

and integrate climate and environmental risks in the financial system.[79]

To support harmonization across financial products and common understanding of sustainability investment, policymakers are coordinating their work on the development of taxonomies that provide classification systems to establish a list of environmentally sustainable economic activities. The creation by governments or financial sector regulators of environmental sustainability taxonomies and mandatory sustainability reporting standards to support greater transparency are essential for scaling up sustainable financial products and services. Voluntary initiatives help ensure approaches are compatible across jurisdictions include the International Platform on Sustainable Finance, which released a draft Common Ground Taxonomy to identify areas of commonality across green taxonomies in the European Union and China in October 2021.[80] The G20 Sustainable Finance Working Group roadmap for sustainable finance sets out priorities including improving comparability and interoperability of approaches to align investments to various sustainability goals.

5 Conclusions, outlook and recommendations

Financial institutions now need to reimagine how they can contribute to building a low-carbon, nature-positive and inclusive economy. Not only could this approach be the best commercial opportunity for value creation by financial institutions in the future, it may be the only one to head off the sustainability challenges highlighted in GEO-6 while realizing the opportunities from the necessary transformations that GEO-6 and other outlooks propose.

At a critical time for society and as industries face health, technological, social and environmental disruption, the financial sector should engage with clients and stakeholders to re-assess the value it creates and how it creates it, on the basis of openness and transparency about how money is being managed. Environmental and social sustainability impacts need to be a core part of investment, lending and underwriting decision-making moving foreward. To help achieve the SDGs through the transformation of the global economy by 2030, the financial system will need to have the strategies, cultures and incentives (or removal of disincentives) in place to shift investment portfolios, at the necessary scale and direction to achieve long-term sustainability goals.

5.1 Recommendations for financial institutions

Financing needs to support the transformation of economic sectors towards a low-carbon, nature-positive and inclusive economy in which critical ecosystems are protected and restored to increase the system's resilience and mitigate and adapt to climate change. Banks, institutional investors and insurers have the power to enable the positive corporate transformations needed for better societal, environmental and financial outcomes.

By taking the actions recommended below, financial institutions, financial policymakers and regulators can play a critical role in the transformations called for in Agenda 2030, its Sustainable Development Goals and major environmental assessments such as GEO-6.

Financial institutions can enhance their role in accelerating the transition to a financial system that supports environmental and social sustainability by:

- **Better allocating financing for improved low carbon and nature-positive and inclusive impacts,** which can be measured, incentivized and reported, including where this finance is most needed
- **Strengthening engagement with public and private companies** to realise opportunities to transform towards environmentally and socially sustainable models
- **Collaborating with other financial sector actors and key stakeholders to set and implement science-based targets** and build consensus on how finance can better deliver environmental, societal and economic benefits simultaneously
- **Ensuring transformational leadership, incentives and capacity are in place** to develop and execute strategies which enable environmentally and socially positive outcomes, to help deliver a low-carbon, nature-positive and inclusive economy
- **Understanding the impacts of financing and identify opportunities** to increase positive environmental and social impacts through global collaborations
- **Engaging policy makers and regulators to advocate for an enabling environment** for sustainable finance and to create a level playing field to address the environmental and social impacts of financing activities.

5.2 Recommendations for regulators and policymakers

Finance ministries and/or industry regulators and supervisors are developing a toolbox of measures to catalyze the financial sector's role in contributing to achieving the economic transformations needed to address the world's pressing environmental and social challenges. Recommendations on how they can further help include:

- **Analyzing annual progress made by the financial system** to contribute to achieving the goals of the Paris Agreement and SDGs, including by enhancing disclosure mechanisms [81]
- **Providing enabling policies for environmentally and socially sustainable finance** while removing

barriers, including developing taxonomies to signal which businesses and practices are environmentally and socially sustainable to inform financial decision-making
- **Ensuring comparability and consistency** in the availability of relevant ESG data
- **Building on voluntary initiatives that have amassed experience** in bringing financial institutions toward measurable environmental and social action on a global scale, balancing regulation and voluntary approaches
- **Creating accountability across the entire system,** for example through reporting on climate-related risks and opportunities and progress towards decarbonisation targets
- **Embedding values-driven, science-based parameters** within regulatory mandates.

References

A link to all of the references can be found here.

Glossary

A link to the glossary can be found here.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50
1972-2022