

Green Climate Fund working paper No.3

Financing low-emission climate resilient pathways: A call to action for financial decision-makers



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Introduction

At a time when the effects of climate change are already putting development outcomes at risk and financing for low emission, climate resilient development is still vastly inadequate, the COVID-19 pandemic is creating the broadest economic collapse since the second World War. In response to this unprecedented health and economic crisis, G20 countries are undertaking large-scale expansionary fiscal and monetary measures. However, to date, much of their estimated USD12.1 trillion of stimulus funding has been programmed with limited attempts to optimize the medium and long-term contribution to sustainability and resilience. Instead, announced stimulus measures will have a net negative environmental impact in 16 of the G20 countries and economies as most packages will either continue damage from environmentally intensive sectors rather than tackling climate change.¹

Developing countries on the other hand – already the most vulnerable to the impacts of climate change – do not have the same monetary and fiscal spaces to roll out ambitious recovery packages. The sharp drop in public revenues, massive outflow of portfolio capital, precipitous fall in foreign direct investment (FDI) and remittances, and rising debt burdens have added stress to government balance sheets and threaten to wipe out decades of socio-economic gains. Poverty may increase for first time globally in thirty years by as much as half a billion people, or 8% of the total human population.² This will be particularly acute for least developed countries (LDCs) and small island developing states (SIDS). At the same time, developing countries have a significant opportunity to leapfrog to low carbon, climate resilient pathways as two-thirds of their infrastructure investments are yet to take place.

The COVID-19 economic crisis has brought the world to either a tipping or a turning point. Economic recovery decisions taken today will either entrench our dependence on fossil fuels, widen inequalities and put achievement of the Paris Agreement and Sustainable Development Goals (SDGs) out of reach, or create the momentum and scale needed to shift the economic paradigm towards net zero-carbon, climate-resilient and inclusive development for all. To date, the G20's economic response is set to reinforce negative environmental trends. Since the beginning of the COVID19 pandemic in early 2020, the G20 countries committed at least USD208.73 billion supporting fossil fuel energy compared with at least USD143.02 billion supporting clean energy.³ Yet COVID-19 has not stopped climate change. After a temporary decline, greenhouse gas emissions in the atmosphere are back on a trajectory consistent with a 3 to 4 °C rise in temperatures.

How can the world collectively ensure that the COVID-19 crisis proves a turning point to meet the goals of the Paris Agreement and SDGs?

First, climate action and COVID-19 recovery measures must be mutually supportive – climate action must help to revive economies and economic packages designed to overcome the COVID-19 crisis must be 'green'. Governments do not have to compromise economic recovery priorities with their Paris Agreement commitments. Many investments can meet this dual objective. For example, investment in energy efficient buildings can rapidly generate large employment opportunities, reduce energy poverty and increase resilience to extreme weather events. Similarly, investments in climate resilient agriculture and water management will preserve livelihoods and foster ecosystem restoration while investment in shovel-ready low

¹ Greenness of Stimulus Index, Vivid Economics (2020). ; <https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/>

² United Nations University World Institute for Development Economics Research (2020). Estimates of the impact of COVID-19 on global poverty <https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2020-43.pdf>

³ <https://www.energypolicytracker.org/region/g20/>

emission, resilient infrastructure will protect people, jobs and assets. Stimulus measures in Western Europe, South Korea and Canada include green infrastructure investments in energy and transport, while the European Union's recovery package is the most environmentally friendly - of the €750 billion (USD 830 billion) package, 37 per cent will be directed towards green initiatives, including targeted measures to reduce dependence on fossil fuels, enhance energy efficiency and invest in preserving and restoring natural capital. All recovery loans and grants to member states will have attached 'do no harm' environmental safeguards.⁴Second, developing countries must be able to access adequate finance for their green economic stimulus measures. COVID-19 has exacerbated the existing 'climate finance paradox', which creates a persisting infrastructure investment gap in developing countries. On the one hand, trillions of dollars of savings are earning negative interest rates in many high income countries. On the other hand, there exists between USD11 to USD23 trillion in attractive opportunities for climate-smart investments in emerging markets between now and 2030.⁵

Policy integration could almost halve investment requirements in energy, transportation, water supply and sanitation, flood protection and irrigation to meet the SDGs and the goals of the Paris Agreement in low and middle-income countries; from USD2.7 trillion per year under current fragmented policies against USD1.5 trillion per year with policy coordination over the next 15 years.⁶ An illustration of integrated policies fostering sustainable development, employment and low emission climate resilient pathways are urban policies lowering forced mobility and reducing required investment for low emission transportation infrastructure.

However, short-termism in financial markets and the lack of consideration of climate risk in investment appraisal discriminate against climate investments. Furthermore, compared to "brown" infrastructure, green, climate-resilient infrastructure investments tend to have high upfront capital requirements, long pay-back periods, a strong sensitivity to policy change, and high technology risks. These downsides can deter both project initiators and financiers when they are not balanced against the lower operational costs and lower physical and transition risks of low emissions and climate resilient infrastructure. A better valuation of climate risks and a shift in shareholder activism from short-term quarterly returns to long-term sustainable financial performance are pre-conditions to align finance with climate action.

The recovery from the COVID-19 economic crisis coincides with a pivotal time in the fight against climate change. 2020 is the year in which countries are raising their climate ambitions by submitting new or updated national climate action plans, a key step towards creating momentum for the 26th UN Climate Change Conference (COP 26) and realizing the Paris Agreement.

The financial system has a critical role in ensuring that COVID-19 does not push the world beyond a point of no return, and will need to change rapidly and deeply. The objective of this working paper is to support policy makers, the financial industry and international financial institutions in this effort to align the financial system with the goals of the Paris Agreement and SDGs and ensure a sustainable recovery from the COVID-19 pandemic. This objective is

⁴ Greenness of Stimulus Index, Vivid Economics (2020). ; <https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/>

⁵ IPCC (2018)

⁶ Rozenberg & Fay (2019)

consistent with the private finance priorities for COP 26 to ensure that every professional financial decision takes climate change into account.⁷ Specifically, the working paper:

- highlights the risks posed by climate change to the finance system based on the Intergovernmental Panel on Climate Change (IPCC)'s Special Report on Global Warming of 1.5°C and discusses key barriers to the re-pricing of assets in global financial markets;
- reviews the risks related to infrastructure investment risks and highlights on-going efforts to address the infrastructure financing gap;
- assesses the impact of COVID-19 pandemic on access to finance in middle and low income countries for low emission, climate resilient investments; and
- identifies a combination of policy, financial and institutional initiatives to maintain climate ambition in the era of COVID-19.

1. The world has already warmed by 1.1°C exposing the financial system to unprecedented challenges

The climate crisis impacts people and ecosystems, exacerbating inequalities and tensions. The 2015 Paris Agreement provides a framework for the global response to the climate crisis aiming to keep average temperature increases this century well below 2°C and pursuing efforts to stay within 1.5°C.

In its Special Report on Global Warming of 1.5°C (SR1.5), the IPCC concluded that limiting warming to 1.5°C compared to 2°C helps prevent severe and partly irreversible consequences. Impacts at 2°C of warming push hundreds of millions of people into poverty, put over 330 million people at risk of food insecurity and 590 million of water insecurity, expose over 350 million in mega-cities to heatwaves, and lead to the complete extinction of warm-water corals and an ice-free North Pole every decade. Furthermore, while in 2019 the world had already warmed by 1.1°C compared to pre-industrial times, the announced contributions made by Parties to the Paris Agreement are projected to lead to a warming of around 3°C if fully implemented and to even higher temperatures if these commitments are only partially fulfilled. This would increase the pace of climate impacts and reduce the effectiveness of adaptation efforts.

The climate crisis also undermines the stability of national and global economic systems. Financial assets and investments are exposed to physical and transition climate risks. Physical risks, which stem from the physical impact of climate change, include both acute risks – from an increase in the frequency and severity of extreme weather events (e.g. more intense droughts, greater floods, more severe cyclones, etc.) - as well as chronic risks – from slow-onset events (e.g. polarward shift of ecosystems, sea level rise, human disease migration, etc.). Transition risks, which occur due to structural changes arising from the shift to a low carbon, climate-resilient economy, can involve technological innovations (e.g. breakthrough in battery or hydrogen technology), changes in legislation and regulation (e.g. ban of high emission products, rapid implementation of a carbon tax following a catastrophic weather event or electoral change), and changes in consumer behaviour (e.g. a shift in attitudes towards the purchase of diesel cars, air travel or deforestation-based products).

Climate risks will have major implications for most sectors of our economies. They can impact revenues, cash flows and operating costs, asset values and financing costs of firms and financial institutions.⁸ The physical effects of climate risk tend to materially impact industries

⁷ UNFCCC, 2020

⁸ Sustainability Accounting Standard Board (2016): Climate Risk-Technical Bulletin

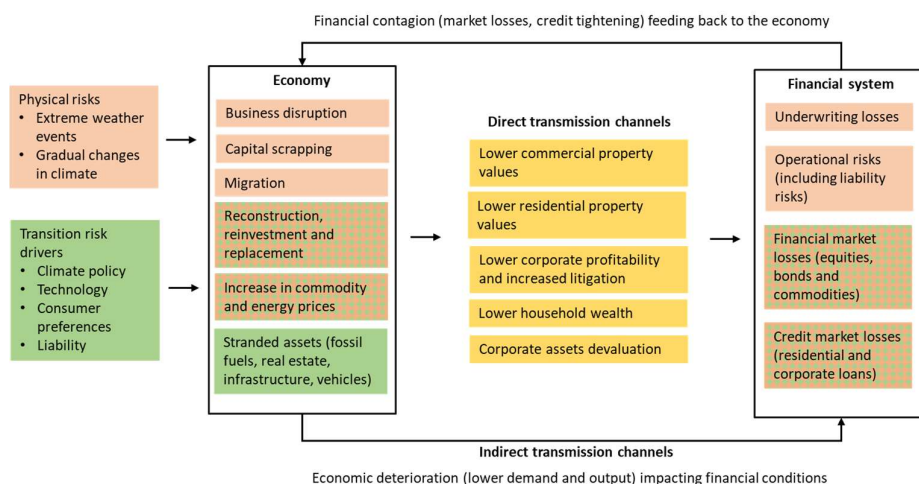
with physical assets in risk-prone areas (e.g., real estate in coastal areas or wildfire-prone areas); industries where infrastructure resiliency and business continuity are societal necessities (e.g., health care delivery, telecommunications/Internet, utilities); and industries dependent on natural capital (e.g., those that rely on productive land and availability of water, such as agriculture, meat, poultry, and dairy). Financial institutions, especially insurance companies and smaller regional and local banks, are also vulnerable to claims and loan default losses from chronic and acute physical risks.⁹

Risks related to the transition to low-emission, resilient development pathways tend to have material impacts on producers of energy (fossil fuel companies, renewable energy companies); manufacturers and providers of energy-consuming products and services; energy- and/or water-intensive industries; and nature-based products and services providers. Stranded capital from fossil fuel assets alone suggests a potential global loss of wealth between USD1 trillion and USD4 trillion.¹⁰ Similarly, sales of diesel-based cars within the European market could shrink from 52 per cent to 9 per cent by 2030.¹¹

Overall, physical and transition risks could impact 72 out of 79 industries assessed by the Sustainability Accounting Standard Board.¹² This equates to USD27.5 trillion, or 93 per cent of equities by market capitalization in the US alone, and represents a systematic risk to the stability of the financial system and security of societies. Because climate risk cannot be diversified away, investors need to understand and adequately price their exposure to it.

The speed and quality of the management of the transition towards climate stabilisation strongly affect how the physical and transition risks for the financial system are spread out across industries and over time. Through a self-reinforcing feedback loop (Figure 1), every bit of warming matters to the health and security of the societies through a harmful chain of events.

Figure 1: Feedback loop that can make climate change a threat to financial stability¹³



A clear conclusion from the IPCC Special Report is that limiting warming to 1.5°C and adapting to the impacts of climate change require accelerating the transition across four systems: energy systems, land and ecosystems, urban and infrastructure, and industrial systems. System

⁹ Managing climate risk in the US financial system (2020).

¹⁰ Mercure, et al, (2018)

¹¹ Frost and Guillaume (2016)

¹² The seven industries for which SASB standards include no climate- related topics are: Consumer Finance, Education, Professional Services, Advertising & Marketing, Media Production & Distribution, Tobacco, and Toys & Sporting Goods.

¹³ Based on NGFS, 2019.

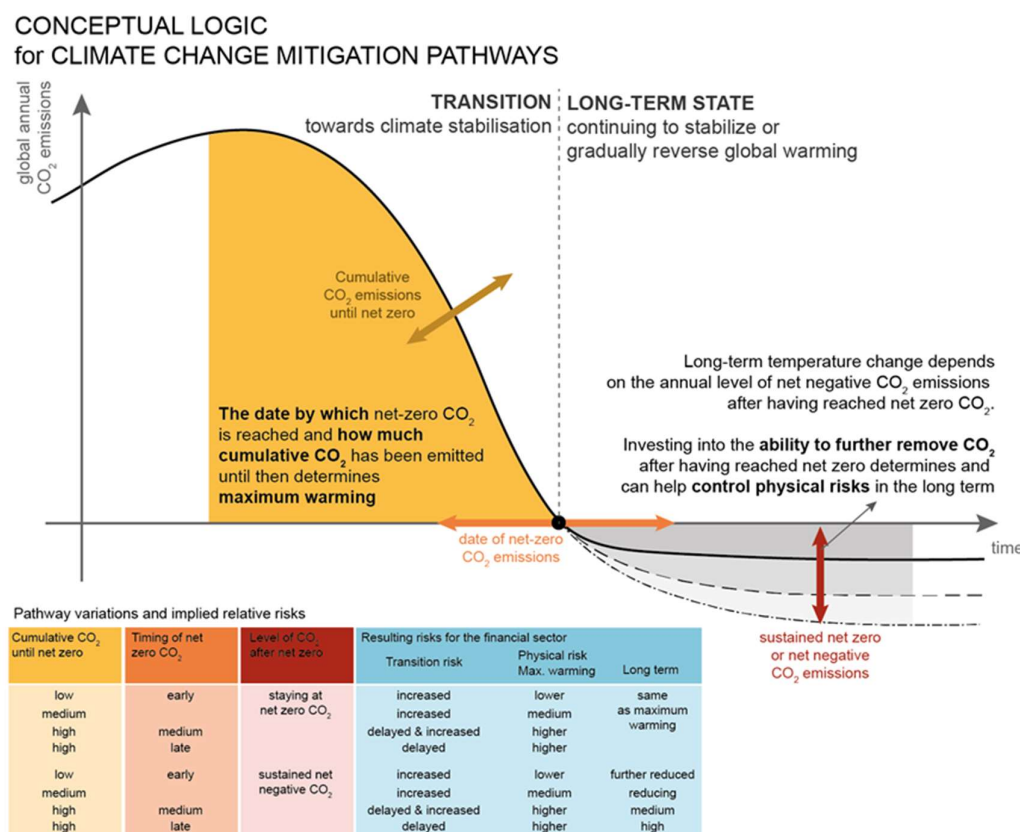
transitions are associated with financial risk, but so is waiting for climate change impacts to kick in. Modelling studies indicate that to limit warming to 1.5°C, global CO₂ emissions need to be halved by 2030 and reach net-zero by 2050. CO₂ also needs to be removed from the atmosphere at a significant scale during the second half of the 21st century. Different future pathways are still possible within the remit of the Paris Agreement and these have very different implications for sustainable development and the financial system (Figure 2). For instance, if net-zero is reached by 2050 but cumulative emissions between now and then do not decline quickly, greater use of carbon dioxide removal (CDR) will be required later on, with further risk of climate feedbacks, and a statistical risk of exceeding or overshooting 1.5°C.

Hence acting sooner to enact system transitions is vital to limit the physical risks of climate change. Immediate action can also contribute to economic recovery from the COVID-19 pandemic and to achievement of the SDGs by 2030. Conversely, delaying the transition will increase physical risks without realizing the development co-benefits, and result in a disorderly transition, with greater costs and financial losses.

According to the IPCC, accelerating system transitions and limiting global warming to 1.5°C are still narrowly possible if a large set of enabling conditions is established. As discussed in the following sections, these include carbon pricing and large international financial transfers to account for the conditions of the transition in different socio-economic contexts.

Figure 2: Conceptual logic for climate change mitigation pathways and implied relative risks¹⁴

¹⁴ Adapted from Rogelj et al. (2019)



The maximum level of warming, also referred to as peak warming, is defined by the time net-zero CO₂ emissions is reached and the total cumulative amount of CO₂ emissions emitted until then. Subsequently, warming can be stabilised by continued net-zero CO₂ emissions or gradually reversed through sustained net negative emissions. Variations within this logic result in different physical and transition risks for the financial sector.

2. Limiting warming to 1.5°C and adapting to climate change bring formidable investment opportunities – but the infrastructure investment gap persists

Achieving net-zero emission by 2050 requires system transitions in energy, , land and ecosystems, urban area and infrastructure, and industry. These transitions involve deployment of a range of technologies and practices within the next few decades, with some of them still to be developed. Adapting to the consequences of 1.5°C global warming also requires considerable investments in water management, flood protection, new agricultural systems, health systems and new architectures. The warmer the planet, the greater the adaptation needs, for instance, because of sea level rise or more frequent heat waves. Specific adaptation investments are projected to be in the order of USD300 to USD400 million annually over the next twenty years.

However, a critical part of the enhancement of adaptive capacities of societies will come from the reduction of the infrastructure investment gap in basic goods and services that determine the degree of fulfilment of the SDGs. Studies indicate that the total investment requirements

for SDGs and the Paris Agreement could be reduced by 40 per cent by a high level of integration of climate and SDG policies.¹⁵

Most estimates of the investment opportunity related to climate change mitigation, including those in the SR1.5, cover energy supply and energy savings. Available studies, however, show that including transport and the built environment leads to three times higher investment opportunities and would reach between USD1.8 to USD4.5 trillion annually over the next two decades.¹⁶ Despite this range of uncertainty, the incremental investments in energy, transportation and buildings needed to achieve an emission pathway compatible with 1.5 C require the redirection of 2.5 per cent of the global fixed capital formation (GFCF) towards low emission options.¹⁷

While this relatively modest figure suggests that this goal should be attainable, and while estimates show significant increases in low-emission investments and sustainable investments over the past decade, the infrastructure investment gap could reach a cumulative value of between USD14.9 and USD30 trillion by 2040, representing between 15.9 per cent and 32 per cent of the required infrastructure investments to foster low emission, climate resilient pathways.¹⁸ The growth in climate finance (amounting to over USD half-trillion for the first time in 2017 and 2018)¹⁹ is insufficient and growing too slowly to channel financial resources towards low emission, sustainable development at the scale and pace required to achieve the goals of the Paris Agreement. Climate finance refers to local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change. The UN Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement call for financial assistance from Parties with more financial resources to those that are less endowed and more vulnerable, recognizing that the contribution of countries to climate change and their capacity to prevent it and cope with its consequences vary enormously.²⁰ Climate finance is equally important for adaptation, as significant financial resources are needed to adapt to the adverse effects and reduce the impacts of a changing climate. Climate finance accelerates the creation of new low-carbon technology markets, and as a result of high income countries' commitment to mobilize USD100 billion per year from 2020 to support the transition in developing nations, this was done partly by using public funds to derisk private investment in early stage markets.

It is only recently that financial analysts across the board have begun showing increased concern with climate change. This change of attitude is partly due to the increased recognition of adverse climate impacts as a source of vulnerability for the financial system and a growing demand for sustainable investments due to shifts in investor behaviour.²¹

However, climate finance flows from private entities hardly exceed half of total financing (56 per cent) over 2017-18, with the remainder coming from public sources.²² Private investments are made directly in the form of equity or through green bonds whose proceeds are channeled to low-carbon projects. In the 10 years since their launch, green bonds approached a total of

¹⁵ Rozenberg and Fay (2019)

¹⁶ Rozenberg and Fay (2019)

¹⁷ IPCC (2018)

¹⁸ Arezki, R., P. Bolton, S. Peters, F. Samama, J. Stiglitz (2017)

¹⁹ USD612 billion in 2017, USD546 billion in 2018 (CPI, 2019)

²⁰ <https://unfccc.int/topics/climate-finance/the-big-picture/introduction-to-climate-finance>

²¹ <https://hbr.org/2019/05/the-investor-revolution>

²² Blended Finance Taskforce (2018)

USD1 trillion (USD258 billion in 2019). However, despite strong growth, green bond issuance in 2019 still only represented about 5 per cent of total bonds issued globally.²³ The market for green bonds also remains largely concentrated in developed and emerging markets, with the USA, China and France accounting for 44 per cent of global issuance in 2019, and the increase in issuance in 2019 driven largely by Europe.²⁴ Global green bond issuance also fell by 11 percent in 2020 due to the COVID-19 pandemic, at USD 118 billion compared to USD133 billion over the same period of 2019.²⁵

Sustainable investments reported by the private sector should be treated with care because of the lack of common definitions and standards, and the fact that reported amounts also represent investing in financial assets rather than in real assets. However whatever the metric used, 2018 marked a stop in an upward trend in low carbon investment world-wide as well in private investments in SDG-related infrastructure in developing countries that were lower in 2018 than in 2012.²⁶ In contrast, the top 33 banks alone allocated USD654 billion to fossil fuel financing in 2019, more than the double of their commitments to sustainable finance commitments – USD292.3 billion – in the same year.²⁷

Pricing climate risks is proving a daunting challenge for investors, who need to estimate the likelihood of various climate scenarios and their implications for physical and transition risks at the firm and project levels based on climate science and expected mitigation and adaptation actions. In addition, the time horizon for these changes may be too long even for long-term institutional investors. Some recent developments in global stock markets can be read as early signs of asset re-pricing, such as the significant underperformance of the oil and gas sector compared to other sectors. Similarly, auto manufacturers who have been slow on the transition to electric vehicles are suffering in their relative values. However, an IMF study found that 2019 equity valuations across countries did not reflect any of the commonly discussed global warming scenarios and associated projected changes in hazard occurrence or incidence of physical risk.²⁸

In terms of public finance, while the SDGs are increasingly incorporated into public budgets, the slow progress in terms of domestic public resource mobilisation is insufficient to meet the ambitions of the 2030 Agenda for Sustainable Development. According to the 2020 Inter-Agency Task Force Report on Financing for Development, only 40 per cent of developing countries clearly increased tax-to-gross domestic product (GDP) ratios between 2015 and 2018. This challenge is exacerbated on the expenditure side, with more than a third of public investment spending is lost through inefficiency, with larger efficiency gaps in LDCs and other developing countries. In terms of climate-specific finance provided through bilateral and multilateral channels reported by developed countries to developing countries, according to the Standing Committee on Finance of the United Nations Framework Convention on Climate Change (UNFCCC), this amounted to \$38 billion in 2016.²⁹ More recent estimates by the OECD signal an increase of public climate finance from developed to developing countries between 2013 and 2017 of 44%; reaching USD54.5 billion in 2017, with loans making up almost USD40 billion compared with grants of USD12.8 billion.³⁰

²³ <https://www.bbva.com/en/2019-a-record-year-for-bond-issuance/>

²⁴ Climate Bonds Initiative (2019) Annual Report

https://www.climatebonds.net/files/reports/2019_annual_highlights-final.pdf

²⁵ <https://nordsip.com/2020/07/14/green-bond-issuance-to-recover-in-second-half-of-2020/>

²⁶ Inter-Agency Task Force (2019) Financing for Development Report.

²⁷ Source: <https://www.euromoney.com/article/b1j97rjr74vd00/sustainable-finance-biggest-problems-by-the-people-who-know-best?copyrightInfo=true>

²⁸ <https://blogs.imf.org/2020/05/29/equity-investors-must-pay-more-attention-to-climate-risk>

²⁹ Inter-Agency Task Force (2020) Financing for Development Report.

³⁰ OECD (2017). Climate finance provided and mobilized by developed countries in 2013 to 2017.

In October 2019, 27 countries pledged to replenish the Green Climate Fund (GCF) by \$9.78 billion over next four years—up from XX received during the initial resource mobilization period (20XX to 20XX). As of September 2020, the GCF had approved total funding of \$6.2 billion for XX projects and programmes, with a total value including co-financing of \$21.2 billion. LDCs, SIDS and African States accounted for XX per cent, XX per and XX per cent of approved projects, respectively.

Commitments from multilateral development banks (MDBs) and national development banks (NDBs) have also grown, with their support almost doubling to public-private partnerships for climate-friendly investment between 2013 and 2018. Climate financing by the world's largest MDBs in developing countries and emerging economies rose to an all-time high of USD61.6 billion in 2019 and at COP25 in December 2019, MDBs indicated that the full implementation of the joint framework for aligning activities with the goals of the Paris Agreement would be implemented by 2023-2024. ³¹.

In the context of the post-subprime crisis these trends do not outweigh the problem of the infrastructure investment gap which is symptomatic of a systemic problem, the gap between the 'propensity to save' and the 'propensity to invest' in a business environment in which short-term risk-weighted returns dominate decision-making by public and private financial actors.

3. Misalignment and mistrust: Barriers that undermine a 'green' financial system and limits to existing responses

The persistent infrastructure investment gap is caused by a number of risks that deter project initiators and financiers. The OECD clusters these risks into three main categories according to the project development cycle (Table 1): ³²:

1. Political and regulatory risks: Arise from governmental actions, including changes in policies or regulations that adversely impact infrastructure investments. For example, complex, inconsistent or opaque licensing procedures lead to transaction delays and costs. Similarly, changes in tariff regulations or off-taking contract renegotiation can affect the profitability of investments.

2. Macroeconomic and business risks: Arise from the possibility that the industry and/or economic environment is subject to change. These include macroeconomic variables like inflation and exchange rate fluctuations, as well as shifts in consumers' demand, access to financing, and liquidity constraints.

3. Technical risks: Are determined by the skill of the operators, managers and related to the features of the project, project complexity, construction and technology. These risks can also arise from lack of supporting physical infrastructure (e.g. cranes or roads to unload and transport wind turbines or poor grid infrastructure).

Project initiators are particularly exposed to development phase risks as they are usually financed by personal equity and represent a sunk cost. Construction, operation and termination

³¹ Joint Report on MDBs Climate Finance (2019). This includes data from the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG), the Islamic Development Bank (IsDB), and the World Bank Group (WBG).

³² OECD (2016). Infrastructure Financing Instruments and Incentives.

phase risks will be taken into consideration in the investment calculus of both project initiators and financiers.

Risks also vary across the life of the project. Some investors perceive a higher risk in the first phases of the project i.e. development and construction phases.

Table 1: Main risks by project development phase³³

Risk Categories	Development Phase	Construction Phase	Operation Phase	Termination Phase
Political and regulatory	Environmental review	Cancellation of permits	Change in tariff regulation	Contract duration
	Rise in pre-construction costs (longer permitting process)	Contract renegotiation		Decommission
				Asset transfer
	Currency convertibility			
	Change in taxation			
	Social acceptance			
	Change in regulatory or legal environment			
	Enforceability of contracts, collateral and security			
Macroeconomic and business	Prefunding	Default of counterparty		
	Financing availability	Refinancing risk		
		Liquidity		
		Volatility of demand/market risk		
	Inflation			
	Real interest rates			
	Exchange rate fluctuation			
Technical	Governance and management of the project			Termination value different from expected
	Environmental			
	Project feasibility	Construction delays and cost overruns	Qualitative deficit of the physical structure/ service	
	Archaeological			
	Technology and obsolescence			
	Force majeure			

These risks translate into higher hurdle rates for entrepreneurs and financiers. Entrepreneurs will require higher expected returns before investing their time and personal equity in a renewable energy project. Similarly, providers of financing will demand a higher margin and will offer less attractive financing terms to compensate themselves for these higher risks. In practice this translates into higher interest rates (debt) and required returns (equity), shorter loan tenors and a higher share of more costly equity in capital structures, affecting the attractiveness of infrastructure investment.

These risks are magnified for low emission, resilient infrastructure investment in developing countries.³⁴ High financing cost particularly penalize green technologies given their cash flow

³³ OECD (2016)

³⁴ UNDP (2012 and 2018); Glemarec, Bayat-Renoux and Waissbein (2016).

profile: higher upfront capital requirements but lower operations and maintenance costs compared to high emission climate vulnerable investments. For example, climate-resilient roads will typically require higher upfront investments but require less annual maintenance. The longer payback period of low emission, resilient infrastructure compared to “brown” investment and their high sensitivity to policy stability (e.g., renewable energy and feed-in-tariffs) will be additional sources of concerns for project initiators and financiers, particularly in early-stage markets. Technology risks will also be perceived as particularly acute for low emission, resilient infrastructure using novel technologies.

These additional and perceived risks should be balanced against the lower operational costs and lower climate physical and transition risks of low emission, climate-resilient infrastructure. However, the absence of universally accepted valuation methodologies for low emission, resilient infrastructure; the absence of common and trusted green standards and labels for green financial products; the limited track-record of green investments; and uneven capacity of institutional investors and financiers to assess the risk-reward profiles of climate investments result in a systematic mispricing of low emission, resilient assets. As highlighted in the introduction, a better valuation of climate risks and a shift in shareholder activism from quarterly returns to long-term sustainability are pre-conditions to align finance with climate action and sustainable development.

Despite attempts for change, the response to the 2008 financial crisis further strengthened the focus on short-term returns and created structural tension in the world economy. After 2008, central banks resorted to significant liquidity injections combined with tighter financial regulations (e.g. Basel III). These regulations have pushed banks to significantly avoid “risky” asset classes, with unintended consequences of driving down the desire to hold loan portfolios beyond 5 - 8 years, while infrastructure projects require an horizon of 15–20 years for the amortization of debt. This increased debt and led to a vanishing confidence in asset prices, negative interest rates, and a downgrading of private companies (50 per cent were rated BBB in 2019 compared with 34 per cent in 2000).³⁵ This reflects a strong risk aversion that further penalizes long-term investments.

These risks and the legacy of the 2008 financial crisis translate into a lack of trust between key actors in the financial system - *regulators, who set the ‘rules of the game’; project initiators, who are the first risk-takers and mobilize part of the financing; commercial, industrial and investment banks, which decide the bankability of projects and loan terms; institutional investors (pension funds, insurance companies, asset managers, and sovereign funds) who purchase assets; and central banks who determine interest rates and can also purchase assets*. It also creates a range of barriers to both demand for climate finance from project initiators, and supply of climate finance from financiers to invest in low emission, resilient infrastructure.

A direct consequence is a limited supply of high quality, transparent low carbon, climate resilient investment opportunities despite the unmet demand for low emission, resilient assets. While the market for green and sustainable investments is growing, it still remains small relative to investor needs, notably in large public equity and debt markets. For example, while green bond issuance reached a record high of USD225 billion in 2019, it was insufficient to meet investor demand.³⁶

Over the past two decades, a number of actions have been taken to build this circle of trust among financial actors, either to address barriers to climate finance demand (including political commitments to net-zero, carbon pricing or blended finance to derisk specific investments), or

³⁵ CEIC Data stream: <https://www.ceicdata.com/en/indicators>

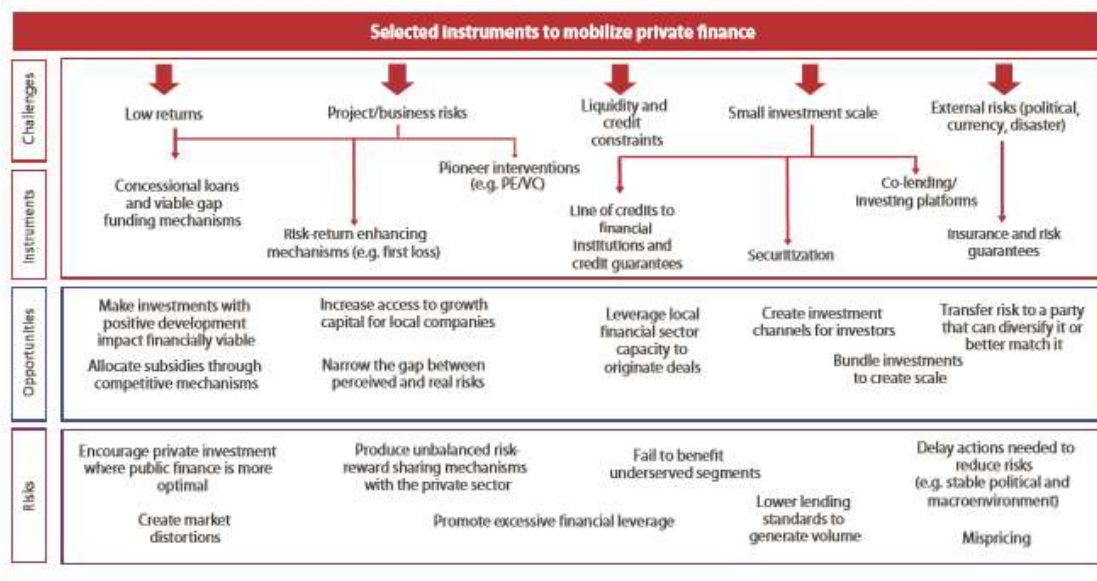
³⁶ Chestney (2020)

to climate finance supply (including climate-related financial disclosure and green standards and taxonomies). An overview of progress and shortcomings of these approaches are noted below:

- **Political commitment to low-emission, climate resilient pathways and fragmented regulation:** political uncertainty about governments' and corporate commitment to climate policies has fuelled the 'tragedy of the horizon', whereby the prevailing short-termism in financial markets causes an unseen build-up of climate risks across multiple financial actors, which in turn create systemic risks to stability of the financial and monetary systems. To counter financial short-termism, the Paris Agreement invites all countries to develop mid-century, long-term, low-greenhouse gas emission development strategies to send a strong political signal to businesses and financial institutions on the materiality of transition risks and opportunities. As of September 2019, 77 countries, ten regions and over 100 cities committed to net zero carbon emissions by 2050. In July 2020, China pledged to being net zero by 2060. But pathways and investment plans to meet these net-zero commitments and intermediate targets to assess the effectiveness of action taken are often missing. Furthermore, several large emitters have yet to make a commitment to net zero emissions, weakening the strength of these political signals.

Blended finance: aims to use public funds to de-risk and crowd in private investment through co-financing pioneer investments in new markets, technologies and practices. The objective is to use scarce public resources in a catalytic manner to leverage much larger private financial flows to scale up investments in sustainable development, and to do so with minimum concessionality or subsidy. The Addis Ababa Action Agenda (AAAA) puts forward a set of Principles for blended finance, and different actors, including the OECD and the Development Finance Institutions Working Group have defined principles for their activities in line with the AAAA.³⁷ Blended finance mechanisms are complex to design and can use a wide range of public instruments to increase the risk-reward profile of green investment through the 'three Ts': treating risk (e.g. grants for technical assistance to create a conducive policy environment to seat and operate an asset); transferring risk (e.g. loan guarantees to fully or partially transfer the risk of default to a third-party); and taxing risk (e.g. negative tax such as tax breaks or subsidies or positive tax such as carbon tax to increase the comparative reward of green investments). The United Nations offers an overview of selected financing instruments governments can leverage to mobilize private finance by risk sharing between the public and private sectors (Figure 3). However, the experience of blended finance in climate change is mixed to date. Public funds have been found to have a low leverage on private funds for low carbon investments, less than 1:2 compared to a range between 1:3 and 1:15 for traditional public finance. Over the past decade blended finance has usually taken the form of relatively safe senior debt rather than more risky instruments such as equity or guarantees that could have higher leveraging ratios and better meet the needs of private investors. Blended finance for climate investment has also mostly benefited high and middle income countries, largely bypassing LDCs, and have catalyse private investment mostly in mature technologies and business models such as on-grid renewable energy technologies.

³⁷ IATF (2020). Financing for Sustainable Development Report

Figure 3: Overview of selected financing instruments to mobilize private finance³⁸

- Carbon pricing:** is the most well-known policy instrument designed to hold emitters responsible for the costs of GHG emissions and to encourage investment in clean technology and market innovation by incorporating such costs into decision-making. In a frictionless world with perfect capital markets and domestic and international compensatory transfers to offset the adverse impacts of high energy prices on growth and real income distribution, a uniform global carbon price and the removal of fossil fuels subsidies would minimise the social costs of the climate transition by spreading the marginal costs of emission reduction equally across all sources. However, the scale -up and geographic expansion of carbon prices have been limited by the need to finance country specific fiscal and social policies to hedge against the regressive impacts on welfare, production costs and higher energy costs. After 25 years of efforts to price carbon, only 15 per cent of global emissions were covered by carbon pricing in 2016 and three-quarters of them were below USD10 per tCO₂ in 2016 – a level incapable to support a drastic decoupling between emissions and growth. The situation will most likely worsen in the depressive post-COVID context.
- Climate-related financial disclosures:** enable investors to make informed capital allocation decisions and help businesses manage climate-related risks and opportunities more effectively. The Taskforce on Climate-related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB) offers a framework of disclosure methodologies for considering climate risks in financial investments. Its voluntary nature facilitated its endorsement by many government regulators, companies and investors and it is also requested for members of several international coalitions, including the UN supported Principles for Responsible Investment. However, while disclosure is increasing, a June 2019 TCFD survey found that the majority of companies do not disclose sufficient information on the potential financial impact of climate-related issues.³⁹ A recent report by the Climate Disclosures Standards Board also found that adoption of TCFD continues to be slow, and that 78 per cent of Europe's largest companies are falling short of reporting

³⁸ Source: UN DESA in IATF (2020)

³⁹ TCFD (2019). Status Report. <https://www.fsb-tcfd.org/publications/tcfd-2019-status-report/>

environmental and climate related risks despite EU guidelines.⁴⁰ The Inter-Agency Task Force on Financing for Development, which includes over 60 UN entities and international entities, recommends the adoption of global mandatory financial closures on climate-related financial risks.⁴¹ Further improvements are also required with regards to the quality, comparability and coherence of disclosures to improve understanding and adoption. There are currently five other leading voluntary disclosure frameworks, which have only recently begun to work together towards a joint vision: the Carbon Disclosure Project (CDP), the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB).

- **Green standards and taxonomies:** identify the activities or investments that deliver on environmental objectives.. Such taxonomies can drive capital more efficiently toward priority environmentally sustainable projects by helping banks and other financial institutions originate and structure green banking products, and helping investors identify opportunities that comply with sustainability criteria for impact investments. The Network for Greening the Financial System (NGFS) – an association of 55 central banks and supervisors – has recommended the establishment of a clear taxonomy around green, non-green, brown and non-brown products. A number of efforts have been made to do this, including the EU taxonomy for sustainable activities, the green bonds principles by International Capital Market Association, green bond standards climate benchmarks, and national green taxonomy guidance for emerging markets developed by the World Bank. . However, the lack of adoption of standards and differences in standards create confusion and risks of ‘green-washing’ and remain a significant barrier to scaling up low emission, climate resilient investment.

4. Implications of COVID-19 on developing countries’ access to finance for climate action

Today, developing countries face a huge infrastructure investment gap, estimated to reach a cumulative value of up to USD30 trillion by 2040. The preceding section discussed the climate finance paradox limiting developing countries’ access to finance to close this gap for low emission climate-resilient infrastructure. The impacts of the economic crisis and financial instability caused by COVID-19 are likely to exacerbate the climate finance paradox as yields fall in high income countries due to expansionary monetary and fiscal policies, and perceptions of investment risk rise in developing countries. Notably, COVID-19 further contrains developing countries’ access to finance for climate investment because of: (i) falling domestic public revenue and downgrades in sovereign credit ratings; (ii) declining private external finance; and (iii) liquidity and solvency crises affecting private firms, notably small and medium enterprises (SMEs).

(i) Drop in domestic public revenue and downgrades in sovereign credit ratings

The COVID-19 pandemic is causing a sharp deterioration in macroeconomic conditions, reducing fiscal space in developing countries for climate investment on the one hand, while increasing the cost of such investments on the other. The World Bank forecasts a recession of 5.2 per cent of world GDP in 2020, with a forecasted contraction of 2.5 per cent in emerging

⁴⁰ Climate Disclosures Standards Board (2020). Falling Short? Why environmental and climate-related disclosures under the EU Non-Financial Reporting Directive must improve. <https://www.cdsb.net/falling-short>; <https://www.eco-business.com/press-releases/78-of-europes-largest-companies-falling-short-of-adequately-reporting-environmental-and-climate-related-risks-despite-eu-guidelines/>

⁴¹ Inter-Agency Task Force (2020) Financing for Development Report.

and developing economies. For comparison, following the 2008 financial crisis, world GDP contracted by 0.1 per cent and output grew by 2.8 per cent in emerging and developing economies.⁴²

The current plunge in economic activity will further reduce developing countries' already limited domestic public resources by significantly reducing tax and non-tax revenues. Some estimates suggest that tax revenues could contract even more strongly than economic activity. Trade could decline by 13-32 per cent and international tourist arrivals could fall by 60-80 per cent in 2020.⁴³ plummeting commodity prices will disproportionately affect low income countries that tend to rely more strongly on natural resource revenues than other income groups. Taken together, fiscal balances in developing countries are expected to turn sharply negative to -9.1 and -5.7 per cent of GDP in middle-income and low-income countries respectively.⁴⁴ For sub-Saharan Africa, estimates suggest that government revenue could deteriorate by 12 to 16 per cent compared to a non-COVID-19 baseline scenario.⁴⁵

At the same time, the public health and socio-economic shocks from the pandemic necessitate large public spending on health, social protection and economic relief, as well as on longer-term post-crisis recovery. The simultaneous divergence in available financing and an increase in spending needs amplifies the so-called 'scissor effect' of sustainable development finance identified by the OECD.⁴⁶

The 'scissor effect' means that public debt in developing countries is likely to increase further and sizeably. While the G20 has suspended official bilateral debt payments from the poorest countries – freeing up about USD5 billion for 42 low-income countries in 2020 – poor macroeconomic conditions, including currency devaluations and increased perceived country risk, are likely to lead to downgrades in developing countries' sovereign credit ratings, increasing the interest rate spread and cost of public borrowing.⁴⁷ In 2018, this spread was 1.3 per cent for a five years project and 2.5 per cent for a ten years project in BBB rated countries and it jumped up to 6 per cent and 9 per cent respectively in a B rated country. At the extreme low end of the creditworthiness ranking, more than 60 countries were rated below BBB and had before the COVID crisis, access to capital only at spreads higher than 18% for projects longer than two years.⁴⁸

(ii) Decline in private external finance

Private finance is expected to plunge by USD700 billion in 2020 compared to 2019 levels in ODA-eligible countries.⁴⁹ Remittances to developing countries are projected to drop by 20 per cent in 2020 compared to 2019⁵⁰ And portfolio outflows have taken place at unprecedented scale and speed. In March 2020 alone, investors withdrew over USD80 billion from emerging markets – the largest capital outflow in history. While debt flows to emerging markets recovered in April and May 2020, outflows of equity have continued.⁵¹

⁴² World Bank (2020). Global Economic Prospects.

⁴³ WTO (2020). Trade set to plunge as COVID-19 pandemic upends global economy. UN World Tourism Organization (2020) International tourist numbers could fall 60-80% in 2020.

⁴⁴ UN/DESA Policy Brief #72: COVID-19 and sovereign debt.

⁴⁵ World Bank (2020). Africa's Pulse, No 21.

⁴⁶ OECD (2018). Global outlook on financing for sustainable development 2019.

⁴⁷ The interest rate spread is the difference between the interest rate of a bond issued by the US government and the interest rate of loans to a given country to which the specific risk-premium of a project must be added.

⁴⁸ Buhr et al (2018)

⁴⁹ OECD (June 2020). The impact of the coronavirus (COVID-19) crisis on development finance.

⁵⁰ World Bank (2020). Migration and Development Brief 32 – COVID 19 Crisis through a migration lens.

⁵¹ IIF (2020). IIF Capital Flows Tracker – April 2020 and June 2020.

Overall portfolio and investment flows are not expected to recover quickly as the COVID-19 pandemic is still ongoing. This could result in a second wave of outflows, with the Institute of International Finance (IIF) expecting portfolio and other investment flows to drop by 80 per cent and 123 per cent respectively compared to 2019.⁵² Foreign direct investment (FDI) has also slowed down, with an estimated 35 per cent drop to developing countries in 2020⁵³, particularly in terms of equity. Notably, FDI greenfield investment⁵⁴, which is more important in developing economies than mergers and acquisitions, declined significantly over the first two months of 2020. This effect is likely to have worsened with the economic lockdowns.⁵⁵

The impact of falling equity will most likely be compounded by a lower equity to debt leveraging ratios for infrastructure in developing countries in the coming years. Infrastructure projects often have higher levels of leverage than non-infrastructure investments, given lower cash flow volatility.⁵⁶ Debt instruments have historically comprised 70-90 per cent of the total capitalisation of infrastructure projects⁵⁷. In high income countries, there are some examples where private debt finances 100 per cent of infrastructure projects. The increased risk perception will lead financiers to require higher equity investment as first losses to mitigate risk.

(iii) Solvency and liquidity crisis for SMEs

SMEs are the backbone of developing country economies - accounting for over 60 per cent of GDP and over 70 per cent of total employment in low-income countries when taken together with the informal sector.⁵⁸ COVID-19 and the economic lockdowns have put firms into mass financial distress by reducing demand for products and services, disrupting supply chains and tightening the availability of credit. Given the limited resources of SMEs, and existing obstacles in accessing capital, the period over which SMEs can survive shocks is more restricted than for larger firms. Fifty percent of small businesses in the United States are operating with fewer than 15 days in buffer cash and even healthy SMEs have less than two-month cash reserves⁵⁹. Data from past crises have also shown that corporate insolvency tend to follow such shocks, with young, small, and domestic market-oriented firms - typical in developing countries - more likely to be affected.⁶⁰ COVID-19 brings a huge risk that otherwise solvent firms, particularly SMEs, could go bankrupt while containment measures are in force.

To date, evidence of the impact of the COVID-19 crisis on SMEs from business surveys indicates severe disruptions and concerns among small businesses. The outcome of 41 world-wide SME surveys on the impact of COVID-19 on SMEs shows that more than half of SMEs face severe losses in revenues. One third of SMEs fear to be out of business without further support within one month, and up to 50 per cent within three months. Similarly, according to a survey among SMEs in 132 countries by the International Trade Centre, two-thirds of micro and small firms report that the crisis strongly affected their business operations, and one-fifth indicate the risk of shutting down permanently within three months.⁶¹ Based on several surveys

⁵² IIF (2020), Capital Flows Report – Sudden Stop in Emerging Markets.

⁵³ World Bank (2020). Migration and Development Brief 32 – COVID 19 Crisis through a migration lens.

⁵⁴ Green-field investments refer to investments where the parent company creates a new operation in a foreign country from the ground up, and may include construction of new production facilities and distribution hubs.

⁵⁵ OECD (2020). The impact of the coronavirus (COVID-19) crisis on development finance.

⁵⁶ Beferman and Wain (2012)

⁵⁷ OEDC (2016)

⁵⁸ <https://bassiounigroup.com/smes-driving-growth-in-developing-countries/>

⁵⁹ Federal Reserve Bank of New York, 2020

⁶⁰ <http://pubdocs.worldbank.org/en/912121588018942884/COVID-19-Outbreak-Implications-on-Corporate-and-Individual-Insolvency.pdf>

⁶¹ ITC, (2020)

in various countries, a McKinsey study found that between 25 per cent and 36 per cent of small businesses could close down permanently from the disruption in the first four months of the pandemic.⁶² A recent study by the London School of Economics found that in the Gambia, Greece, Mongolia, Myanmar, Nicaragua and Zambia, four out of every five firms fall to insolvency due to COVID-19.⁶³

SMEs play a critical role to scale up climate action in developing countries. They drive decentralized renewable energy investments and provide the bulk of climate adaptation services to communities. Unaddressed, the liquidity crisis will free fall into a solvency crisis for SMEs and could reverse years of efforts to support climate action and strengthen capacities in developing countries.

5. Maintaining climate ambition in the era of Covid-19

While COVID-19 will further reduce developing countries' already limited access to finance for low carbon climate resilient investment, it will not stop climate change. Supporting developing countries to maintain climate ambition in the context of COVID-19 is more important than ever. This will require continued efforts related to carbon pricing, disclosure of climate-related financial risks and the adoption of common green standards and taxonomies. However, it will also require dedicated action to increase the supply of climate-related investment opportunities and stimulate the demand for green finance by project initiators and financiers.

The GCF is the world's largest dedicated climate fund supporting developing countries to take urgent mitigation and adaptation action. With over 150 partners including government ministries, national and international commercial and development banks, UN agencies and civil society organizations, the GCF co-finances high impact, transformative climate initiatives. Through its country-driven approach and range of financing instruments (including grants, concessional debt, guarantees, equity, and results-based payments), the GCF supports upstream policy engagement and pipeline development, and helps create climate compatible markets and technologies in developing countries. A key task of the Fund is to accelerate the alignment of finance with low emission, climate resilient pathways by leveraging blended finance to crowd in private investment in nascent markets; mobilizing institutional investors; and deepening national financial sectors and capital markets.

Building on on-going efforts from GCF and its partners, this section sets out six policy, financial and institutional initiatives that can help catalyse finance for climate action in developing countries in the era of COVID-19.

1. Leverage Nationally Determined Contributions (NDCs) to foster policy integration

In preparation for the 26th Conference of the Parties (COP 26), countries will be raising the ambition of their NDCs to meet the temperature goals of the Paris Agreement. This process provides an opportunity to leverage NDCs to foster policy integration between climate action and SDGs and achieve a double dividend – scaling up climate action and reviving economics. Investments such as renewable energy, energy efficient, climate-resilient infrastructure, gender-responsive climate resilient agriculture and right-based ecosystems meet urgent mitigation and adaptation needs and create jobs and revenues. To achieve this double

⁶² McKinsey, (2020)

⁶³ <https://blogs.lse.ac.uk/businessreview/2020/09/08/firms-in-emerging-markets-fall-to-covid-19/>

dividend, technical assistance and financial expertise must be made available to policy makers and practitioners in developing countries to craft green, climate resilient, integrated and inclusive economic stimulus measures and incorporate them into their updated NDCs.

Policy integration to design ambitious climate investments with high socio-economic co-benefits will only be successful if such NDC priorities can attract the right mix of finance. NDCs are typically designed as policy signals for national climate priorities, rather than portfolios of bankable investment projects. Often, priorities expressed in NDCs are too numerous and/or too abstract to meaningfully guide investment grade project development at the national/sub-national levels.

A key challenge for policy makers is to translate NDCs into investment plans that can align, combine and sequence multiple sources of international and national funding from the public and private sectors. This will ensure that the right set of interventions are prioritized and financed through the right set of instruments that leverage scarce public resources to catalyse larger flows of private finance.

The GCF supports developing countries' efforts to enhance and finance NDC ambitions by identifying, designing, and implementing transformational climate interventions. As of 30 September 2020, the GCF has approved 376 projects under its Readiness Programme, covering 136 countries, valued at approximately USD258 million. In response to country requests, rapid support is being provided through the GCF's Readiness Programme to green their COVID-19 recovery measures and incorporate such measures into their NDCs, as well as to design innovative mechanisms to finance such measures.

2. Develop new valuation mechanisms to accelerate asset re-pricing

Continued progress towards the disclosure of climate-related risks to inform capital allocation decision making is required to direct financial flows away from high carbon, unsustainable investments. In addition to adoption of common standards and taxonomies for climate-related investments to promote market development and attract capital flows, agreed project assessment methods such as quantification and common pricing of avoided emissions and valuation of climate resilient assets are required. Such mechanisms will enable investment decision-making to balance off risks associated with higher upfront costs of low emission, resilient infrastructure with their lower O&M costs and lower climate physical and transition risks. This could lead to labelling investments as low emission, climate-resilient assets and highlighting their sustainable development benefits, including improved health, food security and job creation, all of which are critical to the COVID-19 response. The emergence of financial products across asset classes backed by certified projects would increase liquidity and further reinforce the efficacy of climate disclosure and taxonomy approaches to 'green' the behaviour of central banks without undermining their independence.

To develop valuation methodologies and labelling of low emission climate resilient infrastructure in developing countries, the GCF is collaborating with two global coalitions. Under the Coalition for Climate Resilient Investments (CCRI), the GCF is engaged in three work streams which are piloting methodologies for resilient infrastructure structuring and financing. With the Jamaican government, CCRI is developing an assessment tool to enable investment prioritisation based on exposure of selected infrastructure networks to physical climate risks; the economic and social value at risk resulting from such exposure; and the potential of capacity of nature-based solutions (NBS) to at least partly replace hard infrastructure measures. This tool will be the first of its kind - integrating climate risk analytics in programmatic infrastructure decision-making and enhancing cost-benefit analyses at macro-

economic and asset levels. Such analysis should in turn support and incentivise the development of resilient infrastructure project pipelines and more efficient allocation of public and private capital towards such projects. The CRRi will also analyse cash flows of selected projects to understand the quantitative changes climate risks brings to project budgets and codify the results. This will allow an evidence based benchmark for discussion on standardization. Finally, this work will make it possible to structure the first financial instruments that realistically embrace resilience to climate change in the infrastructure project pipeline. This in turn will enable pipeline development, financing tools and securitization options.

The GCF is also part of the coalition, “Finance to Accelerate the Sustainable Transition – Infrastructure” (FAST Infra), which aims to develop sustainable infrastructure into a liquid asset class by creating a label and developing platforms for targeted investment. A sustainable infrastructure label, underpinned by standards and robust reporting requirements, will allow institutional investors to identify sustainable assets to finance in developing countries and incentive high environmental, social and resilience standards at the pre-construction phase.

3. Develop dedicated low carbon climate-resilient financial products

Increasing the supply of climate-related investment opportunities depends on transforming low emission and climate resilient investment opportunities in developing countries into credible financial products across asset classes to match the risk profile of products familiar to institutional investors. At the macroeconomic level, transforming illiquid infrastructure assets into liquid financial instruments is needed at a pace high enough to compensate for divestment from the fossil fuel industry, which, prior to the COVID-19 crisis, was estimated at 32 per cent of carbon intensive assets.

New financial products designed to foster low emission, climate resilient pathways have emerged over the past years such as green or climate resilient bonds. However, in developing countries, notably LDCs and SIDS, the market for green bonds remains in its infancy. Shallow capital markets, the high cost of issuance due to developing countries’ credit rating, the issue of minimum size and the lack of appropriate institutional arrangements for green bond management are key barriers to scaling green bonds in developing countries.

Efforts are being made on multiple fronts to address these challenges. International financial institutions have been supporting developing country efforts to issue green local currency bonds, which help to deepen local capital. For example, the GCF is supporting Jamaica to set up the Caribbean’s first regional green bond exchange through its Readiness and Preparatory Support Programme. As part of this programme, Jamaica’s Ministry of Economic Growth and Job Creation is developing a regulatory framework for green bonds, raising awareness in the marketplace among potential issuers and investors, and ultimately will issue a green bond on the exchange. Such efforts must be replicated across developing countries in order to achieve the required scale to attract deep pockets of institutional capital.

Innovation in securitization of green assets could further help to deepen capital markets and increase size for green investable deals in developing countries. Loans for small-scale low carbon projects, which on their own are too small to gain access to the bond market, can be aggregated and securitised into larger pools to access institutional investor capital. This process also gives banks an opportunity to refinance existing loan portfolios and recycle capital to create a fresh portfolio of green loans. While asset-backed securities (ABS) have been under scrutiny since the financial crisis, green securitization has been growing – with estimates that

over USD25 billion of green bonds issued in 2019 were asset-backed securities, up from USD1.9 billion in 2015.⁶⁴

Growth in the renewable energy sector has also given rise to a new form of securitized investment opportunity – solar asset-backed securities (solar ABS) – securities that are collateralized by consumer receivables originated by solar energy companies. Each solar securitization is comprised of loans, leases, or power purchase agreements (PPAs) used to finance photovoltaic (PV) systems. The periodic payments from these consumers for their PV systems are the cash flows used to repay solar ABS. While still an emerging sector, solar ABS issuance grew to over USD2 billion in 2018, with seven active issuers.

Solar ABS are paving the way for further financial innovations. For example, the revenue streams from purchasing agreements with industrial and agricultural users are used to repay a variety of debt and credit enhancement mechanisms, including municipal issued green bonds for water reuse projects. The GCF is working with its partners to develop such financing structures, share risk and provide co-financing to catalyse private investment for such projects.

4. Deepen blended finance for climate change.

Blended finance structures are potentially powerful tools to catalyse private finance by using scarce public resources to de-risk low emission climate resilient investment opportunities and address certain country risks. It has proven relatively effective to de-risk pioneer renewable energy investments in high- and middle-income countries and create green energy markets. However, as noted in section 3, its track record is uneven for early-stage technologies and markets. . Blended climate finance mechanisms must also be deepened to better work for LDCs and SIDS, achieve higher leveraging ratios and de-risk a broader range of climate priorities such as climate resilient infrastructure and nature-based climate solutions.

In order to address the current shortcomings of blended finance structures, policy makers, as well as development and climate finance institutions need to better understand how to combine and deploy the range of different “3 T” instruments to better treat, transfer and tax risk in line with the Principles for blended finance agreed to by Member States in the AAAA. . The IATF puts forward a six prong approach, which highlights the importance of being country and impact driven, comparing the cost of blended finance structures to other financing mechanisms, analysing the cost of complementary investments needed, providing capacity building support and reporting on impact.⁶⁵

The GCF supports developing countries to do this. Its Preparatory Support Facility (PSF) provides countries with financial and technical assistance to translate priority NDC concepts into bankable project funding proposals, and can support developing countries in identifying an optimal mix of policy instruments and blended financing structures to create green markets.

. GCF projects are piloting new forms of blended finance to align public and private sector investments with NDCs.

For example, development phase risks particularly affect project initiators and are a major barrier to increasing low-emissions, resilient deal flows. GCF supports Climate Investor One (CIO)⁶⁶, a blended finance facility that can provide finance throughout the entire infrastructure investment cycle, including pre-funding to cover development costs for renewable energy

⁶⁴ <https://www.climatebonds.net/2017/04/green-securitisation-part-climate-finance-suite-can-eu-lead-way>

⁶⁵ IATF (2020). Financing for Sustainable Development Report

⁶⁶ <https://www.greenclimate.fund/project/fp099>

investments through equity financing. The GCF provided USD100 million in grant finance to this initiative, which leverages a USD 721 million in additional equity and grant finance.

Multi-country sovereign-backed guarantee funds could also be powerful blended financing mechanisms to achieve higher leveraging ratios. Guarantees are versatile instruments that can address a wide range of investment risks and achieve leverage ratios up to 1:15 in some contexts, and lower the costs of green bond issuance for developing countries. Sovereign guarantees, where (AAA-AA) countries join forces, could drastically increase the leverage effect of public funds in climate-oriented development assistance and would impact public budgets only in the event of project default. Multi-sovereign guarantees mechanisms using standardized and transparent project selection procedures might in addition provide enough credibility to the projects to accelerate their transformation into a new class of physical assets. Such assets could then be incorporated in the balance sheets of the entire chain of financial and non-financial actors to be mobilized and ultimately recognized by central banks.

GCF is championing a multi-country sovereign climate guarantee fund to de-risk some of the large transformative climate initiatives that must take place within the next few years to remain under the 1.5 C threshold. These sovereign-backed guarantees will be supplemented by greater investment in readiness programmes, technical assistance, and project preparation facilities to help translate national climate plans in bankable projects.

GCF is also engaged in the development of pioneer equity funds to catalyse private investment in ecosystems conservation, including land neutrality and coral reef funds. Land degradation is a key barrier to sustainable development in LDCs, notably in the Sahel Region. Similarly, SIDS are particularly vulnerable to the destruction of coral reefs and they are disproportionately dependent on their ecosystem goods and services for their survival. These funds aim to make blended finance work for the most vulnerable countries by bringing together broad coalitions of partners and a variety of public and private financing instruments, including grants, guarantees, concessional loans and equity to de-risk investment portfolios. Experience gained from these funds could foster new business models and encourage private investments in conservation projects in vulnerable countries.

As a direct response to the COVID-19 crisis, GCF is also supporting emergency liquidity instruments to maintain the solvency those SMEs that are critical for climate action. For example, the Energy Access Relief Facility (“EARF”) is a USD100 million fund supporting energy access SMEs companies from 9 countries in Africa to remain solvent during COVID 19. Following the outbreak of the COVID-19 pandemic, 308 energy access SMEs suffered from severe liquidity constraints due to slowed sales growth, falling revenues and scarce access to finance. . The EARF will provide much needed liquidity to off-grid energy companies that would otherwise have to reduce their workforces or shut off the systems of customers who are temporarily unable to pay. Consequently, the EARF aims to avoid almost 1.33 tons of CO₂, conserve approximately 20,700 jobs and enable electricity access to almost 3 million households in countries which are among the least developed in term of electricity access in the context of COVID-19. The EARF was submitted by Acumen – a global not-for-profit organization - to the Green Climate Fund (GCF), with a proposed investment from the GCF of USD30 million in equity.

5. Realize the full potential of domestic financial institutions to finance the green transition

Aligning finance with sustainable development and addressing the infrastructure financing gap will require firms to access patient, long-term and committed finance. Private financiers have failed to provide adequate financing in nascent markets – a situation exacerbated by tougher financial regulations introduced in response to the 2008 financial crisis and likely to be worsened by the insolvency risks arising from the COVID-19 pandemic. Complementary to MDBs, NDBs have traditionally played a key role as financiers of low emission investments; mobilisers of external public and private finance; intermediaries that blend climate and public development finance; policy influencers to create an enabling policy environment that attract private investment; and as pipeline developers, identifying bankable projects and are early investors to prove commercial viability. NDBs account for investments of about USD2 trillion a year, about 10% of total investment worldwide, and doubling their investment capacity or leverage effect would be enough to bridge the infrastructure investment gap.

However, there are several pre-requisites for some NDBs to realize their full potential. First, they need to be given a clear ‘green’ mandate by policy makers and invest in their overall governance to become first tier financial institutions. Second, NDBs require the skills, tools, and track record to assess the specific risks associated with investments in new climate technologies and business models in a given policy environment, and to develop the most appropriate financial structures. Most NDBs have limited capacity in these areas, which undermines their ability to identify and build a pipeline of bankable climate projects. Third, they require sufficient capitalisation to be able to operate at the required scale. Given the higher risk adjusted rate of return usually expected from climate investments, NDBs need a large capital base to catalyse private and public investors. This includes co-financing from international climate finance to help them take on early investment risk, which is particularly important for small NDBs, operating in countries with shallow capital markets and limited domestic public resources. Finally, NDBs need to be able to access international and local capital markets, notably to overcome public resource constraints.

As of September 2020, 39 NDBs accredited to implement GCF-finance projects, are actively working on transformative climate initiatives with strong development co-benefits. At its Board meeting in August 2020, for example, the GCF approved a project by the Western African Development Bank (BOAD) in Senegal with a total value of USD235 million to electrify over 1000 villages including health centres, benefiting almost 400,000 people and avoiding 1.1 million tonnes of emissions. Electricity is a pre-condition for reviving economies and offering 24-hour health services during the pandemic is critical to reduce human suffering and protect both patients and medical staff.

The GCF is further contributing to strengthening the capacity of NDBs and regional development banks through the International Development Finance Club (IDFC) Climate Facility. The IDFC is a group of 26 public development banks, committed to aligning their activities with the Paris Agreement. Their combined climate investments exceed USD200 billion per year. The Climate Facility aims to support members to further integrate climate change into their mandates, develop innovative financial products, mainstream climate finance into operations, and promote knowledge sharing. Through the Climate Facility, the GCF will strengthen the capacity of 13 IDFC members (that are also GCF direct access entities⁶⁷) to access GCF resources. This will support public development banks to become key actors for climate action at regional and country level. IDFC and the GCF will announce this joint initiative during the Finance in Common Summit in November 2020.

⁶⁷ Sub-national, national or regional organizations that need to be nominated by developing country National Designated Authorities (NDAs). NDAs are appointed to act as focal points to the GCF on behalf of their countries.

Domestic commercial banks also have a key role to play to align finance with the Paris Agreement. Total banking sector assets in emerging markets are estimated at USD 50 trillion.⁶⁸ In addition to being a finance provider, the banking sector acts as an intermediary and deploys green financial products to corporates and households. Financial institutions account for 57 per cent of green bond issuances. According to IFC, total banking assets invested in low-carbon and climate-resilient activities will have to grow from 7 per cent to 30 per cent by 2030 in emerging markets, an increase from USD 21.9 trillion to USD 44.5 trillion.⁶⁹ However, commercial banks face many challenges in developing commercially viable and competitive projects, including assessing the credit risk of new industries and markets and the mismatch between the long-term capital required in climate projects and the shorter repayment of their own debt. These challenges reduce banks' incentives to build green compatible portfolios.

The GCF supporting project development credit facilities to commercial banks to help them pilot new green investment and financial products and gradually decarbonize their operations. GCF is. For example, the GCF is supporting the Development Bank of Southern Africa to create the Climate Finance Facility, a dedicated green finance operating unit. The lending facility consists of credit enhancements including first loss or subordinate debt and tenor extensions to catalyse private sector climate investments, primarily in water and renewable energy. This Facility is a first-of-its kind application based on the green bank model, adapted from emerging market conditions.⁷⁰ The GCF accredited portfolio consists of 26 commercial banks and equity investors.

6. Innovative Financing Instruments based on Global Solidarity.

All the above initiatives will require international public support to be deployed at scale and on time. However, ODA has continued its downward trend, declining by 4.3 per cent in 2018⁷¹, while budget pressures in 2020 on members of the Development Assistance Committee (DAC) creates greater risks for further drops in ODA. The OECD estimates that if DAC members were to keep the same ODA to GNI ratios as in 2019, total ODA could drop by USD 11 to 14 billion.⁷² Despite pressure on national budgets, DAC have undertaken to protect ODA budgets.

International support from multilateral institutions is also stepping up to provide countercyclical support to developing countries. The IMF announced over USD 100 billion in emergency lending. The World Bank Group will lend about USD 150 billion over the coming year. As part of its support to climate resilient recovery from the Covid-19 pandemic, the Green Climate Fund and its partners have endeavoured to approve about USD1 billion in funding at each Board meeting⁷³ for high climate impact projects with strong development co-benefits, notably in terms of employment creation. All financial contributors to GCF have so far confirmed their pledges to the Fund and several of them have recently increased them.

Exploring innovative finance structures will also be required to enable developing countries to foster a green, resilient recovery without increasing their sovereign debt burden. One such innovative financing mechanism is 'debt swaps for climate', where there is a partial cancellation of debt by the creditor government, transformation of the remaining debt into local currency and directing the remaining debt towards investment in climate action. Such 'debt-for-climate swaps' can provide debt relief solutions for developing countries coupled with simultaneous

⁶⁸ Bank for International Settlements (2019).

⁶⁹ Amundi and IFC (2018).

⁷⁰ Ibid.

⁷¹ IATF (2020).

⁷² OECD (2020). The impact of the coronavirus (COVID-19) crisis on development finance.

⁷³ The GCF Board meets three times a year.

financial support of their climate-related action. Technical assistance is required to design these instruments as well as to ensure a high-quality pipeline of bankable climate investments that can be capitalized in the form of credible assets. Several SIDS have indicated to GCF their intent to request technical support to explore debt-for-climate swaps and other innovative financing instruments.

Another type of innovative financing mechanism involves market-based structures for scaling up financing, particularly from private sector sources, for nature-based solutions and ecosystem preservation and restoration, including under the REDD+ framework. This involves development and strengthening of markets for both voluntary and compliance-based carbon offsets, which offer a potentially cost efficient, impactful and highly scalable modality for meeting ambitious climate mitigation and adaptation targets set under the Paris Agreement. GCF is working with its Accredited Entity partners and other key stakeholders on highly innovative projects that aim to support the generation of high-quality carbon offset credits to support transition pathways voluntarily, underpinned by robust protocols and standards for ensuring environmental and legal integrity, and connecting these with both existing and emerging demand centres across the voluntary and compliance-based carbon markets. Key areas of support within this integrated carbon value-chain approach include the strengthening of regulatory frameworks at both national, jurisdictional and market levels, combined with innovative price support mechanisms to enhance pricing visibility in the market and catalyze longer-term offtake for carbon units, assuring at the same time full compliance with any UNFCCC requirements, such as in the case for REDD+.



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