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Study on the Involvement of the Private Sector in Financing Climate Adaptation Actions

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Contents

List of Acronyms

ADB	Asian Development Bank
AFD	French Development Agency
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
APIA	Agence de Promotion des Investissements Agricoles
BMZ	The German Federal Ministry for Economic Cooperation and Development
CNI	Confederation of Nepalese Industries
COFIDES	Compañía Española de Financiación del Desarrollo
DCC, Costa Rica	Direccion De Cambio Climatico, Costa Rica (Directorate of Climate Change)
DCC, Nigeria	Department of Climate Change, Nigeria
DNSH	Do No Significant Harm
DRF	Disaster Risk Finance
DRR	Disaster Risk Reduction
EDFI	European Development Finance Institutions
EIB	The European Investment Bank
EFSD	European Fund for Sustainable Development
EFSD+	European Fund for Sustainable Development Plus
EFSI	European Fund for Strategic Investments
ESG	Environmental, Social, Governance
EU	The European Union
FCO	Foreign Commonwealth Office
FI	Financial Institution
FMO	Entrepreneurial Development Bank
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GCF	Green Climate Fund
GET	Green Economy Transition
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit

IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation (World Bank Group)
KfW	Kreditanstalt für Wiederaufbau (Credit Institute for Reconstruction)
LAPA	Local Adaptation Plans for Action
LCD	Least Developed Countries
MDB	Multilateral Development Bank
MINAE	Ministry of Environment and Energy, Costa Rica
NCFF	Natural Capital Financing Facility
NDC	Nationally Determined Contribution(s)
NEFCO	Nordic Environment Finance Corporation
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
OPIC	Overseas Private Investment Corporation
PPCR	Pilot Programme for Climate Resilience
PROPAR CO	Promotion et Participation pour la Coopération Économique
QA	Quality Assurance
SASAP	Sectoral Adaptation Strategy and Action Plans
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SIFEM	Swiss Investment Fund for Emerging Markets
PPP	Public Private Partnership
TBC Bank	Tblisi Business Centre (Bank in Georgia)
TCFD	Task Force for Climate related Financial Disclosure
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
WFD	Water Framework Directive

Executive Summary

Private sector finance has a critical role to play in enabling effective adaptation in developing countries, especially as current financial flows fall far short of the estimated USD 180 billion needed annually between 2020-2030.[1] The European Commission (EC) has commissioned this study to assess how the European Union (EU), working through its external action, can leverage more private sector finance in adaptation and support partner countries[2] in creating a commercial business environment that stimulates private sector investment in adaptation action. The key objectives of this study are to:

- Outline the current private sector adaptation finance landscape.
- Identify and analyse the barriers and enabling factors for increasing private sector investment in adaptation
- Assess the policy, legislative and regulatory conditions needed to support private sector finance in adaptation through selected case studies,[3] highlighting current good and bad practice within legislative and regulatory frameworks
- Assess the potential for the European Fund for Sustainable Development plus (EFSD+) to leverage private sector finance for adaptation, including operational considerations for how this can be strengthened within EFSD+
- Develop operational recommendations on how the EU can support partner countries to create an enabling environment to catalyse private sector finance in adaptation.

To provide robust recommendations, especially in a context in which there is a lack of data on private adaptation finance in developing countries, a detailed stakeholder engagement was conducted between February 2021 to August 2021. Through 60 interviews, this gathered insights from 96 delegates. The stakeholders included a wide range of experts including the EU-EEA delegates in developing and developed countries; delegates from the governments of case study countries (such as the Ministry of Environment, Agriculture, Finance) and private sector organisations in Tunisia, Zambia, Costa Rica, Chile, Saint Lucia, Nepal, Sri Lanka; key climate investment experts from the CIF, EBRD, GCF, IDB, IFC, KfW, UNDP and World Bank; as well as experts from private sector institutions, NGO's and microfinance organisations, etc.

Adaptation finance is more difficult to track than mitigation finance, and estimates of adaptation finance flows are not comprehensive. Multilateral development banks (MDB's) and development finance institutions (DFIs) are the main providers of global public finance labelled as adaptation[4] making a collective commitment of USD 14.9 billion in 2019, the majority of which is channelled through loans mainly to the public sector. However, there is limited information available on private sector investment in adaptation, in part because of the difficulties of differentiating investment in adaptation from standard business activities; many activities which could be considered as adaptation are viewed through the lens of business risk management, rather than climate change adaptation. In addition, in contrast to public providers, there is also a limited incentive for the private sector to track and report investment on adaptation.[5] However, while it is clear that there is private sector investment in adaptation that is not currently tracked, most stakeholders consider that there is an urgent need to scale up flows of investment into adaptation (generally) and by the private sector (specifically).

The assessment of the global landscape for private sector adaptation finance (Section 2 of the main report) identifies that one of the challenges in leveraging private investment in adaptation in developing countries is that adaptation may be less of a priority in countries where the private sector capacity to invest in adaptation is greatest. The priority for adaptation, as measured by estimate adaptation investment need as a share of current GDP, is highest in Sub-Saharan Africa, consistent with assessments that climate vulnerability in this region is also relatively high. However, the capacity to leverage private investment in adaptation is generally low in this region, implying that there is likely to be a greater role for downstream advisory services to support project preparation and implementation covering both technical and financial advisory support. That said, across Sub-Saharan Africa, the anticipated role of private investment in adaptation varies significantly, and the opportunity to leverage private sector investment in adaptation is expected to be greater where the green economy is also core to national development.

[1] Global Commission on Adaptation (2019). Adapt Now: A Global Call for Leadership on Climate Resilience
[2] The partner countries include a wide group of nations and consist of countries within the EU Southern Neighbourhood, the EU Eastern Neighbourhood, Sub-Saharan Africa, Small Island Developing States (SIDS), Asia, South America and Least Developed Countries (LDCs).
[3] The following case study countries were agreed in the final Inception report approved on 15th February 2021 - Asia (Sri Lanka and Nepal), LDCs (Zambia), SIDS (Saint Lucia), Latin America & Caribbean (Chile and Costa Rica), Sub-Saharan Africa (Nigeria and Zambia), The EU Eastern Neighbourhood (Georgia), The EU Southern Neighbourhood (Tunisia).
[4] In 2019, the collective MDBs commitment to adaptation finance stood at USD 14.9 billion which was ~24% of the total climate finance commitment. Source: Enabling Private Investment in Climate Adaptation and Resilience, World Bank and GFDRR, 2021
[5] World Bank (2021) Enabling Private Investment in Climate Adaptation and Resilience. Also confirmed through initial discussions with private sector stakeholders.

In Section 3, the study provides focused insights on the reasons for the limited private sector investment in adaptation and the enablers that can overcome these barriers and stimulate investment. Barriers to private sector adaptation typically relate to:

- Low private sector awareness of physical climate risks and adaptation opportunities
- Limited capacity of developing countries to leverage investment in adaptation
- The absence of financial incentive for private investment in adaptation
- Inadequate climate adaptation policy and strategies

Section 4 provides an assessment of legislative and regulatory frameworks which can constrain or enable private investment in adaptation. This assessment combines a broad literature review with the results of detailed engagement in 9 case studies countries[6] which draws out lessons learned, and best practice. These provide representative examples to inform the recommendations of this study (see below). For example, the experience of Sri Lanka is likely to be instructive for a range of middle-income developing countries in Asia. Here, the role of the private sector in adaptation has been limited, with the main activities within the agriculture sector (e.g. organic green labelled tea) and tourism (e.g. green buildings) where the perceived return on investment is higher. To leverage more private sector investment, the Ministry of Environment in Sri Lanka has placed a key focus on knowledge, awareness, and capacity building to support the private sector in identifying and developing profitable, investable projects. Alongside, the Sustainable Development Council[7] is developing its own Sustainable Finance Taxonomy[8], based on the EU Taxonomy to make it nationally relevant.

Similarly the government of Costa Rica has made strong commitments towards climate action which is reflected in their climate action policies mentioned. As part of its National Policy, the Ministry of Environment and Energy (MINAE) in 2017 set up a Citizen Advisory Council on Climate Change[9] for better coordination with the public and the Scientific Council on Climate Change[10] to support the Ministry in decision making. However, the private sector engagement though increasing, is still not at the scale needed. To drive sustainability and climate change innovation within the private sector, Costa Rica launched their Bandera Azul Ecologica Blue Flag Category[11] as the awards and stars are a nationally recognised standard to assess sustainability and climate action initiatives. The awards have been a successful approach to promote sustainability and climate action initiatives, improve knowledge and awareness, data sharing, best practices, particularly for smaller social impact projects where other sustainability certifications (Example: LEED, EDGE certifications)[12] maybe very expensive.

A further case study focuses on Georgia. The Georgian government has made strong commitments towards climate action and DRR which is reflected in the key policies, strategies[13] and action plans. However, all of the key challenges to private sector investment in adaptation identified above are applicable to Georgia. The biggest gaps appear to be the public and private sector's lack of knowledge and awareness of adaptation benefits, and the low technical capacity within Georgia's banking sector to finance and monitor the benefits of adaptation projects. In the coming years, Georgia's Ministry of Environmental Protection and Agriculture (MEPA)[14] will place a strong focus on private and public sector engagement particularly within the most vulnerable sectors and aims to build technical capacity to increase international sources of adaptation investment. Similar initiatives could be applicable across the EU Eastern Neighbourhood.

Section 5 discusses opportunities for enhancing the role of EFSD+ in supporting private sector finance for adaptation in developing countries. This partly draws on a review of four existing guarantee facilities under EFSD – the Resilient City Development Programme (RECIDE), the EU Municipal Infrastructure and Resilience Programme, the FMO Ventures Programme and Archipelagos One Platform for Africa. The section also provides a review of the wider experience of the use of concessional public funds to encourage the private sector finance for climate adaptation in developing countries, drawing on a combination of both desk research and stakeholder interviews.

Finally, Section 6 provides specific operational recommendations on how the EU can catalyse private sector finance in adaptation in developing countries. These are grouped into four areas: improving the enabling environment; supporting adaptation and climate-resilient transactions; identifying thematic specific opportunities; and general recommendations to enhance private sector engagement with EFSD+. A summary of recommendations is provided in the table below.

[6] The following case study countries were agreed in the final Inception report approved on 15th February 2021 - Asia (Sri Lanka and Nepal), LDCs (Zambia), SIDS (Saint Lucia), Latin America & Caribbean (Chile and Costa Rica), Sub-Saharan Africa (Nigeria and Zambia), The EU Eastern Neighbourhood (Georgia), The EU Southern Neighbourhood (Tunisia).
[7] The Council is a Parliamentary Select Committee on Sustainable Development established to ensure Sri Lanka's sustainable growth.
[8] The Council have been in discussion with UNDP Finance sector hub for support.
[9] Citizen Advisory Council on Climate Change, Costa Rica 2017
[10] Scientific Council on Climate Change, Costa Rica 2017
[11] https://www.ict.go.cr/en/sustainability/ecologic-blue-flag-program.html
[12] Source: Expert interviews with delegates from Peninsula Papagayo, AFD, Costa Rica; April and May 2021
[13] The National Disaster Risk Reduction Strategy of Georgia is only for the period 2017-2020.
[14] Expert interviews were conducted with key delegates from the Ministry of Environmental Protection and Agriculture (MEPA) of Georgia to gain an insight into the key sectoral priorities for private sector investment in adaptation.

Summary of Operational Recommendations

Area	Summary of Operational Recommendations
Improving the enabling environment	
Enhance coordination between the ESFD+ financing instruments and EU and DFI adaptation policy dialogue and provision of upstream advisory services	EFSD+ should coordinate with regional and country level EU and DFI policy dialogue and upstream advisory services to: • Stimulate demand for EFSD+ by raising awareness; and, • Provide greater foresight of opportunities, to allow for a more strategic response to leveraging private finance for adaptation. There may be a role for Technical Assistance to support. Alternatively, EFSD+ may choose to fund project preparation as part of its own programmes.
Build capacity and stimulating demand	EFSD+ other advisory service providers should develop demonstration adaptation projects with selected local private investors, to serve as learning examples and exemplars, which could then be followed by broader support to build capacity more widely.
Supporting transactions	
Establish an integrated physical climate risk management system	Physical climate risk management principles should be implemented across all supported instruments, and requirements passed down to implementing partners and intermediaries as appropriate. Legislative drivers for private investors are now requiring climate and other sustainability risks to be integrated into base case financial models, operational risk, credit and counterparty risk. There is an opportunity to align EFSD+ and other instruments with these emerging private sector requirements. Implementing partners also support the idea that principle-led guidance be included alongside future EFSD+ resources and other instruments to identify and manage climate risk.
Enhance Monitoring, Reporting, Verification (MRV) and impact reporting for implementing partners and intermediaries.	The private sector is increasingly looking to follow clear guidelines on eligibility for investment in green and climate-related activities, in order to be able to demonstrate the impact of their investments. As part of the process for physical climate risk management, EFSD+, and other applicable instruments, should measure activity-specific adaptation performance, ideally through results-based management frameworks. EFSD+, and other applicable instruments, could establish reporting requirements with each implementation partner and intermediary to include transparent measurement of a project's or instrument's sustainability outcomes, impacts and performance, including those related to the identification and management of climate risks. These should use quantified KPIs where possible. A Theory of Change at the EFSD+ level could support the definition and communication of measured impacts and outcomes as well as defined inputs and activities for all counterparties (sovereign, local government, DFIs, public, and private).
Understand and integrate private sector legislative drivers and risk perspectives to align with emerging private sector requirements.	Private sector investors do not typically consider adaptation or climate resilience as a separate asset class to other climate finance. However private investors increasingly have an appetite for climate-resilient investments which meet both risk-adjusted commercial returns and can demonstrate positive outcomes/impacts in emerging markets. Such investments may also have adaptation and/or climate resilience benefits which may be direct or indirect. At the same time, private sector investors are increasingly guided by new and emerging legislation, and the need to demonstrate good practice in terms of consideration of sustainability and climate risk to their stakeholders.

	There is an opportunity for EFSD+ and other instruments to bring these two aspects together to ensure the design and operational deployment facilitates private sector engagement and is a frictionless as possible.
Increase standardisation – develop a process 'handbook'	EFSD+ should develop a 'handbook' to harmonise, standardise and streamline documentation and processes for project selection, business case development, risk assessment/due diligence, legal structuring, MRV etc.. The handbook could be developed at the EFSD+ level, working with the DFIs, and passed down for implementation at the DFI and intermediary level, where applicable This will lower the cost of private sector due diligence and make it easier for private investors to assess risk-adjusted returns.
Climate quality assurance certification label / standard	There is an opportunity for the EU through the EFSD+ to develop a global quality assurance and certification label/standard. External, independent third-parties, could provide verification/assurance. This label/standard, when assured by a third party, would provide private investors with confidence that an EFSD+ supported project meets minimum requirements for climate good practice including meeting criteria for adaptation and resilience and lower due diligence and monitoring costs.
Highlight expectations around adaptation/climate resilience withramp-up obligations	EFSD+ should clarify its expectations regarding the amount of activity that implementing partners in guarantee programmes should seek that includes climate adaptation and resilience considerations. Similar expectations should be identified in relation to the allocation of technical assistance expenditure. This should be expressed in terms of the proportion of projects/transactions in which climate risks have been identified and incorporated into the way in which the project/transaction has been designed.
Thematic-specific opportunities	
MSMEs	EFSD+ should complement the provision of capital to MSMEs through local implementing partners and intermediaries with technical assistance to these bodies to ensure that the capital is used in a way that supports climate resilience. Key technical assistance activities include developing market studies and supporting local FIs to build their own capacity to screen for, and manage, climate risks.
Sustainable agriculture, rural entrepreneurs and agribusinesses	EFSD+ should give particular emphasis to multi-instrument initiatives and initiatives that support consideration of the benefits of climate-smart agricultural techniques into the credit scoring techniques of local implementing partners and intermediaries.
Climate-resilient infrastructure – bond guarantee/underwriting	EFSD+ can look to use its guarantee to support (underwrite) the issuance of green bonds from issuers who might otherwise fail to secure an investment-grade credit rating, with the proceeds used to finance or re-finance eligible projects with adaptation features. Its technical assistance resources can be used to i) support climate-informed upstream assessments of infrastructure need, ii) facilitate climate risk screening of individual assets by municipalities and other stakeholders, iii) ensure explicit integration of climate risks into PPP frameworks through supporting transaction advisory services, iv) support the development and use of infrastructure standards that account for climate risks, and v) co-operate with international initiatives
Digital technologies	EFSD+ should apply learning, experience and financial instruments from wider support for digital technologies to digital technologies that enable others across the economy to undertake adaptation. These technologies include remote sensing tools, sea-level process software, e-health solutions, intelligent transportation systems and digital water monitoring technologies.
DRR	EFSD+ should provide preferential financing terms for investments and activities that demonstrate they arise from an assessment of how a business can support itself and/or the community in which it operates to be better prepared for (climate-related) disasters.
Enhancing private sector engagement	
Prioritize projects aimed at private investors	DFIs and intermediaries could pre-screen prospective projects using standardised, weighted criteria, designed to support successful private investment.

	These weighted criteria can then be scored to form a rating to show the likelihood the project/platform could be supported by private investment. This could be a dynamic score as the project/platform is structured. This approach is ideally suited for implementation partners and intermediaries within project pipeline origination activities, where there are prospective direct private counterparties e.g. power, urban infrastructure and agriculture sectors.
Harmonize contracting	Future guarantee programs under EFSD+ will run more smoothly and be able to generate deal flow more quickly if there was one contractual agreement with implementing partners providing both access to the guarantee facility and to technical assistance resources.
Exploit private interest in climate /sustainable investments	As noted above, there is growing private sector interest in the integration of sustainability considerations within thematic capital allocation and investment decision making. This includes impact and outcomes, reporting and disclosure. There is an opportunity for the EU to develop this interest, which can be a useful gateway for implementation partners and intermediaries to attract private sector engagement. EFSD+ has a potential advantage as, in comparison to those providing dedicated climate finance, its focus can be on facilitating the mainstreaming of climate change considerations into wider development activities without needing to isolate and concentrate support specifically on mitigation and/or adaptation activities.
Promote EFSD+ market differentiation	Given the opportunities identified above, EFSD+ could consider its market differentiation, to enable engagement with private investors and ensure the platform is aligned with mutual long-term commercial objectives. An EFSD+ communications/promotion plan can be used to enable engagement with the wider private sector and to communicate key features and benefits of private investors participation. This can also be used to engage interested private sector parties to help shape the operational; implementation and deployment of EFSD+.

1. Background

1.1. Introduction to the Study

It is widely recognised that private sector finance has a critical role to play in enabling effective adaptation in developing countries, especially in a context in which there is a need to rapidly increase the financial resources for climate change adaptation, with current financial flows falling far short of the estimated USD 180 billion needed annually from 2020-2030.[15] However, at present, private sector finance for adaptation is both difficult to measure and faces several barriers which prevent the requisite investment[16]. There is, therefore, an urgent need to better understand these barriers, actions for addressing these barriers, and consider the enabling factors for scaling up private sector finance for adaptation.

The European Commission (EC) has commissioned this study to assess how the European Union (EU) can, working through its external action, leverage more private sector finance in adaptation and support partner countries[17] in creating a commercial business environment that stimulates private investment in adaptation. This study has the following key objectives:

- Outline the current private sector adaptation finance landscape (Section 2.2).
- Identify and analyse the barriers and enabling factors for increasing private sector investment in adaptation (Section 3).
- Assess the policy, legislative and regulatory conditions needed to support private sector finance in adaptation through selected case studies[18], highlighting current good and bad practice within legislative and regulatory frameworks (Section 4).
- Assess the potential for the European Fund for Sustainable Development plus (EFSD+) to leverage private sector finance for adaptation, including operational considerations for how this can be strengthened within EFSD+ (Section 5).
- Develop operational recommendations on how the EU can support partner countries to create an enabling environment to catalyse private sector finance in adaptation (Section 6).

1.2. Definition of Adaptation

To inform the analysis and operational recommendations, it is useful to make the distinction between different types of adaptation. Drawing on the distinctions made in the EU Sustainable Finance Taxonomy, we recognise the following types of adaptation of relevance for this study:

1. **Adapted activities**: This refers to activities to increase the climate resilience of planned assets or investments. This is sometimes referred to as 'climate-proofing' or the mainstreaming of adaptation and involves the integration of adaptation and physical climate risk management measures within all planned activities; for example, including passive cooling in the design of new buildings to reduce the risk of overheating, or reducing flood risk in a municipal investment by including sustainable urban drainage schemes. Under the EU Taxonomy, this is the requirement that all economic activities must Do No Significant Harm (DNSH) to adaptation, by demonstrating that the activity has been suitable adapted.
2. **Adaptation projects**: Investments that are specifically designed to manage physical climate risks to people, infrastructure, and the environment. Climate change is the driver of these investments, and they may take a more systemic approach to adaptation than the approach of adapting activities above. For example, an investment in flood early warning systems and the reconnection of flood plains designed to address climate- driven increases in river flooding. For the EU Taxonomy these projects would qualify as a 'significant contribution' to adaptation and require a stronger focus on demonstrating the impact of the project or investment.
3. **Private sector companies providing adaptation services** – A separate category of adaptation is investment in companies providing adaptation goods and services, such as drought monitoring sensors, or processed physical climate risk data. These companies enable adaptation in other sectors.

[15] Global Commission on Adaptation (2019). Adapt Now: A Global Call for Leadership on Climate Resilience
[16] Climate Policy Initiative (2019) Global Landscape of Climate Finance 2019
[17] The partner countries include a wide group of nations and consists of countries within the EU Southern Neighbourhood, the EU Eastern Neighbourhood, Sub-Saharan Africa, Small Island Developing States (SIDS), Asia, South America and Least Developed Countries (LDCs).
[18] The following case study countries were agreed in the final Inception report approved on 15th February 2021 - Asia (Sri Lanka and Nepal), LDCs (Zambia), SIDS (Saint Lucia), Latin America & Caribbean (Chile and Costa Rica), Sub-Saharan Africa (Nigeria and Zambia), The EU Eastern Neighbourhood (Georgia), The EU Southern Neighbourhood (Tunisia).

To leverage more private sector finance for adaptation, we will need to take all three types of adaptation investment into account. The baseline is that all activities are adapted, consistent with the EU Adaptation Strategy's objective of 'climate-proofing' external investments, and the EU Taxonomy requirement to demonstrate DNSH. To drive significant adaptation impact, however, there is also a clear need to enable investments in both adaptation projects, and private sector adaptation companies, which create larger-scale change.

1.3. Definition of Private Sector

The scope of this study has been limited to private sector finance for financing economic activities that are either directly associated with climate change adaptation and/or enable climate change adaptation[19]. The study focuses on capital flows that will allow private sector actors, as the recipients of those flows, to undertake adaptation measures. This will include:

- **Private-to-private capital flows** - Corporates and private sector capital providers (e.g. banks, infrastructure funds and institutional investors) providing capital (both debt and equity) to corporates and projects on commercial risk-adjusted rates.
- **Public-to-private capital flows** - For example a Multilateral Development Bank (MDB) financing a private utility company's water supply project.

Hence, this includes both Public Private Partnerships (PPP), Private Finance Initiatives (PFI) and other private sector actors. However, the analysis excludes cases where public sector entities access capital from private capital providers, for example when a municipality, state-owned entity or parastatal issues a bond to private sector investors. This is to ensure a clear focus on how profit-focused companies (and/or projects managed to the same end) can be supported to better focus on adaptation[20]

[19] It is also recognised that aspects of disaster risk reduction are closely interlinked to adaptation.

[20] The study further excludes cases of capital flows to support adaptation among households and similar entities such as small holder farmers and co-operatives.

2. Private Adaptation Finance Landscape

2.1. Introduction

This section sets out the private finance adaptation landscape from the perspective of adaptation investment need, the difference between this need and projected investment (the gap) in developing countries, and the private sector's role in adaptation finance. This section also considers country and sector investment need within different regions, together with the national priority of adaptation and readiness to leverage investment in adaptation, to inform later conclusions on countries and sectors that may be more conducive to private sector financing of adaptation (Section 4).

2.2. Private Finance Adaptation Landscape

2.2.1. Importance of and the Need for Adaptation

The Paris Agreement adopted in December 2015 includes the commitment to align financial flows with a pathway towards low-carbon and climate-resilient development. It further emphasises that adaptation is a critical need in developing countries, which are more vulnerable to climate change impacts[21]. In addition to the adaptation obligations set out in the Paris Agreement and targets within the SDGs, there is a societal imperative to invest in adaptation which can yield multiple benefits, sometimes referred to as the 'adaptation triple dividend'[22], comprising avoided losses, positive economic impact through risk reduction, and environmental and social benefits. The Global Commission on Adaptation reports economic benefit to cost ratios for adaptation in the order of 2:1 to 10:1 as a result of these benefits (Figure 1)[23], while the World Bank also found that every USD 1 invested in resilient infrastructure in low- and middle-income countries yields USD 4 in net benefits[24].

2.3. Global Adaptation Finance Flows

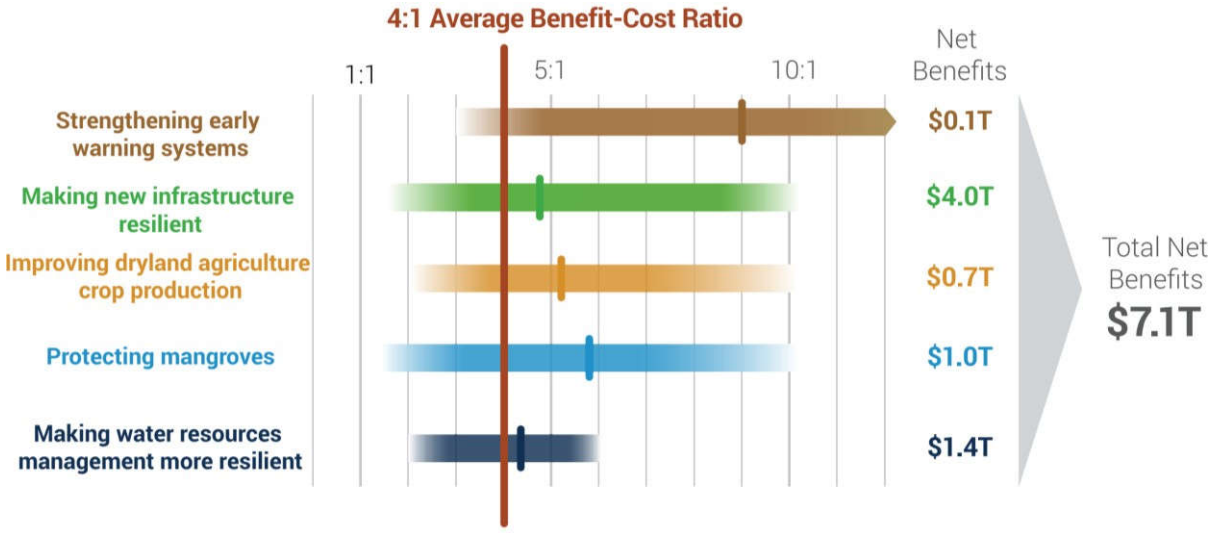
The latest available data shows that annual global climate finance flows averaged USD 579 billion annually for 2017-2018, representing a USD 116 billion (25%) increase from 2015-2016, and with the vast majority from public sources like MDBs, multilateral and bilateral climate funds, and DFIs[25]. Despite an increasing focus on adaptation, finance for mitigation accounts for the large majority of climate finance, with the CPI 2019 (11) report assessing the tracked adaptation finance representing 5% of the total global climate finance landscape (~USD 30 billion) in 2017-2018, and investments with both mitigation and adaptation benefits representing 2.1% (USD 12 billion) of the total climate finance.

Adaptation finance is more difficult to accurately track than mitigation finance, and as a result estimates of adaptation finance flows are only partial. It is clear, however, that despite increases in measured adaptation finance from USD 23 billion per year in 2015–2016, to USD 30 billion per year in 2017–2018, investment falls significantly short of what is required, and is a fraction of the estimated USD 180 billion annually required for the period 2020-2030[26]. The adaptation finance gap is clear in the analysis of investment need of Nationally Determined Contributions (NDCs), with a review of 50 developing country NDCs[27] identifying more than USD 50 billion per year in adaptation investment need (2020–2030) and estimates of USD 57–95 trillion of infrastructure investment which needs to be adapted to climate change[28].

[21] UNFCCC Paris Agreement, November 2015 ; Pg-6
[22] The Triple Dividend was first coined by ODI in relation to Disaster Risk Reduction, and has been adopted for adaptation by the Global Commission on Adaptation and others.
[23] GCA 2019, Adapt now: a global call for leadership on climate resilience
[24] Hallegatte et al., 2019; Lifelines: The Resilient Infrastructure Opportunity | Sustainable Infrastructure Series (worldbank.org)
[25] https://www.climatepolicyinitiative.org/wp-content/uploads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf , Pg-5
[26] https://www.climatepolicyinitiative.org/wp-content/uploads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf , Pg-21 13 UNEP (2018) The Adaptation Gap.

[27] First submissions of NDC's
[28] UNEP (2018) The Adaptation Gap.

Figure 1- Adaptation Benefit-Cost Ratios



Source: World Bank 2021, adapted from GCA (2019)

Multilateral development finance institutions (DFIs) are the main providers of global public finance for adaptation[29] with a collective commitment of USD 14.9 billion in 2019, the majority of which is channelled through loans. Concessional instruments such as grants and low-cost loans can play an important role in adaptation finance[30], however, grants accounted for just 5% of climate finance flows in 2017-2018. Concessional finance is typically provided by bilateral donors and climate funds to develop pilot projects, provide technical assistance and capacity building, or give access to finance at longer and more affordable terms, thereby lowering investment costs and potentially encouraging private investment in adaptation and climate resilient projects. In addition to these, green bonds aligned with adaptation activities are emerging as an important approach to channel international public adaptation finance[31]. Guarantees can stimulate additional investment in adaptation by reducing the financial risk to lenders, however, information is not currently available on the size of guarantees related to adaptation activities.

Under the UNFCCC commitment, the developed countries pledged to jointly provide USD 100 billion annually from 2021 through to 2025 to developing countries to mitigate and adapt to climate change[32]. According to the OECD 2016 report, developed countries were projected to increase public climate finance levels (including bilateral and multilateral) to USD 67 billion by 2020 which would still be short of the USD 100 billion needed annually. The adaptation related finance for developing countries (low and middle-income countries) as reported by the Annex II parties to the UNFCCC in 2017-2018 was recorded to be approximately USD 13.9 billion (includes bilateral, regional and other channels) which is much lower than the required investment. As reported in UNEP's 2020 Adaptation Gap report[33], so far very few parties have reported on the private climate finance mobilized towards developing countries. While it is clear that multilateral institutions have a major role to play in providing adaptation finance, private sector investment is needed to fulfil the UNFCCC commitment for climate finance in developing countries.

2.3.1. Private Sector Investment in Adaptation

Private sector investment in adaptation will be critical if the current under-investment in adaptation is to be addressed. There is limited information available on private sector investment in adaptation, in part because of the difficulties of differentiating investment in adaptation from standard business activities. In contrast to DFIs, there is also limited incentive for the private sector to track and report spending on adaptation, and many activities which could be considered as adaptation are viewed through the lens of business risk management, rather than climate change adaptation[34]. As such, it is clear that there is private sector investment in adaptation which is ongoing but is not currently integrated into reporting on climate finance. Developments such as the increasing adoption of the reporting frameworks like the

29 In 2019, the collective MDBs commitment to adaptation finance stood at USD 14.9 billion which was ~24% of the total climate finance commitment. Source : Enabling Private Investment in Climate Adaptation and Resilience, World Bank and GFDRR, 2021

30 https://climatepolicyinitiative.org/wp-content/uploads/2018/12/Understanding-and-Increasing-Finance-for-Climate-Adaptation-in-Developing-Countries-1.pdf , Pg-21
31 Climate adaptation related Green Bonds accounted for 3-5% of the total green bonds outstanding by May 2017 (Source: https://climatepolicyinitiative.org/wp-content/uploads/2018/12/Understanding-and-Increasing-Finance-for-Climate-Adaptation-in-Developing-Countries-1.pdf)
32 OECD (2016), 2020 projections of Climate Finance towards the USD 100 billion goal: Technical Note, OECD
33 UNEP Adaptation Gap Report, 2020.

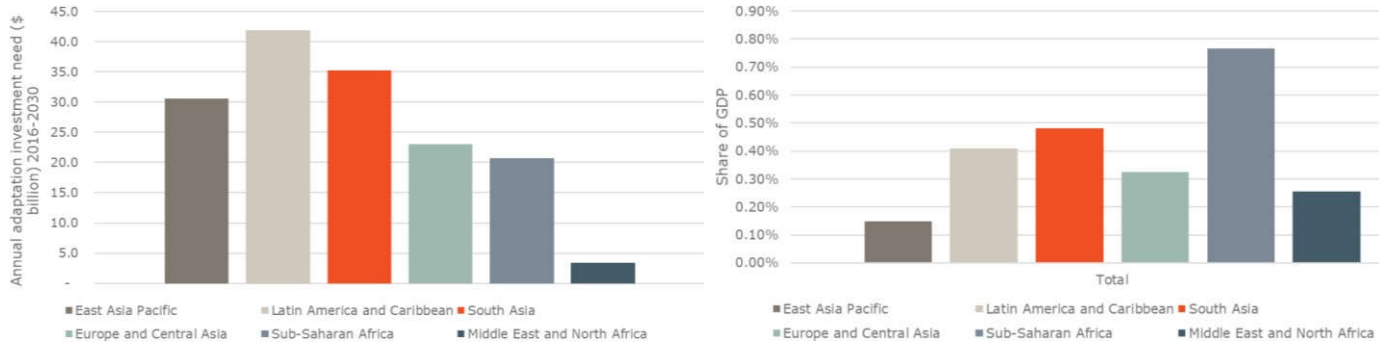
34 World Bank (2021) Enabling Private Investment in Climate Adaptation and Resilience. Also confirmed through initial discussions with private sector stakeholders. 20 CPI 2019

Taskforce on Climate-related Financial Disclosure (TCFD), sustainable finance and adaptation-focussed taxonomies designed to provide consistent eligibility criteria for adaptation investments, may help to improve tracking and reporting in this area. Although reported figures are an under-estimate, it is clear that the level of private sector investment is far lower than what is necessary, with the latest estimates of tracked private investment in adaptation representing just 1.6% of total adaptation finance[35]. This under-investment is consistently highlighted both in international research on climate finance, and specific policy documents such as NDCs and sectoral adaptation plans[36]. In a context in which post-Covid response may well slow the increase in public sector investment in adaptation[37], there is an even greater need to use public finance to stimulate private adaptation investment.

2.3.2. Adaptation Investment Need, Adaptation Readiness and the Priority of Adaptation[38]

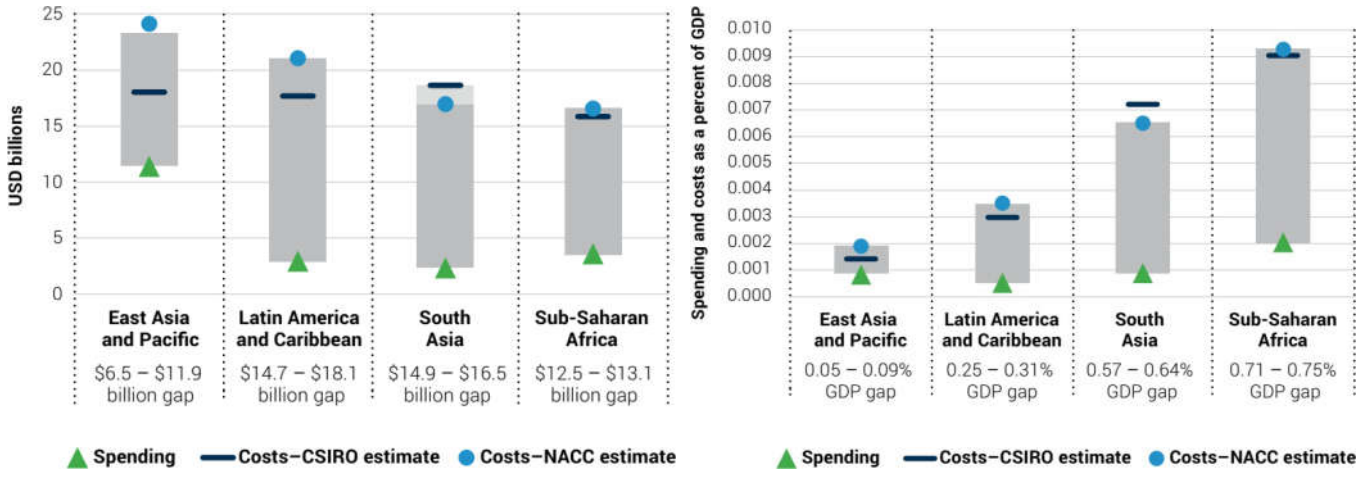
Latin America and the Caribbean and South Asia have both the largest absolute adaptation investment need (Figure 3 and adaptation finance gap (Figure 4). Relative to GDP, adaptation investment need and the adaptation finance gap are greatest in Sub-Saharan Africa and South Asia. At a country level adaptation investment need varies significantly. This is illustrated in Figure 2, together with each country's 'vulnerability' to climate change[39] as a gauge the priority of adaptation and ability to leverage investment in adaptation ('readiness')[40].

Figure 2- Regional adaptation investment need: Developing world



Source: World Bank (2014) Economics of Adaptation to Climate Change programme

Figure 3- Regional adaptation finance gap: Developing world



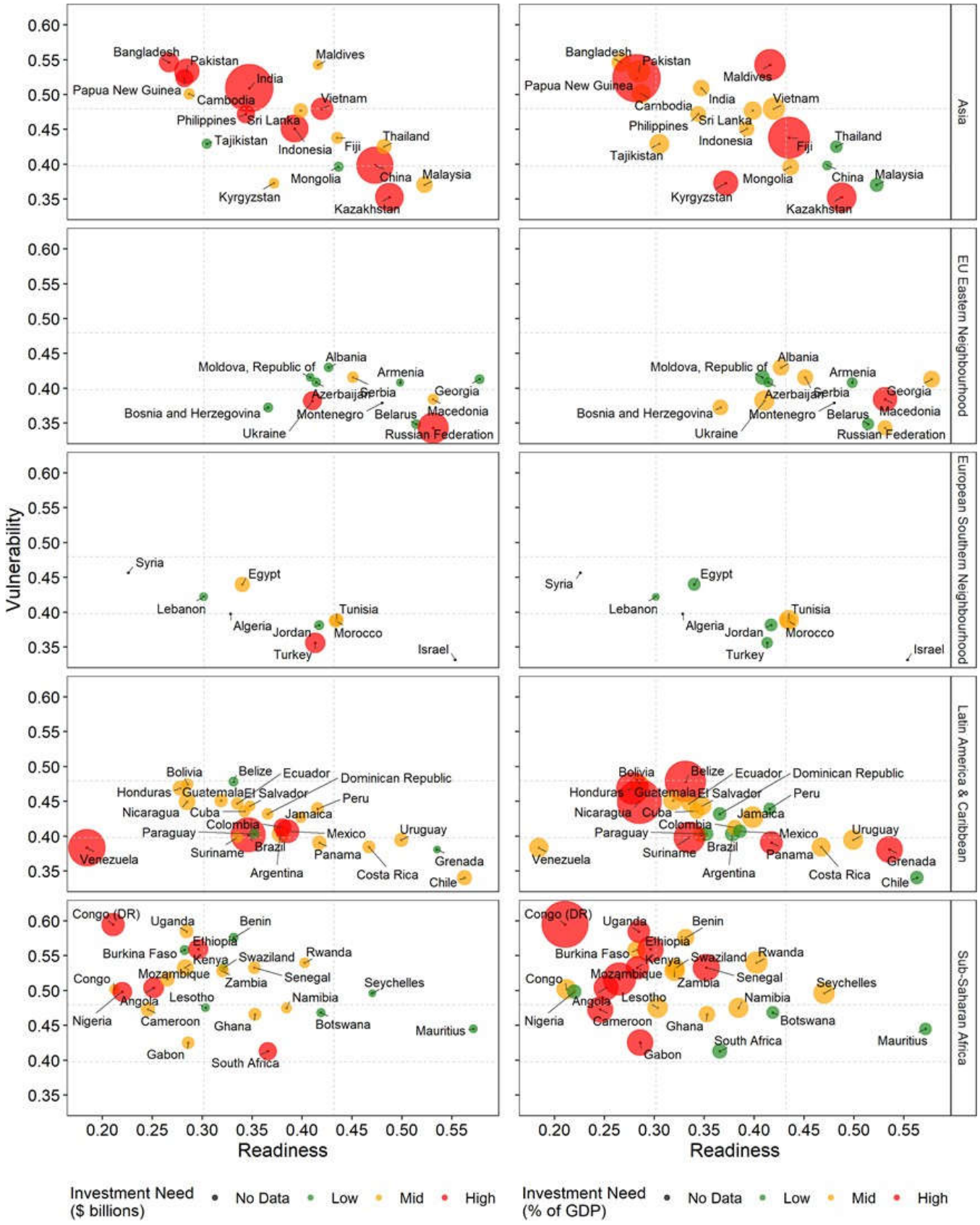
Source: World Bank (2021) Enabling Private Investment in Climate Adaptation and Resilience.

35 CPI 2019
36 World Bank (2021) Enabling Private Investment in Climate Adaptation and Resilience.
37 The GCA report that initial indications are that despite the rhetoric of Green Recovery, the economic impact of the covid-19 pandemic, coupled with prioritised spending on health and social programmes will reduce the priority placed on adaptation.

38 Drawing from a 2014 World Bank estimate of country and sector adaptation investment need. This data was also used in the 2021 World Bank report on Enabling Private Investment in Climate Adaptation and Resilience

39 This is based on the ND-Gain Vulnerability Score which measures a country's exposure, sensitivity, and capacity to adapt to the negative effects of climate change. https://gain.nd.edu/our-work/country-index/rankings/
40 This is based on the ND-GAIN readiness score measuring a country's ability to leverage investments and convert them to adaptation actions.
https://gain.nd.edu/our-work/country-index/rankings/

Figure 4- Adaptation investment need against country vulnerability and readiness[41]



[41] Readiness data from ND GAIN index, and investment need as per Figure 2.

Sub-Saharan Africa includes some of the countries that are the most vulnerable to climate change and have the lowest capacity to invest in adaptation in the developing world. Many of these countries also have the highest adaptation investment need (Figure 5). Countries in the EU Eastern Neighbourhood are typically characterised by low to moderate vulnerability and moderate to high readiness, with lower levels of adaptation investment need. The EU Southern neighbourhood faces a number of climate risks, and has vulnerabilities related to the Water sector in particular, however, vulnerability to climate change is lower in comparison to several other regions, including Sub-Saharan Africa and small island developing states. Readiness is also relatively higher, although with significant improvements needed in order to effectively adapt to climate change. For many Latin America and the Caribbean countries adaptation investment need is relatively high, reflecting a number of significant climate risks to the region, and infrastructure systems in need of investment. Asia includes countries that are some of the most vulnerable with moderate to high adaptation investment need. These countries are also categorised as having low to moderate readiness. At the same time, many Asian countries show a combination of moderate to high readiness and investment need (Figure 5).

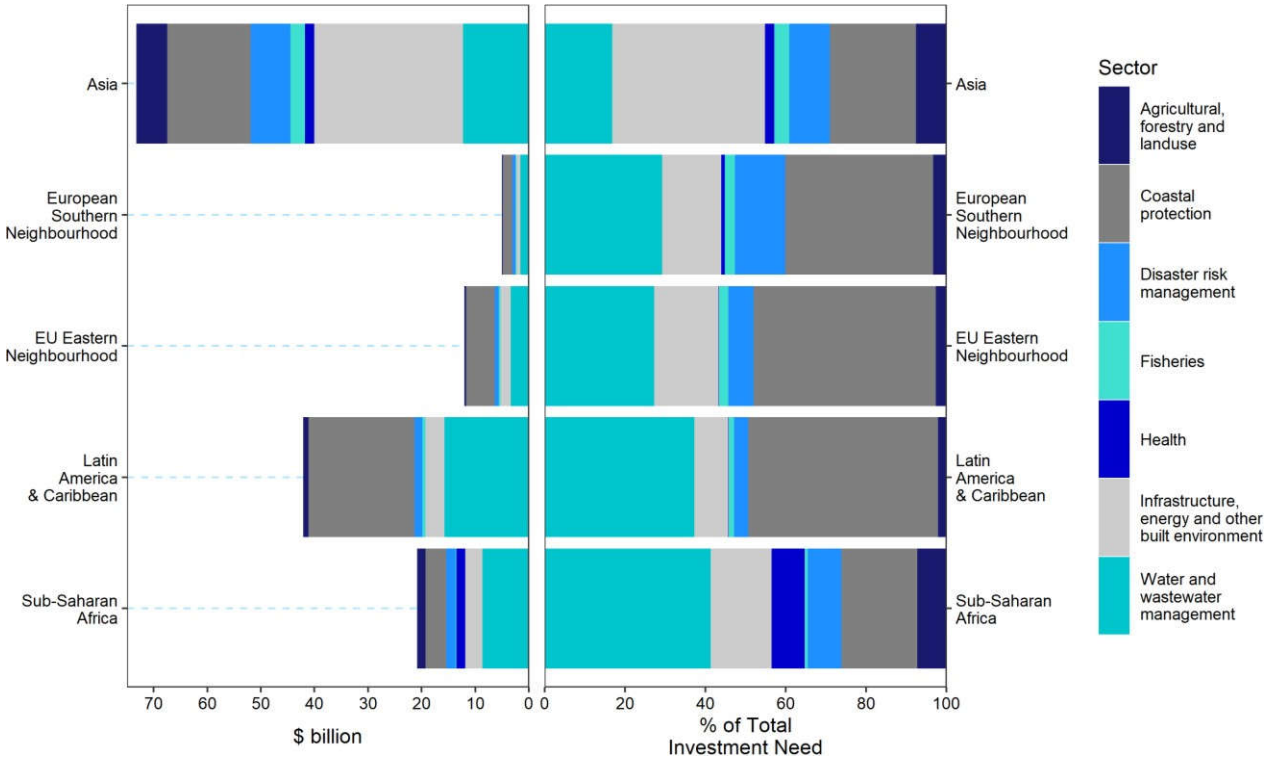
Figure 5 - Countries with high adaptation investment also characterised by high vulnerability or readiness based on preceding analysis.

	High Investment Need ($)	High Investment Need (% GDP)
High readiness	China (Asia), Kazakhstan (Asia) and Russian Federation (EUE).	Fiji (Asia), Grenada (LA&C), Kazakhstan (Asia) and Macedonia (EUE).
High vulnerability	Angola (SSA), Bangladesh (Asia) Congo DR (SSA), Ethiopia (SSA) India (Asia), Nigeria (SSA), Pakistan (Asia) and Papua New Guinea (Asia).	Angola (SSA), Congo DR (SSA), Ethiopia (SSA) Kenya (SSA), Maldives (Asia), Mozambique (SSA), Papua New Guinea (Asia), Senegal (SSA) and Uganda (SSA).

Sector adaptation investment need

Across the developing world investment in coastal protection (30%); infrastructure, energy, and other built environment (24%); and water and wastewater management (24%) account for the largest shares of adaptation investment need. Comparing sector adaptation investment need to whether a country also identifies these sectors as vulnerable to climate change or an adaptation priority (in their NDC) can highlight sectors are likely to be adaptation investment priorities for specific countries (Figure 6 and Figure 7).

Figure 6 - Developing country adaptation investment need by sector



Source: World Bank (2014) Economics of Adaptation to Climate Change

Figure 7 - Vulnerable and adaptation priority sectors with high investment need

Sector	Country
Water and Wastewater	Asia – Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, Tajikistan and Vietnam Sub-Saharan Africa – Benin, Cameroon, Congo, Ethiopia, Lesotho, Rwanda and Zambia EU Eastern Neighbourhood – n/a European Southern Neighbourhood - Jordan Latin America and The Caribbean – Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Honduras and Nicaragua
Health	Asia – India and Vietnam Sub-Saharan Africa – Burkina Faso, Cameroon, Ethiopia, Kenya, Uganda and Zambia EU Eastern Neighbourhood - n/a European Southern Neighbourhood - Egypt Latin America and the Caribbean – n/a
Agriculture, forestry and land use	Asia – China, India, Indonesia and Vietnam Sub-Saharan Africa – Botswana, Burkina Faso, Kenya, Nigeria and Uganda EU Eastern Neighbourhood - n/a European Southern Neighbourhood - Morocco Latin America and the Caribbean – n/a

Source: NDGain, NDCs

2.3.3. Strategic analysis of opportunity for leveraging private investment in adaptation

Figure 8 summarises the findings from an analysis of national:

- Adaptation investment need (absolute)
- Vulnerability to climate change
- Readiness to leverage investment in adaptation
- The degree the green economy is core to national level climate action and the level of progress in implementing action[42]

The analysis is used to highlight the nature of the opportunity for leveraging private investment in adaptation and the potential role of advisory services in ensuring the efficient identification, preparation, and implementation of adaptation (see Figure 8). One of the challenges for leveraging private investment in adaptation in developing countries is that adaptation may be less of a priority in countries with the highest capacity to invest in adaptation or where private finance is likely to have a greater role in national climate action. Figure 9 also highlights regional trends which are summarised below. Latin America and the Caribbean and Asia are excluded from this figure, as the opportunity for financing private sector investment in adaptation and the potential role of advisory services is varied and much more country specific.

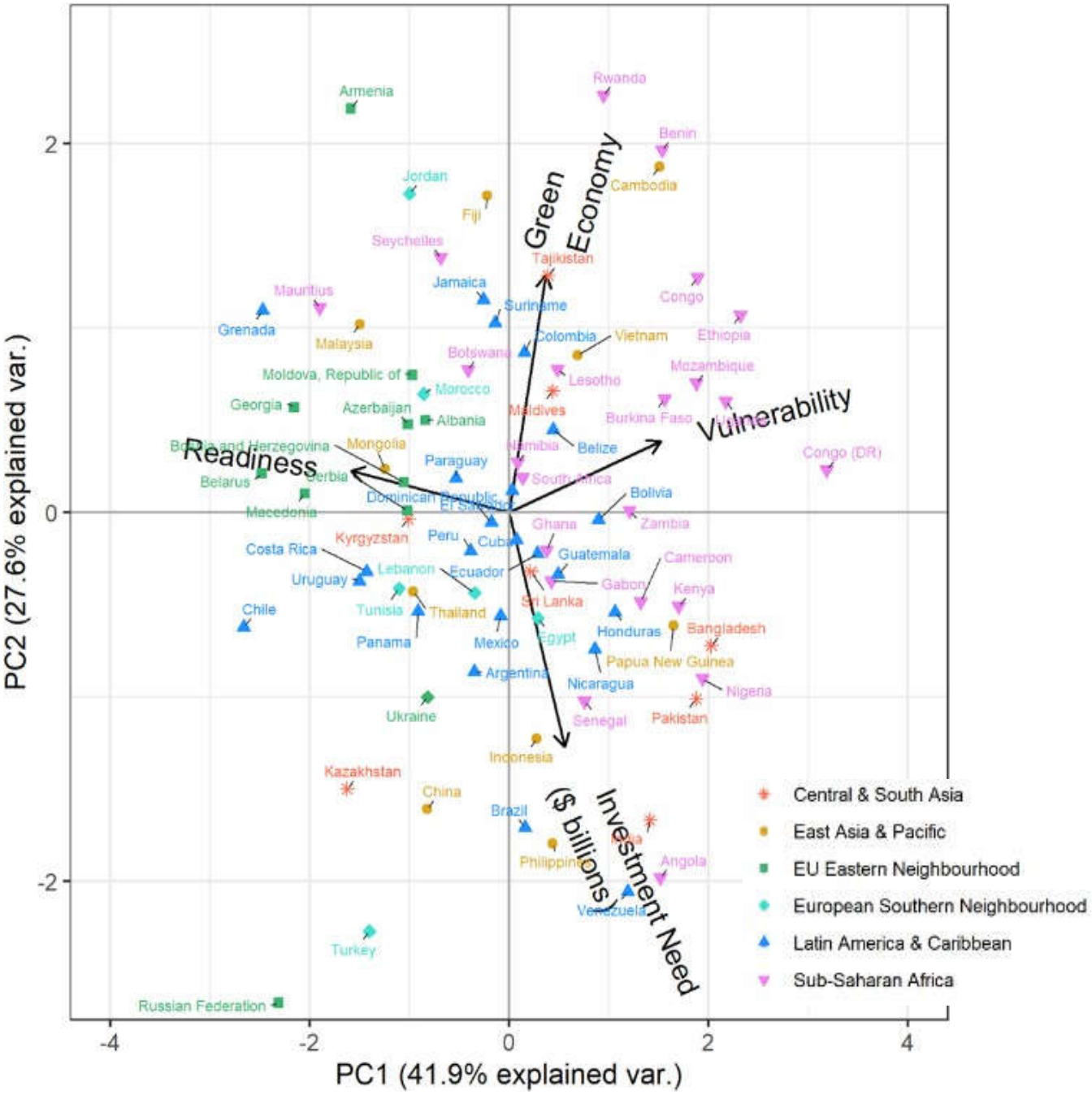
The priority of adaptation is likely to be higher in Sub-Saharan Africa as adaptation investment need (as a share of GDP) is typically greater and vulnerability to climate change is relatively high. Capacity to leverage investment in adaptation is however generally low across the region. As a result, there is expected to be a greater role for downstream advisory services to support project preparation and implementation not only from a technical perspective, but also to provide financial advisory support. Across Sub-Saharan Africa the anticipated role of private investment in adaptation varies significantly. However, the opportunity to leverage private sector investment in adaptation is expected to be greater where the green economy is also core to national climate action.

The role of private sector investment in adaptation is expected to be greater in the EU Eastern Neighbourhood, although the Ukraine is an exception to this rule. Capacity to leverage investment in adaptation is also relatively high. Adaptation is however considered to be less of a priority as vulnerability to climate change and adaptation investment need are relatively low. The role of upstream advisory services may therefore be more important for unlocking these opportunities through awareness raising and capacity building.

For many of the countries of the European Southern Neighbourhood the opportunity for financing private sector investment in adaptation and the potential role of advisory services is likely to be like the EU Eastern Neighbourhood. However, in countries such as Tunisia and Egypt the role of private sector investment in adaptation may be less important. This is despite the priority of adaptation potentially being higher.

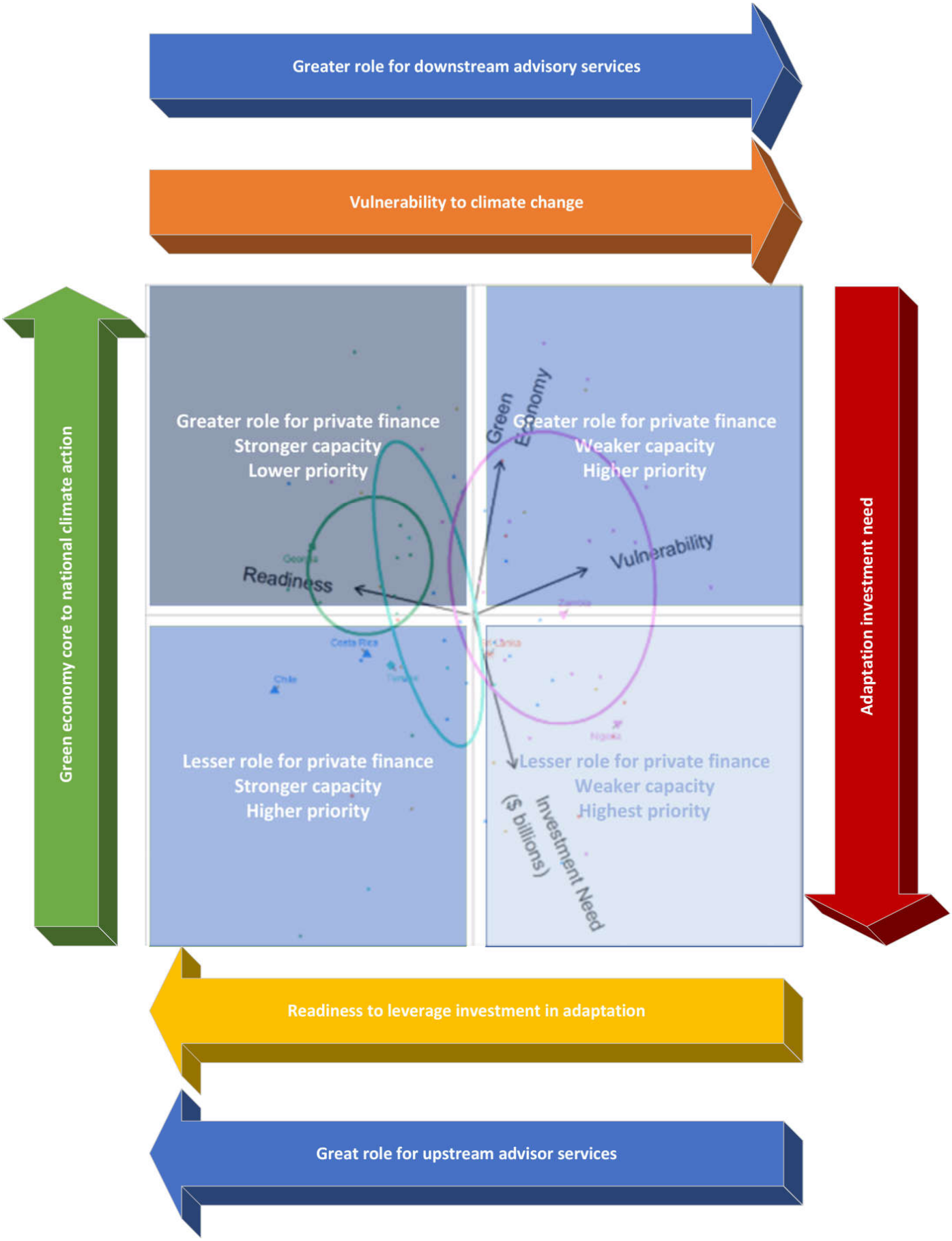
42 As an indicator of the role of private sector investment and the enabling environment based on NDC.

Figure 8– Principal component analysis of indicators for the opportunity to leverage private investment in adaptation in developing counties



[26] As an indicator of the role of private sector investment and the enabling environment based on NDC.

Figure 9– Regional trends in the opportunity to leverage private investment in adaptation in developing counties and the potential role of advisory services



3. Enabling Large Scale Private Sector Adaptation Finance

3.1. Introduction

There is a growing literature focussed on understanding the reasons for the limited private sector investment in adaptation as outlined above, and key factors that can stimulate this investment. Barriers to private sector adaptation may relate to knowledge and capacity, information and data, financial incentives, and policy and regulation. This section summarises the major barriers, and enabling factors for private sector adaptation, combining a review of the literature with initial findings from the stakeholder engagement process. Four major issues are discussed:

- Private Sector Awareness of Physical Climate Risks and Adaptation Opportunities
- Capacity of Developing Countries to Leverage Investment in Adaptation
- Financial Incentive for Private Investment in Adaptation
- Strength of Climate Adaptation Policy and Strategies

This is followed by a detailed assessment of legislative and regulatory frameworks which can constrain or enable private investment in adaptation. This assessment combines a broad literature review with detailed engagement in 9 case study countries to draw out lessons learned, and best practice, that can inform the recommendations of this study.

3.2. Private Sector Awareness of Physical Climate Risks and Adaptation Opportunities

Among many private sector actors, an understanding of the specific risks and opportunities of climate change is underdeveloped. Despite growing climate impacts, there remains an under appreciation of the disruption that climate change is likely to have on business operations. Many private sector actors are aware of climate change adaptation in a general sense, however, have limited capacity to integrate physical climate risks into their decision-making, and invest in developing adaptation and risk management measures as part of standard business practice. Equally, from an investor perspective, in contrast to mitigation, there is limited understanding of how adaptation might represent an investment opportunity, and how to structure and develop such projects. For businesses this can result in undervaluing potential risks, and not adequately investing in adaptation, while for investors misperceptions and uncertainties related to physical climate risks can de-prioritise the need for adaptation in investment selection and portfolio management.

The ability to invest in suitable adaptation is hampered by the limited availability of decision-relevant data in many developing countries. Without appropriate physical climate risk data, for example showing the change in the frequency and magnitude of heavy rainfall events to inform the design of climate resilient urban developments, neither the private or public sector can correctly assess the type and extent of adaptation investment needed[43]. The lack of data limits the integration of short, medium and long-term adaptation considerations into tangible business solutions. National governments have a key role to play in open data collection and management by enhancing access to data on climate risk and vulnerability[44]. This can provide a basis for embedding climate adaptation risks in all capital investment planning, including that by the private sector.

It is also the case that climate data, with its many caveats and uncertainties, and issues of spatial scale and resolution, has traditionally not been well communicated to, or understood by, the private sector. Uncertainty and data limitations do not necessarily mean that the information needed to demonstrate the business case for adaptation, or to inform the design of adaptation measures, is not available, however, it can frequently be perceived this way[45,46] The development of data, tools, and frameworks specifically tailored to private sector needs[47], which can easily be used and understood within existing business processes, can enable physical climate risk management to be more easily embedded within private sector companies, and highlights the case for business investment in adaptation.

43 World Bank (2021) Enabling Private Investment In Climate Adaptation, & Resilience

44 World Bank (2021) Enabling Private Investment In Climate Adaptation, & Resilience

45 Atkins 2021 Scoping Report on Climate Change and Trade in East Africa.

46 Nordic Development Fund and Inter-American Development Bank. 2020. Private Markets for Climate Resilience: Global report. Nordic Development Bank, Helsinki, Finland

47 This goes beyond simple expecting private sector actors to engage with the increasingly large and complex ecosystem of climate and Earth observation datasets

3.3. Capacity of Developing Countries to Leverage Investment in Adaptation

Developing countries face challenges in leveraging private sector investment in adaptation, resulting from a lack of institutional and technical capacity amongst their domestic financial markets with lower levels of awareness, and skills (both technical and management) which can act as a major market barrier[48]. Technical assistance (both upstream and downstream advisory services to support the efficient identification, preparation and implementation) is an important facilitator of private sector adaptation finance and is needed to successfully identify, prepare, deliver, measure and monitor adaptation projects, catalyse adaptation capacity, and build an ecosystem of suppliers to leverage private sector investment in adaptation. Currently this is a challenge as technical support for adaptation investment is relatively limited, therefore effective institutional arrangements which offer technical assistance support need to be set up to scale up private sector investment.

Even in regions that are highly vulnerable to climate change and where the need to invest in adaptation projects has been identified, there is a lack of capacity to assess the environmental, social and economic benefits of the projects. Private sector investors currently have limited technical and analytical capacity to integrate physical climate risks into project assessments or return on investment calculations, which hinders their ability to set up a pipeline of investable projects. For example, a town that withstands flooding longer, a modified crop that needs less water for yields, an improved irrigation system to protect against water scarcity; are all examples of adaptation but their economic returns cannot be easily quantified using traditional methods, making it a barrier for investment.

Private investors frequently highlight that a major barrier towards investing in adaptation projects is not always the lack of capital but rather a lack of investment-ready, risk adjusted projects with a commercial rate of return[49]. Advisory services or technical assistance are fundamental to overcoming knowledge and capacity barriers to translate a country's aspirational adaptation strategies into investment plans that are attractive to private sector investment.

This includes aggregating smaller projects into larger scale programmes of investment. The provision of advisory services can also provide the opportunity:

- For greater operational collaboration and to win a 'seat at the table' for investors[50].
- To shape projects from an early stage, in terms of both prioritising investment in high impact and strategically important projects and sectors[51].
- Promoting business models suitable for private sector need[52].

3.4. Financial Incentive for Private Investment in Adaptation

There is a **lack of financial incentives for attracting private finance to adaptation and climate resilience at scale**. Investment in adaptation is often perceived by the private sector as high risk with high upfront costs and low returns. Private investors need flexible, risk-adjusted investment projects that yield monetary benefits. Adaptation projects rarely have easily monetizable cash flows and often support public goods, whose true value is not reflected in financial transactions. For example, the financial gains from large scale investment in flood risk management and coastal protection are difficult to capture in the short term, despite the possibility of a clear economic benefit. There may also be perverse financial incentives which can discourage investment in adaptation and climate resilience, for example, subsidized flood insurance. Even where projects do generate a cash flow, this is realised in the long term and the returns are often not enough to provide a competitive risk return profile. Compounding this issue, private enterprises (particularly SMEs) in developing countries also often struggle to obtain finance from the formal financial system[53].**Well-designed adaptation-related activities can show positive cash flows that allow projects to pay back investments** through:

- Cost savings – For example, where domestic water prices are not heavily subsided, measures to enhance water efficiency can reduce costs, maximise profitability and increase competitiveness not only for organisations in water-intensive sectors. The EBRD provides technical expertise (such as water audits) and finance to identify climate change impacts that affect business operations, develop and implement strategies to facilitate adaptation and invest measures and technologies that improve climate resilience[54].

48 https://publications.iadb.org/publications/english/document/Adaptation-Solutions-Taxonomy.pdf
49 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment.

50 Vivid Economics (2014) Financing Green Growth Report

51 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment.

52 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment.

53 Nordic Development Fund and Inter-American Development Bank. 2020. Private Markets for Climate Resilience: Global report. Nordic Development Bank, Helsinki, Finland

54 https://www.ebrd.com/what-we-do/sectors-and-topics/sustainable-resources/climate-change-adaptation.html

- Revenues generated from:
  - Charges - the most common form of revenue generation for utilities.
  - Tax and government grants.
  - Capturing rents or 'windfall gains', such as a tax on the expected increase in property value.
  - Business rate supplements and Business Improvement Districts, where businesses pay an additional tax or fee in order to fund improvements within the district's boundaries.
  - Community Infrastructure Levies charged on all new buildings to be spent on local and sub-regional climate-resilient infrastructure to support the development of the area.
  - Blending mitigation and adaptation investment solutions to generate revenues.

Government guarantees, tax benefits, and risk-sharing mechanisms can be used to address market failures and incentivise private sector investments in adaptation. **Targeted risk reduction or revenue-boosting measures** (such as blending concessional and market rate finance) can increase the short-term attractiveness of investment in adaptation for the private sector. In addition to reducing risks (both real and perceived), such instruments can also serve to send positive signals to the market and demonstrate the opportunity for private investors, paving the way for greater proportions of private capital[55].

However, in comparison to mitigation projects, adaptation projects are often financially risky, untested and can be complex to structure. This is particularly the case where a combination of public and private investment is required to make a project viable. Creating an efficient blended structure and allocating risk and return to various investors can be a challenge. Once projects with potential for private investment are identified, project development/preparation support may be required to make them investable and reduce the costs that private investors have to bear, to attract private capital to a venture. The role of project preparation facilities could include[56]:

- The identification of the optimal project structure (e.g. public-private partnerships) and most appropriate financing instrument.
- Providing technical assistance, for example, to undertake feasibility studies.
- Assessing value at risk and return on investment and mapping project cash flow.
- Identifying funding gaps and potential investors (public and private) and project structuring (including most appropriate financing instrument[57] and the potential for de-risking and co-financing) and procurement.

3.5. Strength of Climate Adaptation Policy and Strategies

Clear policy objectives and commitments are important to investors since they look to government strategies as important signals of intent[58]. The absence of a specific adaptation policy per se is not necessarily the problem. Even in countries where an adaptation strategy exists, many developing countries **struggle to create a suitable legal, policy, and regulatory enabling environment conducive for investment in adaptation**, because:

- The priority of adaptation policies outside Environment Ministries (which are frequently considered less important by the rest of government) is low[59];
- Adaptation policies are high level and don't provide guidance and steer to the private sector on why climate change adaptation should be taken seriously, and the specific action or investment needed; or,
- Other policies contradict adaptation policies.

Unfavourable regulatory environments that can lower investor confidence include the mispricing of natural resources, distortive subsidies, high taxes on technological solutions, inadequate market support and contradictory market signals along with a lack of standards[60]. This is also the case for unclear or short-term fiscal policies. Similarly, private enterprises may prioritize job protection and maximizing short-term revenues over longer term investment in adaptation.

Policy dialogue can influence policymakers who might otherwise not be fully aware of the benefits of adaptation. The aim is to establish regulatory instruments and fiscal incentives to:

55 World Bank (2021) Enabling Private Investment in Climate Adaptation, & Resilience

56 World Bank (2021) Enabling Private Investment in Climate Adaptation, & Resilience

57 For example: blended finance, resilience bond and guarantees.

58 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment

59 Atkins (2018) EIB Climate Action Gap and Market Analysis.

60 IFC (2016) Climate smart investment potential in Latin America.

- Support investment in adaptation that can deliver transformational impact greater than the sum of the impact from individual projects.
- Disincentivise investment in projects that result in mal-adaptation or projects which are not resilient to climate change.

This may include a regulatory requirement to consider physical climate risks or encouraging climate risk disclosure can support investment in climate-resilient infrastructure[61].

The absence of clear, investment-ready and bankable projects is well-recognised as a barrier to private sector investment in developing country adaptation and climate resilience projects[626364]. Currently, adaptation priorities in developing countries are often not well reflected in finance ministry investment plans or budgeted[65]. However, as adaptation planning and public sector intervention in developing countries continues to improve[66], strong national/sub-national/city level climate change adaptation strategies may provide the opportunity for the development of investment plans and a pipeline of specific and bankable adaptation and climate resilient projects[67].

61 Vallejo, L. & M. Mullan (2017), "Climate-resilient infrastructure: Getting the policies right", OECD Environment Working Papers, No. 121, OECD Publishing, Paris. http://dx.doi.org/10.1787/02f74d61

62 CDKN 2016

63 IFC (2016) Climate smart investment potential in Latin America
64 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment.

65 Atkins (2018) EIB Climate Action Gap and Market Analysis.

66 State and Trends in Adaptation Report 2020 - Global Center on Adaptation (gca.org), Pg-4

67 OECD (2018). Developing Robust Project Pipelines for Low-Carbon Infrastructure, Green Finance and Investment.

4. Legislative / Regulatory Frameworks for Adaptation Investment

4.1. Introduction

Section 3.5 provided an overview of how the strength of adaptation policy and strategy, and different legislative and regulatory frameworks can support or constrain private sector adaptation. This section includes a more detailed assessment of the legislative/regulatory frameworks in a selected number of EU developing partner countries which either stimulate or discourage private investments in climate adaptation or resilience, drawing on engagement with relevant stakeholders. Findings from the different case studies are summarised below.

4.2. Sri Lanka - Asia

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2016)[68]	The NDC identifies fiver broader adaptation targets: a) mainstreaming climate change adaptation into national planning, b) enabling climate resilient rural and urban settlements, c) minimizing impacts to food security, d) improving climate resilience of key economic sectors, and e) safeguarding natural resources and biodiversity. In the process of meeting these adaptation commitments, the NDC recognizes the need to build synergies between adaptation and mitigation, while capitalising on mitigation co-benefits of adaptation actions.
NAP (2016-2025)[69]	The NAP identifies the adaptation needs of the key vulnerable sectors and includes interventions necessary to fulfil the cross-cutting national needs of adaptation. TheNAP identifies nine critically vulnerable sectors for climate adaptation investment: food security (agriculture, livestock, fisheries); water resources; coastal and marine; human health; ecosystems and biodiversity; infrastructure and human settlements; tourism and recreation; agricultural exports (tea, rubber, coconut, etc.); industry, energy and transportation.
National Climate Change Policy (2012)[70]	The policy recognizes the need to address the vulnerability to adverse impacts of climate change at the national, regional and local level in relation to both the natural and built environment.
Sustainable Finance Roadmap (2019)[71]	This Roadmap sets out plans to develop sustainable finance in Sri Lanka, with a goal to help FI's effectively manage ESG risks of their portfolio. Climate adaptation is a core focus under the Roadmap's Environmental pillar. The Sri Lanka Sustainable Banking Initiative has been launched[72] within the roadmap as a voluntary association of banks in Sri Lanka (currently 21 signatories). Under the Initiative, SLBA issued voluntary Sustainable Banking Principles, setting a general framework on how the Sri Lankan banking sector can conduct business to achieve sustainable growth.
National Disaster Risk Management Plan (2013)	The Plan holistically sets out the Disaster Risk Management (DRM) approach at all levels i.e. national, regional and local.
National Action Plan for Haritha Lanka Programme (2019)[73]	The National Council for Sustainable Development outlined concrete actions to meet the challenges of climate change such as- land use zoning, identifying infrastructure vulnerability, on-site rainwater harvesting, food security and integrated waste management.

68 Nationally Determined Contributions, Sri Lanka, 2016. The NDC priorities were further discussed in stakeholder interviews with delegates from the Ministry of Environment, Sri Lanka.

69 National Adaptation Plan 2016-2025; Pg-33 . The NAP follows on Sri Lanka's National Climate Change Adaptation Strategy (2010).

70 National Climate Change Policy, Sri Lanka 2012

71 Roadmap for Sustainable Finance in Sri Lanka, 2019

72 This has been launched by the Sri Lanka Banks' Association (SLBA) Guarantee Ltd. within the Roadmap for Sustainable Finance in Sri Lanka, 2019.

73 National Action Plan for Haritha Lanka Programme- Summary of Actions; National Action Plan, 2009

The NAP (2016-2025) sets out the need to focus on five key gaps[74]58 for climate adaptation action which includes- information gaps, technological gaps, policy and governance gaps, institutional and coordination gaps, and resource mobilisation gaps within the nine core sectors identified for climate adaptation investment. Based on the stakeholder interviews, it is inferred that within the short and medium term, private sector investment can be best leveraged across sectors that offer a high return on investment with both mitigation and adaptation benefits such as in - organic farming[75], seaweed cultivation to diversify fisheries income streams, climate smart agriculture technology[76], tourism[77], agro-forestry, with a core focus on DRR. To bring climate adaptation at the forefront of Sri Lanka's climate action, there is a cross-cutting need to conduct training programmes on climate change adaptation for the public and private sector actors.

Private sector investment in climate adaptation is significantly lower than what is required in Sri Lanka. In addition to the barriers discussed in Section 3, there are some specific constraints to private sector investment in Sri Lanka due to:

- Market orientation of innovative technologies: The market viability of new innovative adaptation technologies, their useability and accessibility needs to be better understood. For example, the agricultural lending on innovative climate smart agriculture technologies requires a better understanding of the market needs and access. Technologies like poly tunnels and drip irrigation are successfully applied in Sri Lanka because they have been widely implemented before.
- Traditional community practices: the local communities (such as fisheries, agriculture, etc.) are accustomed to a traditional approach and it can be extremely challenging to create a behavioural shift. For example: the adoption of diverse economic activities like seaweed farming, aquaculture would be economically beneficial, yet local communities are hesitant to adopt these.
- Lower economic priority of the national government: Sri Lanka's high foreign debt[78] mean that climate adaptation investment is a lower priority for the national government who often arrive at short-term solutions to make immediate loan repayments. This was further exacerbated by the decrease in tax revenue following the Covid pandemic since 2020 due to severe economic losses in key sectors such as tourism which accounts for ~20% of Sri Lanka's export income[79].
- Currency exchange risk: in the current low growth environment, the currency exchange risk[80]64 would only increase Sri Lanka's debt repayment problems. Managing currency risk through funds like the TCX[81] (Currency Exchange Fund) could offer a solution to this.
- Lack of a critical mass of investable projects: as an island nation Sri Lanka faces issues with ensuring there is a large and consistent enough pipeline of projects, with a clear need for small scale adaptation projects need to be combined into a facility of a pipeline of investable projects to attract large scale foreign investment.

Middle-income developing countries in Asia are likely to face similar constraints to climate adaptation investment. The role of the private sector, though limited is primarily focused on agriculture (E.g.: organic green labelled tea) and tourism (E.g.: green buildings) as the perceived return on investment is higher. To leverage more private sector investment, the Ministry of Environment's key focus has been on knowledge, awareness, and capacity building to support the private sector in identifying and developing profitable, investable projects. Alongside, the Sustainable Development Council[82] is developing its Sustainable Finance Taxonomy[83] based on the EU Taxonomy to make it nationally relevant, applicable across the wider South Asian region and harmonized with the international requirements.

[74] Five-Gap Model, Policy Studies of Sri Lanka

[75] Eg: Organic/green labelled tea cultivation.
[76] Example: Drip irrigation, Solar submersible pumps to increase resilience

[77] Example: mangrove plantation has been incorporated within tourism, green buildings with improved flood risk resilience

[78] 56% of Sri Lanka's foreign debt includes commercial borrowings, most of which is composed of international sovereign bonds (rather than concessionary loans) whichhave a higher interest rate (>6% o be paid biannually(and shorter repayment periods (5-10 years). Source: Sri Lanka's foreign debt crisis, 2021

[79] Sri Lanka's foreign debt crisis 2021

[80] Sri Lanka's financial sector is capped in its borrowing capacity from international funds, hence borrowing in local currency would help reduce the forex risk (Source:Stakeholder Interview)

[81] BIO invested in TCX

[82] The Council is a Parliamentary Select Committee on Sustainable Development established to ensure Sri Lanka's sustainable growth.
[83] The Council have been in discussion with UNDP Finance sector hub for support.

4.3. Nepal – Least Developed Countries (Asia)

Nepal is a LDC with a goal to transition towards a middle-income country by 2030[84] .

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
National Climate Change Policy (2019)[85].	Globally, Nepal is the fourth most vulnerable country in terms of the impacts of climate change[86], with 40 out its 75 provinces being highly vulnerable to climate change risks. Thus, adaptation will be a constant requirement for Nepal, and its national policy recognizes the need to "contribute to socio-economic prosperity of the nation by building a climate resilient society." Three specific objectives of the policy are to - a) to enhance climate change adaptation capacity, b) to build resilience of at-risk ecosystems, c) to mobilize financial resources for climate change adaptation.
NDC (2020)[87]	Nepal submitted its second NDC in December 2020 covering eight thematic and four cross cutting areas. The eight core thematic areas are: agriculture, forests, water, urban settlements, infrastructure, tourism, human health, and disaster risk reduction. By 2022, Nepal aims to define its Climate Finance Strategy to accelerate adaptation investment.
NAP (to be completed by 2021)	Nepal's NAP is currently in development planning stages with support from the GCF[88], and its development approach is focused on mainstreaming climate change adaptation into Nepal's development policies, plans and strategies. A national workshop was conducted in August 2019, where the key outcomes included- the need for a stronger integration of local governments into the NAP process, capacity building to gain a better understanding of progress on adaptation at multiple levels, developing innovative funding mechanisms and revising existing funding strategies for financing adaptation activities[89].
Environment Protection Act (2019)[90]	This Act requires that adaptation plans should be made at the national, provincial, and local levels to ensure adverse impacts and climate change risks on vulnerable communities are minimised.
Local Adaptation Plans for Action (LAPA, 2012)[91]	The LAPA's enable a bottom-up integration of climate adaptation and resilience into local and national planning in Nepal and are required for the following sectors - agriculture, forestry, health, water and sanitation, watersheds, microfinance, education, infrastructure, and disasters.
Disaster Management Act (2017)[92]	Nepal is particularly vulnerable to the risks of extreme rainfall, floods, landslides, forest fires that can lead to the destruction of physical infrastructure and livelihoods. The Disaster Management Act therefore establishes the policies to ensure that an operational organisation is in place for disaster response and aid capacity building.

Nepal's government has put in place various policies and regulatory frameworks to support climate resilient development. However, as a low-income country with a goal to transition towards a middle-income country by 2030, Nepal's focus has been on economic development, and the role of the public and private sector in climate adaptation has been minimal which was also illustrated in expert interviews[93]. The District Development Communities and Provincial Governments are a key stakeholder in the bottom-up implementation of its climate action policies.

84 Envisioning Nepal 2030 Seminar, ADB

85 National Climate Change Policy Nepal, 2019

86 Nepal country status brief note on NAP

87 Second Nationally Determined Contributions, Nepal, December 2020

88 Nepal and UNEP: GCF-NAP Project, 23 November 2018

89 National Consultation to advance Nepal's NAP, 06th September 2019

90 Environment Protection Act, Nepal, 2019

91 National Framework on Local Adaptation Plans for Action, 2012

92 Disaster Management Act, Nepal, 2017

93 Key experts from the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) and Confederation of Nepalese Industries (CNI) were interviewed for this study.

At an industrial level and within the private sector, there is some awareness of the climate risks on assets, particularly to the urban infrastructure, agriculture, water supply and irrigation but there is a lack of commitment to invest in pilot projects promoting innovative approaches and climate smart technologies. For example, in an expert interview, the interviewee mentioned a Biomass for Clean Energy project proposal where the EU Delegation had provisioned technical assistance to develop the business case for the project, but ultimately the private sector did not proceed to invest. Even when the business case for a project has been developed, it is very challenging for small scale entrepreneurs to get the collateral from the local banks who perceive these investments as high risk and are often unwilling to lend until the best practise standards are in place. This is counter-productive for the private sector (particularly the small-scale entrepreneurs) as early investment is needed even to set up the best practices. This is where credit lines and guarantees to local banks which are designed to de-risk lending to smaller-scale SMEs can be an effective way of increasing lending for adaptation. As a small, developing country there is a need for collectively assimilating bankable projects to gain access to international funding which can in turn result in long lead times and deter progress. In this instance it is advised that the national public sector bodies (like FNCCI, CNI, local governments and municipalities), international funding organisations (like the EU, EIB, UN agencies and other bilateral and multilateral donors and development banks) supported by the national banks should be responsible for developing and assimilating bankable projects. Credit loans in Nepal's national and local banks have very high interest rates (8-10%), and the national banks' regulations restrict/disallow concessional lending to the final beneficiary from impact investors to keep the local banks competitive.

As Nepal is highly vulnerable to the risks of extreme rainfall, floods and landslides; the public sector has put in place early warning systems for DRR. A large part of Nepal's population works in the agriculture sector and due to flooding, farmers in particular can be severely affected. The FNCCI (Federation of Nepalese Chambers of Commerce and Industry) have worked with the farmers to help them adapt to the changing environment. For example, the tea and cardamom producers in Nepal are vulnerable to high temperature, pests, warming of mountain slopes, so FNCCI helped them shift to better pest resistant seeds to adapt. However, this is one among few examples of public sector engagement in climate adaptation and there are very few examples (none in the expert interviews) of engagement and investment from the private sector so far. Nepal brought in the Public Private Partnership and Investment Act in 2019 which is a first step to encourage private sector investment, however its outcomes are yet to be seen.

4.4. Georgia - EU Eastern Neighbourhood

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2021)[94]	The NDC identifies the most vulnerable sectors of the economy and ecosystems that need to adapt to the adverse effects of climate change which are: agriculture, tourism, mountain ecosystems, Black Sea coastal zone, surface and ground water resources, forestry and biodiversity. The government's main objective is to improve the preparedness and adaptive capacity by developing climate resilient practices that reduces the vulnerability of its communities.
NAP (In Progress)	The preparation of the NAP, led by the Ministry of Environmental Protection and Agriculture (MEPA) of Georgia, to further advance the implementation of adaptation priorities outlined in the NDC is currently underway (NAP development proposal has been sent to GCF for review). Within the plan, Georgia intends to assess the impacts of climate change on the coastal zone, mountain ecosystems, glaciers, ecosystem services, agricultural productions and livelihoods of the local population[95]. Adaptation investment in the following has been identified as a key priority - drought-resistant and higher-yield crops/cultures, integrated water resources management and irrigation systems, rural agricultural crop diversification and introduction of modern technologies for soil tillage[96]. One of the activities within the plan is to develop an adaptation finance strategy which will have a key focus on the private sector.

94 Georgia's Updated NDC, 2021

95 Expert interviews were conducted with key delegates from the Ministry of Environmental Protection and Agriculture (MEPA) of Georgia to gain an insight on the key sectoral priorities for private sector investment in adaptation.

96 World Bank Climate Adaptation overview, Georgia

Climate Change National Adaptation Plan for Agriculture Sector (2017)[97]83	There are two important roles of the private sector identified in the agricultural sectoral climate change action plan. One is on providing the market with necessary materials for implementing innovative agro-technical measures and windbreaks plantation in industrial gardens. Second is the provision of private agri-insurance to the local farmers. However, the private sector insurance companies are unlikely to bear the risks alone and the Ministry of Agriculture would need to be fully engaged in the development of this process.
Agriculture and Rural DevelopmentStrategy (2021 – 2027)[98]	The Strategy aims to make agriculture, forestry and fisheries more productive, climate smart and sustainable. It further aims to increase rural access to various financial instruments for young farmers and entrepreneurs in rural areas to support resilient economic growth[99].
National Disaster Risk Reduction Strategy and Action Plan (2017-2020) [100]	The National Disaster Risk Reduction Strategy (the National DRR Strategy) adopted by the aims to create an integrated DRR system and improve disaster preparedness and response. The Strategy is accompanied by an Action Plan which lays out a series of concrete, costed actions to improve DRR capacity in the country. While many of these are public-sector focused there are several actions relating to the updating of codes and standards which can help drive private sector preparedness for disasters. There is, however, little consideration of leveraging finance for DRR within the plan.

Georgia's government has made strong commitments towards climate action and DRR which is reflected in the key policies, strategies[101] and action plans mentioned above. The key challenges to private sector investment as outlined in Section 3 are all applicable to Georgia. The biggest gap for climate adaptation action in Georgia is in the public and private sector's lack of knowledge and awareness of adaptation benefits, and low technical capacity within Georgia's banking sector to finance and monitor the benefits of adaptation projects. In the next few years, the MEPA's focus is on private and public sector engagement particularly within the most vulnerable sectors and building technical capacity to increase the international sources of adaptation investment.

Box 4.1: National Bank of Georgia (NBG) Sustainable Finance Initiatives

The National Bank of Georgia (NBG) has set up the National Sustainable Banking Network engaging some of Georgia's biggest banks like TBC, Bank of Georgia. The purpose of the network is to engage with the banks on the sustainable finance requirements (including ESG Framework, reporting guidelines, sustainability reporting on standards like GRI). NBG is in the final stages of defining Georgia's Sustainable Finance Taxonomy which draws on the EU taxonomy but has been adjusted to the commercial banks of Georgia to make it more locally relevant and nationally applicable. It includes both the Green and Social Taxonomy and has been developed by NBG in collaboration with the MEPA and Ministry of Economy and Sustainable Development of Georgia. The reporting template has been based on international best practice guidance from the EU Taxonomy, TCFD, GRI, etc. The Taxonomy includes developed specific clear questions and templates for ESG reporting. NBG clearly state that going ahead climate risk should be part of the disclosures made by Georgia's commercial banks. NBG are part of the NGFS (The Network for Greening the Financial System) which has separate pillar for CC and have developed an implementation roadmap till 2022.

Note: The above is based on an expert interview carried out in April 2021

[97] Climate Change National Adaptation Plan for Agriculture Sector, Georgia, 2017

[98] Agriculture and Rural Development Strategy of Georgia 2021-2027

[99] UNEP Overview: Agriculture and Rural Development Strategy of Georgia 2021-2027

[100] National Disaster Risk Reduction Strategy of Georgia, 2017-2020

[101] National Disaster Risk Reduction Strategy of Georgia , 2017-2020 - Annex 1

4.5. Tunisia - EU Southern Neighbourhood

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2017)[102]	Tunisia faces socio-economic and environmental impacts of climate change which will particularly affect the country's water resources, agriculture, forests, coastline, human health,and tourism which have been identified as the core adaptation sectors. It estimates the need for ~USD 2 billion from 2015-2030, to implement the necessary adaptation measures alone across these sectors and Tunisia is seeking international support to cover this cost. The NDCcommitments[103] build upon Tunisia's National Sustainable Development Strategy (2007),National Climate Change Strategy[104] (2013), Energy Efficiency Strategy (2015), and theTunisian Solar Plan (2016). A NDC review led by the Ministry of Agriculture is currently in progress.
NAP (In Progress)	The NAP is currently in the development stages with a focus on three aspects: climate policy,capacity building and horizontal actions (E.g.: technology transfer, climate finance).
Cross-Cutting Lawfor Improving the Business Climate (2019)[105]	The new law is aimed at bringing about structural reforms to encourage private sector investment in Tunisia in various ways, such as through enhanced access to finance for small and medium-sized enterprises (SMEs), better enablement of public-private partnerships (PPPs) and concessions, and the elimination of bottlenecks.
Disaster Risk Management	Tunisia is vulnerable to a wide range of natural hazards including floods, drought, landslides, forest fires, but the country needs to develop its Disaster Risk Management capacity. In March 2021, the World Bank and AFD approved a financing package of USD100 million[106] (with USD50 million from each) for a disaster and climate resilience project in Tunisia, to strengthen Tunisia's disaster risk management efforts to safeguard assets from disasters and climate- related events.

The Ministry of Environment (MoE) is still in the process of setting up governance structures to define a clear strategy for climate policy and action in Tunisia, where the political instability of the legal regime (following the revolution in 2011) has been a major challenge. The Climate Change Committee set up by the government has been recently leading the development of a legal framework with a country level steering committee, a forum for non-government stakeholders and defining the framework conditions to engage with stakeholders at the international, national, regional, and local level[107]. The MoE has identified six priority sectors for adaptation (water resources, agriculture, forests, coastline, human health, and tourism). The key sectors with the greatest potential for private sector engagement are agriculture (particularly climate smart innovative technologies; for example, EBRD is exploring technology on hydroponic agriculture to reduce crop water consumption), coastal protection and management to improve tourism which is a dominant source of revenue[108]. Public sector investment in initiatives to improve knowledge, awareness and capacity within the private sector have been undertaken by the Ministry of Agriculture which conducted 5 workshops last year on climate change, climate finance need, climate adaptation, but there is a need to ramp up these efforts. The lending conditions of Tunisia's banking sector are a major barrier for the private sector as access to the capital and lending markets is difficult[109], which already affects several EU credit lines.

102 First NDC, Tunisia, February 2017

103 UNDP NDC Support Programme, Tunisia, February 2017

104 Tunisia National Climate Change Strategy, 2013

105 Cross-Cutting Law for Improving the Business Climate 2019

106 World Bank and AFD join efforts to strengthen Tunisia's Disaster Resilience Capacities, 11th March 2021.

107 Source: expert interviews with key stakeholders from the EU Delegation, Ministry of Environment, Ministry of Agriculture, EBRD and GIZ in Tunisia.

108 Addressing the climate change vulnerabilities and risks in vulnerable coastal areas of Tunisia, UNDP 2014

109 Presentation at the 5th Meeting of the MENA-OECD Working Group on SME Policy, 2011

Box 4.2: APIA (Agriculture Investments Promotion Agency) Tunisia[110]

APIA is a public agency (created in 1983) with the objective to promote private investment and provide financial and fiscal incentives in the agriculture and fishing sectors.

The Agency supports the application process and provides applicants with project ideas for various activities (58 in total), pre-approved by the regional committees for granting financial advantages to enable engagement especially among young people and graduates. The APIA has created 7 agricultural business incubators for 17 sub-sectors within higher agricultural education establishments in Tunisia to encourage entrepreneurs in the sub-sectors such as primary processing and food industries, horticulture and organic farming, fisheries and aquaculture, arboriculture and olive trees, etc. As part of its promotional activities, the Agency also participates and organises fairs and exhibitions, bringing together agricultural producers, fisheries, businesses, industrialists, shipowners, suppliers and researchers to exchange best practices, new investment ready technologies, for sustainable economic growth.

APIA is primarily funded by the Ministry of Agriculture, Hydraulic Resources and Maritime Fisheries Tunisian government and is currently working on GCF accreditation to leverage investment from other public and private sources.

4.6. Saint Lucia - Small Island Developing States

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2021)[111]	Saint Lucia has set out eight priority sectors for adaptation action in the NDC which are: tourism, water, agriculture, fisheries, infrastructure and spatial planning, resilient ecosystems, education; and health. Saint Lucia has a Climate Change Private Sector Engagement Strategy to guide the stakeholder engagement and the development of climate-relevant instruments. Consulting with the private sector has been key to the NDC development process.
NAP (2018-2028)[112]	Saint Lucia's NAP has been accompanied by Sectoral Adaptation Strategy and Action Plans (SASAPs) with a key cross-cutting instrument to involve all levels of society in climate action. Under the NAP, Saint Lucia has developed a Climate Finance Strategy[113], which considers different sources of financing such as Domestic Public Resources, International Public Finance, and Domestic and International Private Finance. In addition, as a member of the OECS (Organisation of Eastern Caribbean States), Saint Lucia is in the process of finalizing the St Georges Declaration (SGD) which has a key focus on adaptation.
Disaster Risk Management Strategy and Programme Framework[114]	Saint Lucia is extremely vulnerable to natural disasters and catastrophes with heavy rains and flooding being the most frequent disasters[115]. It has in place the Disaster Management Act (2006) and Disaster Preparedness and Response Act (2005). The agriculture and fisheries sectors are the most vulnerable to natural hazards, and rehabilitation plans are in place for these sectors.

Saint Lucia's public policy and regulatory frameworks demonstrate a strong understanding of the risks of climate change and a clear commitment towards climate action (both mitigation and adaptation). Within the NDC, the cost of inaction on climate change in Saint Lucia had been calculated to be at 12.1% of GDP by 2025, rising to 24.5% by 2050 and 49.1% by 2100[116] and this did not include the economic disruption caused due to the global pandemic in 2020. The public sector's immediate focus is on identifying methods to finance adaptation, building the technical capacities and

110 http://www.apia.com.tn/

111 Saint Lucia First NDC (Updated submission), 2021

112 Saint Lucia's National Adaptation Plan (2018-2028)

113 Source: Expert interviews with the EU Delegation in Saint Lucia who, at the time of the interview in April 2021 said that final sign off was to be completed soon.

114 Comprehensive Disaster Management Strategy and Programme Framework, 2009

115 CAFF Facility

116 Saint Lucia First NDC (Updated submission) 2021

developing a clear structure for a coordinated response and implementation[117]. The tourism (largest share of the GDP) and infrastructure sectors could be more likely to attract private sector investment in the short to medium term due to the higher potential returns on investment, however based on the stakeholder interviews it was clear that public sector intervention alongside multilateral and bilateral funding is further needed to build infrastructure resilience. Agriculture and fisheries have the largest employment share and are highly vulnerable to the disaster risks. In addition to the challenges outlined in Section 3, the difficulty of doing business due to high transaction costs, high credit interest of the banking sector, and low digitization deter private sector investment despite strong public commitments to climate action. Insurance coverage is difficult to get as there are very few providers, smallholders have lower financial literacy, and even where insurance exists the lead times reimbursement are very long, thereby deterring small private sector players.

Box 4.3: Climate Adaptation Investment Facility (CAFF) Saint Lucia[118]:

Given Saint Lucia's high vulnerability to climate change, the Government of Saint Lucia created the Climate Adaptation Finance Facility (CAFF), a USD 5 million credit under the Saint Lucia Disaster Vulnerability Reduction Project. The blended facility first setup in 2010 and implemented since 2016, stemmed from recommendations provided during private sector and civil society consultations under the Pilot Program for Climate Resilience (PPCR) program. The facility provides concessional funds through Saint Lucia's National Bank for climate action and resilience. Through the facility, the private sector and the civil society can apply for concessional loans (concessional rates start at 4.5% while commercial banks are ~10%). This allows small sector players in housing, agriculture and tourism to receive funding. While CAFF's focus is adaptation, the key expert interviews also suggested that the flexibility of achieving mitigation & adaptation co-benefits is essential in the local context of Saint Lucia. For example energy efficiency of housing can be combined with better domestic water supply infrastructure improvements to gain resilience and mitigation benefits. Some key lessons learnt from the implementation of CAFF that need further improvement are:

- Long lead times due to bureaucracy: Some interested parties found the lead times to receive funding very long and often preferred going to the commercial banks. The long lead times were mainly due to the due diligence process which needs improvement.
- Matching funds: There were also concerns about the % of funds that needed to be matched by the private actors and most small firms are unlikely to have the funds.
- Low Awareness: Initially the awareness on CAFF was very low which meant there were fewer applicants, particularly among the private actors who may have benefitted more from this facility.

4.7. Chile - Latin America[119]

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (updated 2020)[120]	Chile´s NDC is based on five key pillars for achieving its agenda to become 'resilient to climate change'[121]: adaptation, mitigation, capacity building, technology transfer and climate finance. The NDC's specific contributions to climate adaptation are: • Strengthening the current monitoring and evaluation system on the adaptation indicators by 2026. • Better inclusion of non-governmental actors in planning and implementing • adaptation measures; • Enhancing information mechanisms for managing the climate impacts on water resources; and

117 Source: Key expert interviews from the EU Delegation, Department of Sustainable Development and the World Bank

118 CAFF Facility

119 As of 2021, Chile's economy has progressed from being a developing country to an 'economy in transition'. This was mentioned in an expert interview in March 2021, but the UN's last world economic situation report in 2020 still classifies Chile as a developing country. The World Economic Situation and Prospects as of mid-2021 report does not confirm this and there is no other official source of information confirm this statement.
https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2020_Annex.pdf ; https://www.un.org/sites/un2.un.org/files/wesp2021_update_1.pdf

120 Chile NDC Update 2020

121 Chile's INDC, 2015

	• Adaptation capacity building to climate-related risks, particularly natural disasters. The Chilean government had also submitted a bill for a draft Climate Change Framework Law in 2020, which is currently under discussion in the National Congress. The adaptation components within this law focus on ensuring water security to safeguard access to water for the local population[122]. The proposed Climate Change Framework Law that is awaiting approval from the National Congress also outlines the need to create incentives for private sector donations towards climate action projects. The donations may come in the form of money, goods or real estate donated by people and organizations through the Environmental Protection Fund (Fondo de Protección Ambiental, FPA)[123].
NAP (2014)[124]	The NAP identified nine sectors that were vulnerable to climate change: forestry, fisheries and aquaculture, livestock and farming, water resources, human health, cities, infrastructure, energy, tourism and mining. The water resources sector has been identified as a priority for adaptation investment in Chile. To facilitate more adaptation finance, the NAP clearly states that the budget structure for each sector in Chile should include the activities on "Climate Change". Chile's 'Permanent Presidential Advisory Committee on Climate Change'[125] was also setup in 2018 to advise on measures to fulfill Chile's international commitments on climate action within the Paris Climate Agreement alongside the proposal of a national public policy on climate change.
National Climate Change Action Plan (2017-2022)[126]	The main adaptation implementation actions proposed in the updated plan are - improving the local understanding of climate risks by generating local climate scenarios, determining the impacts of climate change, developing the national and sectoral adaptation plans to propose the corresponding adaptation measures. The nation plan recognises the need to focus on capacity building and seeks both national and international financing to do so.
Sectoral Adaptation Plans	The National Plan affirms the need to develop sectoral plans to determine impacts on water resources, biodiversity, forestry, agriculture and livestock sectors, hydropower generation, infrastructure, coastal zones, fishery resources and public health. Some sector specific adaptation plans are currently in development for the above identified vulnerable sectors. The adaptation plan[127] for the health sector specifically focuses on the need for private sector investment in the resilience of the water and electricity supplies for the healthcare infrastructure. Similarly, the sectoral adaptation plans for biodiversity (2014), coastal adaptation, strategy on forests and climate change (2017-2025), agriculture (2013) set out the implementation tasks to increase the sector's resilience to climate change.
National Policy for Disaster Risk Management (2014)[128]	Chile is highly vulnerable to disasters due to earthquake, droughts, floods, tsunamis, volcanic eruptions and forest fires and since 2010 has made significant progress in the investment towards resilient infrastructure, early warning systems, and urban planning from both public and private sector. The policy on disaster risk management and reduction closely integrates with the sectoral adaptation plans (e.g.: coastal adaptation plan) where the focus is on reduction of loss of life and economic damages in the event of a disaster[129].

The above policies, plans and regulations demonstrate a clear commitment of the Chilean government towards climate adaptation recognising the importance to align climate action with its sustainable development agenda. Chile's approach to adaptation as outlined in the NDC is however based on integrating mitigation and adaptation commitments particularly for the management of oceans and coastal wetlands, peatlands and forests[130]. Chile's 2019 "Financial Strategy on Climate Change" made a commitment to promote long-term public-private cooperation for a better understanding and

122 Chile: The Government unveils Climate Change Bill, Jan 2020

123 Chile: The Government unveils Climate Change Bill, Jan 2020

124 Chile National Adaptation Plan, 2014

125 Decree No. 52 creating the Permanent Presidential Advisory Committee on Climate Change

126 Plan de Acción Nacional de Cambio Climático (2017-2022)

127 Climate Change Adaptation Plan for the Health Sector, 2018

128 Disaster Risk Management, Chile (2017)

129 Expert interviews with delegates from the University of Chile

130 Chile NDC Update 2020

management of risks and opportunities related to climate change, and to support the decision-making of actors from the local financial sector[131]. As part of this, a public-private Green Finance Roundtable was established to collaboratively work with the financial sector, incorporating risks and opportunities related with climate change[132]. The main financial institutions of Chile including the regulatory bodies signed a "Green Agreement" and have advanced in the execution and consolidation of the GCF, setting up the relevant institutional arrangements[133]. This includes the setup of a Technical Secretariat managed by the Ministry of Environment and includes the Ministry of Finance and Foreign Affairs. Additionally, the Ministry of Finance issued the first sovereign green bond framework in 2019, under a third-party evaluation process and international certification to provide low-interest rate climate finance[134]. The Ministry of Environment implements this framework to make climate recovery projects a part of their investment plan (particularly on water resources management). In the experts interviews it was explained that in order to achieve the climate goals set out in the national plan, two-thirds of the funding would need to come from the private sector[135]. However, some of the biggest barriers that need to overcome to leverage more private sector finance in Chile are: capacity building amongst the public and private sector to develop the business case for adaptation investment projects, demand aggregation of SME's for technological investment and development of demonstrable successful examples of adaptation projects[136]. The expert interviews further added that Chile's free market economy is heavily privatised, hence the public and the private sector need to work in partnership to meet Chile's climate goals.

4.8. Costa Rica – Caribbean

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
National Adaptation Policy (2018-2030)[137]	The main objective of Costa Rica's National Adaptation Policy (2018-2030) aligned with its NDC and the UN SDG's is to "move towards a model of resilient development."[138] The policy aims to strengthen resilience and adaptation capacities, minimise damages or losses due to climate vulnerability, and maximise opportunities generated by adaptation measures[139]. The policy has a strategic focus on six sectors: agriculture and fisheries, tourism, infrastructure, water resources, biodiversity, forests, and human health. Costa Rica's National Climate Change strategy (2010-2021) is focused on: • Improving knowledge and awareness of climate change effects. • Development of local and institutional technical capacities. • Improved territorial, marine and coastal planning to increase resilience of the humanand natural systems including infrastructure. • Leveraging private and international investment for climate action.
NDC (2016-2030)[140]	The NDC prioritises the generation of green jobs that provide economic opportunities to its populations through mitigation efforts and strengthen climate resilience. This includes economic diversification based on elements of physical proximity, such as sustainable tourism or the enhancement of climate smart agriculture. Among the six vulnerable sectors identified above water scarcity and coastal management are high priority with an urgent need for investment to build greater resilience.

[131] Chile NDC Update 2020

[132] Chile NDC Update 2020

[133] Source: Expert interviews with delegates from the Ministry of Environment, Chile. Chile NDC Update 2020

[134] Chile NDC Update 2020

[135] Source: Expert interviews with delegates from the Ministry of Environment, Chile

[136] Source: Expert interviews with delegates from the EU EEA Delegation, Ministry of Environment, CORFO and University of Chile.

[137] Costa Rica National Adaptation Policy 2018-2030

[138] Costa Rica National Adaptation Policy 2018-2030

[139] National Adaptation Policy Presentation- Costa Rica (MINAE, DCC)

[140] Costa Rica's National Adaptation Efforts Towards a Resilient Development

NAP (currently in development)	At the time of writing this document the NAP is still in development with a bottom-up approach being taken to draft the implementation plan following which the adaptation investment plan would be drafted. The NAP coordinator has been drafting the adaptation measures for each region in Costa Rica in alignment with the regional adaptation policies, through close engagement with the government, private sector and civil society[141]. The UNEP is supporting Costa Rica to integrate adaptation strategies into local and regional planning frameworks through the project - "Building subnational capacities for the implementation of the National Adaptation Plan in Costa Rica".
National Risk Management Policy on DRR(2016-2030)[142]	Costa Rica is ranked as the second most vulnerable country at high risk to multiple natural hazards including floods, cyclones, landslides, earthquakes, forest fires and volcanic eruptions[143]. The policy emphasises the need to consider DRM as a cross-cutting issue across all development practices. All institutions (public and private) are required to plan and budget for disaster prevention and preparedness which has resulted in an increased focus on undertaking disaster risk assessments and adopting measures to control risk early in the development[144].

Costa Rica has assessed a climate investment need of USD 5 billion to meet its climate action targets. The government has made strong commitments towards climate action which is reflected in the climate action policies mentioned above. As part of its National Policy, the Ministry of Environment and Energy (MINAE) in 2017 set up a Citizen Advisory Council on Climate Change[145] for better coordination with the public and the Scientific Council on Climate Change[146] to support the Ministry in decision making. However, the private sector engagement though increasing, is still not at the scale needed and following are the key reasons for that:

- There is a lack of substantial demonstrable adaptation project credentials within the private and public sector which deters investment[147]. For example: the private and public actors currently face challenges even in the development of concept notes for funding from the GCF due to a lack of relevant project examples to reference.
- High perceived risk for the local banking sector: Local commercial banks perceive low interest adaptation finance loans as high risk, and guarantees are needed to de-risk the loans. Direct local access of international finance through the local banks or microfinance institutions such as FundeCooperacion[148] are essential to provide credit loans as the projects on the ground are often small scale. Blended finance with grants for technical assistance and capacity building, with guarantees to de-risk credit loans is needed to increase private sector's engagement in climate adaptation.
- Lack of technical assistance for project development and need for grants for capacity building. A good example is AFD's credit line with the Central American Bank for Economic Integration (CABEI)[149]. In 2016, AFD developed a direct credit line with CABEI with a 70% climate investment target[150]. A key learning from the first credit line was that while CABEI had a lot of potential climate projects, they needed technical support to help develop them into investable projects. So in 2019, AFD signed the second credit line with a target of 80% climate funding, along with a dedicated TA grant for all climate related projects.

Costa Rica's Bandera Azul Ecologica Blue Flag Category[151] awards are also a major driver for sustainability and climate change innovation in the private sector projects as the awards and stars are a nationally recognised standard to assess sustainability and climate action initiatives. Thereby it has been a successful approach to promote sustainability and climate action initiatives, improve knowledge and awareness, data sharing, best practices, particularly for smaller social impact projects where other sustainability certifications (Example: LEED, EDGE certifications)[152] maybe very expensive.

[141] Source: Expert interview with the UNDP NAP coordinator in Costa Rica, April 2021

[142] National Policy on Risk Management, Costa Rica 2016 - 2030

[143] Strengthening Disaster Risk Management in Costa Rica, World Bank, 2019

[144] Global Assessment Report on Disaster Risk Reduction, 2019

[145] Citizen Advisory Council on Climate Change, Costa Rica 2017

[146] Scientific Council on Climate Change, Costa Rica 2017

[147] Source: Expert interview with the UNDP NAP coordinator in Costa Rica, April 2021

[148] Adapta2+ Program, FundeCooperacion

[149] CABEI is also the largest bank in Costa Rica and operates across 5 countries in Central America.

[150] Source: Expert interview with the AFD delegate for LATAM, May 2021

[151] https://www.ict.go.cr/en/sustainability/ecologic-blue-flag-program.html

[152] Source: Expert interviews with delegates from Peninsula Papagayo, AFD, Costa Rica; April and May 2021

Box 4.4: Banca Nacional de Costa Rica (BNCR) Credit Line with AFD[153]:

Note: This is a proposal that is currently being negotiated between BNCR, AFD and EU.

BNCR are currently in negotiation with AFD for a USD 55 million credit line with 100% finance dedicated to climate related projects (including mitigation and adaptation with no set targets for each currently). The credit line is likely to have the following components:

- EUR 3 million grant from the EU (further details are not known at the time of writing).
- A detailed understanding of BNCR's climate change strategy, the climate risk vulnerability of BNCR's portfolio, and an analysis of the risk of BNCR's operations.
- Support BNCR to align its business model with Costa Rica's National Climate Action Plan, undertake climate vulnerability assessment and capacity building to develop investable projects.

AFD has used the TCFD's guidance as a basis to provide BNCR with a list of the types of projects they could enter through for the credit facility. Currently, all applicants would be requested to outline the climate risk in their application process which would first be reviewed by AFD's climate team, undertaking vulnerability assessments to assess the project feasibility. As the biggest public bank in Costa Rica, BNCR has the potential to scale climate finance through this credit line.

This project has the potential to be an exemplar example of a dedicated climate finance credit line in Costa Rica which could be scaled across LATAM.

4.9. Zambia - Least Developed Countries (Sub Saharan Africa)

Zambia is a LDC with a vision to become a 'prosperous middle-income nation' by 2030[154].

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2015[155], Provisional Update in 2020[156])	The NDC sets out the agenda for building the resilience of Zambia's infrastructure and ecosystems with strong synergies with mitigation. The key socio-economic sectors identified as most vulnerable to climate change impacts include agriculture, water, forestry, energy, wildlife, infrastructure, natural resources (mining) and human health. Climate smart agriculture and water sector is particularly a focus due to Zambia's vulnerability to flooding and drought[157]. The NDC has a key focus on the development of indicators that will enable Zambia track progress on building resilience in both the human and physical systems, stabilising the system, technical and capacity building.
National Adaptation Programme of Action on Climate Change (NAPA, 2007)[158]	The NAPA aimed to communicate the urgent need for climate adaptation and served as a roadmap for the development of specific adaptation strategies. The NAPA identified early the lack of private sector engagement in issues related to climate change. The National Adaptation Planning process is currently being undertaken by the Government to develop the NAP and aims at mainstreaming climate change adaptation into the existing national planning processes.

[153] Source: Expert interview with the AFD delegate for LATAM, May 2021
154 Zambia's Vision 2030
155 Zambia NDC, 2015
156 The NDC is being updated for the period 2021-2023. NDC Provisional Update 2020
157 Zambia's Economic Recovery Programme 2020-2023
[158] National Adaptation Programme of Action on Climate, 2007

National Policy on Climate Change (2016)[159]	The policy provides an umbrella framework for climate action at the international, national, regional and local levels. Zambia is vulnerable to climate change with a low adaptive capacity and the climate change investment would prioritise activities that integrate adaptation, disaster risk reduction and mitigation[160] in order to generate co-benefits and provide incentives for addressing climate change more effectively. In discussion with experts, it was mentioned that all new business plans should be aligned with this policy and Zambia's National Biodiversity[161] strategy and action plan. As part of this policy, a Technical Committee on Climate Change has been set up comprising representatives from relevant Ministries, private sector, civil society and financial institutions for coordinated action on climate change.
Seventh Development Plan (2017-2021)[162]	The Plan called for fostering national climate change adaptation efforts by integrating climate action into sectoral policies, particularly in the climate smart agriculture and water sectors. Disaster risk reduction is a key component of the plan, with the impacts of floods and droughts alone estimated to cost Zambia ~0.4% of annual economic growth.
National Disaster Management Policy (2015-2020)[163]	In accordance with the National Disaster Management Act No. 13 of 2010, the policy aims to promote the sustainable development of and improve resilience of vulnerable communities. Within Zambia's National Policy on Climate Change[164], the Disaster Management and Mitigation Unit has been identified as the main body for the development and implementation of climate change related DRR programmes. A review of Zambia's public investment on DRR found that the majority of investment is allocated to prevention, with the country reliant on donor-funding for post-disaster recovery[165]. Despite DRR not being fully integrated into the investment process, it estimated that for 2015-2017 around 6% of the national budget was spent on DRR-related activities, highlighting the scale of investment needed, as well as the need to be able to leverage private sector investment.

Zambia's current approach to climate action endeavours to develop and implement mitigation programmes that have complementary adaptation co-benefits, in line with the country's development priorities[166] The above policies and regulations demonstrate a strong commitment from the National Government towards climate action. The Ministry of Development and Planning of Zambia is currently in the process of drafting the climate bill[167] where there is a strong lobby to advance coordinated climate resilient management of natural resources[168](for example: The Wildlife Act will prohibit mining in the National Parks). The government recognises that in order to implement the measures proposed in its National Policy, additional and substantial financial resources will be required from the private sector including foreign direct investment. However, investment towards climate adaptation is limited and some of the key limiting factors for the private sector investment in Zambia are:

- Zambia´s investment climate, business enabling, and regulatory environment poses a number of challenges to the private sector. These include cumbersome business regulations for starting up a business and licensing procedures, lack of transparency in investment rules, regulations, policies and procedures, policy or regulation uncertainty and/or inconsistency. In addition, public-private dialogues have weakened making the policies less conducive to private sector[169].
- Currently there is no simple, consistent legal framework in Zambia supporting private sector towards climate change adaptation or mitigation, hence, the private sector is mainly guided by the market conditions and laws. There are few large companies in Zambia that are taking measures towards climate change adaptation to build economic resilience but this is also because they are either multinationals which need to apply the same standards everywhere or it helps their corporate social responsibility agenda. In this respect, the experts advised that there is a need to build a conducive regulatory environment with incentives put in place by the government- such as custom duty

[159] Zambia National Policy on Climate Change, 2016

[160] Zambia National Policy on Climate Change 2016, UNEP Abstract

[161] Second National Biodiversity Strategy and Action Plan (2015-2025)

[162] Seventh National Development Plan 2017-2021

[163] The National Disaster Management Policy, Zambia (2015-2020)

[164] Zambia National Policy on Climate Change, 2016 ; Zambia's Economic Recovery Programme 2020-2023

[165] UNDRR 2020 Zambia: risk-sensitive budget review

[166] Zambia National Policy on Climate Change, 2016

[167] Zambia is being supported by the Ministry of National Planning of Germany in the development of the Climate Change Bill.

[168] Source: Expert interviews with delegates from the Ministry of Environment, Zambia

[169] Source Expert interviews: Delegates from the EU EEA and Ministry of Environment, Zambia

rebates for buying greener products that contribute to climate action, tax rebates for implementing climate change adaptation measures, etc.

- While access to finance for SME's is crucial in Zambia, the entry levels for matching funds for a guarantee are too high (can be EUR 200-300k)[170]. Zambia's financial sector makes it very challenging for the private sector to find a bank guarantee to mobilise their loans as the commercial banks or institutions are not willing to provide the guarantee. As Zambia has also recently defaulted on its loans and is the first country to do so in Africa, negotiations on sovereign loans are even tougher. The EFSD guarantee could provide support here, as one solution could be a combination of changing regulations and working with the commercial banks to de-risk lending in a country specific context for Zambia rather than apply the same rules for the entire region in Africa. A combination of grants with guarantees is needed along with a possibility to reduce the fund matching requirements for the first payment of the guarantee.
- High interest rates: Zambia's economic recovery programme proposes the need for the government to gradually reduce borrowing from the financial sector to 3.4 percent of GDP by 2023 to boost private sector credit and contribute to lowering of interest rates[171].
- Lack of technical assistance to develop investable projects: Local banks in Zambia need grant assistance for technical capacity building to provide technical assistance for project development and monitoring.

4.10. Nigeria - Sub Saharan Africa

Adaptation Policy & Regulations	Key Adaptation Priorities & Role of Private Sector
NDC (2015, 2017)[172]	Nigeria's Department of Climate Change (DCC) within the Federal Ministry of Environment is currently leading the process of reviewing its NDC commitments with support from the UNDP, due to be released in 2021[173]. The most vulnerable sectors to climate change in Nigeria are: agriculture, water, floods and droughts, coastal management, energy, forests and natural ecosystems, and tourism. The adaptation components of the revised NDC are likely to focus on the water sector, forestry and biodiversity as well as promoting public awareness, community participation and education on climate adaptation[174]. The NDC acknowledges that more finance and investment is needed from both public and private sources to meet the climate-compatible development goals set out in the NDC. As part of the update, the DCC and UNDP have been conducting regional business round tables, to sensitise and increase private sector participation,
NASPA-CCN (2015)[175]	Within the National Adaptation Strategy and Plan of Action for Climate Change (NASPA-CCN), a set of thirteen sector-specific strategies, policies, programmes and measures have been prepared[176]. The objectives of the sectoral strategies'[177]160 (such as the NationalBiodiversity Strategy and Action Plan-NBSAP), is to reduce the impacts of climate changethrough adaptation measures that can be undertaken by all stakeholders including the private sector through: • Improving awareness and preparedness of climate impacts. • Mobilize communities on adaptation and disaster risk reduction. • Minimise climate impacts on the vulnerable sectors and communities identified in the NDC. • Integrate climate change adaptation into national, sectoral, state and local • Government planning, engaging the private sector.

[170] Source: Expert interviews with delegates from the EU EEA and Ministry of Environment, Zambia

[171] Zambia's Economic Recovery Programme 2020-2023

[172] Nigeria Updated NDC 2017

[173] Nigeria's NDC Update , 27th May 2021

[174] Nigeria charts roadmap for NDC revision, implementation; Chinedum Uwaegbulam, 09th March 2020

[175] National Adaptation Strategy and Plan of Action for Climate Change Nigeria (NASPA-CCN) : Nigeria INDC 2015, Annex 1

[176] This is included in full in Annex 1 to the INDC (2017).

[177] Nigeria Sectoral Action Plans, 2017

National Policy on Climate Change (2013)	Nigeria's National Climate Change Policy Response and Strategy (NCCPRS) emphasises that Nigeria's approach to climate change-resilient and sustainable socio-economic development involves: • Strengthening and enhancement of national, regional and local capacity towards climate change adaptation. • International scientific and technological co-operation to share knowledge on new climate adaptation technology, research and development. • Stronger engagement with the public and private sector to address the challenges of climate change. • Strengthen climate change Governance framework (includes national institutions, policy, legislative and regulatory mechanisms.
Disaster Risk Reduction	Nigeria's strategy for disaster reduction is focused on strengthening individual and community-based emergency preparedness and response capacity in high-risk areas[178].

Nigeria's current investment and climate finance focus is mainly on mitigation across five sectors[179]. Currently, the greatest adaptation needs have been identified in: water resource management, agriculture, resilience of fishing communities and building infrastructure resilience to flood risk particularly in big cities like Lagos. At a regional NDC Business Roundtable in the north-central and north-east regions organised by the UNDP and the Federal Ministry of Environment in 2020[180], it was recognised that a Climate Change Regulatory Framework is imperative if Nigeria actually wants to attain its NDC targets with a need to focus on SME finance and private sector engagement in agricultural development through PPP. Some of the key regulatory barriers identified at the Business Roundtable were:

- There is still disharmony between sectoral policies for climate change investment as most policies are fragmented – for example, even in climate mitigation the energy policy is not in tandem with the industrial policy.
- There is a lack of strong institutional structures for the implementation of the policies. This is required to support the private sector in transition towards climate action through change management, capacity building and embracing new technologies.
- While the majority of the private sector businesses operating in the Nigeria are SMEs, there is no well-structured opportunity to collaborate through PPP's in becoming climate resilient.
- There is an urgent need to improve awareness of the long-term needs and benefits of investment in climate adaptation activities which are not well understood by the private sector in Nigeria and often perceived as expensive and complex. The GCF has co-financed a programme – 'Transforming Financial Systems for Climate'[181] through a combination of loans and grants to scale up climate finance in Nigeria, re-direct financial flows and reinforce private sector capacity building activities in agriculture, forestry and water resource management.

Box 4.5: Acumen Resilience Agriculture Fund (ARAF)[182], GCF

ARAF is a USD 56 million co-financing adaptation programme, aimed at supporting early-growth innovative agribusinesses that enhance the climate resilience of smallholder farmers in four countries in Africa: Uganda, Ghana, Nigeria and Kenya, to be implemented for 12 years from September 2019 to September 2021. ARAF will support innovative private social entrepreneurs in MSMEs by providing aggregator and digital platform and innovative financial services to smallholder farmers. The programme will provide blended finance in the forms of grants and long-term loans to enable smallholder farmers to develop better capacity for climate change resilient response.

[178] Nigeria INDC 2015, Annex 1

[179] Fiver Mitigation sectors focused in NDC implementation: oil and gas, transport, energy, industry and agriculture

[180] UNDP NDC Support Programme- North Central and North East Business Roundtable; 09th September 2020

[181] Green Climate Fund Project- Transforming Financial Systems for Climate

[182] Green Climate Fund Project- Acumen Resilient Agriculture Fund (ARAF)

5. Analysis of the EFSD+ Instrument

5.1. Options for Increasing Flows of Private Sector Adaptation Finance using EFSD+

This section discusses opportunities for enhancing the role of EFSD+ in supporting private sector finance for adaptation in developing countries. The section proceeds in four stages:

- Section 5.2 and 5.3 provides a factual background to both EFSD and EFSD+.
- Section 5.4 reviews the experience of four guarantee facilities that have been agreed as part of EFSD to generate insights and lessons for how EFSD+ may be designed and implemented to encourage private sector finance for adaptation.
- Section 5.6 reviews the wider experience of the use of concessional public funds to encourage the private sector finance for climate adaptation in developing countries, drawing on a combination of both desk research and stakeholder interviews.
- The rest of the section summarises the key insights and recommendations.

5.2. Background to EFSD

The EUR 5.1 billion European Fund for Sustainable Development (EFSD) was established in 2017 as part of the EU's response to the migrant crisis to act as the financial arm of its External Investment Plan[183]. The EFSD had a particular focus on unblocking public and private sector investment to contribute to sustainable development, job creation and growth in Africa and the EU Neighbourhood regions. In practical terms, it consists of three key elements:

4. **Two regional blending platforms** – The Africa Investment Platform and the Neighbourhood Investment Platform, which provide grants for blending with the capital provided by other public and private investors to facilitate specific projects. Grants can cover capital costs (an investment grant), interest rate support, and technical assistance with a total of EUR 3.5 billion allocated to these two platforms. These resources have now been fully allocated to support 181 projects.
5. **EFSD guarantees** – This is an innovative approach to development assistance whereby guarantees are provided to publicly owned financial institutions to reduce the risks that these intermediaries face in providing capital to private sector companies and/or projects. These guarantees change the risk profile perceived by banks and investors in these projects[184], such as lending to SMEs, hence enhancing overall investment in Africa and the EU Neighbourhood. EUR 1.55 billion was allocated to the guarantee facility, structured into five themes/sectors: small business and agriculture; sustainable energy and connectivity; sustainable cities; digitalisation; and local currency financing. In total 28 guarantees were approved, and 18 agreements signed, with each guarantee relating to a specific initiative being undertaken by the intermediary. These 18 agreements have exhausted the EUR 1.55 billion allocation.
6. **Investment climate support** – This provides funding in three areas: analysis to understand what stops countries from attracting finance; dialogue to help business and governments to identify and tackle barriers to private-sector investment; and actions, by governments to reform the business environment, and by companies, to make higher value products. EFSD provided EUR 600 million in investment climate support in 2019.

EFSD funds were provided across all three of these elements to organisations that had successfully gone through a pillar assessment process. The pillar assessment process aims to ensure that organisations can manage EU resources. The pillar-assessed organisations that have signed guarantee agreements include the African Development Bank (AfDB), Agence Française de Développement (AFD), Cooperación Española (EC), Cassa Depositi e Prestiti (CDP), COFIDES, the European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), FMO, International Finance Corporation (IFC), KfW and Proparco. In addition, blended finance has been provided to support projects by the Nordic Environment Finance Corporation (NEFCO) and IFAD.

An **evaluation of EFSD in January 2020[185]** assessed its performance across five dimensions illustrated below and identified strong performance but also scope for further improvement.

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[183] https://ec.europa.eu/eu-external-investment-plan/about-plan/how-it-works-finance_en

[184] The perceived risk profile of the intermediary receiving the guarantee will clearly change. In addition, the guarantee can be structured as a first loss provision within a fund structure, thus changing the risk profile for other investors in the fund. https://public.wmo.int/en/our-mandate/how-we-do-it/public-private-engagement-ppe

[185] Bkp (2020) Implementation report of the EFSD and the EFSD Guarantee Fund. Available at: https://ec.europa.eu/info/sites/default/files/efsd-implem_report-external_support_study-final.pdf

- **Relevance**: EFSD was found to be at the forefront of SDG-led development financing, that because of its policy focus it was consistent with the partner countries' needs and had pushed FIs using the funds out of their comfort zone and was complementary to other EU assistance.
- **Effectiveness**: EFSD was assessed to offer financial additionality with an average financial leverage effect of 1:10 and had effectively steered finance towards SDG priority projects and sometimes also supported projects that would lead or reinforce policy change. However, it was found that the EFSD 'brand' was still not fully fleshed out, and the instrument's visibility could be improved.
- **Efficiency**: the EFSD's governance was judged to be compliant with regulations and that the governance structure facilitates transparent management and partnership. However, the evaluation found that there were some operational issues related to the implementation of EFSD, especially around the guarantee programme with, for example, concerns expressed by FIs about the requirements they were placed under when signing a guarantee, while EU delegations expressed concern about how the guarantee programmes would interact with their country programmes. Impact monitoring was found to be incomplete due to the lack of consistency and comparability of certain indicators across projects.
- **Coherence**: challenges were identified surrounding the coherence between the blending and guarantee elements of EFSD in terms of, for instance when a blending grant and when a guarantee might be used, and in terms of integrating technical assistance into guarantee programmes. EFSD's integration with other country-level support mechanisms were identified.
- **Sustainability**: EFSD was considered aligned with the UN SDGs and, the report argues, also the Paris Agreement, but the evaluation identified that there was a missed opportunity for EFSD projects to contribute to policy dialogue.

Therefore, although EFSD was found to be at the forefront of SDG-led development financing and was considered to be "aligned with the sustainability aspects of the SDGs (and by implication the Paris Climate Agreement)", the evaluation identified that sustainability-driven policy reforms are rarely highlighted as tangible project objectives. We also note, however, that the evaluation did not specifically address the performance of EFSD in relation to climate change adaptation, and as such it is not clear whether EFSD meets the adaptation and resilience criteria of the Paris Agreement.

5.3. Background to EFSD+

EFSD+, operating from 2021-27, will be a key pillar of the new Neighbourhood Development and International Cooperation Instrument (NDICI) – Global Europe, and seeks to build on the successes and learn lessons from the design and operation of EFSD. The fund will be a key mechanism through which the EU drives finance for adaptation, reinforced in the recently released EU Adaptation Strategy, which has a specific commitment to increase international climate finance for adaptation through the EU instruments for external action such as the EFSD+, and by leveraging private sector investment, enhance the climate proofing of all EU external investments and actions, as well as deepening political engagement on climate change adaptation with international and regional partners, and partner countries[186]. There is recognition of the need to program EFSD+ in a way that maximizes private sector investment in adaptation, and ensures that climate change adaptation is integrated throughout the different guarantee facilities to be developed.

There are many similarities between EFSD+ and EFSD, including that both will work with pillar-assessed partners and have as a focus the use of both guarantees and blended finance resources to support, inter alia, private sector development. However, there are also some important differences:

- Reflecting the intention of NDICI to provide more coherence, EFSD+ will provide a single governance process covering both the guarantee and blending facilities. This governance process will also relate to guarantees provided for sovereign lending which will also be included within EFSD+ (but which are not relevant for this study).
- Under EFSD+, guarantees and blended finance can be provided anywhere in the world, whereas EFSD resources could only be programmed in the Neighbourhood regions and Sub-Saharan Africa. However, there will be a priority on providing resources to LDCs and countries experiencing conflict.

To date, only a few decisions around the programming of the EFSD+ have been taken and no funds have been allocated. There has been a commitment that the maximum amount of guarantee that could be provided through the NDICI as a whole will be EUR 53.4 billion. It is also anticipated that, as with EFSD, EFSD+ will provide guarantees for portfolios of interventions covered by, for example, a fund or a credit line, whereas blended finance resources will be provided to discrete projects. However, beyond this, while discussions have been ongoing, no decisions have been

[186] https://ec.europa.eu/clima/sites/clima/files/adaptation/what/docs/eu_strategy_2021.pdf , Pg-21

taken regarding the programming of EFSD+ resources. In part, this reflects that, at the time of writing, NDICI had not been ratified.

5.4. Lessons from EFSD Programming for using EFSD+ for Private Sector Adaptation

This section reviews the experience of four of the guarantee agreements made under EFSD to draw lessons and insights on how the future programming of EFSD+ might best support private sector adaptation. These were agreed in conjunction with the European Commission and the discussion below builds on interviews with representatives involved in the implementation of each of these agreements. Descriptions of each of the 4 guarantee facilities selected are followed by a synthesis of overall lessons learned.

5.4.1. Resilient City Development Program (RECIDE)

The Resilient City Development Program (RECIDE) is a partnership between the World Bank, the Spanish Development Agency (AECID) and the European Commission. To date, no transactions involving EFSD resources have been concluded, but the expected structure consists of the following elements:

- **Sovereign lending** (anchor loans) provided by both the World Bank Group and AECID (as well as potentially other financing institutions) to support development of a particular sector in a particular city. These anchor loans may be used for several purposes including viability gap funding or supporting municipal reform that will help make a more attractive environment for private sector investment. These loans arise from the City Resilience Program (CRP), a partnership between the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) as a multi-donor initiative aimed at increasing financing for urban resilience.
- **Technical assistance** funded by EFSD and implemented by the World Bank in coordination with AECID, to help identify and undertake the project preparation relating to specific potential PPP transactions within the sector where the anchor operation is taking place.
- **Guarantees** provided by EFSD (channelled through Instituto de Crédito Oficial, a Spanish state-owned bank) and the World Bank to the private financiers implementing a PPP (chosen through competitive tender). While a number of potential guarantees could be offered, the most likely will be a municipal payment guarantee whereby an intermediary bank will offer a letter of credit to those financing the PPP in the event that a municipality fails to make an expected payment. The municipality will then have a period to repay the letter of credit to the intermediary bank, otherwise the intermediary bank will call on the guarantee. These guarantees, and the price at which the private financier can access them, will be included within the PPP offering document with bidders deciding whether they wish to purchase that guarantee as part of their bid preparation.

The programme has the flexibility to finance a wide range of infrastructure investments including embankments, coastal defences, drainage and sanitation systems, solid waste management, social housing, public buildings, water infrastructure and transport networks. Although the key focus of the program is on resilience, the eligible sectors may bring a combination of both adaptation and mitigation benefits. At present the programme is in its early stages with several opportunities developed, largely focused on solid waste management.

RECIDE project origination is expected to take place in one of two ways:

- The ‘structured’ approach will involve a series of convening events, building off the approach already developed for the CRP, in which city stakeholders from across the eligible regions will get together for 4-5 days to undertake capital planning exercises. These exercises are (will be) facilitated using the Cityscan tool[187] which provides a diagnostic assessment of the current and future risks that a city could affect the city and are a starting point for helping to identify candidate solutions.
- ‘Opportunistic’ projects, where projects that arise from broader engagements by the World Bank or AECID are identified. For these projects, World Bank due diligence including environmental, social, and fiduciary standards apply. This includes climate and disaster risk screening. In addition, the RECIDE TA can be used to offer further technical assistance for resilience planning.

[187] https://www.gfdrr.org/sites/default/files/program/Learn%20more_%20The%20City%20Resilience%20Scan.pdf

5.4.2. EU Municipal Infrastructure and Industrial Resilience Programme

The Municipal Infrastructure and Industrial Resilience (MIIR) Programme, implemented by the European Bank for Reconstruction and Development (EBRD), uses a EUR 100 million EFSD guarantee to support EBRD and co-financiers lending in EU Southern and Eastern Neighbourhood, with a particular focus on Covid recovery and supporting the transition to green, low-carbon and climate resilient economies[188]. The programme is divided into two windows: crisis response and green recovery.

Under the crisis recovery window, EFSD provides a first loss credit guarantee of up to 30% of the value of loans to firms that have been negatively affected by the Covid crisis in the manufacturing, services, property and tourism, and infrastructure and municipal sectors. The guarantee can cover both new loans that firms require as well as any loan restructuring arising from the Covid crisis, if the loans were not in distress before the start of the crisis.

Under the green recovery window, the ESFD provides a first loss credit guarantee, that averages 20% across the loans designated to be part of the programme's portfolio, to cover new lending into any green (climate and environmental) activities in the same sectors.

In both cases, reflecting the EBRD's mandate, the loans are made to private sector and/or corporatized public sector entities on a sub-sovereign basis. Also, in both cases, the guarantee covers both the EBRD's exposure, as well as other private sector capital providers within a particular transaction. A maximum of 50% of the total amount of the loan value guaranteed in a particular transaction can be provided by the EBRD.

The design and implementation of the programme, including eligibility criteria, have been determined on a programmatic basis, but the process for determining whether a particular loan meets the eligibility criteria for the programme is assessed by the EBRD on a case-by-case basis. As part of the case-by-case assessment, there is a need to demonstrate the additionality of the guarantee to the transaction, both to the Commission and internally to ensure that the EBRD's transition mandate is being fulfilled. Additionality is demonstrated either by showing that the transaction would otherwise be too risky or through showing that it relates to particular technologies that it has been agreed should be supported by the guarantee.

At the time of writing, three projects in the green recovery window and one in the crisis recovery window had been signed, covering electric vehicles, renewables and circular economy elements. The pipeline also includes green buildings projects which will have climate resilience elements embedded, industrial resource efficiency projects that (especially in the Southern neighbourhood) will have water efficiency components, as well as transport and infrastructure projects that, because of EBRD processes, will consider climate resilience. However, due to the pipeline being in flux, it was not possible to specify precisely how many projects might have an adaptation element or the potential value of those elements.

5.4.3. FMO Ventures programme

The FMO Ventures programme makes direct and indirect equity investments in opportunities that are supporting the use of digital solutions or enabling access to digital products and services. The direct investments are made in companies in the fintech, agritech or off grid energy sectors, while the indirect investments are into funds supporting a wider range of activities including education and healthcare, mobility and transportation and services and digital and business infrastructure and e-commerce. Direct investments are in firms at an early-stage growth phase (seeking Series A/B funding) while indirect investments are in pooled vehicles covering both the early and late growth-stage of firm development (Series A/B/C funding), as well as a limited allocation for seed stage venture capital funds. The capital will be allocated over a period of 5 years.

The EFSD guarantee supports investments by the programme in Africa and the Southern and Eastern Neighbourhood. The guarantee means that if, across the eligible investments, FMO has made a net loss after 20 years then the guarantee will cover losses on the investments made. Conversely, if the investments made a strong return then some upside will be returned to the Commission. A complementary facility provided by the Dutch government adds to this cover, and extends it to Asia, which EFSD is not able to support. In combination, up to 50% of the investment made by the FMO under the programme is covered by the first loss provisions. At present, the guarantee only covers investments made by the FMO; the programme is not structured as a fund, so it is not currently legally possible for other private sector capital providers to also benefit from the EFSD guarantee.

The EFSD (and Dutch government) support has been instrumental in the development of the programme. The high risks associated with the investment strategy, coupled with the relatively small transaction sizes and FMO's limited geographic

188The programme was initially structured as three separate programmes – covering sustainable cities, industrial energy efficiency and buildings, and sustainable logistics and connectivity programme – but these different programmes were consolidated over the course of the approval and contracting process. The programme was then further repurposed and restructured in response to the COVID crisis.

footprint, meant that previous internal efforts by FMO to develop this programme without this support had been considered too risky.

At the time of writing, the programme has 15 investments (including those in Asia). The investment strategy gives no explicit consideration to climate adaptation, although there could be some adaptation and resilience co-benefits associated with some of the investments, especially those related to agri-tech and energy access. The broad thrust of the investment strategy was proposed by FMO with negotiations with the European Commission regarding the guarantee leading to a refinement of certain elements.

The programme also has access to technical assistance resources. As well as helping with the setup of the programme, these resources are used to support the capacity of investees in areas related to sustainability and ESG considerations, building ecosystems across stakeholders working with early-stage ventures and community engagement. This is considered to have been an important element in the programme's success.

5.4.4. Archipelago's One Platform for Africa

The Archipelagos program intends to support the development of SMEs across the African continent. The programme is divided into two elements:

- In the first instance, SMEs with high growth potential will be identified and selected for training and support. This will be co-ordinated around a series of stock exchange hubs. This is the near-term focus of the programme.
- After the training programme has been completed, a selection of SMEs will get access to innovative sources of institutional investor capital such as through basket bonds. These capital flows will be partially protected by a guarantee. The implementing partners expect the first transaction benefiting from the guarantee by the end of 2021.

At present there is no explicit focus on climate adaptation (or mitigation) within the program, nor any requirement to report on these.

5.5. General Insights

Discussions with practitioners involved in the implementation of these four guarantees, along with a review of the associated documentation, reveal several common insights and reflections. These can be divided into those that specifically relate to climate adaptation/resilience as well as more general reflections on the operation of EFSD.

1. **Adaptation specific**: At present, the extent to which climate adaptation and resilience is built into programming using EFSD resources is driven almost exclusively by the processes and practices of the implementing partners.

EFSD does not appear to place any expectation or requirement on implementing partners to consider physical risks and appropriate climate adaptation measures. This leads to considerable divergence in the extent to which such considerations are or will be built into the implementation of the programmes. In cases where there are obvious thematic opportunities to consider resilience and strong operational processes in place within the implementing partner to identify and respond to these risks, climate resilience opportunities are likely to be supported by EFSD (e.g. MIIR, RECIDE). However, in programs where these conditions are not in place, EFSD resources can be programmed without any significant consideration of climate resilience (e.g. Archipelagos).

Interestingly, implementing partners, especially those that already have strong processes in place for identifying physical climate risks, would support efforts to encourage a greater focus on climate resilience when using EFSD resources. They identify opportunities to include such expectations within the 'ramp-up' criteria/obligations associated with each program which specify soft targets regarding how EFSD resources should be allocated e.g. geographic balance between Southern and Eastern neighbourhood. These implementing partners suggest that inclusion of expectations around adaptation/resilience would provide constructive incentives for transaction origination that took account of climate resilience. Obviously, the specific targets specified in the ramp up obligations would vary by guarantee programme.

Implementing partners have greater reticence about the inclusion of hard, contractual obligations regarding the number or value of projects that support adaptation. They express concern that such criteria would risk 'crowding out' other projects that bring other development benefits or lead to perverse incentives.

2. **Adaptation specific**: There are a range of mechanisms that could allow institutions that have less experience in considering climate resilience to build such considerations into their programming of EFSD (+) resources.

Building on discussions with implementing partners, and wider literature on supporting private sector adaptation, there are at least two ways in which EFSD (and EFSD+, in future) might facilitate institutions in considering climate risks and

climate adaptation opportunities. The adoption of either or both processes would support institutions in meeting any ramp up obligations/criteria related to climate adaptation/resilience within future programs.

- Requiring implementing partners to recognise the principle of climate risk screening and climate risk and vulnerability assessments with their operational practices. The Commission has recently adopted 'Sustainability Proofing Guidance' in relation to the financial programming of the InvestEU programme. Under this Guidance, before committing resources, it is necessary for financial institutions to undertake a climate vulnerability assessment for the project. In cases where that vulnerability assessment identifies a medium or high climate risk assessment, it requires that a climate risk assessment be undertaken. The climate risk assessment 'provides a structured method of analysing relevant climate hazards and their related impacts to provide information for decision-making in relation to the proposed investment. Any potential significant risks to the project due to climate change should be managed and reduced to an acceptable level by relevant and commensurate adaptation measures to be embedded in the project.' The Commission has provided structured guidance on how both the vulnerability assessment and climate risk assessment should be undertaken.
- At present, there are no similar requirements for programming EFSD resources. Some implementing partners suggested that, in order to enhance awareness of the risks posed by climate impacts, and the opportunities for adaptation/resilience measures to reduce these risks, somewhat similar guidance could also be applied to the use of EFSD+ resources in the future. However, there is a concern that guidance that was too prescriptive may not be appropriate given the wide variety of often challenging environments in which EFSD operates, and the wide range of different institutional practices that have already been adopted to account for these challenging contexts. One option might be to require institutions using EFSD+ resources to sign up to a principle on the importance of screening for climate risks and designing responses in cases where risks are high, but to allow for operational flexibility on how this principle is implemented.
- Implementing partners also suggested that they would value enhanced collaboration between EFSD (+) implementing partners and EUDs identifying private sector climate adaptation priorities in particular countries or regions. EUDs and implementing partners might develop adaptation 'market studies' identifying specific opportunities in particular countries, potentially modelled on the example undertaken by EBRD and IFC in Turkey[189].

3. **Adaptation specific**: Implementing partners would value more, and more targeted, technical assistance to support adaptation pipelines.

A common theme in the wider literature on engaging the private sector in adaptation is that there is often a need for significant technical assistance resources to encourage investment. Existing EFSD programme implementers also identified that these resources would be essential if their programmes were expected to increase their attention on climate adaptation. They also identified value in these resources being subject to the same contracting processes as the guarantee so that the use of the two instruments can be synchronised in time. The experience of EFSD points to a number of specific options where these resources could be used:

- To support local financial institutions (FIs) in understanding climate risks and the opportunities for climate adaptation, and to develop internal systems to assess and manage these risks. This would be particularly important in the event that local FIs were to face additional obligations as a result of a requirement for climate risk screening when deploying EFSD resources.
- Working with corporates to help them develop climate adaptation strategies.
- In providing transaction advisory services to municipalities so that they could design robust PPP bidding documents, which explicitly include consideration of the allocation of climate risks within the risk allocation matrices.

In line with point 1) above, some implementing partners also considered that there could be value in EFSD (+) identifying the proportion of any technical assistance budget within future programme designs that the European Commission expected to be spent on activities related to climate risk and climate adaptation identification.

4. **General**: There is a tension between the desire from some implementing partners for EFSD to provide flexible support and the benefit from more programmatic interventions.

In the programmes considered in this assessment, the eligibility criteria provide considerable latitude to implementing partners. For example, in RECIDE, a wide range of urban infrastructure investments can be covered in around 60

[189] https://www.ebrd.com/downloads/sector/sei/turkey-adaptation-study.pdf

countries across Africa and the EU Southern Neighbourhood. Likewise, MIRR applies across the EU Southern and Eastern Neighbourhood and, in the recovery phase, covers green investments across manufacturing, services, property and tourism, and infrastructure and municipal sectors.

The advantage of this approach is that there is scope for the EFSD guarantee to be applied flexibly in a wide range of different contexts, considering the specifics of each particular transaction. Several respondents in implementing organisations value this flexibility, contrasting it with the much more prescriptive eligibility requirements that they consider common with other public resources. It also reduces risk for EFSD/the European Commission as there is greater probability that the resources allocated to the Fund are spent at the speed and volume expected.

At the same time, other respondents consider that this encourages the fragmented use of the guarantee resources which become diffused across multiple sectors in multiple countries. They see value in a more programmatic approach with EFSD(+) resources concentrated on trying to effect transformational change in a particular sector in a particular country or region by encouraging multiple transactions of a particular type, that would then make replication more likely. A more restricted focus is also likely to further simplify approval processes, allowing programs that currently provide cover on a transaction-by-transaction basis to move to portfolio cover arrangements, reducing transaction costs.

The appropriate balance between these competing perspectives is a strategic question for EFSD+ which extends beyond how it wishes to encourage private sector adaptation. It is likely that across the future EFSD+ portfolio, a balance of different approaches would be valuable. However, a growing literature on transformative climate finance[190] argues that, in cases where climate change objectives (both adaptation and/or mitigation) require a fundamentally different approach e.g. the application of new technologies or the development of new business models then project-by-project finance approach needs to be coupled with technical assistance focused on developing long term investment strategies consistent with low-carbon resilient development.

5. **General**: The price at which the guarantee is offered can be used to incentivise implementing partners, but current price differentiation is not very effective.

During the implementation of EFSD, the price that implementing partners pay for the guarantee has been used to try and support the attainment of policy objectives. For example, the guarantee price was reduced as part of the response to the Covid pandemic, while fees are discounted to try and encourage the use of the guarantee to support transactions in more fragile states where development gains may be higher. While implementing partners valued the reduction in the guarantee fee during the Covid pandemic, and also agreed that the guarantee fee could, in principle, incentivise behaviour, there was a general perception that the pricing differentials that had been applied to date were not steep enough to bring about a significant change in behaviour.

6. **General**: Differing contractual processes for technical assistance and guarantees created challenges[191].

Several respondents noted that, although the technical assistance associated with the guarantee programs, was highly valued, there were challenges created by separate contractual processes for these resources compared to the technical assistance. In some cases, guarantee contracts were concluded before technical assistance contracts had not been concluded, meaning that it was difficult to develop deal flow to make use of the guarantees. In other cases, technical assistance contracts were concluded before the guarantee contract, making it difficult to program the technical assistance resources. There was a common desire across many implementing partners for efforts to consolidate contractual processes across different resources.

7. **General**: The absence of an explicit management fee to allow cost recovery raised transaction costs.

Several respondents noted that a peculiarity of the EFSD+ guarantee, compared with alternatives available from other development partners, is that implementing partners are not expected to explicitly charge a management fee for the costs associated with using the guarantee. These costs for instance, relate to meeting the reporting requirements associated with the guarantee (see below). While partners have been able to recover these costs indirectly, the need to find alternative solutions has slowed down the contractual negotiations. It also distinguishes the EFSD guarantee from others available on the market.

190 World Bank Group (2020) Transformative Climate Finance: A New Approach for Climate Finance to Achieve Low-Carbon Resilient Development in DevelopingCountries. *World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/33917 License: CC BY 3.0 IGO.*

191 While this is a challenge that is common to all EFSD programming, the relative importance of technical assistance in facilitating climate adaptation projects meansthat this issue is likely to have disproportionate impact when considering adaptation and resilience.

8. **General**: Timeliness and monitoring requirements are a common concern.

While implementing partners recognise the complexity associated with the creation of the EFSD instrument, a number express concern around the length of time it has taken for legal arrangements to be concluded, and the corresponding challenges this creates for pipeline management. It has not been possible during the course of this research to identify the cause of these delays, nor the scope to which they could have been avoided historically or might be avoidable in the development of EFSD+. Nonetheless, implementing partners express concern that it has negatively influenced the effectiveness of the EFSD instrument. There are also concerns that the reporting requirements associated with EFSD are disproportionate, insufficiently synchronised across multiple Directorate Generals, and do not take account of the challenging enabling environments in which the instruments are being programmed. Specifically, from a climate perspective, and linked to point 1 above, there have been few requirements related to reporting on climate impact.

5.6. Insights from the Wider Climate Finance Landscape

EFSD+'s efforts to engage the private sector in adaptation will be one element of a broad landscape of different institutions and facilities that also seek to provide concessional public resources to support climate outcomes. There are a range of dedicated, typically multilateral funds that provide concessional resources to support climate outcomes in developing countries, including the Green Climate Fund, Climate Investment Funds and the Global Environment Facility. In 2017/18, it is estimated that these bodies provided around USD 3.2 billion of resources to this end. Typically, these funding organisations provide financial instruments (including grants, concessional loans and guarantees) to public and/or private sector organisations, many of whom, in turn, use these resources in conjunction with their conventional capital sources, to make climate-related investments. A number of these funders have undertaken specific activities to try and encourage private sector adaptation investment. As such, the lessons from this experience can also help inform the design and implementation of EFSD+.

This sub-section draws out some of the most salient generic lessons from these experiences. It draws on both a combination of interviews with key stakeholders who have been involved in these experiences as well as a wider literature review. The generic lessons and insights in this section are then complemented by sector specific insights and opportunities in the following sub-section.

5.6.1. Guarantees are a valuable, but under-represented, part of the toolkit for supporting private sector climate investment, including in adaptation

Previous studies suggest that the current landscape of public climate finance provision to support climate outcomes is heavily dominated using debt instruments to support the financing of individual transactions. Several studies, however, have suggested that this predominance may not be well-placed. They call for the use of a wider range of financing instruments - including equity investment, early-stage risk capital, guarantees and technical assistance – and for these instruments to be used to support not just project-based financing but also facilitate, for example, financial sector reform, fiscal policy changes, encourage innovation and provide climate intelligence and data[192].

The implication for EFSD+ is that, although not originally designed explicitly as a climate finance instrument, its strong focus on guarantees and technical assistance, and in turn using these to leverage further capital flows from a range of instruments, has the potential to fill well-recognised gaps in the climate finance landscape. This was corroborated by the stakeholder interviews conducted for this study with, for example, local private sector stakeholders in Nepal indicating that banks would likely need guarantee programmes before issuing loans for climate projects[193].It also suggests that there is a need for continued and enhanced coordination between the EFSD+ financing instruments and the climate-focused policy dialogue that EU delegations support.

5.6.2. The importance of technical assistance in helping to demonstrate the business case for private sector adaptation

A very common theme from the existing experience in effort to engage the private sector in adaptation is that there is a need for considerable support to private sector entities to interest them in undertaking investment in adaptation and resilience activities. This is especially true for small and medium sized enterprises and reflects, among other things, a limited awareness of the risks (and opportunities) of climate change; limited availability of reliable, accurate and comprehensive data on vulnerabilities and risks; limited availability of investment-relevant and usable tools to integrate climate considerations into site-specific decision-making; a lack of technical capacity to evaluate climate risks and identify financing opportunities; and an unfamiliarity with adaptation technologies[194]. Existing experience, for example

[192] Ibid.

[193] Expert interview with Federation of Nepalese Chambers of Commerce and Industry (FNCCI) Nepal.

[194] https://www.climatepolicyinitiative.org/wp-content/uploads/2018/12/Understanding-and-Increasing-Finance-for-Climate-Adaptation-in-Developing-Countries-1.pdf

with the Climate Investment Funds[195], identifies several potential tools have been identified as powerful in overcoming these barriers. These include market studies to survey the landscape for adaptation opportunities in a particular country or region (as discussed above), business risk assessment to help specific private sector clients understand how climate change might influence their activities; and feasibility studies to identify activities and business models that might address the climate vulnerabilities of specific companies. In many circumstances, the latter two tools may need to be applied across an entire value chain rather than with one individual company, in light of the complex nature of the climate risks and the way that they interact with commercial considerations e.g. efforts to encourage smallholders to use more climate resilient coffee crops will not be successful unless the purchaser also recognizes the importance of changing varieties and communicate this up the value chain.

The implication for EFSD+ is that it may need to allow for disproportionately more technical assistance resources to support private sector adaptation activities than in other activities, both within the guarantee programme and in its project-based blended finance operations. This is consistent with the feedback from EFSD implementing partners, discussed above.

5.6.3. Much of the private sector does not recognise adaptation as an asset class

A common challenge when seeking to engage the private investors in climate adaptation, especially at the investor level, is that the term 'adaptation', while commonly used in climate policy, is not a distinct asset class that private investors recognize. Instead, financiers tend to focus on specific real-economy sectors where climate impacts may be particularly notable, such as the water sector or agri-businesses.

Related to this, many current providers of public climate finance to support public and private sector actors identify the incremental costs that climate change creates and seek, as far as possible, to provide support for the financing of these incremental costs. For example, this might focus on identifying how much higher sea walls or embankments need to be because of climate change and providing support to make it easier to finance these additional costs. This reflects a desire to ensure the additionality of public climate finance relative to conventional development assistance

The net result of these factors is that there can be a disjoint between investors who are looking for support to address the risks in allocating capital e.g. to the overall development of the water sector in a climate vulnerable country, and public climate finance providers interested in identifying the specific 'adaptation' components of that investment programme and concentrating support for those activities. Interviewees suggest that the potential need to find separate financing sources for baseline activities and then the additional activities needed to make the activities climate resilient can, at the very least, raise transaction costs, and in some cases can lead to investments not proceeding.

In relation to these challenges, EFSD+ has a potential advantage as, in comparison to those providing dedicated climate finance, its focus can be on facilitating the mainstreaming of climate change consideration into development activities without needing to isolate and concentrate support specifically on adaptation activities. There are two further specific implications of EFSD+:

- Rather than creating, labelling and marketing any future activities as relating to climate adaptation, to instead continue to focus on real-world themes (such as, for example, urban infrastructure) and mainstream considerations of climate resilience into these themes. To the extent that there is any need to explicitly identify the support provided for adaptation – for example, for climate budget tagging purposes – this might either be done centrally by the European Commission, or potentially by implementing partners, but without placing this obligation on private investors[196].
- To the extent that there is a need to identify specific spending as relating to adaptation, wherever possible, make use of national or international adaptation taxonomies, or climate finance principles.

5.6.4. Benefits from the certainty in knowing that blended finance resources are available

The set aside process of the Pilot Program for Climate Resilience (PPCR) of the Climate Investment Funds undertook a competitive process where MDBs were invited to periodically submit private sector adaptation projects in conjunction with private sector partners. However, this experience was not considered to be particularly successful with limited competition and the envelope of concessional resources 'set-aside' not being fully programmed. The relative lack of success of the set-aside programme has been attributed to a number of factors, but one of the most important was the difficulty in integrating a competitive process, where timelines were externally imposed and where there was uncertainty

195 CIF (2017) Private sector investment in climate adaptation in developing countries: Landscape, lessons learned and future opportunities. Available at:

https://www.climateinvestmentfunds.org/sites/default/files/7544-wb_cif_ppcr_report-v5.pdf

196 An exception would be for the provision of goods, services and technologies that enable adaptation by others. In these cases, the relevant suppliers are likely toexplicitly identify themselves as providing adaptation solutions

as to whether resources would be approved and the timelines for that approval process, with the pipeline and relationship management processes of the implementing partners (the MDBs). By contrast, the CIF has had more experience in engaging the private sector in programs where its implementing partners had more confidence that it could access the additional blended finance resources, and without the challenge of an externally imposed timeline.

The implication for EFSD+ is that it may wish to focus more of its efforts in using the guarantee programmes to support private sector adaptation than the blended finance window.

5.7. Opportunities for climate adaptation in key potential EFSD+ themes

This section considers specific opportunities for private sector adaptation in key expected EFSD+ themes. While no final decision has been taken on the themes that EFSD+ will adopt, a public domain presentation from March 2021 identifies five potential key themes: sustainable energy and sustainable connectivity; micro-, small- and medium sized enterprises; sustainable agriculture, rural entrepreneurs and agribusinesses; sustainable cities; and digitalisation for sustainable development. However, for the purposes of this discussion, the analysis considers sustainable energy and connectivity and sustainable cities together within a climate resilient infrastructure category, in light of the common challenges and opportunities associated with building climate resilient infrastructure. In addition, based on discussions with the European Commission, we add a sixth theme around disaster risk management and disaster risk finance (although this is also partly considered in some of the other themes).

In each theme, we analyse (i) some of the key activities that would be expected to support adaptation and resilience, (ii) some innovative financing models (typically making use of guarantees) that could support these activities, and (iii) types of complementary work that EFSD+ could facilitate in order to support private sector adaptation.

5.8. Micro, small and medium size enterprises

5.8.1. Key activities

There are key opportunities to both make the economic activity of MSMEs more climate resilient and for MSMEs to undertake activities that provide climate resilience benefits to their customers and society more generally.

In terms of the former, MSMEs may face current and future risks from floods, landslides and other extreme weather events that may affect their operations. They may also experience a range of slow onset events such as increasing temperatures or, for those with activities close to the coast, sea level rise and salinization. A range of adaptation solutions may help to address these risks including preventative measures such as barriers, improving the construction of properties or by improved building monitoring systems, or investments in sustainable cooling solutions. Other activities might include developing water storage and improving water efficiency so that firms are better able to cope with water scarcity. In addition, the climate resilience of MSMEs across the agriculture and food supply chain also need to be enhanced, but this is covered separately below.

In terms of the latter, there is a growing recognition of the important role that natural resources and ecosystem-based adaptation can play in helping to reduce climate risks. MSMEs can often play an important role by, for example, supporting the manufacture and distribution of efficient cookstoves (thus reducing pressure on forests), supporting afforestation and reforestation, and supporting the sustainable use of forests through the sale of non-timber forest products or providing ecotourism services. Another key role that MSMEs can play is in providing climate resilient water and sanitation services to underserved populations. MSMEs also play a crucial role in developing adaptation technologies, such as the supply of water saving devices or solar powered desalination systems[197]. In many cases, MSMEs benefit from close community relationships that can facilitate the uptake of adaptation goods and services about which communities may otherwise be suspicious[198].

In relation to both types of activity, a key challenge that MSMEs face is a lack of access to finance. This reflects that many MSMEs operate in the informal sector which inherently restricts access to finance, the local scale at which MSMEs operate which makes risk diversification more challenging, and their often-limited technical capacities. This both means that MSMEs are considered, to be much more vulnerable to climate impacts than larger, better resourced firms and means that many opportunities for enhancing the climate resilience of societies are not fully exploited.

197 The role of MSMEs in providing digital adaptation technologies is covered separately below.

198 Terpstra, P. and Ofsetdahl, A. (2013) Micro, small and medium enterprises: key players in climate adaptation. Available at: https://www.wri.org/insights/micro-small-and-medium-enterprises-key-players-climate-adaptation

5.8.2. Financing models

The size of MSMEs means that efforts to support adaptation with and through MSMEs is typically through the provision of credit lines to banks and other local financial institutions, including microfinance institutions. Where market barriers exist including high perceived risks and long pay-back periods, these credit lines can either be provided on concessional terms (which would be passed through to the ultimate beneficiary) and/or could be supported by a partial guarantee such that local financial institutions would face lower risks when making loans to ultimate beneficiaries. These guarantees could either be provided on a loan-by-loan basis or on a portfolio basis.

This model is already common in the current EFSD portfolio – for example through the NASIRA Risk-Sharing Facility, the Small Loan Guarantee Programme and the SME Access to Finance Initiative. Adapting this model to better support adaptation could be done in two main ways:

- Identify a specific set of activities and technologies that it is agreed provide adaptation benefits in that country/regional context[199]. Any time a local FI provides a loan for that activity, it is able to benefit from the partial guarantee provided through EFSD+. This model, for example, was adopted (without a guarantee facility) in the EBRD ClimAdapt project in Tajikistan, with technologies/activities including water and energy efficiency technologies.
- A potentially more transformative model would support local FIs to consider the impact of physical climate risks, and the way in which these could be reduced through adaptation activities, across their entire portfolio. A number of IFIs interviewed as part of this study identified that this was a model that they were looking to integrate into their practices, especially as part of their commitment to Paris Alignment. A model of this sort would rely heavily on supporting technical assistance as discussed below.

An alternative financing model that EFSD+ could support would be to guarantee or underwrite a sustainable loans programme for MSMEs, with proceeds used to finance or re-finance eligible sustainable projects with adaptation features. Framework principles could be developed based on the Green Loan Principles[200]and Climate Resilience Principles[201] developed by the Climate Bonds Initiative (CBI).

The financing models discussed in relation to agriculture, digital technologies and insurance discussed below could also support MSMEs.

5.8.3. Complementary activities

The combination of the relative novelty of climate adaptation/resilience and the technical weaknesses often found in SMEs means that a range of complementary activities are likely to be required for the financing models above to be successful. Building on experiences elsewhere, some of the approaches that appear most fruitful include:

- **Providing technical assistance to FIs to help them understand and screen for climate risks**. Local FIs are unlikely to have the capacity to screen individual projects for the climate risks that they may face, not have the ability to manage physical climate risks at the portfolio level. Therefore, although this approach could be very powerful in helping to reduce climate risks and identify climate adaptation options, it is likely to require intensive technical assistance. AFD are undertaking this approach in Costa Rica, with a technical assistance grant to the Banco Nacional to develop climate risk management capacity, with the goal of being able to increase climate resilient lending.
- **Market assessment of climate risks and opportunities by country and sector/value chain**. The ProAdapt programme of the Inter-American Development Bank has promoted market assessment across sectors and countries to identify the specific climate risks that are likely to affect the MSMEs in that particular context and the products that can help address these risks. These assessments help both FIs and MSMEs in identifying physical climate risks and adaptation opportunities.
- **Building multi-stakeholder partnerships to spread best practices**. Multi-stakeholder partnerships involve bringing together government, private sector and civil society organisations to help coordinate activities and for knowledge, expertise and resources to be shared across different partners. Such partnership might facilitate demonstration activities; allow for the sharing of information and tools; provide training, capacity building and incubation services; provide a platform for marketing; and support business linkages. For example, Mesoamerica Investments[202] a private equity firm active in the Pacific Alliance countries and Central America is currently in the process of exploring the establishment of a multi-stakeholder investment coalition called LANEC (Latin American

[199]This could potentially draw from or build on the development of national sustainable finance taxonomies

[200] 741_LM_Green_Loan_Principles_Booklet_V8.pdf (lma.eu.com)

[201] Microsoft Word - climate-resilience-principles-climate-bonds-initiative-20190917.docx (climatebonds.net)

[202] Investments | Mesoamerica

New Economy Coalition)[203] to drive the development of a "new climate economy" (the idea is still in diagnosis). Designed as an open source platform, LANEC would aim to leverage the capabilities of a series of key stakeholders to: ensure the conditions for the rise of market-based solutions to infrastructure development, build a robust pipeline of investable projects, de-risk projects through the use of blended finance mechanisms, and mobilize institutional investment.

A recent review of multi-sector partnerships to support private sector adaptation among MSMEs in Kenya identified 'through action and investment from donor-funded and public sectors in areas such as research, data access, relationship building, training and capacity building, access to finance and business incubation, MSPs [multi- stakeholder partnerships] in Kenya can enable a range of private sector actors to deliver adaptation resources to SMEs … This implies that MSPs have the potential to support upscaling adaptation action among some of the most vulnerable private sector actors'[204]. The same analysis also noted that MSPs are much less frequently deployed outside of the agricultural sector, a potential gap that EFSD+ could help to fill.

5.9. Sustainable agriculture, rural entrepreneurs and agri-businesses

5.9.1. Key activities

As discussed in detail in the IPCC Special Report on Climate Change and Land, the agriculture sector is one of the most climate sensitive areas of economic activity. Combined with the low adaptive capacity of many of those who work in the agriculture sector, this leads to high degrees of climate vulnerability, especially among smallholder farmers. As just one example, the IPCC indicates that the population living in dryland areas vulnerable to water stress, drought intensity and habitat degradation could be 178 million people in 2050 with 1.5°C of warming, rising to 277 million with 3°C of warming[205]. The agriculture sector was highlighted as a priority sector for adaptation investment in each of the case study countries.

There are a wide range of activities that can be undertaken to enhance the climate resilience of the agriculture sector, and hence those whose livelihoods depend on it. While the specific interventions of greatest value will depend on both the climatic conditions and existing agricultural system, options include switching to more varieties or species that are more climate-adapted; supporting sustainable diversification of crops that both reduces the damage caused by climatic events and improves pest and disease management; enhanced storage facilities to better protect crops against extreme weather; precision agriculture techniques so that agricultural inputs can be used resourcefully and tailored to specific (changing) microclimates and other growing conditions; drip irrigation and water catchment and harvesting technologies that reduce reliance on what are likely to become increasingly erratic water supplies (and preserve water for use by others); and conservation agriculture approaches that seek to enhance soil management through no/low till agriculture techniques and techniques to maintain soil cover. There are also agroforestry and silvo-pasture techniques that allow agricultural activity to be combined with tree/forest cover and enhance the climate resilience benefits of forests (e.g. reduced soil erosion, watershed management) to be preserved. Many of these activities are also associated with reduced GHG emissions or increased carbon sequestration.

5.9.2. Financing models

Developments in recent years highlight at least two, potentially complementary, models that might be of interest when considering future EFSD+ initiatives to support private sector capital flows and private sector adaptation activity within this theme.

The first model would seek to integrate the benefits of adopting climate smart agricultural techniques into the credit scoring techniques of those who provide credit to smallholder farmers. Under this model, credit lines or other financial commitments would be extended to local FIs, micro-finance institutions or equivalent. However, in addition, support and tools would also be provided so that the local FI or microfinance organisation could incorporate climate smart credit risk scoring and monitoring tools into their lending practices. This would support lenders in moving away from a system in which lending decisions are made based on farmer collateral and income levels and towards credit scoring that also takes into account climate risks and the extent to which the activities being supported by the loan would allow these

[203] Source: Expert interviews with delegates from UNDP in Costa Rica
[204] Gannon, K. Crick, F., Atela, J. and Conway, D. (2021) What role for multi-stakeholder partnerships in adaptation to climate change? Experiences from private sectoradaptation in Kenya, Climate Risk Management, 32.

[205] IPCC (2019) Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. et al (eds.)]. In press.

risks to be reduced. Among other changes, this is likely to encourage the development of more mixed land uses, supporting both climate resilience as well as carbon sequestration and supporting biodiversity.

A version of this model, known as the Climate Smart Lending Platform and developed through the Global Innovation Lab for Climate Finance, is already in operation, implemented by F3 Life, Financial Access, IUCN, with financial support provided by the Sophia Foundation, the Netherlands Foreign Trade and Development Cooperation and the Partnership for Forests initiative of the UK government[206]. This intends to shortly launch a first pilot of this model in Kenya, working with a commercial lender to support climate resilient agricultural practices in potato cultivation. However, the developers of the proposition consider there is considerable potential to scale up this type of model, with previous analysis suggesting a model of this sort could reach over one million farmers to mobilise more than USD 200 million of financing[207].

There would be two opportunities to deploy guarantees and risk mitigation instruments in a model of this sort: first, a portfolio guarantee could help underpin the loans made by the local FI or microfinance institution to individual farmers who introduce climate smart practices. This might help further build the confidence of the lender as its loans are used to support the introduction of new practices. Second, if capital is provided to local FIs and MFIs through a fund structure then there is likely to be an important role for guarantee or other risk mitigation instruments within the capital structure of the fund.

A second model that could be used as a launch pad for further work by EFSD+ is the R4 Rural Resilience Initiative. Under this model, farmers benefit from an integrated package of financial support consisting of:

- Increased investment, livelihoods diversification and microcredit[208] – prudent risk taking
- Access to savings products – risk reserves
- Microinsurance – risk transfer
- Improved natural resource manage through asset creation or improved agricultural practices -risk reduction

An innovative feature of this scheme is that those farmers who are too poor to purchase microinsurance products are instead able to make payments in kind through building assets or changing agricultural practices. In other words, as is increasingly recognised as representing best practice, insurance provision is integrated within a wider risk management strategy that is expected to both improve development outcomes and make it easier to continue to provide insurance cover. Over time, the initiative intends to support the transitioning of all farmers to pay for insurance in cash.

As of 2019, the scheme had reached 87,000 farmers (545,000 people) across Ethiopia, Kenya, Malawi, Senegal, Zambia and Zimbabwe. Evaluations find that in Ethiopia, insured farmers saved more than twice compared to those without any insurance, and R4 farmers invested more in seeds, fertilizer and productive assets. In Malawi, after two years of implementation, there was a 74 percent increase in the number of households being able to save, while almost all participants had access to credit[209].

Some of the IFIs interviewed for this study identified that an integrated package of financial instruments such as that pioneered by the R4 Rural Resilience Initiative would provide an attractive way to provide adaptation support in the agricultural sector. The inclusion of an insurance product alongside loans to support a switch to support climate smart agricultural practices is likely to be particularly attractive as, although climate smart agricultural practices are often associated with enhanced yields and greater resilience in the longer term, weather shocks during the transition period when investments are being implemented (which can be up to 18 months) may be particularly damaging. The value of multi-instrument solutions has also been identified in a recent report looking specifically at the use of blended finance in the agriculture sector (although this report does not have a specific focus on adaptation within the agriculture sector)[210] while work on agricultural financing in East Africa further highlights the challenges of high operating and low returns in the sector meaning that credit guarantees that only address risk is unlikely to be sufficient[211].

206 https://partnershipsforforests.com/partnerships-projects/climate-smart-lending-platform/

207 Global Innovation Lab for Climate Finance (2016) Climate-smart lending platform: Lab instrument analysis. Available at: https://www.climatefinancelab.org/wp-content/uploads/2016/01/Climate-Smart-Lending-Platform-Report.pdf

208 This could potentially be facilitated by through a credit line scheme such as the Climate Smart Lending platform.

209 World Food Programme and Oxfam America (2019) R4 Rural Resilience Initiative. Available at: https://docs.wfp.org/api/documents/WFP-0000019963/download/?_ga=2.6223923.1870434736.1621350829-949436964.1621350829

210 SAFIN and Convergence (2021) Deploying blended finance to mobilize investment at scale in food and agriculture. Available at: https://5724c05e-8e16-4a51-a320-65710d75ed23.filesusr.com/ugd/e03597_f3903ab8490244a4a87a66bdbe09b7ff.pdf

211 ACELI Africa (2020) Bridging the Financing Gap: Unlocking the Impact Potential of Agricultural SMEs in Africa. Available at: https://ams3.digitaloceanspaces.com/aceliafrica/wp-content/uploads/2020/09/08174322/Aceli-Africa_Executive-Summary-Benchmarking-Report.pdf

It is unclear whether EFSD+ would be able to provide grant resources embedded within a guarantee program. If it can, then a model similar to the R4 Rural Resilience Initiative could be considered with the grants supporting the insurance premia that could not be paid by the poorest farmers (alongside their risk reduction actions of these famers). Small grants – in the form of bonus incentive payments – could also be paid to farmers to encourage the uptake of desirable practices. This would be complemented by guarantees on either the loans and/or a first loss position within the capital structure of the insurance pool. If it is not possible then any initiative would need to focus on farmers with a higher willingness to pay for insurance, although any insurance should still be integrated with support to reduce climate risks, with the guarantee arrangements supporting the lending and/or insurance provision.

5.9.3. Complementary activities

The complementary activities identified for MSMSE financing to support climate resilience would also be relevant for this theme.

In addition, many advocate the importance of situating efforts to enhance the climate resilience of agricultural practices at the landscape scale and through agriculture landscape management approaches. A key advantage of working at the landscape scale is that it can promote coordination between different sectors or policies that influence land-use e.g. agriculture, forestry, infrastructure and mining. This might allow, for example, for agricultural practices to be managed in a way that takes account of their downstream impacts on water availability. Working at the landscape scale also means that the risk that one part of the landscape leads to unintended and unforeseen problems elsewhere can be avoided, for example where increases in agricultural productivity lead to increased pressure for conversion of land to agriculture, including in geographically distant locations. The UN Convention on Biological Diversity states that: 'the landscape level is arguably the most important spatial scale to improve and assess the sustainable management of agricultural and forest ecosystems.'[212]

As such, EFSD+ might consider that its work in supporting private sector climate adaptation within the sustainable agriculture, rural entrepreneurs and agribusinesses theme within a landscape approach where the support of climate smart agricultural and related activities is defined and contextualised within a wider set of interventions within a given landscape. This would involve, for example, providing a guarantee to a program that made an explicit commitment to work on a landscape basis.

5.10. Climate resilient infrastructure

5.10.1. Key activities

Extreme weather already causes significant direct damages and losses to infrastructure assets. In turn, the strategic role of infrastructure, means that these damages and losses can have significant indirect effects, for example, business disruption due to interruptions to power or transport networks affecting production, access to markets, households' access to critical services, etc. The World Bank estimates that the indirect losses from the impact of natural hazards on infrastructure assets may be 2.5 times the direct damages caused to infrastructure.

Future climate change – with both more frequent and severe extreme weather events as well as slow onset changes (in temperature, rainfall, etc.) – will worsen these impacts. For example, looking forward, climate change could increase the intensity (strength) and the frequency of heavy precipitation and flood damage (river and surface), sea-level rise (including storm surges), windstorms, extreme heat, drought, and wildfires.

In response to these risks, there are two main types of climate resilient infrastructure projects:

- Adaptation of infrastructure projects. This aims to improve the climate resilience of existing or planned infrastructure assets such as new roads or urban sanitation systems. It focuses on the additional adaptation response—and the marginal costs and benefits—to tackle climate risks or take advantage of opportunities (also known as 'adaptation in projects'). This is sometimes called 'climate-proofing' although it is often impossible, or at least not economically efficient, to fully reduce all climate risks to zero.
- Infrastructure projects for adaptation. These are infrastructure assets that are deliberately designed and delivered to address climate change risks: to protect people, investments, and economic activity. It involves targeted adaptation (such as a new coastal defence project to reduce the effects of sea-level rise), rather than adaptation of already planned or existing projects.

In both cases, there is growing recognition of the importance of green infrastructure solutions. These solutions use eco-resilience and ecosystem-based adaptation to provide climate resilience. They can be used both in relation to the

212 UN Convention on Biological Diversity (2011) Report on how to improve sustainable use of biodiversity in a landscape perspective. https://www.cbd.int/doc/meetings/sbstta/sbstta-15/official/sbstta-15-13-en.pdf

adaptation of projects – for example, to incorporate water management and regreening into the design and construction of roads (see the Green Roads for Water initiative[213]) – and for adaptation projects such as coastal storm protection provided by mangroves or the use of wetlands for water regulation and flood management. The discussion of financing models and complementary initiatives covers both conventional and green infrastructure solutions.

It is also important to stress that the implications of climate change for infrastructure is not limited to ensuring the performance of new and existing infrastructure assets in a changing climate. Infrastructure (and land use) decisions can lock-in development patterns for decades. As an example, a new road could encourage development in an area that becomes impacted by rising flood risks from climate change, leading to significant damage. There is often a one-off opportunity to prevent these lock-in risks during design

Financing models

A range of different financing models that incorporate guarantees and risk mitigation features are available to support private sector capital flows into climate resilient infrastructure. Three/four of the most important models that EFSD could support are discussed below.

One model involves the use of risk mitigation instruments in project finance structures. Private investors are becoming increasingly comfortable with project financing sustainable infrastructure projects, especially with the involvement of a partner DFI. Under this model, financing is provided for an infrastructure asset based only on the future expected cashflows of that project, with limited/no recourse to any of the project sponsors. In many instances, the future cashflows of the project rely implicitly or explicitly on the public sector. For example, in many developing countries there are no customer charges associated with waste treatments plants and the revenues for a project come entirely through payments made by the public sector. Alternatively, even when there are independent revenue streams, the payments are often implicitly dependent on the agreement of the public sector e.g. power purchase agreements with a state-owned entity. In these cases, the project finance model effectively becomes a public-private partnership model.

While, these arrangements are becoming increasingly common, dependent on the infrastructure asset and the country of operation, there can often be challenges in securing the involvement in private capital providers and guarantees can play an important role. This may either be payment guarantees, as already being implemented in RECIDE, political risk guarantees, or more general credit enhancement, as offered through MIIR.

In future, as a minimum, it should be expected that all infrastructure assets supported by EFSD+ through project finance structures and PPPs should be subject to a climate risk screening process. Where necessary, this would lead to changes to the design or implementation of those assets to account for climate risks. In other words, financing for adaptation of infrastructure projects would emerge from the application of standard due diligence processes applied to all infrastructure transactions. However, EFSD+ may also want to go further and use these financing models to support infrastructure projects for adaptation. This would require mechanisms for identifying such projects – as discussed further below.

As well as project finance lending structures, as a **second model**, EFSD+ could use its guarantee capacity to support the further development of green bonds to support climate resilient infrastructure development. This would involve guaranteeing or underwrite a sustainable loans programme for with proceeds used to finance or re-finance eligible projects with adaptation or resilience features. The EFSD+ guarantee would help support an investment grade credit rating for the bond issuance, ensuring widespread investor appetite. Framework principles could be developed based on the Green Loan Principles[214] and Climate Resilience Principles[215] developed by the Climate Bonds Initiative (CBI). EBRD launched a similar product termed a “climate resilience bond”[216], raising US$ 700 million in 2019. EBRD reported demand from approximately 40 investors in 15 countries. Proceeds are used to finance investments in climate resilience projects including in climate resilient infrastructure (both adaptation of infrastructure projects and infrastructure for adaptation projects).

A third model would seek to use guarantees to support local capital markets provide bond finance into climate resilient infrastructure assets. An existing example of this model is that of the Water Finance Facility identified by the CPI Global Lab on Climate Finance. Under this model, aggregation vehicles (‘water finance facilities’) issue bonds in local currency to domestic institutional investors, supported by guarantees or other credit enhancement techniques. The proceeds are

[213] https://roadsforwater.org/

[214] APLMA, LMA and LSTA (2021) Green Loan Principles V4. Available at: https://www.lsta.org/content/green-loan-principles/

[215] CBI (2019) Climate Resilience Principles: a framework for assessing climate resilience investments. Available at: https://www.climatebonds.net/files/page/files/climate-resilience-principles-climate-bonds-initiative-20190917-.pdf

[216] htthttps://www.ebrd.com/news/2019/worlds-first-dedicated-climate-resilience-bond-for-us-700m-is-issued-by-ebrd-.htmlps://www.ebrd.com/news/2019/worlds-first-dedicated-climate-resilience-bond-for-us-700m-is-issued-by-ebrd-.html

then used to provide loans to facilitate climate resilient infrastructure and related projects (e.g. leakage reduction projects) undertaken by specific water utilities. The aggregation vehicle spreads capital raising transaction costs across multiple borrowers, makes the bond proposition more attractive to investors and diversifies the risks associated with the provision of capital to any one project.[217]

The Water Financing Facility is currently being developed to support climate resilience infrastructure and related projects in the water sector in Kenya. Discussions with stakeholders involved in the development of that initiative highlight the crucial role of guarantees in making the structure successful, but also highlight the crucial role of ensuring political buy-in, and the role that development partners can play in supporting this, to ensure that the promise of well-designed financing structures can be realized in practice.

While this model has been proposed and developed in relation to water utilities, it would be possible to develop a similar model in relation to, for example, sanitation assets, projects to enhance the climate resilience of residential or commercial buildings, or energy utilities looking to develop climate resilient projects.

5.10.2. Complementary activities

A number of complementary activities can help both identify and facilitate the development of climate resilient infrastructure within cities. These include:

- **Upstream assessments**. There is an urgent need, and critical opportunity, to integrate climate risks, in the strategic infrastructure plans being developed at both national and city level (or to encourage them to develop strategic infrastructure plans in the first instance). Such plans involve combining information about current and expected future climate risks with current and expected future infrastructure and patterns of economic activity to pinpoint key vulnerabilities and needs/opportunities for climate resilient infrastructure. As an example, the ADB-administered Urban Climate Change Resilience Trust Fund (UCCRTF)[218] supports countries in making sure that climate change is a central element of city planning. This includes extensive spatial mapping at regional or city scales to identify climate risks and resilience opportunities and then supporting associated interventions (both hard and soft) that can avoid these risks and support opportunities. In undertaking these types of assessments, it is increasingly recognised that 'systems analysis' and 'systems of systems' analysis are important. This recognises that individual infrastructure assets are part of a wider infrastructure network and that, consequently, the failure of one asset could have wider ramifications for the overall performance of that infrastructure network, especially if the failure happens at a critical point. Systems analysis takes this a step further and recognises that infrastructure systems place demands on each other, which creates the risk of interdependent failure e.g. the loss of an electric power station could influence the ability of the water sector. Building this type of analysis into upstream assessments can help to avoid the most material inter-dependent risks, as well as identify strategic priorities for additional resilience investment. This could be given operational effect in EFSD+ by either encouraging, or insisting, that guarantees be used for climate resilient infrastructure that had been identified through such an upstream assessment.
- **Climate risk screening of specific assets**. Once the infrastructure needs assessment has been undertaken, as stressed above, it is essential that individual infrastructure assets are screened for climate risks, and adaptations made accordingly. These outputs should be shared with stakeholders including private investors. It is also important to stress test the financial models of infrastructure assets to ensure projects have adequately integrated climate resilience into financial business models including capex, opex and liabilities. EFSD+ TA resources could be used so that those responsible for infrastructure planning and design within the country of operation (which may include National Planning Commissions, municipalities, utilities/regulators or other state-owned enterprises) are capacitated to undertake these assessments. This would be in addition to such assessments being obligatory for any infrastructure transaction supported by EFSD+.
- **Ensuring that climate change risks are explicitly considered within PPPs**. If future EFSD+ financing models in this theme include financing through PPPs, then it is important to consider the importance and allocation of climate risks within contract design. Building on analysis undertaken by the Inter-American Development Bank, best practice would include considering the climate risk reduction experience when evaluating the technical capability of bidders in a PPP procurement, including a requirement climate risk reduction plan in the RFP (Request for Proposal) submission requirements that should be periodically updated by the winning bidder, and the inclusion of enforcement mechanisms within the PPP contract to ensure that the plan is followed[219]. This may require EFSD+ resources being used to support the transaction advisory work being undertaken by the public sector body letting the PPP contract.
- **Technical assistance to support the development of standards**. Many cities will make use of design standards, building codes, etc. that set mandatory safety and performance criteria for new infrastructure. However, these are

[217] https://waterfinancefacility.com/

[218] https://www.adb.org/what-we-do/funds/urban-climate-change-resilience-trust-fund

[219] Frisari, G.L et al (2020) Improving Climate Resilience in Public Private Partnerships in Jamaica, http://dx.doi.org/10.18235/0002394

usually based on historic weather and do not take account of the changing climate. They can therefore act as a barrier to future climate resilience, because exceeding the current engineering standards (with higher levels of resilience) is not required under existing practice. Therefore, there is value in technical assistance work to support the integration of climate change allowances within any infrastructure financed by EFSD+, and for complementary work to encourage the more widespread adoption of these standards within the relevant country.

- **Work with existing initiatives to build multi-stakeholder partnerships and spread best practice on climate resilient infrastructure**. Emerging initiatives such as the FAST Infra Sustainable Label, which includes adaptation and resilience requirements, can be leveraged to bring together governments, public authorities and project developers to assess and mitigate project risks, collaborate on information and tools, build capacity and promote the project. Box 5.1 below provides more details.

Box 5.1 – FAST Infra and Sustainable Infra Label

There is an opportunity to engage with and share knowledge from the work of other public / private platforms which include adaptation and resilience aspects. One such example is the Finance to Accelerate the Sustainable Transition (FAST) Infrastructure initiative which is a global collaborative project involving over 50 global entities, representing governments, private institutional investors, DFIs, MDBs, insurers, rating agencies and NGOs. One of the key outputs from this initiative is a consistent, globally applicable labelling system for sustainable infrastructure assets. The labelling system is designed to allow public bodies to signal the sustainability of the asset to private investors. Investors gain trust that projects that meet environmental, social, resiliency, and governance needs and contribute to the SDGs. The Label will also ensure that governments, public authorities and project developers embed environmental, social, governance and resiliency standards into new infrastructure at the design and pre-construction phases on the grounds that only assets incorporating such standards will obtain the label. The label will also attract private finance at the construction stage and new institutional investors at the post-construction phase. FAST-Infra was conceived in early 2020 by Climate Policy Initiative (CPI), HSBC, IFC, OECD and the Global Infrastructure Facility. Alongside the label, FAST-Infra is developing financial mechanisms to mobilize private investment at scale for the financing of labelled projects including:

- FAST-Infra Technology-Enabled Platform: Infrastructure Data Platform with centralized tools, attached to a project finance loan exchange / marketplace
- GREG (Global Revenue Guarantee): Guaranteeing timely payments from the off-taker (temporarily), through
- a mix of private and public finance, (which is noted to be similar to the European Guarantee for Renewable Energy (non-sovereign)
- Open-Sourced Managed Co-Lending Portfolio Programme: Syndication structure allowing for participationfrom a wide range of DFIs in emerging markets.
- Sustainable Financing Facility: Banks and concessional capital lend to DFIs for on-lending to sustainable infrastructure projects

5.11. Digitalisation for sustainable development

5.11.1. Key activities

Digital technologies and products can play a crucial role in providing information that removes information barriers that would otherwise inhibit adaptation. They are therefore a crucial element of the activities ‘enabling adaptation’ as defined in EU taxonomy on sustainable finance. Another recent adaptation taxonomy[220] identifies a wide range of ‘climate adaptation intelligence’ solutions using digital technologies, including but not limited to:

- In the agriculture sector, remote sensing-based drought monitoring tools or crop data and analytics platforms
- In coastal zones, satellite imagery for monitoring and impact assessment or sea-level processing software.
- In the health sector, e-health solutions that provide remote diagnostics, health and disease surveillance systems for outbreak detection of diseases made more prevalent by climate change.
- In the transport sector, intelligent transportation systems which can, for example, monitor road conditions in real time and move traffic away from areas experiencing climate-related hazards
- In the water supply and management sector, water monitoring and modelling and hydrological forecasting

[220] Trabacchi, C., Koh, J. Shi, S. amd Guelig, T. (2020) Adaptation Solutions Taxonomy. Available at: https://climateasap.org/the-asap-taxonomy/

In addition to the above, digital technologies could be useful for disaster preparedness (for example, using digital technologies to track meteorological events and provide early warning of impending disaster), emergency response (for example, using digital payments technologies to ensure that the most vulnerable are able to access financial resources after a disaster), flood management (for example, using digital earth observation technologies to track the possible extent of flood impacts), or urban development (for example, where smart water technologies can be used to both provide users with more information about their water consumption and monitor leaks, in both cases allowing more efficient use of increasingly scarce water resource).

5.11.2. Financing models

The appropriate financing models to support digital technologies that enable adaptation are likely to be similar to those used for digital technologies elsewhere in the economy. As such, the EFSD experience in supporting FMO Ventures, whereby EFSD reduces the risk of FMO direct and indirect equity investment into digital start-ups is likely to be particularly relevant. As discussed above, the early evidence on this initiative shows promise.

In this context, a number of different interviewees identified the model developed by CRAFT – the Climate Resilience and Adaptation and Technology Transfer Facility[221] as being particularly relevant. CRAFT is structured as a private equity fund with a blended structure, with capital from both public and private investor capital allocated to either a senior (80%) or junior (20%) layer of the fund. It targets USD 250 million of capital, of which USD 125 million has been raised to date. It aims to invest growth equity into 10-20 companies which have proven technologies and solutions for climate resilience and have demonstrated market demand and revenue. The focus is on companies that either provide data analytics to help stakeholders understand climate risks, for example, firms offering geospatial imagery or agricultural analytics, or on firms delivering products that will support adaptation. Its first investment was in a company using solar technology to undertake water harvesting to deliver clean drinking water. The fund estimates that around 60% of its activities relate to digital technologies.

In addition, the 'Adaptation SME Accelerator' Project[222] has sought to build an ecosystem of SMEs to support identification of which SMEs are available, develop a series of virtual convenings for Adaptation SMEs and other stakeholders, and partnerships with existing incubator and accelerator programs to develop adaptation-, resilience- and social impact- focused curriculum for Adaptation SMEs

The organisations responsible for the development of CRAFT and the Adaptation SME Accelerator project report that, as climate change impacts and the associated socio-economic disruption become more apparent, they expect to see a substantial increase in investable opportunities in companies that will facilitate adaptation across the economy, including using digital technologies. They expect to see a particularly rich number of opportunities in facilitating adaptation in the water and agricultural sectors.

5.11.3. Complementary activities

The development of a vehicle that focuses on how digital technologies might support adaptation in developing countries would benefit from a complementary project preparation technical assistance facility. This would both help support companies address some of the generic barriers that firms can face when setting up operations in developing countries – for example, acquiring licenses – as well as helping with the localisation of the adaptation solutions to the developing countries of focus.

5.12. Disaster Risk Reduction (DRR)

The private sector's importance in disaster risk reduction has been particularly highlighted after the Sendai Framework for Disaster Risk Reduction[223] was adopted in 2015. The role of the private sector[224] can vary from building technical capacity to undertake risk assessments for the public sector, investing in the development of innovative technical solutions for disaster risk reduction to improve business resilience, creating an interface between the local communities and corporates as part of the corporate social responsibility (CSR) activities focused on improving community resilience and building awareness.

[221] https://www.ndf.int/what-we-finance/projects/project-database/climate-resilience-and-adaptation-finance-and-technology-transfer-facility-craft-c114.html

[222] https://lightsmithgp.com/asap/

[223] Sendai Framework for DRR, 2015-2030

[224] Role of private sectors in disaster risk reduction: Potential and challenges, Rajib Shaw, December 2018

5.12.1. Key Activities

There are a range of activities associated with disaster risk reduction that offer varying degrees of opportunity for private sector engagement.

1. Protective measures the private companies could take for their business

Disaster risk assessment to their own assets such as physical infrastructure, supply chain, human resources, and the stakeholders capacity to deal with these risks would help businesses make strategic risk reduction decisions early on. For example, a private sector rail operator might closely assess the flood risks faced by current and new assets, from early design stage through to operation and of end-of-life treatment, to mitigate operational, health and safety risks. The need to enhance the impact assessment and impact reporting processes has been further explained in Section 6.2.

Private companies could focus on improving community resilience and building disaster preparedness and awareness within their local communities as part of their corporate social responsibility (CSR) activities. **Private companies integrating disaster management approaches within their corporate sustainable business strategy**, by working closely with the local communities would therefore build both community and business resilience. This can be particularly beneficial in developing countries where key sectors such as water, transport, waste disposal, energy and electricity are privatized.

2. Insurance for disaster risk and climate change adaptation

Insurance is a key mechanism for disaster risk reduction, and there is a wide range of insurance schemes and instruments that have been developed to help all sectors of the economy respond to, and recover from, hydrometeorological disasters. Catastrophe insurance can provide coverage against hydrometerological hazards such as floods, droughts, and cyclones, however, the low level of insurance penetration in many developing countries can present a significant barrier to private sector capacity to prepare for and respond to disasters. The adoption of insurance products can vary significantly between regions, due to differing regulatory and supervisory contexts, and cultural scepticism around the concept of insurance, among others. In regions such as Latin America and the Caribbean, for example, where insurance is a relatively new concept, and adoption is low, there is a need for significant support to build technical capacity, and raise public understanding and awareness, in order for insurance products to play an important role in disaster risk reduction and climate change adaptation[225].

Microinsurance schemes have long been seen as an important step in expanding insurance coverage, as they specifically target uninsured segments of the population, and are designed with lower premiums in order to address issues of access and affordability. Microinsurance schemes can offer incentives to encourage the adoption of technologies or practices that reduce the risk from climate-related disasters, and in some cases may include certain activities as a pre-requisite for joining a scheme. As such they can be an important driver of risk reduction, as well as providing previously uninsured businesses with the capital, and confidence, they need to invest in improved disaster preparedness across their activities, and recover faster in the event of a disaster occurring.

While conventional microinsurance schemes pay out based on losses, there are a number of index-based schemes designed to reduce overheads and in which pay-outs are tied to an index, such as monthly rainfall totals, or drought indicators. Weather-based index insurance schemes provide SMEs and others working in sectors sensitive to climate risks with more rapid pay-outs, as they reduce the need for losses to be assessed. Weather-based index insurance frequently involves both the private and public sector, with private insurers covering pay-outs up to a defined threshold on the index (for example up to 40% less rainfall than average), and government disaster management schemes covering the pay-outs for more extreme events[226], allowing private insurance companies to offer more affordable premiums.

Initiatives such as the African Risk Capacity (ARC), and Pacific Risk Assessment and Financing Initiative (PCRAFI) harness power of the private insurance and reinsurance markets to provide effective post-disaster finance to national governments, who can use pay-outs to support the post-disaster recovery. PCRAFI aims to reduce the financial vulnerability of Pacific Island Countries (PICs) to natural hazards and climate change, and includes insurance products, disaster risk modelling and assessment tools, and dialogue with PICs on disaster risk reduction strategies. ARC meanwhile, is a specialised agency of the African Union designed to strengthen national disaster risk management systems, and provide access to predictable finance in the event of a disaster. The ARC combines capacity-building, early-warning systems for drought, and parametric insurance products, and allows he deployment if finance in support

[225] https://www.giz.de/en/worldwide/28849.html

[226] In a livestock-based scheme in Mongolia, for example, a government disaster response product covered payments where regional losses (as statistically tied to a drought index) were estimated to exceed 30% of livestock.

of pre-approved contingency plans. The ARCs Extreme Climate Facility is specifically designed as an index scheme which is tied to the frequency of disasters in West Africa, and is designed so that increases in extreme events associated with climate change trigger increases in pay-outs, thus covering some of the additional cost of responding to climate change[227].

5.12.2. Adaptation investments that protect the community

There are often a range of investments that can help reduce the disaster risk faced by communities as a whole. These can include, for example, flood protection investments such as raising embankments, constructing sea walls and increasingly, green infrastructure solutions, such as 'sponge cities'; creating evacuation shelters to mitigate hurricane risk; or the use or artificial ponds, shaded walkways and urban forests to mitigate extreme heat. Many of these investments have strong public good characteristics which means that public sector provision and financing tends to dominate, although there is often scope for private sector engagement, for instance, through the provision of skills and expertise to help design and build the appropriate protective measures, as well as financing provided both through PPP structures or as part of fulfilling corporate social responsibility obligations.

Early warning systems (EWS)

A particularly important form of disaster risk reduction relates to the construction and operation of early warning systems. These systems include detection, prediction and dissemination of imminent extreme weather events such as cyclones, floods, storms etc. These systems can operate at a variety of scales, from the regional to the local with best practice identifying four elements for people centred EWS[228]:

- that they draw upon and support the systematic collection of risk data.
- that hazards are being monitored and robust forecasts are being generated.
- that there is adequate provision of clear and usable warnings when risks are expected to materialise; and that sufficient response capacity exists to respond to any warnings.

As with the risk reduction investments discussed above, there can be an important role for the private sector in providing both expertise and, on occasion, financing to support the delivery of EWA.

5.12.3. Financing Models

Long-term investments in the research, development, manufacture and installation of innovative technical solutions, leveraging technical capacity for disaster risk reduction as a core business model to ensure business longevity is needed. For example: CORAF[229] is an international non-profit association that coordinates innovative research programs for the private sector across 23 countries in the sub regions of Central and West Africa since 2008 and was setup to mainly boost disaster and drought response programs for small holding farmers to achieve food and nutrition security. However, CORAF has faced significant challenges in the market adoption of these technologies and mobilising private sector finance for the same, with bilateral and EU funding being the main sources to support the research programs[230]. The main barrier for this is the high cost of production when the technologies are manufactured at a small scale, thereby becoming expensive for the farmers to purchase. Therefore a new focus area for CORAF in addition to funding research is engaging the private to mass produce the technologies.

Encouraging **investment in DRR through advantageous loan rates and incentives** could help mobilise private sector. For example, an expert from CORAF suggested that one way of motivating the private sector to engage in the development of innovative agriculture technology could be to offset the repayment of the guarantee if the loan was repaid sooner. While this idea had not yet been implemented, it was being considered.

[227] https://www.africanriskcapacity.org/product/extreme-climate-facility-xcf/

[228] International Strategy for Disaster Reduction (2006) Developing early-warning systems: a checklist

[229] http://www.coraf.org/

[230] Expert interviews with delegates from CORAF on 03rd August, 2021

Box 5.2: ARISE Network[231] with a focus on ARISE[232] Africa[233,234,235]

The ARISE network was created in 2015 with an overall goal to improve risk-resilience of societies by mobilising the private sector in collaboration with the public sector and other stakeholders, facilitating knowledge and experience exchange to implement DRR projects and thereby deliver on the targets of the Sendai Framework. Within the ARISE network, the private sector can forge strong partnerships for DRR through seven work-streams: disaster risk management strategies, investment metrics, benchmarking and standards, education and training, legal and regulatory, urban risk reduction and resilience, and insurance.

The African sub-continent is highly vulnerable to disaster and climate related risks. The ARISE Africa network has therefore been set up with the same objective to bring the private sector across Africa together to build awareness on major disaster risks, share knowledge, engage key private sector players in DRR decision making, governance risks and influence other private sector players in catalysing innovation. ARISE Africa's immediate priorities are: developing a strategic plan for advocacy, bringing a critical mass of key private sector players onboard, accessing climate funds particularly for insurance risks and infrastructure resilience. There is a lot of interest within the private sector across Africa to work closely with the national and local governments on DRR but the network is still in early stages for implementing this. In alignment with the Global Compact, a programme for SME Resilience has been put together. ARISE Africa also closely collaborates with other regional institutions like CORAF to support research and innovation by the private sector SME's.

5.12.4. Complementary Activities

The private sector should forge **public-private** (Example: LANEC illustrated in Section 5.8.3) and **private-private partnerships** (Example: through the ARISE network mentioned above) to maintain networks, share mutually beneficial technical knowledge and information to develop business models focused on DRR. This can be facilitated through the creation of multi-stakeholder platforms and global networks to encourage greater public-private dialogue on risk reduction in developing countries.

Box 5.3: Private Financing Advisory Network (PFAN)[236,237]

PFAN is a global network of climate and clean energy financing experts which was initiated by the Climate Technology Initiative in 2006. It offers free business coaching and investment facilitation to entrepreneurs developing climate and clean energy projects in emerging markets. While the focus of PFAN has been on mobilising private investment to mitigate climate change at a sub-regional level. PFAN recognizes that the low-income and middle-income countries where their work is focused are also likely to be the most vulnerable to the effects of climate change. SINCE 2014, PFAN has been closely engaged on adaptation projects[215] which help reduce the vulnerability of populations, infrastructures, ecosystems, and human or natural systems. PFAN has also now setup a Climate Adaptation Fund to mobilise adaptation finance, build local capacity, and support resilience for livelihoods. In an interview with a key expert, the need to mitigate currency risk of investments made by PFAN in emerging markets particularly was highlighted as a key requirement to scale investments.

[231] The private sector can help prevent disasters | ARISE (ariseglobalnetwork.org)he private sector can help prevent disasters | ARISE (ariseglobalnetwork.org)

[232] The ARISE network initially merged several UNISDR private sector initiatives including, the Private Sector Advisory Group (PSAG), the Private Sector Partnership (PSP), and the RISE Initiative, to create the Private Sector Alliance for Disaster Resilient Societies (ARISE).

[233] Source: Interview with key members of the UNDRR ARISE Africa network on 28th July, 2021

[234] Source: Interview with key members of the UNDRR ARISE Africa network on 28th July, 2021

[235] http://www.coraf.org/

[236] PFAN | CONNECTING INVESTORS TO HIGH-POTENTIAL CLIMATE AND CLEAN ENERGY PROJECTS IN EMERGING MARKETS

[237] PFAN | Climate Change Adaptation - PFAN

6. Operational Recommendations

6.1. Summary

In this section, we have set out specific Operational Recommendations on how the EU can catalyse private sector finance in adaptation grouped around:

- Improving the enabling environment
- Financing National Adaptation Plans
- Supporting adaptation and climate resilient transactions
- Thematic specific opportunities; and
- General recommendations to enhance private sector engagement with EFSD+

6.2. Improve the enabling environment for private investment in adaptation

6.2.1. Enhance coordination between the ESFD+ financing instruments and EU and DFI adaptation policy dialogue and provision of upstream advisory services

The lack of strategic upstream policy dialogue between national governments and DFIs, and pipeline development, is a major barrier to private investment in adaptation. It is important that the potential role of instruments such as EFSD+ is emphasised during ongoing policy dialogue and advisory services such as:

- The climate-focused policy dialogue that the EU Delegations engage in with partner countries.
- DFI policy dialogue and upstream advisory services to convert aspirational national and sub-national policies and strategies into pipelines of specific and bankable opportunities.

Policy dialogue provides the opportunity to influence policymakers who might otherwise not be fully aware of the benefits of adaptation, which can deliver transformational impact greater than the sum of the impact from individual projects[238]. For example, many countries in Latin America and the Caribbean have been putting increasingly sophisticated public policy instruments and governance systems for climate change adaptation in place[239]. All countries in the region currently have climate change strategies that include climate change adaptation goals in strategic sectors. Many countries are also working to position themselves to make the best use of international climate finance.

As noted, however, there remain important barriers that limit investment in adaptation, and there is a key role for EU policy dialogue in upstream action to overcome these barriers (see Box 1). Once the enabling environment is in place, there is an opportunity to work with ministries and municipalities to convert aspirational adaptation and climate resilient development policies, strategies and plans into a pipeline of specific and bankable pipelineof projects. EBRD Green City Action Plans are an example of such an initiative (Box 2).

There is an opportunity for EFSD+ to coordinate with regional and country level EU and DFI policy dialogue and upstream advisory services to:

- Stimulate demand for EFSD+ by raising awareness; and,
- Provide greater foresight of opportunities, to allow for a more strategic response to leveraging private finance for adaptation.

There may be a role for EFSD+'s Technical Assistance to support these external initiatives in support of leveraging private finance for adaptation. Alternatively, EFSD+ may choose to fund project preparation as part of its own programmes (see Section 5.4.1 in relation to RECIDE). These efforts should concentrate on countries and regions (such as the Eastern and Southern Neighbourhood) where the role of upstream support is expected to be more important for unlocking opportunities for leveraging private finance for adaptation (see Section 2.3.3).

[238] https://www.ebrd.com/what-we-do/sectors-and-topics/policy-dialogue-and-sustainable-resources.html%20

[239] As evident, for example, in engagement in the case study countries of Chile, Costa Rica and Saint Lucia

Box 6.1 - EU policy dialogue on Climate Action in Latin America and the Caribbean[240]

Climate change is an important topic between the EU and countries in Latin America and the Caribbean. For example, Brazil and the EU work together on addressing deforestation and forest degradation, climate change vulnerability and adaptation. Bilateral trade agreements between the regions facilitate trade and foreign investment in environmental technologies are promoting climate change. Climate change is part of biennial summits between the EU and the Community of Latin American and Caribbean States (CELAC). In addition, regional dialogues on climate finance aim at combining domestic and international sources of financing. High-level political dialogues between the EU External Action Service (EEAS) and Latin America and the Caribbean partner countries include climate change. The EU supports Climate Action through:

- The regional flagship programme EUROCLIMA (EUR 11.5 million 2010-2013 and 2014-2016), its successor programmes (such as EUROCLIMA+) and similar regional programmes.
- The sub-regional programme for Central America (EUR 35 million for climate change and disaster management).
- Technical cooperation investment programmes under the Latin America Investment Facility (LAIF) and the Caribbean Investment Facility (CIF).

Box 6.2 – EBRD Green City Action Plans[241]

While investments in sustainable infrastructure are crucial, the EBRD recognises that complementary policy reforms also play a vital role in helping to achieve systemic impact. Policy dialogue between the EBRD and governments, other public-sector clients, as well as the private sector is therefore an essential aspect of the implementation of its Green Economy Transition (GET) approach. Donor funds also play a vital role as a catalyst for EBRDs policy-based lending. Launched in 2016, the EBRD Green Cities Framework is a strategic approach to addressing urban environmental challenges in the economies where it invests. Today, Green Cities is EBRD's largest investment programme, covering 44 cities in 22 countries, with more than €1.5 billion committed by the EBRD and multiple donors for investments and technical support. The framework seeks to help cities identify and prioritise environmental challenges and address them through targeted investments, services and policy instruments in a strategic and holistic manner. As part of the EBRD Green Cities approach, cities develop a Green City Action Plan (GCAP) – a process initiated by a technical diagnostic study followed by the development and approval of priority investments and policies. The purpose of a GCAP is to apply a systematic, evidence-based approach to prioritising green city projects and to identifying the right enabling framework of policy, regulation and incentives.

The Green City Action Plan process

6.3. Building capacity and stimulating demand

Many of the countries where the need for adaptation is greatest are also that where private sector capacity to identify and act on climate risks, and to engage with financial instruments such as those available through EFSD+ is lowest. In particular, it is clear from country-level engagement that a key barrier is not simply financial risk, but a combination of a lack of awareness of potential risk reduction measures, coupled with the lack of clear examples where investing in adaptation measures has been clearly beneficial among similar enterprises in the country. With limited resources and capacity, and in the absence of clear examples of good practice, there is a reticence to engage in what is perceived as unproven adaptation measures. As such, country stakeholders highlighted the role of targeted technical assistance to

[240] https://ec.europa.eu/clima/policies/international/cooperation/latin-america_caribbean_en
[241] https://www.ebrd.com/what-we-do/get.html

first work with specific private sector partners[242] in order to create demonstration cases which can serve as learning examples for the wider sector, which could then be followed by support to build capacity more widely to raise awareness of best practice.

National Adaptation Plans provide a natural entry point to engage the private sector, as outlined below. Although the private sector has had limited engagement in most NAP processes[243], there is a growing recognition of the need for private investment in the implementation of the adaptation priorities set out in the NAPs. A large number of organisations[244] exist in different countries with a mandate to support private sector growth and investment, and these groupings provide an important entry point for building private sector capacity on adaptation. Country engagement with various of these organisations highlighted that support is being provided to members to implement greener practices relevant to climate change mitigation with energy efficiency as primary focus, but that activities related to adaptation were limited, or not considered at all. We recommend engaging with private sector associations, chambers of commerce and trade organisations specifically around the implications of the adaptation frameworks set out in the NAP, and the opportunity to shape and develop investible projects that support national adaptation priorities, and have a clear return on investment.

Box 6.3 – The experience of the Saint Lucia Climate Adaptation Financing Facility[245]

- The experience of the Saint Lucia Climate Adaptation Financing Facility (CAFF) provides an illustrative example of problems with demand. Established under the Saint Lucia Disaster Vulnerability Reduction Project as part of the Pilot Program for Climate Resilience, the CAFF offers concessional climate change adaptation loans, through the Saint Lucia Development Bank, to individual households and businesses. Despite having been established to respond to clearly articulated demand for on the ground finance for adaptation, initial uptake of loans was low. This is attributed to a combination of limited awareness of the facility, limited understanding of the sort of measures eligible for funding, and examples of good practice, and a process that was overly bureaucratic for the target customers it was trying to reach. Following significant outreach and awareness-raising campaigns, the CAFF now plays an important role in supporting SMEs both in post-Covid recovery and in building resilience.

6.3.1. Financing National Adaptation Plans

Private sector involvement in the NAP process has, in general, been relatively limited. In order to unlock the level of investment needed for the implementation of adaptation priorities contained in NAPs, private sector engagement and finance is critical. The development of a NAP has traditionally been seen as a public good, with limited role for the private sector, however, it is much more difficult to effectively match private sector finance with projects prioritised in a NAP if there has not been an ongoing process of engagement in the NAP development phase. There is an important role for EU delegations both with regards to increasing engagement in the process of NAP development, and in helping to move from plans to implementation. In particular, there is an opportunity to both play a convening role in bringing the private sector into the NAP process, and raising awareness of the potential for investment, and to facilitate knowledge exchange from best practice examples currently being carried out in Europe:

Support private sector engagement in the development of finance and implementation plans for NAPs. NAPs provide a strong diagnostic of adaptation needs in a country, however, there is an observed gap in many partner countries with regards to implementation and finance. Several countries have developed NAP financing frameworks, or action plans[246], which seek to lay out in more detail how priority actions will be financed. Delegations can work with relevant national ministries to encourage and support the development of NAP financing frameworks, and emphasise the role of private sector investment in this process. Even where financing frameworks have been developed, a key gap

242 These private sector companies would be identified as those that are both trusted and respected within the sector, and can therefore act as flagshipexamples, and those expressing a clear desire to work on adaptation issues. Ideally such assistance would include companies of a range of sizes, andspecifically include examples from SMEs and start-ups.

243 See for example NAP Network guidance on engaging the private sector: Financing National Adaptation Plan (NAP) Processes | International Institute for Sustainable Development (iisd.org)

244 Including, for example, trade associations, chambers of commerce, national development agencies, as well as international partners such as the privatesector development arms of MDS and DFIs.

245 https://ec.europa.eu/clima/policies/international/cooperation/latin-america_caribbean_en

246 See for example Cambodia's National Adaptation Plan Financing Framework and Implementation Plan, or Ethiopia's National Adaptation Plan Implementation Roadmap.

remains demonstrating the business case and rationale for private sector investment, and targeted assistance to support business case development, as discussed below, would significantly strengthen the development of NAP finance plans.

Provide Technical Assistance to support business case development for NAP projects. The priority adaptation actions identified in NAPs provide the framework showing where investment is needed in order to achieve national goals on adaptation and resilience, but are a long way from being well-developed projects, with a clear business case for investment. EU delegations can seek to provide technical assistance to support the development of investible projects, with a clear business case (see 5.6.2), in order to create a NAP pipeline of projects which are ready for private sector investment. An explicit part of the scope of any technical assistance needs to be an explicit understanding of the needs of national different private sector investors, to ensure projects that are appropriately tailored to the context.

Share expertise in models for private investment in natural capital and land restoration. The preservation and enhancement of natural capital is a key enabling factor underpins the adaptation activities identified across a majority of the NAPs, including, for example, watershed conservation, afforestation, and sustainable land management. There are a number of interesting examples of private investment in conservation and restoration[247], and a burgeoning market for investment in natural capital. Europe is at the forefront of these initiatives, and there is an opportunity to a) share experiences of successful European examples, demonstrating to national private sector financiers that there are successful natural capital investments to be made based on priorities in the NAP, and b) engage financiers involved in existing European schemes and demonstrate the potential to replicate the model in developing countries.

Develop case study examples of private investment aligned with NAP priorities. A significant barrier identified through country engagements was wariness among the private sector related to the fact that there are limited or no examples of adaptation investments by national private sector actors that could act as models to follow, or demonstrate the viability of such investments. Many NAP priorities in sectors such as agriculture, for example scaling up climate-smart agricultural practices, or the adoption of climate resilient water infrastructure, will be supported by investments from private sector companies to support the resilience of their operations and supply chains (see 5.8 and 5.9 in particular). In many of the case study countries there remains limited awareness among the private sector of the financial impacts of climate change on revenue, although this is slowly growing. There is an opportunity to work with a selection of private sector companies to build their understanding of the financial implications of climate change, and to highlight and share case study examples that can then encourage wider investment.

Dialogue with national governments to develop appropriate regulation (national taxonomies and disclosure). A major driver of private sector action on climate globally has been the development of regulations and frameworks for the categorisation, disclosure and reporting of climate risks and adaptation actions. There is an increasingly rapid move in Europe to integrate climate and sustainable finance into financial system regulations, for example plans for TCFD reporting to become mandatory in the UK and elsewhere, and the EU Sustainable Finance Disclosure Regulation. The lack of clear regulation has been frequently highlighted as a barrier to private sector action in partner countries, and there are a number of countries where this is being addressed through the development of national green finance taxonomies, for example in Georgia and Sri Lanka. EU delegations could leverage advice and lessons learned through the development of European regulation, and engage in dialogue with both national government and private sector representatives to support the development of nationally appropriate regulations.

6.4. General recommendations to support adaptation and climate resilient transactions

Below we have set out some specific considerations to manage physical climate risks to EFSD+ activities and in the process drive investment in adaptation and climate resilience, as well as enhance the attractiveness of EFSD+ to private sector investors into adaptation and climate resilient transactions. In doing so, reference should also be made to 'broader recommendations to improve the efficiency and effectiveness of engaging the private sector (not adaptation specific), which could also be applied to adaptation and climate resilient transactions.

[247] Such as the recently launched Revere Fund in the UK, mobilising private capital for investment in Natural Capital and Ecosystem Services.

6.4.1. Establish an integrated physical climate risk management system across all supported instruments and pass down requirements to implementing partners and intermediaries.

The TCFD was established to promote more informed investment decisions and better enable stakeholders to understand the financial system's exposures to climate-related risks. The EU's Sustainable Finance Disclosure Regulation (SFDR)[248] also sets specific rules for how and what sustainability-related information financial market participants and financial advisers operating in the EU need to disclose. The regulation aims to discourage greenwashing and promote responsible and sustainable investment by setting common EU rules on how:[249]

- Financial product manufacturers and financial advisers should inform end-investors about materialsustainability risks.
- The impact of investments on the environment and society should be disclosed; and
- Financial products that are marketed as sustainability-related actually meet that ambition.

Under the SFDR, in scope financial market participants and advisers need to integrate relevant sustainability risks (including physical climate risk) that have a material impact on the financial return of an investment or advice into their policies and processes and assess this on a continuous basis[250]. The extent that activities are associated with environmentally sustainable economic activities also need to be disclosed under the EU Taxonomy Regulation, including screening criteria for what can be considered to provide a substantial contribution to climate change adaptation. These criteria highlight the intrinsic link between the management of physical climate risk and investment in adaptation.

Physical climate risks are risks with financial implications resulting from climate change which can be either event driven (acute) or longer-term shifts (chronic) in climate patterns[251]. Where physical climate risks are material potential financial impacts can include[252]:

- Changes (possibly more volatile and unpredictable) in demand for products and services and reduced production capacity (**revenue**).
- Less stable/predictable and increased capital and operating costs, including insurance and the potential for reduced availability of insurance and increased insurance excess (**expenditure**).
- Write-offs and early retirement of existing assets (**assets and liabilities**).
- Changes to capital and reserves from operating losses, asset write-downs, or the need to raise new equity to meet investment (**capital**)
- Higher equity prices paid for assets, increased debt or cost of capital, and changes in the ability to raise new debt or refinance existing debt or reduce the tenor of borrowing available to the organisation (**financing**).

The aggregation of physical climate risk across the portfolios of EFSD+ implementing partners or intermediaries has the potential to present operational risk (financial, reputational and compliance), credit[253] and counterparty risks. However capacity within most corporations, fund managers and financial institutions (outside the MDBs) to identify and manage physical climate risk and invest in adaptation is still developing. A core component of managing physical climate risk for EFSD+ is therefore understanding the strength of counterparties physical climate risk governance, strategy, risk management and metrics and targets.

As part of existing risk management processes and procedures, it is recommended that EFSD+ assesses implementing partner and intermediary capacity to manage physical climate risk. For example, the EIB's Climate Risk Assessment (CRA) system is cradle to grave system which is integrated within the EIB's project management procedures and existing systems, to assess physical climate risks to all projects irrespective of geography, economic sector and financing type. For fund, equity, grants, intermediated lending and guarantees the emphasis of the EIB's CRA system is to establish that counterparties have appropriate processes and procedures in place manage physical climate risk[254]. Where this is the case the EIB is then able to delegate responsibility and have confidence that material physical climate risks will be managed to a suitable standard and that the desired adaptation outcomes will be realised. Any gaps identified in a

248 Which came into effect on 10th March 2021.

249 https://ec.europa.eu/commission/presscorner/detail/en/mex_21_1106
250 https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/sustainability-related-disclosure-financial-services-sector_en

251 TCFD 2020; EBRD 2018
252 TCFD 2017; TCFD 2020

253 Client's Probability of Default (PD) and/or its Loss Given Default (LGD)

254 Focusing on the four pillars of the TCFD (Governance, Strategy, Risk Management and Metrics and Targets).

counterparty's capacity can then inform appropriate action, as appropriate, such as conditions or targeted technical assistance to build capacity.

The EU has recently adopted 'Sustainability Proofing Guidance' in relation to the financial programming of the InvestEU programme. Under this guidance, before committing resources, it is necessary for financial institutions to undertake a climate vulnerability assessment for the project. In cases where that vulnerability assessment identifies a medium or high climate risk, it requires that a climate risk assessment be undertaken. The climate risk assessment 'provides a structured method of analysing relevant climate hazards and their related impacts to provide information for decision-making in relation to the proposed investment. Any potential significant risks to the project due to climate change should be managed and reduced to an acceptable level by relevant and commensurate adaptation measures to be embedded in the project.' The Commission has also provided structured guidance on how both the vulnerability assessment and climate risk assessment should be undertaken. The EFSD Regulation[255] requires that "when supporting operations with the EFSD Guarantee, an in-depth ex ante assessment of environmental, financial and social aspects should be carried out." However, at present, there are no similar requirements to those described above for InvestEU for programming EFSD resources.

Some implementing partners suggested that, in order to enhance awareness of the risks posed by climate impacts, and the opportunities for adaptation/resilience measures to reduce these risks, somewhat similar guidance could also be applied to the use of EFSD+ resources in the future. There is however a concern that guidance that was too prescriptive may not be appropriate given the wide variety of often challenging environments in which EFSD operates, and the wide range of different institutional practices that have already been adopted to account for these challenging contexts. One option might be to require institutions using EFSD+ resources to sign up to a principle on the importance of screening for climate risks and designing responses in cases where risks are high, but to allow for operational flexibility on how this principle is implemented.

6.4.2. Enhance Monitoring, Reporting, Verification (MRV) and impact reporting for implementing partners and intermediaries.

A robust understanding and disclosure of a project's performance is a central principle of sustainable finance, the recommendations of the TCFD and the EU SFDR. Private investors and partners are also typically seeking more than financial returns on their investments including demonstrable positive impact and outcomes. Existing implementing partner and intermediary frameworks need to be augmented and indicators developed to allow for the robust and transparent measurement of a project's sustainability performance to offer confidence and reassurance to shareholders, regulators and project stakeholders. As part of the process for physical climate risk management, discussed above, there is an opportunity for EFSD+ to measure activity- specific adaptation performance.

The definition of an appropriate framework is a fundamental step in establishing a robust and transparent process for demonstrating how the EFSD+'s operations generate adaptation outcomes and impact ex-ante. Results- based management frameworks are the most common approach for measuring a project's performance through monitoring and evaluation. Based on a Theory of Change approach, the aim is to demonstrate the cause-and- effect relationship between a financial contribution, financial facilitation and financial and/or technical advisory services and project level adaptation outcomes and wider benefits to society.

It is also recommended that EFSD+ establishes reporting requirements with each implementation partner and intermediary, to enhance their existing MRV processes to include transparent measurement of a project's or instrument's sustainability outcomes, impacts and performance using quantified KPIs where possible, to offer confidence and reassurance to shareholders, regulators and project stakeholders. It is however important to take account of implementing agency feedback regarding already onerous reporting requirements. This requirement should therefore complement existing reporting obligations.

A Theory of Change at EFSD+ level could support in the definition and communication of measured impacts and outcomes as well as defined inputs and activities for all counterparties (sovereign, local government, DFIs, public, and private). This could then be used and adapted locally by implementation partners and intermediaries, as required, to support the business case and provide a common understanding. Materials aimed at private sector participants may not wish to use the term 'Theory of Change', as it is not a widely used term in mainstream private finance, but the commercial investment business case and investment papers will still require inputs, activities, outcomes and impacts etc taken from the Theory of Change.

[255] (EU) 2017/1601 of the European Parliament and of the Council of 26 September 2017 establishing the European Fund for Sustainable Development (EFSD), the EFSD Guarantee and the EFSD Guarantee Fund EUR-Lex - 32017R1601 - EN - EUR-Lex (europa.eu)

6.4.3. Understand and integrate private sector legislative drivers and risk perspectives to align with emerging private sector requirements

As is noted elsewhere in this study (cf. page 51), the private sector does not typically consider adaptation or climate resilience as a separate assess class to other climate finance. However private investors increasingly have appetite for climate resilient investments which meet both risk-adjusted commercial returns and can demonstrate positive outcomes / impacts in emerging markets. Such investments may also have adaptation and / or climate resilience benefits which may be direct or indirect.

Private sector investors are increasingly guided by new and emerging legislation, and the need to demonstrate good practice in terms of consideration of sustainability and climate risk to their stakeholders. There is a plethora of such legislative and stakeholder drivers which will determine the specific actions required by private investors within the EU and elsewhere, to consider adaptation and resilience. This will require consideration of regulation which, within the EU, includes but is not limited to:

- EU Taxonomy Climate Delegated Act, Annex II[256] on adaptation, supplementing Regulation (EU) 2020/852 (the Taxonomy):
    - Specifically, the 'Technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives' and
- EU Non-Financial Disclosure Regulation[257] (soon to be replaced by the Corporate Sustainability Disclosure Regulation)
- EU Sustainable Finance Disclosure Regulation, SFDR[258]

And, good practice including:

- Task Force on Climate-related Financial Disclosures (TCFD)[259]
- International Financial Reporting Standards (IFRS) / International Sustainability Standards Board (ISSB)[260]

In order to align with these emerging requirements, which in many cases, are already material considerations for private investors, there is an opportunity to ensure the design and operational deployment facilitates private sector engagement and is a frictionless as possible. Recommendations made in 'Establish an integrated physical climate risk management system', and 'Monitoring, Reporting, Verification (MRV) and impact reporting', around universally mandating requirements with each implementation partner and intermediary, are made to help facilitate this engagement. This is intended to reducing administrative / bureaucratic barriers and costs for private investors in due diligence and investment monitoring. This applies more generically across EFSD+ and other instruments, not just for adaptation and resilience considerations given the broad application and scope of these requirements for the private sector.

6.4.4. Increase standardisation – develop a process 'handbook'

One of the key barriers of entry for private investors is the time and cost of conducting due diligence to enable the project / opportunity to be screened, structured, considered in investment committee and monitored. Private investors struggle with inconsistent and opaque performance metrics and adaptation outcomes. Standardization will enable private investors to assess risk adjusted commercial returns for a project. There is an opportunity to develop a 'handbook' to harmonise, standardise and streamline documentation and processes for project selection, business case development, risk assessment / due diligence, legal structuring, MRV etc. - lowering cost of private sector due diligence.

The handbook could be developed at the EFSD+ level, working with the DFIs, and passed down for implementation at the DFI and intermediary level, where applicable:

- Increase understanding of the need for a commercial business case for investing in adaptation, including through the quantification of costs and benefits.
- Ensure Transaction Advisor (advisor to public utilities / municipality) applies standardized scope and considers climate adaptation resilience within RfP. Integrated within all design, feasibility, construction, operation and

[256] taxonomy-regulation-delegated-act-2021-2800-annex-2_en.pdf (europa.eu)

[257] EUR-Lex - 32014L0095 - EN - EUR-Lex (europa.eu)

[258] EUR-Lex - 32019R2088 - EN - EUR-Lex (europa.eu)

[259] Task Force on Climate-Related Financial Disclosures (fsb-tcfd.org)

[260] IFRS - Sustainability Reporting

maintenance, decommission stages. Include full forecast of Capex and Opex provisions to meet - i) base case financial model, plus forecast ii) climate physical adaptation requirements and iii) transition risks eg power price, government policy / incentivisation factors etc. Transaction Advisors should work with all parties to ensure data room structures and legal documentation is harmonised etc.

- Provide tools, templates, guidance documents for: pitch packs, technical data, scope of works for Technical Advisors, Technical Assistance reports, legal documents.

Technical Advisor / Assistance could be provided to develop standard tools, templates, guidance documents etc. and embedded within DFIs and financial intermediaries by building capacity.

6.4.5. Consider developing a climate quality assurance certification label / standard

Given the highly variable application and technical approaches to climate risk and opportunities considerations, there is an opportunity for EFSD+ to develop a global quality assurance and certification label / standard. External, independent third-parties, could be used to provide verification / assurance. This label / standard, when assured by a third party, would provide private investors with confidence that a EFSD+ supported project meets minimum requirements for climate good practice including meeting criteria for adaptation and resilience, and lower due diligence and monitoring costs. Technical Assistance could be used to develop the certification label / standard building on existing schemes e.g. participants from green bond certifications, FAST Sustainable Infra Label external reviewer, ISO standard assurance providers, and carbon verification schemes, etc.

6.4.6. Highlight expectations around adaptation/climate resilience with ramp-up obligations

EFSD+ should clarify its expectations regarding the amount of activity that implementing partners in guarantee programmes should seek that includes climate resilience considerations. Similar expectations should be identified in relation to the allocation of technical assistance expenditure. However, given the risks of crowding out other types of valuable investments or making it very difficult to programme EFSD+ resources, it is likely to be preferable to express these as targets/expectations, rather than contractual minima. In developing the guidelines around these expectations, EFSD+ needs to pay particular attention to the discussion provided earlier that climate resilience is not recognised as a separate asset class by the private sector (or many potential implementing partners) and that separate identification as to the proportion of spend in any project that is adaptation spend can be very difficult. As such, it may be preferable to express any expectations in terms of the proportion of projects/transactions in which climate risks have been identified and incorporated into the way in which the project/transaction has been designed.

6.5. Thematic specific opportunities

6.5.1. MSMEs

To enhance adaptation within the MSME theme, the greatest opportunities for EFSD+ are through complementing provision of capital to local FIs with technical assistance to those FIs to ensure that the capital is used in a way that supports climate resilience. There are two models EFSD+ might consider:

Undertaking country- or regional- specific market studies that allow the identification of particularly technologies relevant to important climate risks. There would then be a minimum requirement placed on the proportion of the capital provided to the local FI that would need to be allocated to these activities. This has the benefit of significantly simplifying the assessment that local FIs have to make as to what activities constitute adaptation. This may be a more plausible model to adopt in low-capacity environments and is a well-recognised approach. For example, the Tajikistan Climate Resilience Financing Facility CLIMADAPT has supported local FIs in providing loans for adaptation through its 'Technology Selector', a list of pre-approved technologies and suppliers with thoroughly estimated climate resilience benefits[261]. Looking forward to where else this model might be deployed with the case studies examined for this report, in Tunisia, the Ministry of Agriculture has recently commissioned a socio-economic study to develop a green economy with a key focus on innovative technologies that can deliver this objective, particularly in the agriculture and forestry sector[262].

[261] EBRD (2018) ClimaAdapt: Gender sensitive climate resilience investments in Tajikistan. Available at: https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/1091_gender_daycop24_case_study_final.pdf

[262] Source: Expert interview with a delegate from the Ministry of Agriculture, Tunisia on 28th April 2021

Supporting local FIs in building their own capacity to screen for climate risks so that, over time, they identify and select projects that support resilience. This is a more flexible model that offers greater potential for transformational change after any EFSD+ intervention concludes. It is also an approach that builds on the growing salience among financial institutions on climate risk disclosures. However, the experience of IFIs who have sought to adopt this model to date is that it can be an intensive exercise over many years. For example, in Georgia the National Bank of Georgia (NBG) have been organizing a series of events to build awareness and capacity among their staff on the sustainable finance taxonomy, including its adaptation elements. However, it recognizes the need for further technical support to roll out the process amongst Georgia's 16 major commercial banks[263]. Similarly the TBC (Tbilisi Business Centre) Bank in Georgia has been implementing initiatives for financial literacy among STEM professions to develop the technical capacity of the local workforce in carrying out climate risk due diligence. This model may be more appropriate model in higher capacity environments where FIs are already more sophisticated.

6.5.1.1. Sustainable agriculture, rural entrepreneurs and agribusinesses

To support adaptation and climate resilience within the sustainable agriculture theme, **EFSD+ should give particular emphasis to multi-instrument initiatives and initiatives that support consideration of the benefits of climate smart agricultural techniques into the credit scoring techniques of local FIs**. The challenges associated with smallholder farmers adopting climate resilient technologies and behaviours, and the extent of their climate vulnerability, mean that it is well-recognised that multiple instruments are needed to support a change in practices. This was further corroborated by the interviews for this report in Georgia, Nepal, Sri Lanka and Costa Rica. These instruments might include loans (potentially supported by guarantees), technical assistance, insurance, access to savings products and incentive payments when practices are adopted. The integration of these different instruments provides farmers with a range of different ways in which they can both manage climate risks and adopt more resilient practices. There appears to be particular value, and potential for scale, in working with financial institutions that provide agricultural finance to build their capacity to incorporate the benefits of resilient agricultural practices (which translates into loan portfolios facing less physical climate risk) into their credit scoring techniques. EFSD+ could provide partial guarantees on either IFI or private debt placements providing capital into a fund offering this suite of interventions and use its technical assistance resources to help both financial institutions and smallholders understand the benefits of adopting climate resilience practices.

6.5.1.2. Climate-resilient infrastructure

Given that resilient, sustainable infrastructure is becoming an emerging asset class in the debt refinancing market, EFSD+ could look to use its guarantee to support the issuance of green bonds from issuers who might otherwise fail to secure an investment grade credit rating, with the proceeds used to finance or re- finance eligible projects with adaptation features. This would help to extend the growing investor appetite in green bonds and encourage its development towards new issuers and to facilitate a greater focus on infrastructure with adaptation characteristics within this asset class. To engage international investors, this intervention is likely to be more effective for large scale infrastructure investments in transition economies like Chile, or in the OECS (Organisation of Eastern Caribbean States), EU Eastern Neighbourhood where the clarity in the legal regime, policy and regulatory support is already in place[264]. However, in addition, EFSD+ could support local currency bond issuance by aggregation vehicles intended for domestic investors, that use the proceeds to support multiple projects with adaptation and climate resilience characteristics within a particular region and/or thematic area. This latter model would have the benefit of not only encouraging capital flows to climate resilient infrastructure assets and projects but also supporting local capital market development, although it needs that market to be sufficiently mature and liquid in the first place to be viable. As discussed above, rather than requiring a detailed assessment of the exact proportion of a particular project/transaction that is climate resilient, the focus should be on including projects where climate risks have been screened and the project has been made more climate resilient as a consequence. In addition, EFSD+ guarantees should also continue to support project finance transactions involving climate resilient infrastructure including through credit enhancement and/or guarantee on payments made, or subject to approval by, public sector bodies.

EFSD+ technical assistance resources can play a vital role in developing climate resilient infrastructure by i) supporting climate-informed upstream assessments of infrastructure need, ii) facilitating climate risk screening of individual assets by municipalities, iii) ensuring explicit integration of climate risks into PPP frameworks through supporting transaction

263 Source: Expert interview with NBG, TBC Georgia. There are 16 commercial banks in Georgia who need further technical and financial assistance to build capacity on climate risk consideration.

264 Based on expert interviews in Chile, Saint Lucia, Costa Rica, Georgia and Tunisia.

advisory services, iv) supporting the development and use of infrastructure standards that account for climate risks, and v) co-operating with international initiatives.

As set out in more detail in Section 5, all of these complementary initiatives have a vital role to play in making sure that urban development in low and middle-income countries proceeds in a climate-risk informed way. The upstream assessments recognize that decisions over infrastructure and land-use can lock-in climate vulnerability for decades if made inappropriately, while building climate risk screening into the development of individual projects can often help build climate resilience at low cost. Ensuring that PPPs consider climate risks is an important way in ensuring that incentives for long-term resilience are preserved throughout the life of a PPP contract while support for climate-informed infrastructure standards can be one route through EFSD+ for individual projects may be able to effect more transformational change. Engaging with in international initiatives intended to support the sustainable development of infrastructure, including ensuring its climate resilience, such as the standard FAST Infra Labelling system, will help provide a regular forum for engagement with private investors.

6.5.1.3. Digital technologies

The greatest opportunities for EFSD+ to support climate adaptation within this theme is to apply its learning and experience from its more general support for digital technologies to the wide range of digital technologies that enable others across the economy to undertake adaptation. These technologies include remote sensing drought management tools, sea-level process software, e-health solutions, intelligent transportation systems and digital water monitoring technologies. Providers of these types of digital solution are likely to require growth equity capital and potential capital provides into funds allocating this capital are likely to benefit from the guarantees/first-loss positions that EFSD+ can take. The CRAFT private equity model provides an example that EFSD+ might seek to scale up. The nature of these technologies and solutions mean that a specific geographic focus is unlikely to be appropriate (beyond an expectation that the technologies will be primarily applied in developing countries) but EFSD+ technical assistance resource could be usefully deployed in helping potential purchasers of these technologies better understand the value proposition they offer.

6.6. Other recommendations to enhance private sector engagement with EFSD+

6.6.1. Context of attracting climate and sustainable investment

Private investors are increasingly interested in investing in projects and platforms with defined beneficial outcomes and impact, along with traditional expectations around risk-adjusted financial return. Some markets where EFSD+ will operate are expected to offer some of the most attractive rates of return for private investment, and at the same time contribute to sustainable outcomes. However, attracting private investors typically requires an alignment of interest along the whole value chain between:

- End recipients (local beneficiaries of funds),
- DFIs / MDBs (partner intermediaries),
- EFSD+ (guarantor / blended finance),
- asset managers, (e.g. private fund managers with fiduciary responsibilities to their clients ie investors / asset owners), and / or
- asset owners (private investors such as pensions, family offices and high-net worth individuals, sovereign wealth, investment bank institutional balance sheet, all with fiduciary responsibilities to their various end beneficiaries).

Understanding fiduciary and trustee responsibilities of asset managers and asset owners and the roles played is crucial in getting this alignment of interest and attracting investment. For privately managed funds, once a fund has been raised, most asset managers can only make investments within a defined and agreed investment criteria and risk appropriate as set out in the mandate to which asset owners have agreed also. Once agreed, prospects are assessed by the asset manager against the criteria of the mandate. Asset owners will also typically have defined criteria for asset allocation. In both cases, prospects will typically be considered by investment committee for scrutiny. If these criteria are not met, the investment will not be made. Mandates typically includes specific investment criteria such as defining:

1. Thematic investment case
2. Asset types
3. Region

4. Hurdle rate for commercial return
5. Risk appetite
6. Exclusions
7. Legislative requirements
8. Environmental and social safeguards
9. Monitoring and verification
10. Impact reporting and metrics

Enabling EFSD+ to be mutually aligned with private sector expectations, operations and outcomes as set out above, will enable the private sector to engage. However, this will require clear articulation of the benefits of the EFSD+ platform to the private sector noting expectations on fulfilment of all the typical investment criteria requirements outlined above.

Overlayed on this are the increasing requirements to comply and align with emerging legislative and good practice as outlined in Section 6.2. In order to align EFSD+ with these emerging requirements, which in many cases, are already material considerations for private investors, there is an opportunity to ensure the design and operational deployment facilitates private sector engagement and is a frictionless as possible.

6.6.2. Prioritize projects aimed at private investors

In consideration of the requirements of private investors, noted above, DFIs and intermediaries could pre-screen prospective projects using standardised, weighted criteria, designed to support successful private investment. Such criteria may include scoring alignment with the following:

1. Is there evidence of a robust business case including commercial rate of return (risk adjusted) and a robust base case finance model?
2. Is the credit rating investment grade e.g. >BBB- (S&P) (see other recommendations) – if not what measures are required to enhance (including EFSD+ guarantees etc.)?
3. Have the key risks been identified and mitigated / transferred, (including EFSD+ backed risk transfer insurance / reinsurance)?
4. Has due diligence been conducted to ‘bankable’ level, including available environmental and social
5. assessments? If not, what is required and is there technical assistance available?
6. Has a full physical climate risk assessment been conducted with base case sensitivity and scenario analysis as appropriate?
7. What are the specific adaptation outcomes?
8. Is there defined alignment with and / or contribution to National Adaptation Plans (NAP) and Nationally Determined Contributions (NDC)?
9. Have the project finance legal documents been developed? If not, what is required and is there technical assistance available?
10. Is the project replicable in country or elsewhere?
11. What is the ease of project / platform scalability?
12. Is the investment additional in the local market context (ie private investment is not crowding out other local market)?
13. Is the project / platform innovative (in business model or technology)?
14. Is there appropriate Monitoring, Reporting and Verification (refined KPI and metrics)?

These weighted criteria can then be scored to form a rating to show the likelihood the project / platform could be supported by private investment. This could be a dynamic score as the project / platform is structured.

This approach is ideally suited for implementation partners and intermediaries within project pipeline origination activities, where there are prospective direct private counterparties eg power, urban infrastructure and agriculture sectors.

6.6.3. Harmonize contracting approaches for guarantees and technical assistance

Future guarantee programs under EFSD+ will run more smoothly and be able to generate deal flow more quickly if there was one contractual agreement with implementing partners providing both access to the guarantee facility and to technical assistance resources. At present under EFSD these resources are covered through separate contracts and there have been multiple instances where implementing partners have access to the guarantee but not the technical assistance or the technical assistance but not the guarantee. This has slowed down EFSD implementation, a problem that could become greater under EFSD+ given its greater scale.

6.6.4. Exploit private interest in climate / sustainable investments and disclosures

As identified in Section 2, there is growing private sector interest in integration of sustainability considerations within thematic capital allocation and investment decision making. This includes assessment of wider sustainability impact and outcomes, reporting and disclosure, e.g. using the TCFD and SFDR frameworks. Locally, sovereigns are starting to develop taxonomies to consider alignment of sustainable activities. For example, Georgia, Bangladesh and Sri Lanka are in the process of developing their own sustainable finance taxonomies drawing on the experiences of the EU Taxonomy to make it nationally relevant and locally applicable (see Section 4).

There is an opportunity to develop this interest, which can be a useful gateway for implementation partners and intermediaries to attract private sector engagement. EFSD+ has a potential advantage as, in comparison to those providing dedicated climate finance, its focus can be on facilitating the mainstreaming of climate change considerations into wider development activities without needing to isolate and concentrate support specifically on mitigation and/or adaptation activities.

However, given the market potential for climate and sustainable investments, there are a growing host of competing public / private platforms and initiatives being developed, and so without clear insight into both of these key objectives of EFSD+ from the outset, and with as little friction as possible, private investors via implementation partners, will struggle to engage with EFSD+ at scale, (see below for recommendations of promotion of EFSD+'s market differentiation).

6.6.5. Promote EFSD+ market differentiation

Given the opportunities identified above EFSD+ could also consider its market differentiation, to enable engagement with private investors and ensure the platform is aligned with mutual long-term commercial objectives. In consideration and implementation of some of the recommendations listed elsewhere in this report, the EFSD+ platform can programmed for more effective implementation and private investment engagement.

Once EFSD+ is close to deployment, this could promote the market differentiation of EFSD+ designed to enable private sector engagement (include those identified within this report). Obtaining selected private sector endorsements from recognized institutions, implementation partners and intermediaries, and national governments, would also be critical as part of that demonstration effect.

An EFSD+ communications / promotion plan could then be used to enable engagement with the wider private sector and to communicate key features and benefits of private investors participation. This could also be used to engage interested private sector parties to help shape the operational; implementation and deployment of EFSD+.

Technical Assistance could be used to set up a multi-stakeholder engagement platform, to include expertise from communications and media agencies, to support a communications / promotion plan to include private sector engagement working with local implementation partners and intermediaries.

Appendix A. Summary of Stakeholder Engagement

A detailed stakeholder engagement was conducted for this study with a total of 60 interviews carried out and 96 delegates interviewed. Below is a summary of the stakeholder engagement exercise undertaken for this study:

Summary of the Stakeholder Engagement

Stakeholder Type	No. of Interviews conducted	Total no. of Interviewees
Internal EC Contacts	4	6
External Contacts		
Other FI's	9	13
Case Study Countries		
Chile	5	10
Costa Rica	5	4
Georgia	5	8
Nepal	2	2
Saint Lucia	3	7
Sri Lanka	2	2
Tunisia	7	11
Zambia	2	4
MDB/DFI's	11	21
EFSD Guarantees	4	9

Interviews with Internal EC Contacts

Interviewee Name	EC Division	No. of Interviews	Interview Date (s)
Jose Carlos Edo Monfort	DG INTPA	1	26.03.21
Filippo La Verghetta	DG INTPA	2	24.02.21 & 26.04.21
Javier Fernandez Admetlla	DG INTPA	1	24.02.21
Miguel Campo Llopis	DG INTPA	1	22.04.21
Paz Velasco Velazuez	DG INTPA	1	22.04.21

External Stakeholder Engagement – Case Study Countries

Organisation Name	Country/Region	No. of Interviews	No. of Interviewees	Interview Date(s)
EU EEA	Chile	2	2	31.03.21 05.05.21
Prof. Universidad de Chile	Chile	1	2	11.05.21
Ministry of Env	Chile	1	1	06.05.21
COP 25	Chile	1	1	09.05.21
University of Chile	Chile	1	1	08.03.21
EU EEA	Costa Rica	1	1	23.04.21
UN	Costa Rica	1	1	15.04.21
Euro Clima	Costa Rica	1	1	15.04.21
Peninsula Papagayo	Costa Rica	1	2	23.04.21
Fund Cooperation	Costa Rica	1	3	19.03.21
EU EEA	Saint Lucia	2	4	05.03.21
Department for Sustainable Development (SIDS)	Saint Lucia	1	2	14.05.21
World Bank	Saint Lucia	1	2	11.05.21
EU EEA	Georgia	1	2	15.04.21
Ministry of Env, CC Division	Georgia	1	2	23.04.21
TBC Bank	Georgia	1	1	26.04.21
NBG	Georgia	1	2	14.05.21
Rural Development Agency	Georgia	1	1	10.05.21
Ministry of Env, CC Division	Tunisia	1	1	28.04.21
Ministry of Agri	Tunisia	1	1	23.04.21
Europa	Tunisia	1	1	27.04.21
GIZ	Tunisia	1	5	23.04.21
EBRD - GEFF	Tunisia	2	2	26.04.21
EBRD Infra	Tunisia	1	1	14.04.21
EU EEA	Nepal	1	1	13.05.21
Energy and Environment, Federation of Nepalese Chambers of Commerce and Industry	Nepal	1	1	09.04.21
CC Secretariat	Sri Lanka	1	1	07.05.21
Sustainable Banking (SDB)	Sri Lanka	1	3	18.05.21
European Union Delegation to the Republic of Zambiaand COMESA	Zambia	2	4	31.03.21 18.05.21

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External Stakeholder Engagement – MDB's, DFI's, EFSD Guarantees, Other FI's

Organisation Name	No. of Interviews	No. of Interviewees	Interview Date(s)
IDB Invest	1	2	13.04.21
IADB	1	3	08.04.21
AFD	1	1	12.05.21
PROPARCO	1	1	29.04.21
CDC	1	1	23.04.21
EBRD	1	4	20.04.21
EIB	1	2	23.04.21
World Bank (CIF)	1	1	05.03.21
COFIDES			23.04.21
KfW	1	1	14.05.21
CFM	1	2	24.03.21
GCF	1	1	23.04.21
EDFI	1	1	23.04.21
CDP	1	2	17.03.21
World Bank	1	3	27.04.21
EBRD	1	3	07.05.21
FMO	1	1	26.05.21
Private Equity Firm	1	2	02.03.21
GCA	2	3	03.03.21 & 13.04.21
CLSP	1	1	24.05.21
WFF	1	1	26.05.21
ClimateSmart	1	1	24.05.21
ARISE Africa	2	2	28.07.21
CORAF	1	3	03.08.21

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