

Engaging the Private Sector in National Adaptation Planning Processes



Disclaimer

This guidance note includes references to relevant decisions under the United Nations Framework Convention on Climate Change (UNFCCC), where appropriate. However, as a technical publication, it does not necessarily use the exact language contained in these decisions. In particular, the concise term “NAP process” is applied throughout the document instead of the phrase “process to formulate and implement NAPs” contained in Decision 1/CP.16 and subsequent decisions. Please note that by following this approach, this publication neither aims to reinterpret any existing decision under the UNFCCC, nor does it intend to pre-empt any potential future decisions on this issue.

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About the NAP Global Network

The NAP Global Network is a group of individuals and institutions who are coming together to enhance bilateral support for the NAP process in developing countries. With participation from both developing countries and bilateral agencies, the Network facilitates peer learning and exchange on the NAP process, improve coordination among bilateral development partners, and support national-level action. Initial financial support for the Network has been provided by Germany and the United States. The NAP Global Network secretariat is hosted by the International Institute for Sustainable Development.

Any opinions stated herein are those of the author(s) and do not necessarily reflect the policies or opinions of the NAP Global Network, funders or Network participants.

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Executive Summary

Adapting to the impacts of climate change, whether at the national, sub-national or community level, is not the responsibility of national governments alone. It requires the coordinated input of multiple stakeholders, including local authorities, development partners, communities and civil society. Businesses and investors also need to be involved, as they are the key engines of economic growth in developing countries, accounting for 60 per cent of gross domestic product, 80 per cent of capital flows and 90 per cent of jobs. They will be relied on to create the jobs needed to support adaptation, to develop the products and services needed for societies to become more climate-resilient, and to finance—directly or indirectly—many adaptation actions. The strategic and well-informed inclusion of the private sector in climate change adaptation planning and activities must be a key part of all countries' efforts to adapt to the impacts of climate change; they will be key partners in the design, financing and implementation of adaptation priorities.

The National Adaptation Plan process differs from past processes in that it offers a medium- and long-term vision of national adaptation action, aligned with development plans and with a supporting regulatory and policy framework. If properly communicated, it foregrounds a country's key climate vulnerabilities. It therefore can provide all stakeholders, including the private sector, with a stable and predictable roadmap for a government's priorities on national adaptation.

This study aims to offer guidance to governments and their partners on how to engage the private sector in the NAP process. Private sector engagement in the NAP process, for the purposes of this paper, is defined as the meaningful involvement of private sector actors—ranging in size, sector, motivation and whether they operate in the formal or informal sector—in the planning, implementation, and monitoring and evaluation of national adaptation planning processes. Governments remain the overall owners and drivers of the NAP process. However, for NAPs to be successfully implemented and climate resilience strengthened, private sector actors will need to be involved.

The three primary objectives of this study are:

- To outline the enabling factors that facilitate private sector engagement in NAP processes, namely information sharing, financing, institutional arrangements and capacity building.
- To offer practical guidance on how countries can design their NAPs to ensure that the private sector is engaged across the three phases of the NAP process: planning, implementation, and monitoring and evaluation (M&E).
- To provide examples of instances where the private sector has successfully engaged with the NAP process, as well as with climate change adaptation more broadly.

Private sector actors differ in size (micro, small, medium and large), sector, motivation (for-profit, private charities, social enterprises) and whether they operate in the formal or informal sectors. Micro, small and medium-sized enterprises (MSMEs) tend to dominate the private sector in many developing countries, and as such are key actors for engagement.

For the purpose of this study, we consider both private enterprises and private financiers. Private enterprises, within the context of the NAP, are those companies that could or do supply the services and products that build climate resilience to support NAP priorities, and that invest to enhance their own climate resilience and reduce their climate risks. Private financiers, on the other hand, can provide direct financing to private enterprises for adaptation action, and can support government interventions through public–private partnerships. They include private commercial banks, microfinance institutions, insurance companies, institutional investors, private equity and venture capital investors, private foundations and charities.

Substantial investments in adaptation and resilience—although they may not be overtly recognized as such by project proponents—are already being undertaken by the private sector. These investments, by both enterprises and financiers, are being made in order to:

1. Manage risks for business continuity and reputation.
2. Capitalize on new markets and business opportunities.
3. Comply with policies, regulations and investors' interests.

Factors for Enabling Private Sector Engagement in the NAP Process

There are a number of factors that governments, with the support of development partners, civil society and private actors, can put in place or strengthen to enable and incentivize the necessary level of private sector engagement in the NAP process and in the pursuit of adaptation commitments listed in a country's NDC. These factors can help address the barriers that commonly inhibit private sector engagement in adaptation processes, barriers that can be informational, financial, technical and institutional. Information, both on current and future climate conditions and on corresponding adaptation options, may be generated and shared broadly with private sector actors. Capital markets and the allocation of financing can be made more efficient, incentives for engagement can be adopted, and the risks associated with adaptation investments can be reduced. The institutional arrangements required to ensure active collaboration on adaptation planning and design among government, private enterprises and financiers can be established, with a strong foundation of policies and regulations that support private engagement in climate adaptation in place. And technical capacities can be built among those expected to design, deliver and monitor adaptation actions.

Governments designing their NAP process should work to address (where possible) each of these enabling factors.

- **Information sharing:** There are three main informational barriers to private sector engagement in adaptation: understanding the need to adapt to climate change; understanding the changes that are being adapted to; and understanding how best to adapt. Governments play an important role in both generating climate information and facilitating its sharing—strong climate information will, after all, be foundational to adaptation planning. Working with development partners and civil society, they can also start to address knowledge gaps by publicizing and promoting best practices in adaptation, promoting peer learning, and highlighting lessons learned from past adaptation actions and programs, whether good or bad. In addition, governments should work to communicate information on climate vulnerability, risks and adaptation options, and ensure that in these communications, they use terminology and concepts familiar to the private sector. They must also clearly articulate the business case for adaptation actions: they can make it clear to private sector actors that climate change could fundamentally alter the economy and that there could be significant risks to inaction, while also stressing that opportunities may emerge as a result of climate change.

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- **Financing:** The financial barriers to engaging in the NAP process include those related to accessing financing to pay for adaptation actions and ensuring that appropriate financial instruments are available to those who need them. Where markets are not functioning in a way that encourages (or allows) the private sector to invest in efforts to increase their resiliency or develop new climate-resilient products or services, public intervention may be required. Governments can use financial incentives to motivate private sector actors to invest in new products or markets that support adaptation and meet NAP priorities. These financial incentives for investing in NAP priorities can include: tax breaks; risk guarantees; government procurement contracts that help to secure demand for new climate-resilient products and services; and favourable conditions set by export credit agencies to make investments in climate change adaptation more attractive. Governments can also use mechanisms like taxes, levies, fees and royalties to raise funding that allows financial support to be offered for climate risk assessments; extension services; and start-up or seed financing for new products and services. De-risking investments—particularly large-scale infrastructure investments that support the NAP’s priority areas—will also be crucial to making these investments attractive to private investment. As part of their NAP planning process, governments should try to address these barriers by preparing and mainstreaming a resource mobilization or NAP financing strategy, mapping their adaptation priorities and identifying corresponding funding sources and opportunities.
 - **Institutional arrangements:** In order to promote private sector engagement in the NAP process, governments must work to ensure that the legal and policy framework—along with appropriate institutional arrangements—are in place that support investment in adaptation and facilitate dialogue among national and sub-national decision makers, private enterprises and private financiers. First, governments must work to get appropriate institutional arrangements right at the outset of the process, and must maintain them through all three phases of the NAP. This may include involving private sector representatives in the NAP’s oversight committee or establishing structures that ensure communication between this committee and the private sector. This will help to ensure that the private sector is involved in NAP process decision making, and that channels of communication through which governments can raise awareness of and interest in the NAP are open. Second, governments should ensure that the legal and regulatory framework within the country is conducive to businesses engaging in adaptation measures. Governments must ensure that there is stability in domestic laws, policies, and regulations that will influence adaptation investment decisions, and that existing policies, incentives and regulations do not promote maladaptation. Regulatory and policy measures could include offering fast-tracked permitting for adaptation-focused activities, or requiring or encouraging the disclosure of climate risks among companies and investors.
 - **Capacity building:** Private sector actors may lack the technical capacities needed to participate in the NAP process. They may lack the capacities needed to understand and use climate data and information, and to integrate climate risk management into standard business operations. They may require enhanced capacities in the use of techniques, technologies and equipment needed to adapt, or they may require capacities to develop the business models needed to commercialize adaptation products and services. Private sector actors may not understand how to implement business strategies that can reduce their exposure to climate risk. They may also need help identifying and seeking out appropriate financing for adaptation investments. For private financiers, increased capacities are often required to integrate climate risks into investment portfolios and financing products, and to better quantify and track the adaptation returns on investments. Governments, with support from development partners and business service providers focusing on adaptation, should work to strengthen these capacities, in order to create an environment in which businesses and financiers are able to understand and act on current and forecasted climate change information.

Engaging the Private Sector in the Phases of the NAP Process

With enabling factors in place, governments can meaningfully engage the private sector across all three phases of the NAP process. Engagement will not be static but must continue as an iterative process from the NAP's inception through its implementation, M&E and adjustment.

- **Planning:** During the planning phase of the NAP process, governments should be focusing on fostering a consensus among key stakeholders on the nature of climate change threats, setting priorities, and coming up with a plan for mobilizing the domestic and international resources required for implementation.

Critical to these actions is the involvement of all relevant stakeholders, including the private sector. Governments should ensure that any multistakeholder secretariats or coordinating committees to oversee the NAP process involve representatives from the private sector, from specific companies or business associations, in order to allow enterprises and financiers to make their priorities, needs and constraints known. Governments can also work to establish structured public–private dialogue mechanisms during this phase, to discuss the NAP with representatives from the private sector on an ongoing basis. Governments must also synthesize available data and knowledge—and address any shortfalls in information—to establish and communicate the business case for engagement. To ease implementation, governments can work with the private sector as they develop pipelines of bankable adaptation projects for priority sectors. Finally, it is advised that during this early stage of the NAP process, governments develop, through extensive consultation, a private sector engagement strategy to ensure coordinated and continued engagement through subsequent stages of the NAP process.

- **Implementation:** NAP implementation requires strong coordination among government actors, as well as open channels of communication with non-government stakeholders in civil society and the private sector. It is during this stage that climate change adaptation actions are integrated into medium- and long-term development processes.

Private enterprises can support adaptation by climate-proofing their business operations and developing and distributing non-financial goods and services that are climate-resilient and supportive of adaptation. Private financiers can provide direct financing for the implementation of adaptation actions.

If clear incentives for investments in adaptation among businesses are present, but investments are not happening, governments should intervene. If local financial actors have not developed the financial products needed by the private sector to invest in adaptation due to perceptions that the risks continue to be too high or the returns on investment too uncertain—a reality for many developing countries—governments must continue to make the business case for adaptation. Throughout the implementation phase of the NAP, the government should continuously engage with all stakeholders to support and enhance the enabling conditions needed for private sector engagement. This includes but is not limited to: disseminating new or updated climate information; encouraging peer learning and exchange; taking stock of existing and emerging barriers to NAP engagement; strengthening capacities to identify, design, implement and monitor adaptation activities; supporting key business multipliers; and providing broader updates on the NAP's implementation and its evolution over time through public–private dialogue. Governments should also explore opportunities for public–private partnerships (PPPs) during the implementation phase, which are well-suited to large-scale projects where one party would have otherwise been unable to proceed on their own, given the investment requirements and risks involved.

- **Reporting, Monitoring, Evaluation:** Engaging private sector actors in the design and implementation of the NAP's M&E process will greatly increase their efficiency and usefulness. This includes involving private enterprises and financiers in the initial design of the M&E plan; in the monitoring of both the implementation of the NAP and the adaptation outcomes that results from the NAP; in reviewing progress, effectiveness

and gaps; in using this information to iteratively update the NAP and its implementation plans; and in sharing adaptation successes, shortfalls and lessons learned to strengthen the process going forward and to encourage the engagement of additional private sector actors. Governments can also work with civil society and development partners to build the capacities of private sector actors to measure and report on adaptation outcomes. As part of M&E processes, governments should also analyze the effectiveness, costs and benefits of policies, regulations and incentives designed to increase private sector engagement in the NAP. This includes looking at any financial incentive programs and mechanisms that have been adopted to support adaptation, such as tax breaks and risk guarantees, and determining whether these mechanisms are effectively leading to adaptation actions and investments that increase societal resilience at a rate that justifies their cost to the public. Based on the findings of timely, periodic reviews of these mechanisms, governments should maintain, modify or annul them, depending on whether or not they are achieving their desired aims.

Conclusions

In order to meet the aims set out by the Paris Agreement and the Sustainable Development Goals, the private sector must play an active role in the design, planning, financing, implementation and monitoring of adaptation actions. These actors, as the engines of economic growth and development, will be central to strengthening climate resilience in both developed and developing countries. Increased funding for adaptation actions is also a necessity, and while much of this financing will come from public sources, whether domestic or international, the private sector will also need to fund adaptation, either as enterprises investing in their businesses or as financiers investing in adaptation actions.

In many countries, the private sector is already making valuable contributions to adaptation processes, as evidenced by the case studies included in this report; communicating the impacts of this engagement to broader audiences will be a key step to crowding-in further private sector support to the NAP and NDC processes. As governments design their NAP processes, key points that they may consider for increased private sector engagement in the process include the following:

- Generate climate data and information and communicate it to the private sector.
- Support research and development for adaptation.
- Work with the private sector to articulate the business case for adaptation.
- Build the capacity of the private sector to understand and respond to climate vulnerability and risk.
- Use the NAP process as a means of communicating the country's medium- to long-term adaptation priorities to the private sector.
- Explore developing a private sector engagement strategy for the NAP.
- Understand NAP financing needs early, and develop feasible, bankable project pipelines.
- Identify and cultivate private sector champions, and share stories of success and failure to promote crowding-in.

The private sector will play a crucial role in the NAP and NDC processes, and this role must continue to be analyzed, understood and encouraged, to build a stronger evidence base of what works and what does not when it comes to private sector engagement in adaptation. The NAP process and the pursuit of NDC adaptation goals—in their planning, implementation, and M&E phases—present a critical opportunity for governments to align private sector interests with national adaptation priorities. Proper alignment would facilitate a longer-term scaling up of adaptation activities across wider networks, distributing ownership among more stakeholders, and ultimately becoming more representative, inclusive and successful.

List of Acronyms

ACRE Africa	Agriculture and Climate Risk Enterprise in Africa Limited
AFD	Agence Française de Développement
ARCOS Network	Albertine Rift Conservation Society Network
CCAP	Climate Change Adaptation Policy
CSA	Climate Smart Agriculture
DAI	Development Alternatives Inc.
DEG	Deutsche Investitions – und Entwicklungsgesellschaft
DFI	Development Finance Institution
DFID	Department for International Development
EU	European Union
FICCF	Finance Innovation for Climate Change Fund
GCF	Green Climate Fund
GEF	Global Environment Facility
GHTA	Grenada Hotel & Tourism Association
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IFC	International Finance Corporation
IIC	Inter-American Investment Corporation
IISD	International Institute for Sustainable Development
IORP II	Institutes for Occupational Retirement Provision Directive
KfW	Kreditanstalt für Wiederaufbau KfW Bankengruppe
KMD	Kenya Meteorological Department
LDC	Least Developed Country
LEG	Least Developed Country Expert Group
M&E	monitoring and evaluation
MFI	microfinance institution
MSME	micro, small and medium-sized enterprise
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NGO	non-governmental organization
OPIC	Overseas Private Investment Corporation
PPP	public–private partnership
PS	private sector
PSACC	private sector adaptation to climate change
PSE	private sector engagement

SDG	Sustainable Development Goal
SIDA	Swedish International Development Cooperation Agency
StARCK+	Strengthening Adaptation and Resilience to Climate Change in Kenya Plus
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WBCSD	World Business Council for Sustainable Development

1 Introduction

Adapting to the impacts of climate change, whether at the national, sub-national or community level, is not the responsibility of national governments alone. It requires the coordinated input of multiple stakeholders, including local authorities, development partners and civil society. Businesses and investors also need to be involved. They are key engines of economic growth, and will be relied on to create the jobs needed to support adaptation, to develop the products and services needed for societies to become more climate-resilient, and to finance—directly or indirectly—many adaptation actions. The strategic and well-informed engagement of the private sector in climate change adaptation activities—including as designers, implementers, financiers or evaluators—must be a key part of all countries' efforts to adapt to the impacts of climate change.

For developing countries, the private sector is the central engine of economic growth and job creation, accounting for 60 per cent of gross domestic product, 80 per cent of capital flows and 90 per cent of jobs (both formal and informal) (OECD, 2015). Reducing poverty, improving well-being and strengthening resilience will not be possible without the private sector. Businesses will invest in the skills and education services needed to support adaptation; will increase the availability of (and access to) goods and services central to reducing climate vulnerabilities, including clean water, sanitation and energy; will generate much-needed tax revenues for governments that can be reinvested in development; and will encourage entrepreneurship and diversification of the economy away from climate-dependent sectors (EU, 2019). The private sector is thus an important stakeholder group to engage early and consistently as national governments prioritize, address and track their climate adaptation priorities.

Beyond their role in generating the jobs, products and services needed to support a shift toward climate-resilient societies, significant levels of financing will also be required from the private sector for countries and communities to effectively adapt to climate change. The costs of adaptation will be significant, and countries in the process of developing their National Adaptation Plans (NAPs, summarized in Box 1 and visualized in Figure 1) should be looking at both domestic and international financing, from both public and private sources, to support adaptation planning, implementation and monitoring and evaluation (M&E) (Parry, et al., 2017). While public financing is crucial, particularly during the NAP development phase, it will not be enough to address all prioritized adaptation actions; private sector support, from enterprises and financiers both domestic and international, will be required (Dougherty-Choux, Terpstra, Kammila, & Kurukulasuriya, 2015; Parry, et al., 2017).

Without the involvement of the private sector in adaptation actions, countries will not be able to fulfil the adaptation commitments—including sectoral and financial goals—that many of them have set out in their Nationally Determined Contribution (NDC) commitments to the Paris Agreement (see Box 2). They will also struggle to achieve the goals laid out in the 2030 Agenda for Sustainable Development, particularly Sustainable Development Goal (SDG) 13, a goal that is in many ways foundational to the achievement of many other SDGs, given the far-reaching and transformative impact of climate change.

Box 1. Background on the NAP process



The NAP process was established under the Cancun Adaptation Framework, which was part of the Cancun Agreements negotiated in 2010 during the 16th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). The following year, Parties to the UNFCCC further elaborated the details of the NAP process and agreed that it has two main objectives (UNFCCC, 2012):

1. To reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience.
2. To facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programs and activities, in particular development planning processes.

A commitment to developing or enhancing adaptation planning and implementation, including through the formulation and implementation of NAPs, was further articulated in the 2015 Paris Agreement (UNFCCC, 2016). More information on the evolution of NAP processes under the UNFCCC can be found at [NAP Central](#) (adapted from Parry et al., 2017).

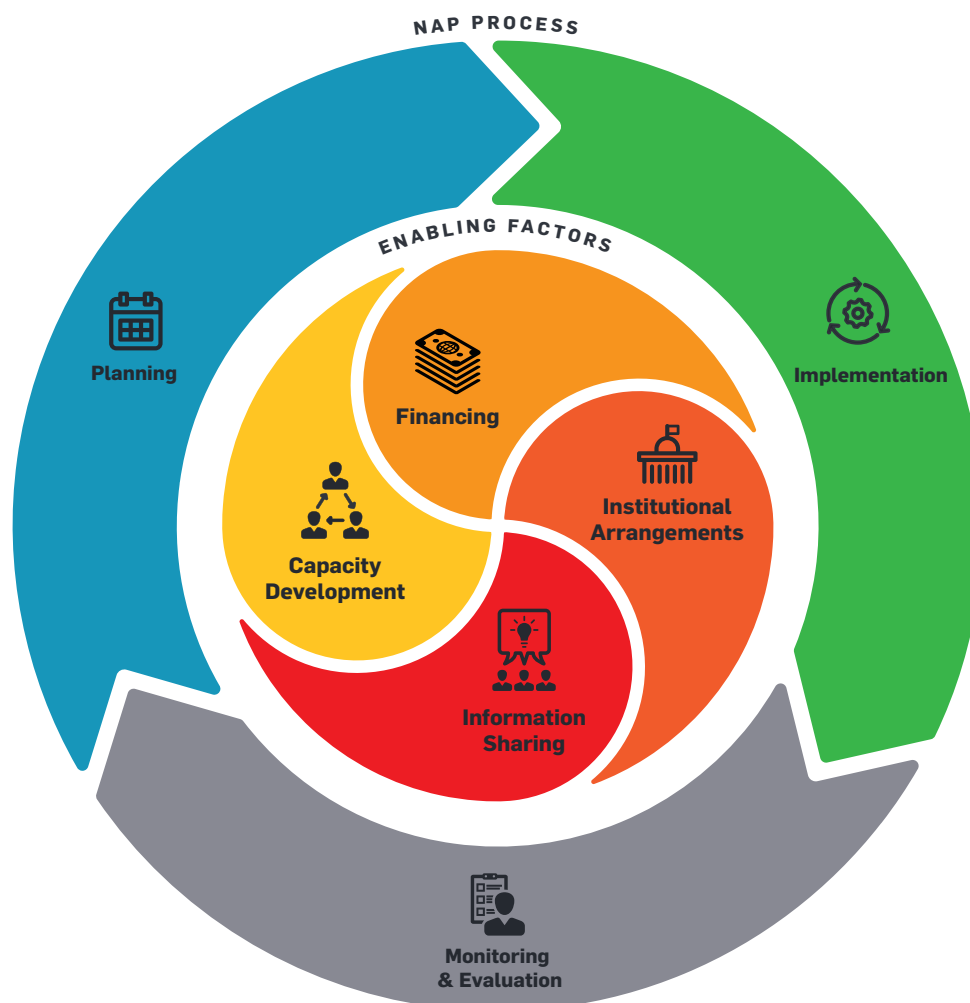
The NAP process differs from past processes in that it offers a medium- and long-term vision of national adaptation action, aligned with development plans and with a supporting regulatory and policy framework. If properly communicated, it foregrounds a country's key climate vulnerabilities and adaptation needs. It can therefore provide the private sector with a stable and predictable roadmap for a government's priorities on national adaptation.

This study aims to offer guidance to governments and their partners on how to engage the private sector in the NAP process. Private sector engagement in the NAP process, for the purposes of this paper, is defined as the meaningful involvement of private sector actors—ranging in size, structure and motivation—in the design, planning, financing, implementation, monitoring and evaluation of national adaptation planning processes. Governments remain the overall owners and drivers of the NAP process. However, for NAPs to be successfully implemented and climate resilience strengthened, private sector actors will need to be involved.

The three primary objectives of this study are:

- To outline the enabling factors that facilitate private sector engagement in NAP process, namely information sharing, financing, institutional arrangements and capacity building.
- To offer practical guidance on how countries can design their NAPs to ensure that the private sector is engaged across the three phases of the NAP process.
- To provide examples of instances where the private sector has successfully engaged with the NAP process, as well as with climate change adaptation more broadly.

Figure 1. The NAP process: Phases and enabling factors



Section 2 examines the business case for private sector investment in adaptation action, and outlines arguments for increased private sector engagement in these processes. Section 3 focuses on the common barriers to private sector engagement in adaptation that must be addressed, and the enabling conditions that governments should ensure are in place to promote sustained private sector engagement throughout the NAP process. These conditions include information sharing, financing, institutional arrangements and capacity building. Section 4 examines entry points for private sector actors across the three phases of the NAP process: planning, implementation, and monitoring and evaluation (M&E). Conclusions to the study are presented in Section 5.

The study was developed by the National Adaptation Plan (NAP) Global Network, in collaboration with and supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It targets governments currently in the process of engaging the private sector in the NAP process, but—given the role that development partners in particular will also play in supporting NAP processes in developing countries—seeks to be accessible and relevant to other actors. It was developed through extensive desk-based research; the development of case studies; discussions with NAP Global Network partner countries and focal points; semi-structured interviews with key stakeholders from government, the private sector and civil society; and workshop discussions and findings with stakeholders from governments, UN agencies, the private sector and civil society.

Box 2. NDC-NAP alignment and the private sector



The Paris Agreement of the UNFCCC requires signatories to prepare, communicate, and maintain Nationally Determined Contributions (NDCs), which outline the steps they plan to take, in light of their national context, to help fulfill the goals of the Agreement (UNFCCC, 2019). While NDCs are typically focused on mitigation commitments, many countries include adaptation components in their NDCs, including quantified adaptation goals, adaptation investment needs, and priority sectors (Deutsches Institut für Entwicklungspolitik [DIE], 2019). Some make explicit reference to the NAP process in these documents (GIZ, 2017).

The NAP process can be a useful tool for implementing NDC goals (and vice versa) by promoting political ownership, policy coherence, and clarity over national priorities (Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ], 2017). It is therefore imperative that the NAP and NDC processes are streamlined and leveraged to help ensure a coherent approach to national adaptation planning and action (Hammill & Price-Kelly, 2017). Alignment between these initiatives can also help harmonize guidance and capacity building, integrate planning mechanisms, and streamline processes for accessing funds and implementation (Dazé, Terton, & Maass, 2018). And while the planning, financing, implementing and monitoring of NDC and NAP processes often occur at the national level, sub-national governments, the private sector, and local communities play an integral role in implementing and ultimately achieving these commitments (Dazé, Terton, & Maass, 2018). As such, the private sector must be involved in discussions about NDC-NAP alignment, the design of systems and coordination mechanisms, and establishing a common language on adaptation and resilience. This will help ensure that realities on the ground are appropriately reflected in these processes.

2 The Role of the Private Sector in Supporting Climate Adaptation

It is increasingly apparent that climate change will alter the conditions that underlie economies and will affect global, national and sub-national markets (UNEP FI, BMZ, GIZ, & the Frankfurt School, 2016). The NAP process arrives at a time when many private sector actors are realizing the importance and urgency of—and even opportunities present in—responding to climate change and in increasing their climate resilience. Farmers, fishers and small business are increasingly struggling with the impacts of climate variability and change, and they are turning to a number of risk management strategies—some more sustainable than others—to protect their livelihoods. Companies both large and small are increasingly concerned with protecting their employees, operations and supply chains from the risks and disruptions presented by ever more frequent extreme weather events and slow-onset climatic changes. They are also developing new goods and services to support climate resilience, as new business opportunities and markets emerge. Investors are increasingly trying to reduce their exposure to climate risks, or are being obliged to do so by government regulations and policies.

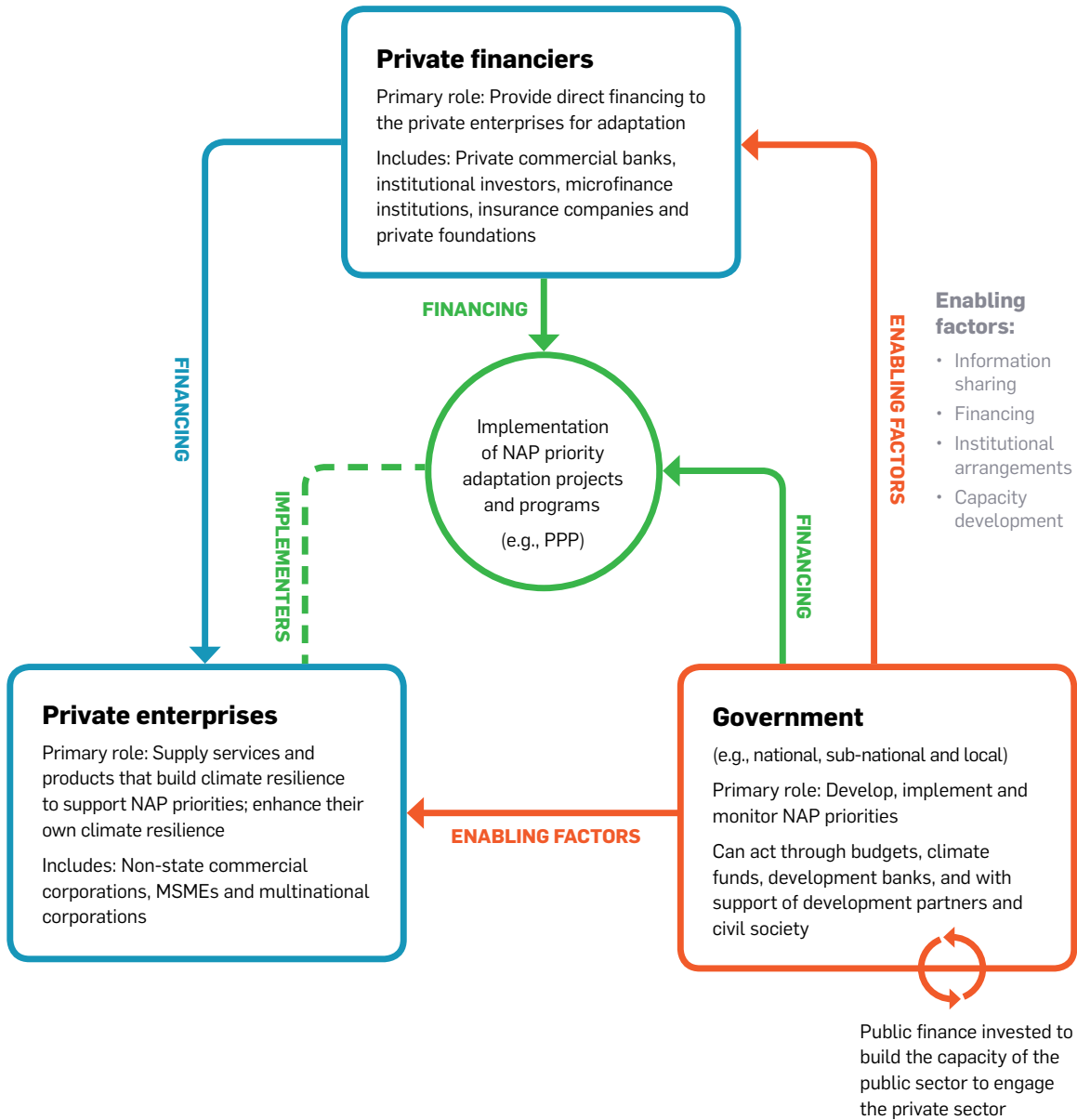
An increasingly broad range of private sector actors are now supporting climate adaptation, whether through investments in climate-proofing their businesses, supply chains and investment portfolios, or through the development of new goods and services to strengthen resilience.

2.1 The Diversity of the Private Sector

Private sector actors are diverse, and they differ in their motivations when it comes to engaging in adaptation action. For some, adaptation action may be motivated by the search for profit and new markets, or by the desire to reduce business risks; for others, it may be in response to policies, regulations or signals from investors. Different actors will have different risk and capacity profiles, affecting their willingness and ability to invest their own funds in developing new markets or tools that support climate adaptation (UNEP FI et al., 2016).

Private sector actors differ in size (micro, small, medium and large) and motivation (for-profit, private charities, remittances). They can include large, listed companies, micro, small and medium-sized enterprises (MSMEs), private financiers and investors, insurance companies and private foundations. This report broadly divides the private sector into private enterprises and private financiers; their broad interaction with the NAP process is outlined in Figure 2.

Figure 2. Engaging the private sector in the NAP process



Private Enterprises

Private enterprises, within the context of the NAP, are those companies that supply services and products that build climate resilience to support NAP priorities, and that invest to enhance their own climate resilience and reduce their climate risks. In developed countries, private enterprises can include non-state commercial companies of varying sizes, both domestic and multinational, listed and private. In developing countries, most private enterprises are MSMEs, which are responsible for a significant proportion of national livelihoods and are usually operating in the informal sector (Dougherty-Choux et al., 2015; Parry, et al., 2017). Private enterprises receive direct financial support for adaptation actions from private financiers, while also receiving financial and non-financial incentives from government (to be covered in Sections 3 and 4).

Given their ubiquity, MSMEs are a primary driver of implementing adaptation action and resilience building in developing countries, and an important source of financing for adaptation in a context of limited investment infrastructure. MSMEs represent 90 per cent of all businesses in developing countries, and many of these actors—particularly those working in climate-dependent sectors like agriculture or water—are uniquely vulnerable to the impacts of climate change (UNEP DTU Partnership, 2018). In addition to MSMEs operating in the formal economy, private sector actors operating in the informal sector—smallholder farmers, street vendors, informal cab drivers—similarly suffer from high levels of vulnerability to climate change. Both groups are often unaware of the risks and opportunities presented by climate change, and typically have limited financial and human resources to assess the risks that climate change poses to their operations and to respond accordingly (UNEP DTU Partnership, 2018). They also typically prioritize more pressing and immediate short-term issues and profit-maximization goals in their operations and investment decisions; adapting to long-term climate change is often not a priority (UNEP DTU Partnership, 2018). While in developed countries such smaller enterprises are often supported by business multipliers, including chambers of commerce and business associations, such support is often limited or non-existent in many developing contexts. As such, MSMEs operating in these contexts often need targeted support; with it, MSMEs can invest to make their businesses more climate-resilient and take advantage of new opportunities presented by climate change (Dougherty-Choux et al., 2015). Without it, they will remain more reactive than proactive in their approach to adaptation (UNEP DTU Partnership, 2018).

Private Financiers

Private financiers provide direct financing to private enterprises for adaptation action, and can support government interventions through public–private partnerships (see Section 4). They include private commercial banks, microfinance institutions, insurance companies, institutional investors, private equity and venture capital investors, private foundations and charities (Parry, et al., 2017). The sources of private financing and support for adaptation can be either domestic or international. As with private enterprises, they receive financial and non-financial incentives for investing in adaptation from governments. Private financiers can provide direct financing for the implementation of adaptation actions using a variety of financing mechanisms (see Box 3).

The financing instruments available for adaptation have been covered extensively in the broader literature. The choice of financing instrument(s) will depend on the amount of capital required, the cost of capital associated with each instrument, the transaction costs around the investment, whether the funds are coming from domestic or international capital markets, the objective of the investment, the scale and lifetime of the project, and any associated risks (see Figure 3) (Parry, et al., 2017). For example, MSMEs may find that they can most easily access funding from microfinance institutions, though loans from these institutions often come with high interest rates. When it comes to adaptation projects requiring innovative technological solutions, early-stage venture capital and private equity firms may step in to finance the initial development of the technology—a new drought-resistant seed variety, for example—with private equity markets then financing manufacturing and commercialization of the technology once proof of concept exists (Parry, et al., 2017). While this scenario is more common in developed countries, once a technology has been proven it can be transferred to developing country markets.

Box 3. Instruments for private investment in adaptation action



The range of financing instruments currently used for adaptation is narrower than that used for mitigation. Many of these instruments are traditional investment instruments (such as debt financing, equity investments, and grants); however, in recent years new innovative instruments are emerging (such as green bonds and blue bonds). Many of the same instruments used in traditional business investments can be used to finance private sector-led adaptation actions; the decision of which to use will depend on a variety of factors, including the risk profile of the investor and the underlying investment, the location of the investment (developed vs. developing country) and the sophistication of local capital markets. Some of these instruments might include:

Debt instruments

Debt financing for adaptation can include traditional loans, micro-credit, and green credit lines, and can be done through a local financing institution or via a national development bank. Concessional loans, offering more generous terms than those available on the market, can help to make funding available, as can on-lending arrangements, whereby development banks or international finance institutions (IFIs) provide financing to an entity (a government, or a national commercial bank), with the loan principal in turn lent to another entity.

Newer, innovative debt financing instruments include green and blue bonds. Green bonds are bonds whose revenues go toward financing projects that meet certain environmental standards. In recent years, the market for green bonds has grown significantly, and many have been used to support climate-related investments in renewable energy or sustainable forestry management (IFI, 2014; World Bank, 2015). Blue bonds are similar to green bonds, and focus on financing socially and environmentally beneficial projects that promote marine conservation (e.g., sustainable fisheries development).

Equity instruments

Financiers can also use equity financing to support adaptation, purchasing shares in an adaptation project or relevant business in exchange for partial ownership. For equity investors, impact investing funds facilitate investment in initiatives that provide social and environmental impacts to a community or project, as well as a return on investment. As another alternative, mezzanine financing acts as a hybrid between debt and equity financing, allowing lenders to convert their loans into equity stakes in the case of default.

Philanthropy & grants

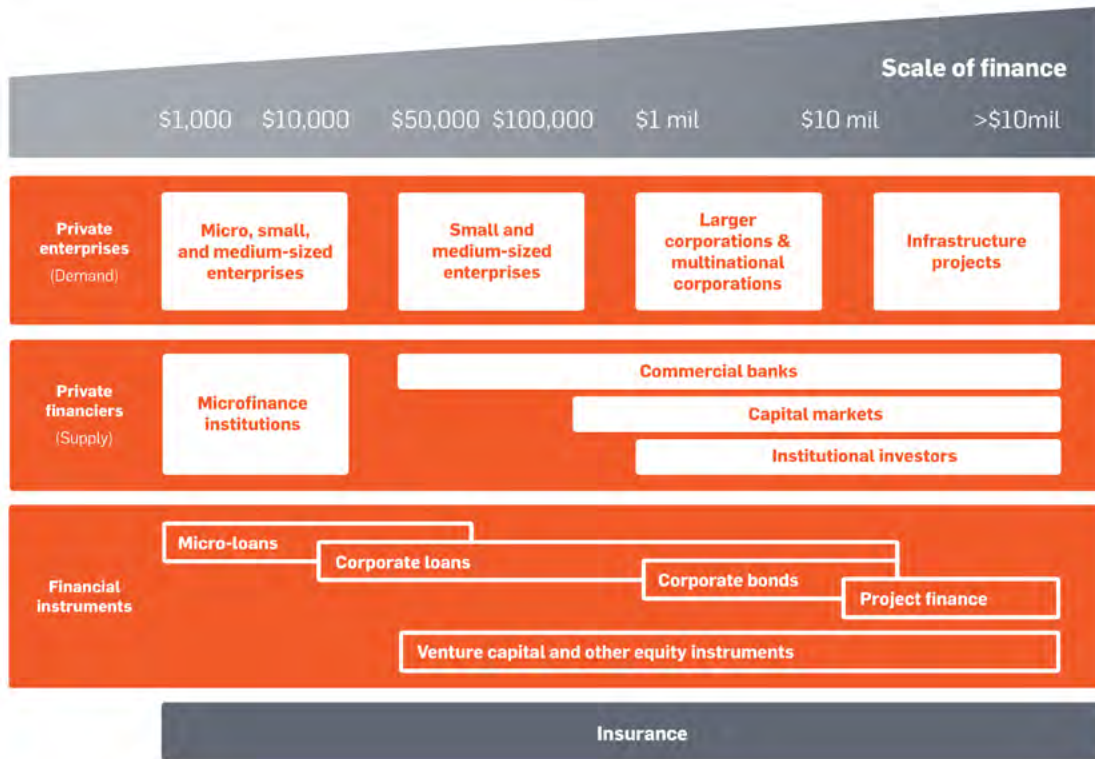
Beyond debt and equity, adaptation financing can also come through grants linked to corporate social responsibility initiatives and private philanthropists. Public-private matching grant schemes can also be common, in which private co-financing is required to access public funds; these could open up financing options to companies otherwise unable to secure funding for adaptation actions (Crishna Morgado & Lasfargues, 2017).

Risk management

Given the central role that risk plays in investment decisions, there are also a number of risk management instruments that can be used by those seeking adaptation financing to improve their risk profile. These can include the use of insurance, improved access to credit and the building up of reserves or rainy day funds to counter market downturns or unexpected events. The public sector can also offer guarantees for development, in which they backstop financing for initiatives that advance social and economic development. Government guarantees can help reduce the risk for lenders of adaptation-related financing to smaller enterprises (UNEP FI, et al., 2016). On a broader scale, risk financing facilities, like the proposed Extreme Climate Facility, can be used to transfer the financial risk associated with climate-related disasters from individual governments to a shared financial entity.

Adapted in part from Parry, et al. (2017).

Figure 3. Private sector actors, financial instruments and associated scales of finance



Source: Adapted from UNEP FI, et al., 2016.

Figure 3 aligns the scale of financing required for adaptation investments with the most appropriate type of financial instrument for that scale, as well as the types of private enterprises and financiers that would typically require or provide that level of financing. For example, for MSMEs looking at adaptation projects in the USD 1,000 to USD 10,000 range, microloans from microfinance institutions, supported by insurance, may be the most feasible source of financing.

2.2 The Business Case for Private Sector Engagement in Adaptation

The private sector, when deciding whether to undertake or invest in adaptation action, typically considers the business case for such actions, assessing the expected risks and costs versus the expected returns on a particular investment. The business case for investing in adaptation will be company- and context-specific; it is unlikely that two companies operating in different jurisdictions would consider the same risks and costs. It has often been difficult to make the case for investments in adaptation. The risks associated with climate change may be unknown to or poorly understood by investors; the cost of action may be high; returns on investment may be uncertain; investments in current operations may take precedence over investments in minimizing possible future risks; adaptation options may be unclear; and indicators of success may be difficult to define.

Despite these barriers, which will be examined in more detail in Section 3, substantial investments in adaptation and resilience are already being undertaken by private enterprises, with many companies and individuals mainstreaming adaptation and climate-related activities into their business planning, or investing in new products and services, often without explicitly labelling them as such (UNEP FI, et al., 2016). While many of these actions

may not be considered investments in adaptation by their proponents, many do nonetheless help to reduce the vulnerability of companies, their owners and employees, and their host communities and countries. The Livelihoods Funds in Madagascar, for example, is supporting vanilla farmers whose livelihoods are threatened by extreme weather events—most recently cyclone Enawo in March 2017 (Livelihoods Funds, 2018). Although the project does not make specific reference to adaptation, it does increase the resilience of farmers and their communities to market- and climate-related shocks (see Case Study 1).

It is worth noting that the opposite can also be true; private sector investments may increase a company's resilience while threatening the resilience of other stakeholders. Following a significant flooding event in Thailand in 2011, the owners of the Hi-Tech Industrial Estate decided to build an 11-km long dike to protect the property against future flood risks, despite protests that the dike would damage homes in the adjacent village and, by disrupting natural water flow, have serious social and environmental impacts in the area (UNEP FI, et al., 2016).

Investments in adaptation, by both enterprises and financiers, are being made for three main reasons (Parry, et al., 2017; UNEP FI, et al., 2016; Dougherty-Choux et al., 2015; UNEP DTU Partnership, 2018):

- Managing risks for business continuity and reputation.
- Capitalizing on new markets and business opportunities.
- Complying with policies, regulations and investor interests.

Managing Risks for Business Continuity and Reputation

Recognizing the disruption that a rail link destroyed by a flood or crop ravaged by drought can cause to business operations, companies both large and small are responding accordingly by investing in adaptation to plan for and mitigate the risks that climate change poses to business operations and supply chains. These risks include physical risks (climate-related damages to property or assets; disruptions to trade) and transition risks (a decline in snow pack requiring ski tourism operators to transition to other economic activities) (Crishna Morgado & Lasfargues, 2017). Companies may also support adaptation activities in order to reduce potential liabilities that could emerge as a result of climate change; in a California increasingly affected by drought, for example, utility companies can be held liable for wildfire damages if the company caused the blaze, regardless of whether they are found to be negligent (Westervelt & Schwartz, 2019).

Managing climate risks will require investments by companies to protect their operations and avoid future losses. Companies may manage climate risks through investments in climate-resilient infrastructure, consideration of climate impacts in procurement decisions, integrating climate change into business plans and climate-proofing supply chains. In Madagascar, for example, the Livelihoods Funds, in partnership with Danone and other private sector partners, are taking steps to mitigate climate risks across the supply chains of rice, vanilla, cocoa, and other agricultural outputs (see Case Study 1).

Communicating investments in adaptation efforts to the public can also help enhance a company's reputation in the eyes of investors, customers and shareholders. Investors, in particular, could be more willing to invest in those companies that actively address and reduce their exposure to climate risk, particularly if those investors are required to report on climate risk by shareholders or regulators (Koh, Mazzacurati, & Trabacchi, 2017).

For larger companies, it should be noted that adaptation alone will not be enough to reduce their climate risks; for business continuity, these companies must also invest in mitigating their greenhouse gas emissions. A failure to do so will only increase the costs of adaptation in the future, as well as increase climate-related risks to business operations. There are also reputational risks for those companies that fail to invest in mitigation, risks which are arguably larger than those associated with a failure to invest in adaptation.

Case Study 1. Livelihoods Funds for Family Farming



Approximately 500 million smallholder farmers produce 70 per cent of the world's food supply (Livelihoods Fund, 2016). Companies like Danone and Mars rely on these smallholder farmers for many of the raw materials required for their products, including cocoa, palm oil, mint, milk and vanilla.

Many of these smallholder farmers and their communities are vulnerable to the adverse impacts of climate change, environmental degradation and rural poverty, and many lack the resources and capacities to respond. In 2015, Danone and Mars, later joined by Firmenich and Veolia, announced the creation of the Livelihoods Fund for Family Farming, with the mission to secure the livelihoods of smallholder farmers and their communities through the widespread adoption of sustainable agriculture (Livelihoods Funds, 2019b). Spanning across Africa, Latin America and Asia, the fund targets the supply chains of raw materials mainly produced by smallholder farmers—like cocoa and vanilla—and implements initiatives with rural farming communities to restore their ecosystems and improve their livelihoods. Through the fund, these companies are attempting to reduce the physical risks that climate change poses to their supply chains.

In Madagascar, the fund has provided EUR 2 million to farmers to convert 6,000 hectares of vanilla production land to more sustainable farming practices, improving the food security of local farmers and increasing the quality and traceability of vanilla supply chains (Livelihoods Funds, 2018a). The fund will also invest in improving technical capacities by training farmers on agroforestry techniques



that will increase crop productivity and quality (Livelihoods Funds, 2018a). This initiative hopes to increase the adaptability of smallholder farmers and their communities to market- and climate-related shocks, while also managing the risks that climate change poses to investors for business continuity and reputation.

Capitalizing on New Markets and Business Opportunities

Private sector actors may invest in adaptation actions to take advantage of new markets or business opportunities presented by a changing climate. A 2015 survey conducted by AXA and UNEP found that 53 per cent of businesses in developed and emerging markets believed that climate change represented an opportunity for their businesses (AXA & UNEP, 2015). Companies, motivated by profit, can develop and distribute new goods and services that respond to the local threats posed by climate change and help people, communities, other businesses and government adjust to the current and future impacts of climate change. Climate-resilient goods may include climate-resilient seeds, water-efficient irrigation systems, equipment for early-warning systems and telemedicine technologies to respond to the predicted increase in infectious diseases due to climate change. New services could include climate and weather modelling, or a seed company offering agricultural extension services to climate-affected farmers (UNEP FI, et al., 2016). Companies can also explore investments that benefit both adaptation and mitigation; the development of local renewable power generation in communities where supplies of fossil fuels are threatened by storms or coastal erosion, for example.

In response to more frequently recurring droughts, a local brewery operating in Chiredzi district in Zimbabwe has begun producing beer with red sorghum in place of barley malt. Red sorghum is a more climate-resilient grain than those typically grown in the region. Local production of the grain, as a result, has increased considerably. By making this switch, the brewery is contributing to local adaptation actions among area farmers while capitalizing on new markets and managing continuity in its supply chain (Dougherty-Choux et al., 2015).

Complying With Policies, Regulations and Investors' Interests

Private sector actors may engage with adaptation processes in response to government actions and investor interests. Both drivers of engagement are more likely in developed countries, with implications for developing economies.

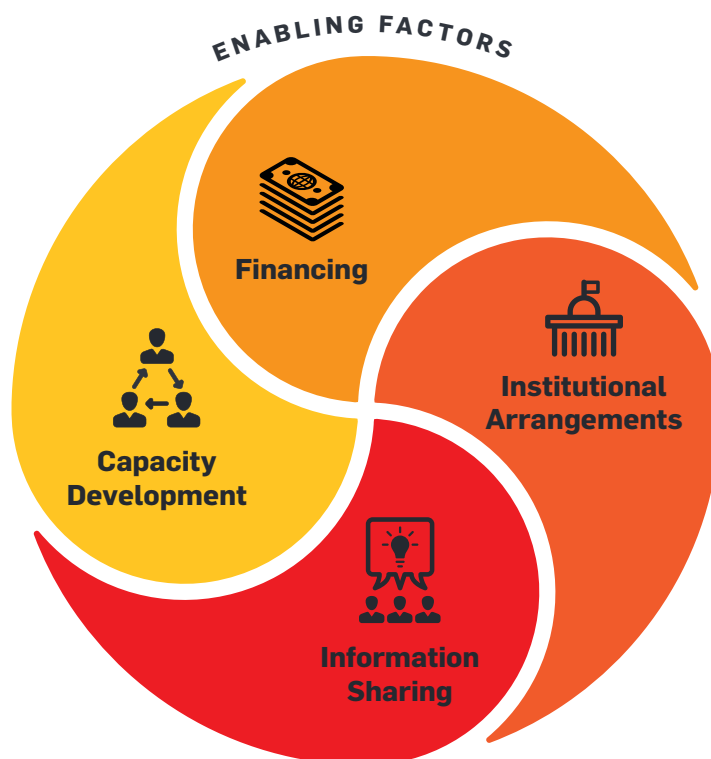
With respect to government actions, new policies or regulations adopted by a government may require that businesses and financiers strengthen the degree to which they consider climate risks, and work to reduce them. For example, EU registered pension funds are now required to consider and disclose climate matters in their investment and risk decisions. A need to minimize their stated exposure to climate risks is intended to push them toward making smart investments in enterprises that work to reduce these risks through adaptation. Similarly, Article 173 of France's Energy Transition Law, which addresses climate risk reporting, requires that publicly traded financial and non-financial French organizations disclose their exposure to climate risks, including along supply chains that extend to developing countries. Institutional investors must also assess and disclose the climate risks in their investment portfolios (Koh, Mazzacurati, & Trabacchi, 2017). In developing countries, engaging in adaptation planning processes will give the private sector a clear idea of how government policies and regulations are likely to evolve in support of adaptation. Companies can respond to this signal by adjusting their operations toward general compliance in advance of changes in the legislation. Further details on policy and regulatory drivers of adaptation action are covered in Section 3.

In the absence of explicit government policies or regulations, companies may nonetheless choose to invest in reducing their vulnerability to climate change in response to signals from investors or insurance companies. The latter, for example, are increasingly pushing the need for their clients to adapt as a result of the rising costs linked to climate change they are experiencing.

3 Barriers to and Enabling Factors for Private Sector Engagement in the NAP Process

There are a number of factors that governments can put in place or strengthen to enable and incentivize the necessary level of private sector engagement in the NAP process and in the pursuit of adaptation goals listed in a country's NDC (Figure 4). These factors can help to address the barriers that commonly inhibit private sector engagement in adaptation processes, barriers that can be informational, financial, technical and institutional. Information, both on current and future climate conditions and on corresponding adaptation options, can be generated and shared broadly with private sector actors. Capital markets and the allocation of financing can be made more efficient, while the risks associated with adaptation investments can be reduced. The institutional arrangements required to ensure active collaboration on adaptation planning and design among government, private enterprises and financiers can be established, with a strong foundation of policies and regulations that support private engagement in climate adaptation in place. In addition, technical capacities can be built among those expected to design, deliver and monitor adaptation actions.

Figure 4. Enabling factors for private sector engagement in the NAP process



This section will explore the barriers and enabling factors needed to promote private sector engagement in adaptation and the NAP process. It will focus on what governments, as owners of the NAP process, can do to ensure that the private sector is involved in the planning, financing and implementation of adaptation actions. It will also examine what private sector actors themselves can do to crowd-in investment in adaptation and promote the broader engagement of the sector in strengthening climate resilience.

Development partners, including bilateral and multilateral agencies and development banks, also have an important role to play in supporting developing country governments in each of these areas (see Box 4). The same is true of civil society organizations. They can act as a bridge between local and national-level actors, provide technical support, convene public and private sector groups, and generate and communicate climate data and information to those that need it. In addition, civil society can help provide an enabling environment for private sector engagement, engaging businesses in areas where there is no clear profit margin (e.g., biodiversity conservation, air pollution). They also carry out valuable monitoring and evaluation of private sector actions (Crishna Morgado & Lasfargues, 2017).

The enabling factors covered below are likely to be most effective in those countries that already have a relatively strong private sector alongside formal banking systems and well functioning capital markets. As such, more work will need to be done in LDCs to build up these enabling factors and incentives for private sector engagement in the NAP (Crishna Morgado & Lasfargues, 2017). Nevertheless, governments designing their NAP processes should work to address barriers to private sector engagement and to strengthen the enabling factors. This will require that they understand how the private sector is already contributing to adaptation in their countries. Such an understanding, gained through research and consultation, will form the basis of a constructive dialogue with the private sector in each of these areas, and can be used as a starting point for the development of unique engagement strategies for each of the country's main private sector groups. Governments must also understand the diversity of the private sector, to ensure that they can tailor their messages to them appropriately.

It should be noted once again that many of the barriers listed below are particularly acute for MSMEs in developing countries (Dougherty-Choux et al., 2015). These businesses, operating both formally and informally, are responsible for 60 per cent of employment in developing countries globally, and many of these jobs are found in climate-dependent sectors like agriculture (Dougherty-Choux et al., 2015). These enterprises tend to have less capacity to adapt, including access to fewer internal resources from which to draw to make more resilient, longer-term investments. Should they be unable to adapt to climate change, the impacts on vulnerable populations will be far-reaching; in sub-Saharan Africa, for example, over 75 per cent of total employment lies within MSMEs (Dougherty-Choux et al., 2015). For these reasons, MSMEs in developing countries will need particular support to engage with the NAP process.

Box 4. Development partners and private sector engagement



Bilateral and multilateral development partners play a vital role in enabling private sector engagement in the NAP process, particularly in those countries without strong private sectors, capital markets and banking services. In 2013, an estimated 22 per cent of climate-related development finance—amounting to USD 9.5 billion—supported activities aimed at private sector engagement (the majority of which, however, was directed at mitigation-related projects) (Crishna Morgado & Lasfargues, 2017). Most of this funding was channeled through bilateral and multilateral development finance institutions.

Development partners can engage the private sector in adaptation actions in a number of ways. They can provide direct support for financing adaptation initiatives through instruments such as grants, blended financing, green credit lines or challenge funds (e.g., the Africa Enterprise Challenge Fund). They can support the generation and dissemination of climate information to private sector actors, and invest in building their capacities to act upon this information. They can encourage the development of green, climate-resilient value chains and markets for green products and services. They can also facilitate and encourage partnerships on strengthening climate resilience between private sector actors in their own countries with private sector actors in partner countries (Crishna Morgado & Lasfargues, 2017).

Development partners, and the support that they can offer, include:

Bilateral development cooperation providers: These providers largely grant financing to the public sector and civil society organizations. Activities include facilitating dialogues with the private sector, supporting enabling conditions, capacity building and matching grant schemes. Some of the providers active in this space are USAID, SIDA, GIZ and DfID.

Public sector operations of development banks and climate funds: These actors may provide loans, grants, or guarantees to the public sector, and activities financed include enabling conditions support, capacity building and financial support through credit lines. The Green Climate Fund, for example, is mandated to support the NAP process and requires private sector components to be included in funding proposals. Other examples include the World Bank, KfW, AFD, GEF and Climate Investment Funds.

Bilateral development finance institutions (DFIs) and private sector operators of multilateral and national development banks: These actors may provide equity, loans, guarantees or risk insurance to the private sector. Activities can include directly financing companies, providing funds aimed at mitigating risks in order to attract private investment, demonstrating viability in high-risk areas, and capacity building. Examples include the IFC, IIC, DEG, OPIC and Proparco.

For further information on how development partners can support private sector engagement in adaptation processes, please see Crishna Morgado & Lasfargues, (2017).

3.1 Information Sharing

There are three main informational barriers to private sector engagement in adaptation: understanding climate change; understanding how climate change will impact businesses; and understanding how best to adapt.

Companies and investors—whether small or large—often lack a detailed understanding of what climate change is and how it is impacting their business operations or investment portfolios. In response, governments should understand and communicate the business case for adaptation actions. They can make it clear to private sector actors that climate change could fundamentally alter the economy and that there could be significant risks to inaction. For instance, if physical climate risk is mispriced or underestimated, it can have a material impact on a company's income statement or balance sheet, from increased input prices to lost or damaged assets (Koh, Mazzacurati, & Trabacchi, 2017). Impacts extend from large listed companies to MSMEs; altered precipitation rates can impact the planting decisions of small farmers or increasingly intense storms can threaten the assets of a fisher. Opportunities may also emerge as a result of climate change: a company could offer new products or services that support adaptation. Raising private sector awareness of the potential impacts of climate change and the business case for climate adaptation will help companies measure the real returns to be had from investing in resilience.

Once companies and investors become aware of the threat that climate change poses to their operations and portfolios—and of their need to adapt—they must better understand what they are adapting to. Unfortunately, in many contexts a lack of climate information, combined with an inability to interpret available information into action, represents a key challenge to private sector stakeholders adopting or financing adaptation actions. Unavailable, inaccessible, poor-quality or unevenly distributed information can hinder both decision making and investments in business operations, supply chain management, and a host of other core functions of a company. It could also result in investments that, in the face of a changing climate, undermine financial and livelihood security; a company may, for example, invest in the development of seeds vulnerable to drought in order to sell them in an area where rainfall is becoming less predictable and the risk of drought is increasing. The application of pesticides without knowledge of upcoming heavy rainfall events could result in wasted resources and cause negative environmental impacts associated with pesticide run-off, as was the case in Ghana (WBCSD, 2017 – see Case Study 2).

Governments play an important role in both the generation of climate information and facilitating its sharing; strong climate information will, after all, be foundational to adaptation planning. As a first step, governments should ensure that high-quality climate information is generated for their NAP planning purposes and for national stakeholders. They should also present it in a format that diverse actors will understand and find useful. This can include governments supporting improved climate research at public universities; establishing and maintaining a network of hydro-meteorological stations and services; setting up climate information networks and services; drawing on global climate information resources; and establishing help desks to answer stakeholder questions on climate information.

The climate information generated should also meet the needs of the private sector, to help them understand the implications of a changing climate for their businesses. This could include information on changes in the timing and duration of the rainy season; the anticipated amount of sea level rise and its implications on low-lying coastal areas; and expected changes in growing degree days and the implications for crops and pest control. Data and information on current and potential future climate conditions should be generated at an appropriate scale. For smaller countries such as small island developing states, national-level data may be enough. For larger countries, the government will likely need to provide downscaled climate information for specific ecosystems and geographic locations. The climate information that is provided needs to be useful for the audience and should be linked to real-world implications. It should also be disseminated through appropriate channels to ensure it reaches those who need it, particularly in the case of MSMEs operating with limited connectivity. This may require a government exploring the potential for digitization and mobile technologies to innovatively deliver targeted climate data to those that need it most.

Considerable financial and human resources are required to establish an adequate baseline of climate information baseline, and—should this be beyond the capabilities and budgets of a national government—could require innovative partnerships with development partners and civil society (see Case Study 2). In the absence of national climate data (or should that data be limited) governments can use and point stakeholders toward climate databases produced by regional climate centres and global producing centres. This historical and forecasted climate data, while perhaps not available at the level of detail required for local-level decision making, is nonetheless a good start, and often available online for free. When communicating climate information, governments should also ensure that they use clear terminology and familiar concepts; they should avoid the complex terminologies used by climate change practitioners, scientists and academics and try to use language that is clear, concise and relevant—for the sake of their own policy-makers, but also for other stakeholders, including the private sector.

Finally, private sector actors, whether large or small, may lack knowledge of their adaptation options, and, should these options be clear, they are frequently unable to quantify the benefits versus the costs that can arise from investing in these actions. This extends to their ability to identify the trade-offs inherent in decision making around adaptation actions, as well as any co-benefits that may arise from these activities. For entities concerned with the bottom line, this lack of information can hinder investments and hamper the ability of larger companies to sell adaptation investments to their shareholders and investors. Including adaptation options in NAP design—through such things as bankable project pipelines developed for key vulnerable sectors—can help promote the types of activities that can strengthen climate resilience.

Governments, working with development partners and civil society, can start to address this knowledge gap by publicizing and promoting best practices in adaptation while highlighting lessons learned from past adaptation actions and programs, whether good or bad. As they develop their NAP, they can also promote and facilitate peer learning among private sector actors facing similar challenges, integrating lessons learned into the design of adaptation solutions (see Case Study 3). While drawing attention to the risks associated with climate change, governments can also focus on the potential benefits to MSMEs, enterprises and financiers of engaging in climate change risk assessment and mainstreaming, including increased competitiveness, reduced costs, and decreased exposure to risks (Crishna Morgado & Lasfargues, 2017). To reach MSMEs in particular, this may require that the NAP team work closely with local governments and civil society organizations, or expanding extensive service programs, to ensure that information about adaptation options gets to those operating outside of the capital. Governments can also ensure that climate information matches relevant decision-making horizons; seasonal forecasts matched to decisions on crop-planting times, for example, and decadal projections available to decisions on major infrastructure investments. This will help ensure that private sector actors can translate climate information into concrete decisions and actions.

The government should also communicate the NAP process itself. This will help ensure that the private sector understands the adaptation planning process, how this process relates to the country's development goals, which sectors have been prioritized for adaptation action, which adaptation actions have been prioritized for investment, and how they as private sector actors can be involved in all phases of the NAP, from planning through implementation and M&E.

Case Study 2. Establishing a weather and climate data platform in Ghana to increase resiliency in the cocoa value chain



Reliable, accessible and accurate weather information is required to inform climate change planning. In Ghana, weather station coverage is relatively poor, presenting a barrier for smallholder farmers to adapt their practices with short-term weather patterns and variability, and subsequently impacting their long-term planning (WBCSD, 2017). For cocoa farmers, applying agricultural inputs without knowledge of upcoming heavy rainfall could waste resources and cause negative environmental effects from the run-off (WBCSD, 2017). Many smallholder cocoa farmers grow other annual crops that may also be sensitive to variations in weather patterns, and farmers increasingly rely on these secondary crops for their livelihoods as the cocoa growing season shortens due to climate change. Localized weather information in growing regions is essential to adapting agricultural practices, maintaining livelihoods and securing the resilience and stability of the cocoa sector in Ghana.

In 2015, the World Business Council for Sustainable Development (WBCSD)—an organization representing more than 200 leading global businesses—initiated a project to install weather stations and systems in Ghana in order to provide 7,500 smallholder farmers and local community members with valuable localized weather information (WBCSD, 2019). Private sector partners in the project—including Kellogg, Olam International and Opus Insights—recognized that climate change impacts were a major threat to product quality, security of supply and the overall sustainability of the cocoa value chain. From 2015 to 2018, several stakeholder dialogues were organized by WBCSD, in order to ensure that multiple relevant stakeholders—including those in the public, private, research and civil society sectors—were included in defining the strategy for the initiative. Further, the initiative took steps to investigate which communication channels (e.g., phone, traditional extension service advice) would be appropriate for delivering the weather information to farmers (WBCSD, 2017).

While the primary intention was to secure the livelihoods of cocoa smallholder in the West African cocoa belt and increase resilience in relevant value chains, the initiative also contributed to the NAP process. Specifically, the weather stations generate a powerful data set for the government, which can inform future priorities and decisions regarding crop suitability and adaptation in the agricultural sector (WBCSD, 2017). This data will be useful as Ghana embarks on formulating its NAP, and the government can draw on the experience of collaborating with the private sector as it develops strategies for engaging the private sector and using newly emerging technologies in its NAP.

Case Study 3. Crowding-in through information sharing in Rwanda



The Albertine Rift Conservation Society (ARCOS Network) is a regional conservation organization in Rwanda with the goal of sustaining biodiversity, building resilience to climate change, and promoting sustainable agriculture and food security. One of its key functions is to work with the private sector to promote climate change adaptation and mainstream sustainability into private sector business models. Several key barriers have been identified in pursuit of these goals: a lack of awareness of climate change risks; minimal information on existing affordable financial products; and limited opportunities for cross-learning and exchange on successful interventions.

To address these barriers, in 2017 and 2018 the ARCOS Network organized together with GIZ two private sector dialogues, bringing together approximately 35 companies, 20 civil society organizations and development partners, and 15 government entities including those responsible for Rwanda's NAP process. The Rwanda Private Sector Federation was among the attendees. The subjects of these dialogues included how to involve the private sector in NAP and NDC implementation and understand the practical experiences of private sector engagement in climate change adaptation in Rwanda.

Representatives from Sowarthé, a tea company operating in northern Rwanda, presented on the company's efforts to mainstream adaptation into its operations, focusing on the business case for action and the importance of assessing climate change risks and opportunities. Sowarthé has been active in adaptation since 2009, when they introduced organic tea cultivation. They presented the impacts of climate change on their operations alongside what they have learned from the past decade. As a major participant in the Rwandan tea market, Sowarthé's participation and leadership in the dialogues encouraged other companies attend and actively engage in the meetings. Most notably, Sowarthé's presentation made the case that adaptation is possible with minimal resources, and that adaptation and conservation are necessary for ensuring the stability and security of their supply chains. As a result,



many companies and MSMEs decided to incorporate adaptation activities into their business strategies. These dialogues also influenced the NAP process and progress, as representatives from the Rwandan government were active participants and kept apprised on insights and outcomes of the meetings.

How can the private sector help, and promote crowding-in?



Communicating information and data on climate change and adaptation is not solely the responsibility of governments. Private sector actors themselves can play an active role in the generation, dissemination and understanding of such information, and of making the business case for investments in adaptation (acknowledging that, in certain cases, private sector actors may be reluctant to share information should a competitive advantage be gained from investments in adaptation). They can do so in a number of ways, including:

- Becoming private sector champions for adaptation by taking part in communications outreach.
- Raising awareness of the business case for adaptation by sharing case studies and best practices with the media and other members of the private sector. Investments made by competitors in adaptation are often more important signals than net-present value calculations or other economic tools used to measure the costs and benefits of investments (Dougherty-Choux et al., 2015).
- Reporting on the results of adaptation to support M&E within the company or business, subsequently contributing to ongoing data collection efforts on climate change adaptation.
- Sharing or selling climate and related information.
- Participating in and building up information sharing platforms for other members of the private sector.

3.2 Financing

The financial barriers to engaging in the NAP process include those related to accessing financing to pay for adaptation actions, and ensuring that appropriate financial instruments are available to those who need them.

For many private enterprises, particularly MSMEs operating in developing countries, there can be limited access to the financial resources required to pursue adaptation actions. This relates to financing to pay for both investments in climate-proofing a company's operations and supply chain, and investments in developing and bringing to market new goods and services that support broader climate resilience. Farmers, for example, may not be able to obtain small loans at acceptable interest rates to invest in improve irrigation or seed technologies. Private financiers, conversely, may be unfamiliar with green investments, or unfamiliar with the potential financial benefits of these investments. This informational barrier for financiers could then translate into a financial barrier for enterprises seeking financing.

Accessing appropriate financing is another key challenge. Financiers and enterprises may be operating in imperfect capital markets that are unable to efficiently allocate capital or transfer risk. It is important that a variety of financial instruments suited to different types of adaptation investments are available; financing, for example, that can cover short-term and long-term investments, or internal and external investments in adaptation. For example, there is often a shortage of longer-term credit in many financial markets, inhibiting the ability of companies to finance the investments required to cope with longer-term or distant climate impacts (UNEP FI, et al., 2016).

Markets may not function in a way that encourages or allows the private sector to invest in increasing resiliency or developed new climate-resilient products or services. In these instances, public intervention may be required (Dougherty-Choux et al., 2015). Potential interventions by governments can include: directly providing financial

incentives for private sector engagement with the NAP; indirectly facilitating private sector access to appropriate, flexible and affordable financing for adaptation; working to address market imperfections; and de-risking investments in order to spur private sector action. Insurance can also play an important role in underwriting changing risk profiles—for both internal and external investments. In addition, international public financing, such as grants, can be used to support private financiers investing in adaptation (see Case Study 4).

Governments can use financial incentives to motivate private sector actors to invest in new products or markets that support adaptation and meet NAP priorities. These financial incentives for investing in NAP priorities can include: tax breaks; risk guarantees; procurement contracts that help secure demand for new climate-resilient products and services through government; and favourable conditions set by export credit agencies to make investments in climate change adaptation more attractive (Parry, et al., 2017). Governments can also use mechanisms like taxes, levies, fees and royalties to raise funding that allows for financial support to be offered for climate risk assessments; extension services; and start-up or seed financing for new products and services.

De-risking investments, particularly large-scale infrastructure investments that support the NAP's priority areas, will be crucial to making these investments attractive to private investment. This can happen through a number of instruments, including partial credit guarantees, political risk guarantees and blended finance. Blended finance, which pools public and private sources of capital for large-scale investments, can also help mobilize private investments in adaptation options by de-risking these investment. Blended finance allows public finance to cover riskier investments (with higher returns), while private financing covers less risky elements of an investment. All capital gains from both types of investment are then reinvested into the higher-risk projects (Crishna Morgado & Lasfargues, 2017). The use of blended finance therefore reduces the risks associated with private financing and improving returns on investment for larger-scale investors. In order for private financiers to access blended finance, the government can require that projects meet certain social and environmental criteria, including support for both strengthened resilience and the achievement of the country's adaptation plan.

Determining the desired role of governments in enabling private sector access to financing for adaptation should be undertaken as part of the NAP planning process, particularly should it seek to develop a resource mobilization or NAP financing strategy. Such a strategy will connect the adaptation priorities identified through the NAP process to promising sources of domestic and international public and private financing. The strategy can then be integrated into the country's NAP implementation plan. The private sector, including insurance companies, banks, business multipliers and enterprises, should be involved in the development of the strategy.

How can the private sector help and promote crowding-in?



While governments can provide access to financial resources and incentives to promote, accelerate and expand NAP-related adaptation actions, the private sector can also play an important role in facilitating and crowding-in access to finance. As a first step, the private sector can and should actively participate in multistakeholder dialogues as part of the NAP development process, particularly in the development of a NAP financing strategy. This will help to ensure that private sector interests are reflected in the strategy, enabling further engagement at later stages, and could help those involved identify climate-related risks, market opportunities or potential policies or regulations that might impact their operations.

Private sector actors can also support and encourage climate risk disclosure efforts. Industry groups, ratings agencies, shareholders and other stakeholders are already contributing to this drive, with some leading asset managers promoting climate risk disclosure as an issue of investment stewardship (Koh et al., 2017). In 2017, 16 of the world's biggest banks, representing USD 7 trillion in combined assets, were working to evaluate their exposure to climate-related risks (Koh et al., 2017). S&P Global has incorporated environmental and climate risks into its corporate credit ratings (S&P, 2017). With investors increasingly looking at ways of reducing the exposure of their portfolios to climate risks, companies that disclose these risks and actively work toward minimizing them can secure a competitive advantage and be better placed to attract future investment: their competitors may soon follow.

Private sector actors can also familiarize themselves with domestic and international sources of adaptation financing and seek out these opportunities. A prominent international example includes the funding available through the Green Climate Fund's Private Sector Facility.

Finally, private sector actors can also actively engage in cost-sharing financing mechanisms with the public sector, such as public-private partnerships or blended financing facilities. This can influence and contribute to the funding of larger-scale NAP priority projects, in which multiple private sector actors may be able to contribute, while reducing their risk exposure.

Case Study 4. Providing on-lending to smallholder farmers in Kenya



Kenya's NAP process places a strong emphasis on Climate Smart Agriculture (CSA), which aims to transform the country's agricultural systems to ensure food security and development in a changing climate (FAO, 2018). Since 2013, the Finance Innovation for Climate Change Fund's (FICCF) CSA initiative has promoted a private sector response to CSA investments. It focused on adaptation, climate resilience and—where appropriate—low-carbon interventions in four commodity value chains: dairy, indigenous chicken, sorghum and cassava (Finance Innovation for Climate Change, 2014). The FICCF provided repayable grants to microfinance institutions for on-lending to smallholder farmers and aggregators in highly productive zones to invest in climate smart technologies and practices. This project was a part of the Strengthening Adaptation and Resilience to Climate Change in Kenya Plus programme, a GBP 28 million initiative supported by the United Kingdom's Department for International Development, and delivered by Development Alternatives Inc., Matrix Development Consultants, and the International Institute for Sustainable Development.

In order to ensure the effectiveness of these grants, a key contribution from the Kenyan public sector was the provision of reliable access to data and information on current and forecasted weather and climate. The Kenya Meteorological Department, as part of this initiative and in collaboration with the Agriculture and Climate Risk Enterprise in Africa Limited, provided targeted downscaled weather and climate information services to farmers, extensions agents and aggregators. The use of information technology was key to providing the weather advisories to farmers, which lowered transaction costs and increased the efficiency of captured and valuable data.

This public–private partnership is an example of climate finance invested into resilient value chains through existing microfinance institutions to promote the transition to commercially oriented CSA. The initiative combined financial inclusion with a climate lens and increased market linkages. The



initiative increased microfinance institutions' understanding of CSA and strengthened their capacity to provide loan programs for smallholder farmers to invest in CSA. It also demonstrated that smallholder farmers are enthusiastic about engaging in CSA practices that address climate risk and improve productivity, when equipped with the appropriate financial enablers (Murphy, 2018).

3.3 Institutional Arrangements

In order to promote private sector engagement in the NAP process, governments must work to ensure that appropriate institutional arrangements and legal and policy frameworks are in place that support investment in adaptation and facilitate dialogue among national and sub-national decision makers, private enterprises and private financiers.

A number of institutional, policy and regulatory barriers to private investment in adaptation may exist in a given context. A lack of zoning rules for coastal areas could promote developments that reduce coastal protected areas and increase vulnerability to sea level rise and storm surges (Stenek et al., 2013). Perverse incentives, such as subsidies, may be present which undermine the business case for investing in adaptation. Subsidized electricity in India, for example, has made it cheaper for farmers to pump water out of underground aquifers than to invest in water conservation and more efficient irrigation. This has contributed to a significant over-extraction of the resource and consequently a crisis for the agriculture sector (Jain, 2018).

A lack of incentives can be similarly damaging. In the Canadian province of British Columbia, forestry policy stated that when a company harvested trees on a forest tenure, it had to re-plant trees according to stocking standards for the region, and maintain those trees until they reach a designated size. High maintenance costs meant that companies were incentivized to plant the fastest growing trees, rather than those best suited to a changing climate. This led to a preference for fast-growing pine trees in many re-planting schemes, creating monocultures that were increasingly vulnerable to climate change and related stressors such as mountain pine beetle outbreaks. Thankfully, the government now requires that the impacts of climate change be considered in reforestation practices and plans, and has integrated adaptation into its tree species selection tool (Government of British Columbia, n.d.).

It may also take too long for governments to develop and adopt policies and laws that offer the assurances and stability sought by private sector actors when making investments in adaptation. In addition, there may not be a compelling policy signal for private sector actors to look to when making investments in adaptation; hence the need for a NAP. Finally, the private sector may also express skepticism in the government's ability to develop and—importantly—implement the adaptation actions prioritized through the NAP process, and as a result they could disengage from the process.

To successfully engage the private sector in the adaptation planning process, governments must ensure that the right enabling conditions are in place, both institutionally and in terms of the policy and legal framework. For the former, open dialogue and collaboration among all stakeholder groups will be central to the success of the NAP process. Government have to get these institutional arrangements right at the outset of the process and must maintain these arrangements through all three phases of the NAP. Getting the private sector on board with the NAP process during its inception will help to ensure their continued participation and support throughout the process (see Case Study 5). Institutionally, this may require that the government include private sector representatives in the NAP's oversight committee, should one exist, or that structures are established to ensure communication between those driving the NAP process and the private sector—a private sector NAP focal point, for example, or a sub-committee featuring private sector representatives from prioritized sectors like tourism, water, energy and fisheries.

The government should also promote coordination among all relevant public agencies through the NAP process. Cross-sectoral collaboration on climate adaptation is a central tenet of the NAP process—it helps ensure the private sector gets a unified government position on climate change adaptation (and its role in the country's long-term development) from across the various ministries. The Government of Saint Lucia, for example, made efforts to understand why private sector engagement in adaptation was limited: it then took strides to remedy this through policy, regulation, and increased coordination (see Case Study 6).

Governments should also support and work with business associations and multipliers, such as chambers of commerce or smaller, more local associations of individuals like farmers, fishers or miners. They are important institutions for reaching private sector actors, particularly MSMEs operating in developing countries. Governments should work to ensure that these multipliers have a good understanding of climate change and the business case for investing in adaptation, and can involve them in NAP design (see above). They can then take these messages and capacities to their membership.

Within the legal and policy context, governments should also work to ensure that there is stability in the domestic laws, policies and regulations that will influence adaptation investment decisions. The revision or adoption of legislative instruments around supporting adaptation should be periodic, timely and transparent. Passing such legislation in an ad hoc or opaque manner could discourage investments in adaptation, which are often long-term and risky to begin with. The NAP itself is a useful instrument in this regard—it provides investors with a timebound idea of where national policies and regulations around adaptation are likely to evolve and is built upon a platform of collaboration among stakeholder groups. Beyond stability in the policies and regulations that relate to adaptation, governments should try to ensure stability in the nature of business regulations and procedures, and in the level of international support that it receives on climate adaptation; investments in medium and long-term adaptation responses are much more likely in such an environment.

Before developing new or revised policies and regulations to support adaptation, governments should identify whether any existing legislative instruments promote maladaptation and work to revise or repeal them. This will likely involve drawing on research from outside organizations, including civil society, the media and academia. Attention can then be turned to the participatory development and adoption of policies and regulations that provide a level playing field for more environmentally friendly investments and corporate behaviours supportive of adaptation (Crishna Morgado & Lasfargues, 2017).

For developing countries in particular, policies should be developed as part of the NAP process that stimulate MSMEs to invest in adaptation. This can include overarching, long-term economic development planning strategies and frameworks that integrate adaptation, as well as more specific policies focusing on areas like land and property rights, building codes, and carbon taxes (Dougherty-Choux et al., 2015). For example:

- In agriculture, property rights and land-use rights are vital for smallholder farmers and small-scale agricultural operations. By ensuring farmers' control over the land, a clear system of property rights facilitates longer-term investments in irrigation or other improvements that tend to limit degradation and support adaptation (Dougherty-Choux et al., 2015).
- In construction and land-use planning, building codes and zoning ordinances are examples of regulations that can drive businesses to upgrade their operations or can prevent them from inhibiting the adaptive capabilities of local communities (Dougherty-Choux et al., 2015).
- More generally, governments can offer fast-tracked permitting for adaptation-focused activities.

The effectiveness of new regulations to support adaptation will depend in part on the government's enforcement capacity.

Governments can also require or encourage the disclosure of climate risks among companies and investors (Koh, Mazzacurati, & Trabacchi, 2017). Such disclosure obligations serve to promote actions that minimize exposure to climate risks among companies seeking investment, or exposure to such risks in investment portfolios. Since the Paris Agreement in 2015, several governments have adopted policies to this end, including those recommended by the Task Force on Climate-related Financial Disclosures (TCFD) (see Box 5). While climate risk disclosure

may be more feasible for companies operating in developed countries with strong regulatory environments, the identification and disclosure of climate risks along supply chains could lead to increased investments in climate resilience in downstream, developing country companies or producers.

Understanding both the supply of and demand for adaptation finance is critical for governments designing policies, regulations and public finance instruments that can catalyze flows of private adaptation finance (UNEP FI, et al., 2016). Governments must seek to understand any market imperfections that distort the risk and return profiles of adaptation investments early on in the NAP development process and prior to embarking on the development of policies or regulations that support adaptation. These market imperfections can include many of the barriers already discussed, such as a shortage of long-term credit inhibiting investments in coping with longer-term climate impacts, or incomplete or asymmetric climate information leading to uninformed decision making (UNEP FI, et al., 2016). Once barriers have been identified, governments can focus on addressing them through policies that enable the market to more efficiently perform its role in allocating capital, helping to increase the amount of financing available for adaptation (UNEP FI, et al., 2016).

Box 5. Emerging regulations on reporting physical climate risk



Since the signing of the Paris Agreement in 2015, there have been a number of regulatory developments in the field of climate risk with growing relevance to investors and financiers. The Task Force on Climate-Related Financial Disclosure, for example, recently acknowledged that the mispricing of climate risks could lead to the mispricing of assets, the misallocation of capital and could potentially give rise to concerns about financial stability. Following these findings, insurance supervisors and regulators supported the adoption of a climate risk disclosure framework. As a result, 16 of the world's biggest banks—representing a combined USD 7 trillion in combined assets under management—are currently working to evaluate their exposure to climate-related risks (Koh, Mazzacurati, & Trabacchi, 2017). Deutsche Asset Management, for example, is working on a global database of corporate sites' exposure to climate risks, in order to identify where natural disasters relating to climate change may pose the greatest risks to investment portfolios (Koh, Mazzacurati, & Trabacchi, 2017).

Further, the EU's Institutions for Occupational Retirement Provision Directive (IORP II) (2016/2341) required that registered pension funds consider and disclose climate matters in investment and risk decisions. Similarly, in France the Energy Transition Law (Article 173) sets out mandatory requirements for public traded financial and non-financial French organizations to disclose their climate risk—including any physical risk—and for institutional investors to assess and disclose the climate risks of their investment portfolios (Koh, Mazzacurati, & Trabacchi, 2017).

Case Study 5. Red Stripe adapting to climate change in Jamaica



In 2013, Red Stripe—Jamaica's most famous brewery—began its Project Grow initiative, turning to local cassava production instead of relying on imported corn syrup for its malt, beer, and stout beverages (Jamaica Observer, 2017). The initiative's goal was to increase the use of local cassava by 40 per cent by 2020 through the development of a sustainable and resilient cassava starch supply chain (Heineken, 2015). To date, more than 300 farmers have been supported by Project Grow (Jamaica Observer, 2017).

Cassava production is, however, subject to climate change impacts such as drought, floods and hurricanes. Increased incidences of drought in recent years have resulted in failing cassava, yam and ginger crop yields in some parts of the country. The Jamaican Rural Economy and Ecosystems Adapting to Climate Change II project, funded by USAID in cooperation with Red Stripe, has supported increasing the adaptive capacity of cassava farmers by providing them with technical assistance, delivering training, promoting the use of high-yielding and drought-tolerant cassava varieties, and propagating high-yielding planting materials (Jamaica Observer, 2017).

These actions have supported the achievement of the goals set out by Jamaica's NAP process by bolstering the resilience of cassava farmers. Red Stripe is also a member of the Private Sector Organisation of Jamaica, an active supporter of Jamaica's climate change agenda and NAP process. In addition, Red Stripe actively participated in "Uncut Conversations", a public outreach initiative of the government to discuss climate change mitigation and adaptation with local communities and stakeholders. Engaging Red Stripe in this campaign was a strategic decision to involve them in the process and to encourage other private sector actors to follow suit. These conversations proved influential in spreading awareness about ongoing adaptation initiatives and actions, thereby spurring further private sector engagement.

Case Study 6. National Adaptation Planning in Saint Lucia



In 2014, Saint Lucia's Climate Change Adaptation Policy (CCAP) highlighted the importance of the private sector to achieving of the country's adaptation goals. It recognized the need to create partnerships between the public sector, the private and financial sectors, civil society and communities (Government of Saint Lucia, 2015). To facilitate coordination across stakeholders following the launch of the country's NAP process, the government launched a study of the private sector's engagement in climate change actions in 2017. The study found that the main barriers to private sector engagement in climate action included a lack of communication between the public and private sector, the lack of a platform for the private sector to get involved in, and the lack of a strategic long-term vision for private sector engagement (Environmental Governance Consulting, 2018).

In response, the Government of Saint Lucia is taking steps to increase coordination across sectors and address some of these barriers. The government submitted a proposal to the Green Climate Fund (GCF) for NAP Readiness and Preparatory Support in March 2018, and the private sector was identified as a key stakeholder to be engaged during consultations (Caribbean Community Climate Change Centre, 2018). Saint Lucia's NAP document prioritizes the development of a Climate Change Private Sector Engagement Strategy, the first consultations for which were held in November 2018 with support from the NAP Global Network. Included as part of the development of this strategy

is the identification of potential public-private partnerships that can advance the country's adaptation goals. In addition, sectoral adaptation strategies for fisheries and agriculture, developed during the NAP process, similarly identify the strong need for private engagement on adaptation actions (Government of Saint Lucia, 2018).



How can the private sector help, promote crowding-in?



The private sector can actively engage with and support institutional arrangements and policy-making processes that promote investment and engagement in the NAP. In terms of institutional arrangements, this can be done in a number of ways:

- **Becoming a member of a coordination body for the NAP process.** This demonstrates active support for adaptation, enables more consistent, ongoing and active participation, and brings wider private sector actor interests to the NAP priority and agenda setting processes.
- **Participating in NAP-related events and dialogues, whether as a member of a private sector organizing body, associations or individually.** NAP processes may call on the private sector during multistakeholder dialogues and consultations, and it can be in the best interest of the private sector to attend and encourage others to do so as well.
- **Identifying and mobilizing industry-led organizations, associations and partnerships.** These collaborations will be a flagship for industry leaders, will act as a multiplier for further engagement, and can be an effective conduit for climate information and capacity building. Global compacts and commissions led by the private sector are increasingly promoting opportunities to make voluntary commitments to adaptation action and collaborate with like-minded businesses (see Box 6). These can also facilitate the forging of new partnerships and collaborations with industry or supply chain partners to share resources, risks and capacities.

While the political and regulatory environment is the responsibility of government, the private sector can contribute to policy-making processes to promote better engagement of like-minded enterprises and financiers in a number of ways:

- **Participating in stakeholder consultations and dialogues to provide their perspective on adaptation priorities in the development and implementation stages of the NAP.** In doing so, the private sector can bring relevant issues to the agenda and prioritization process, and can be consulted on policy and regulatory options prior to their adoption. Private sector actors should also be encouraged to participate in these processes to help identify possible opportunities for public–private partnerships. This will enable collaboration and continued engagement with the implementation stages of the NAP process.
- **Adopting voluntary standards in the absence of (and in addition to) any mandatory political or regulatory requirements.** Doing so—whether on a global or local scale—can send signals to and drive future policy conversations, and can help push sectors or industries toward best practices. Becoming partners or signatories to voluntary adaptation agreements and initiatives could strengthen corporate reputations and influence further crowding-in.
- **Quantifying and disclosing their exposure to climate risk in an effort to attract adaptation funding in the absence of government policy or regulations.**

Box 6. The Business and Sustainable Development Commission & The Global Compact on Caring for Climate



The Business and Sustainable Development Commission and the UN Global Compact offer an opportunity to align business goals with UN-led climate initiatives, to solidify the business case for climate change adaptation actions, to shape policy agendas, and to further engage the private sector in the fight against climate change.

The Business and Sustainable Development Commission, launched January 2016 and headed by Unilever, aims to make the case for why business leaders should engage in the Sustainable Development Goals (Business & Sustainable Development Commission, 2018). The Commission's flagship report, "Better Business, Better World", mapped economic incentives for companies aligned with the SDGs—including SDG 13 for Climate Action—and how they can attain them. To help make the case, the report noted that environmental externalities, many of them associated with a changing climate, are now costing more than USD 4.5 trillion per year (Business & Sustainable Development Commission, 2018). The report noted that achieving the SDGs—including SDG 13—will require leadership from the private sector.

Similarly, the UN Global Compact, the world's largest business initiative on corporate sustainability, calls for businesses to align their strategies and operations with universal principles on human rights, labour, the environment and anti-corruption (United Nations Global Compact, 2019). The Compact, through its Caring for Climate initiative, provides a platform for businesses to commit to taking practical actions on climate change—and to champion such actions (Business Leaders of the Caring for Climate Initiative, 2012). To date, Caring for Climate has been endorsed by 463 organizations, including General Mills, H&M, IKEA Group and Nestle S.A.

3.4 Capacity Building

Operating with the information they require, the financing they need, and the institutions, policies and regulations that can help them achieve their adaptation aims, private sector actors may nonetheless lack the technical capacities needed to participate in the NAP process. Governments, typically working in collaboration with civil society, development partners, academia and other businesses, can work to identify and address these capacity gaps.

Private enterprises may lack the capacities needed to understand and use climate data and information, and to integrate climate risk management into standard business operations, including the conducting of climate risk assessments. They may require enhanced capacities in the use of techniques, technologies and equipment needed to adapt—the adoption of conservation agriculture practices, for example or the use of drones for pollination. They may require capacities to develop the business models needed to commercialize adaptation products and services, or to implement business strategies that can reduce their exposure to climate risk. They may also need help identifying and seeking out appropriate financing for adaptation investments. For private financiers, increased capacities are often required to integrate climate risks into investment portfolios and financing products, and to better quantify and track the adaptation returns on investments.

Governments can play a role in addressing capacity shortfalls like these and others, often in collaboration with a partner institution. They can facilitate the strengthening of technical capacities among businesses and financiers through training programs, outreach programs, and the development of context-specific guidance

notes (if required). Initially targeting the building of capacities of business multipliers may be a good way to increase the effectiveness and reach of any training measures, provided these multipliers can successfully share these skills with their members.

Governments can also offer guidance and training on ways to measure returns on climate change adaptation investments, including cost-benefit analysis, cost-effectiveness analysis, portfolio risk analysis for financial institutions, and new metrics that measure returns beyond the financial (Parry, *et al.*, 2017). This again may have to be undertaken in collaboration with partners, should governments not have the internal capacities or resources to provide training on their own. In addition, capacities often need to be built on how to translate risk and vulnerability assessments into responsive management plans and concrete actions. Building on risk assessments, governments can ensure that private sector actors have access to adaptation decision-making support tools designed to help them understand and incorporate climate risks into business activities: many such tools are available.

Among the foremost technical capacities required by private sector actors is the ability to conduct climate risk and vulnerability assessments. Improved understanding of how climate change translates into risks—and opportunities—across a company's operations and its supply chain, or in an investor's portfolio, will help strengthen the business case for investment in adaptation measures. Governments should work to facilitate the building of these capacities. This can be done by connecting development partners with private sector actors; GIZ's Private Sector Adaptation to Climate Change (PSACC) initiative, for example, provided members of the private sector with a tool to conduct climate risk management and planning, thereby strengthening their capacity to develop strategies for adaptation (see Case Study 7).

Case Study 7. Vulnerability assessments through the Climate Expert initiative



Developed under GIZ's Private Sector Adaptation to Climate Change (PSACC) program, the Climate Expert tool enhances the capacity of private sector actors to engage in climate change adaptation activities by providing a four-step approach to conducting climate risk management and planning. The approach is designed to help companies, including MSMEs and industrial zones, analyze climate change risks and opportunities, and to generate strong adaptation strategies (Frei-Oldenburg, Wohlgemuth, von Stieglitz, Stahr, & Eisinger, 2018). The tool includes guidance on how to assess the costs and benefits of different climate risk management options, and is freely available at www.climate-expert.org (GIZ, 2019).

Agrumar Souss, a citrus processing company located in the Souss-Massa region in Morocco, used the Climate Expert tool to assess its exposure to climate change and identify corresponding business opportunities and adaptation pathways. Floods, drought, rising temperatures, stronger winds, heavy and more frequent rainfall, and a late frost were all identified as negative impacts of climate change upon the citrus business, putting the company's supply chain at risk (GIZ, 2019). The company used the Climate Expert approach to identify and assess adaptation measures that they could employ to strengthen their climate resilience, including the use of an anti-backflow system to address heavy and more frequent rains, strengthened windbreaks in company orchards to reduce the trees' exposure to strong winds, and addressing frequent drought through the use of irrigation pumps powered by solar energy (GIZ, 2019). By building the capacity of companies like Agrumar Souss to understand and integrate climate risks into their business operations, the Climate Expert initiative has helped advance private sector involvement in adaptation.

How can the private sector help promote crowding-in?



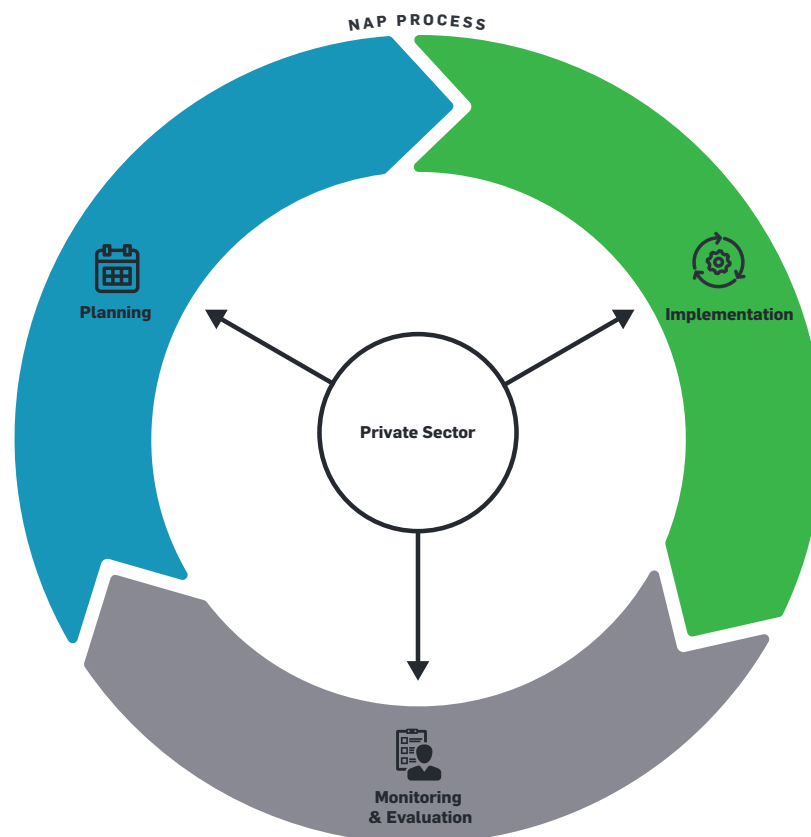
There are a number of ways in which private sector actors can help build their capacities (and that of their peers) to engage with the NAP process and with adaptation actions more broadly. These can include:

- Working through chambers of commerce or other business multipliers to establish dedicated committees or learning events that promote peer exchange among companies undertaking adaptation planning and implementation. Business multipliers could also support exchange programs on adaptation among their members.
- Participating in adaptation training activities and workshops provided by development organizations, civil society and public sector actors, and publicly communicating this participation to encourage similar businesses or private sector organizing bodies and associations to do the same (see Case Study 8).
- Developing and sharing the business case for engaging in climate change adaptation. Some actors have been successful in articulating the motivation behind their adaptation actions: making this rationale public knowledge can enable others to understand and adopt best practices.
- Establishing metrics and monitoring and evaluating the success of implemented adaptation actions—while documenting any successes and failures and sharing these with other private sector actors. This sharing can be done through relevant networks and platforms, such as the NAP Global Network and NAP Global Support Programme, or through relevant external partners like WBCSD.
- Contributing to NAP-related stakeholder consultations and dialogues, in part to identify key areas for future capacity development and information sharing.
- Supporting government and academia in the design and launch of degree or professional programs focusing on business and climate change.

4 Engaging the Private Sector in the Phases of the NAP Process

Developing and strengthening the enabling factors for private sector engagement will continue throughout the NAP process. At the same time, governments can also meaningfully engage the private sector across all three phases of the NAP process (Figure 4). Engagement will, of course, not be static, but must continue as an iterative process from the NAP's inception through its implementation, monitoring, evaluation and adjustment.

Figure 5. The three phases of the NAP process



Private sector actors should be involved in the NAP planning process so that they are aware of the government's medium- to long-term plans and goals for adaptation, and can thus align their work accordingly if appropriate and desired. They can be partners in NAP implementation, as both financiers and implementers of adaptation actions. They can also contribute to M&E processes, to inform efforts to ensure that adaptation actions are having the desired impact or need to be adjusted.

Entry points for private sector engagement have been drawn from the literature and case studies, and using the Least Developed Countries Expert Group (LEG) Technical Guidelines for the NAP Process (LDC Expert Group, 2012). Many countries remain in the early stages of the NAP process, and as such, more examples and lessons can be drawn from experiences in integrating the private sector into planning processes, rather than implementation and monitoring. Nevertheless, presented below are some examples of where this integration might optimally happen throughout the NAP cycle.

4.1 Planning

During the planning phase of the NAP process, governments should be focusing on fostering consensus among key stakeholders on the nature of climate change threats, setting priorities in terms of how stakeholders will respond, and planning for mobilizing the domestic and international resources—both public and private—required to implement the plan. Governments should ensure that private sector representatives are included in discussions on the structure, priorities, vision and roadmap for the country's adaptation.

The first two steps identified in the LEG Technical Guidelines for the NAP Process relate to planning: laying the groundwork and addressing any gaps; and undertaking necessary preparatory steps. This involves creating a national mandate and strategy for the NAP; identifying expected outcomes and any gaps in the enabling environment; conducting impact, vulnerability and adaptation assessments; and capacity development (LDC Expert Group, 2012). Many of these steps have been covered in the enabling factors described above. Critical to this stage is the involvement of all relevant stakeholders, including the private sector.

According to the LEG Guidelines, governments should designate multistakeholder secretariats or coordinating committees to oversee and guide the NAP process. These committees should involve representatives from civil society and the private sector, at least in a consultative role if not as full members (see Case Study 8). This will allow private enterprises and financiers to have a meaningful voice at the table and make their priorities, needs and constraints known. Jamaica's "Uncut Conversations" for example, and Rwanda's ARCOS Network dialogues offered an opportunity for members of the private sector and local communities to discuss and learn more about the country's NAP process (see Case Study 5).

Through early and ongoing dialogue the private sector can also identify feasible ways of engaging with the process, which will be particularly important during the implementation phase. Outreach will be important here: the government must first connect with the private sector and raise its awareness of the NAP process. This could mean presenting the NAP to business multipliers or at important national trade fairs or business conferences. It could also mean drawing on the support of relevant international organizations, such as WBCSD.

Once these links have been established and private sector awareness of the NAP process has increased, governments and private sector representatives can work together through public-private dialogue (PPD) to identify areas for collaboration (for the design of a PPD see, for example, Herzberg & Wright, 2006). Through these dialogues, the private sector can help the government understand the conditions necessary for spurring private sector action on adaptation and attracting domestic private investments. It can thus provide a potential reality check on any barriers to implementation and financing, as well as the technical feasibility of adaptation options. Governments can prioritize engaging the chambers of commerce or business associations representing the sectors most relevant to the NAP, which could include agriculture, tourism, banking and construction.

Governments must also synthesize available data and knowledge, given that good adaptation policy is built on a foundation of good climate science and accessible climate information (see above). Engagement in the planning process can be particularly beneficial to private sector actors in this respect: it puts these actors in

touch with the latest climate science and scientists; it involves them in conversations that help private sector actors translate the science of climate impacts into priorities for adaptation action; and it allows them to contribute their own information to a national priority-setting exercise.

The planning phase of the NAP process also requires that governments conduct climate risk analysis, as well as vulnerability and adaptation assessments. There is room for significant two-way collaboration with the private sector in this area. First, businesses and financiers can use the findings of national, sub-national and sectoral vulnerability assessments by integrating them into their business or investment planning. If properly capacitated, businesses can also conduct their own vulnerability and risk assessments, and they can share any resulting data or information with national or sub-national authorities. For example, through the Climate Expert initiative (see Case Study 7), efforts to train private sector actors in Central America on how to conduct climate vulnerability assessments led to the successful completion of assessments by the targeted private sector actors and the integration of findings into modified business plans. In Costa Rica, this helped a local rafting operator change its activity offerings to adapt to a future of expected heavier rains, longer dry seasons, and limited water availability (GIZ, 2019). In Nicaragua, as a result of a vulnerability assessment, an agro-exporting company focusing on Tabasco chilis integrated climate change into its corporate strategic plan for the first time; it is now better placed to respond to extending dry seasons, intense rainfall events, and river floods (GIZ, 2019).

During the planning phase of many NAP processes, countries prepare and adopt sectoral or sub-national adaptation plans or strategies to complement higher-level national adaptation plans. As with all NAP planning processes, the private sector should be involved in the development of these sectoral or sub-national plans. If, for example, the mining sector has been deemed a priority sector for adaptation, due to its importance to the national economy and its heavy use of water resources, the government may wish to engage with the local Chamber of Mines in the development of a sectoral adaptation plan, to ensure that the sector has a trusted voice to speak and advocate on its behalf and to ensure the plan reflects their needs and concerns.

To ease implementation, governments should also work with the private sector to develop pipelines of bankable adaptation projects for priority sectors. Developing project pipelines in collaboration with private sector partners will help strengthen the feasibility and practicality of the proposed actions, and hopefully catalyze investments in adaptation.

To fully integrate the private sector into NAP planning processes, it is advised that during this stage governments develop, through extensive consultation, a NAP private sector engagement strategy. This would include mapping relevant private sector stakeholders; identifying drivers of investment in adaptation, and barriers preventing investment; communicating priority sectors that have been identified as vulnerable; and identifying entry points for engagement during the planning, implementation and M&E phases of the NAP.

Finally, in the planning stages of the NAP process, governments should develop a communications strategy for delivering climate and NAP information to internal and external priority audiences, including communities, the media and members of the private sector. The strategy should include information on who the government needs to reach in the private sector, the key messages that these actors need to understand and the most effective channels for reaching this audience. Specific communications products and events might include: an easy-to-use national climate change website; policy dialogues with the private sector to understand regulatory barriers or opportunities for private investment; collaboration with and training for the national media on how to effectively report on climate change; and the development and dissemination of appropriate communications products such as videos, radio broadcasts and posters. Again, particular focus should be put on building up the capacities of business multipliers (i.e., the Chamber of Commerce, a business association in a priority sector) where possible, as these partners can be effective in disseminating climate information and proven adaptation strategies to the business community (Crishna Morgado & Lasfargues, 2017).

Case Study 8. Involving the private sector in the planning phase of the NAP process in Grenada



The private sector has been involved in Grenada's NAP process since its inception in 2015. Sectoral workshops in 2016 brought together more than 160 Grenadian stakeholders, including members of the private sector, to jointly develop the NAP document (GIZ, NAP Global Network, 2018). During these consultations, stakeholders gave informed estimates of the costs of individual adaptation actions, providing a basis for approximating the costs of NAP implementation. The Ministry in charge of the process saw the early and continuous engagement of the private sector in the planning phase of the NAP as key to ensuring their meaningful participation in its implementation.

The tourism sector has played an integral role in the country's implementation of climate change adaptation actions, through both private initiatives and public-private partnerships. For example, heavy rainfalls were leading to frequent flooding in the Grand Anse area of the island, threatening not only community health but also tourism, given the impact of the floods on the region's popular beach. In response, the Grenada Water Stakeholder Platform brought together key public, private, and community stakeholders under the Grand Anse Watershed Partnership, with the stated goal of decreasing flood impacts through the development of a sustainable drainage system (Grenadapts, 2018).

Private sector members were brought on board through the Grenada Hotel & Tourism Association (GHTA), which also contributed to the overall steering committee for the project. Engaging the private sector through the GHTA allowed the government to encourage the crowding-in of private actors, and promoted more coordinated action. Private sector partners took on some of the responsibility to develop, maintain and clean the new drainage system.

The Partnership now actively contributes to Grenada's NAP process, particularly in the priority areas of health and water and watershed management. Beyond the water sector, private sector actors are also involved in adaptation measures in the agricultural, infrastructure and fisheries sectors, including NAP actions focused on mangrove restoration, coral reef conservation, coastal



clean-up and increasing climate resilience for commercial water users. The government sees its efforts to continuously engage with private sector actors, to create with them a shared sense of ownership for adaptation actions, and to highlight their role in adaptation going forward as key to their success in bringing private partners into the NAP process.

4.2 Implementation

NAP implementation requires strong coordination among government actors, as well as open channels of communication with non-government stakeholders in civil society and the private sector. It is during this stage that the prioritized adaptation actions identified in the planning phase are financed and rolled out, and climate change adaptation is integrated into medium- and long-term development processes. Central to facilitating private sector involvement in the implementation of adaptation actions is ensuring that the enabling factors covered in Section 3 are established and maintained.

Experience on engaging private sector actors in the implementation of national adaptation plans is limited, as most countries remain within the planning phase of their NAP process; as of early 2019, only 13 NAP documents had been completed, submitted to the UNFCCC and posted online. Nevertheless, some lessons can be drawn from experiences integrating these actors, either directly or indirectly, in the implementation and financing of broader adaptation actions.

Case Study 9. Centenary Bank, Uganda



Established in 1985, the Centenary Bank of Uganda provides financial services to more than 1.4 million clients, with a focus on microfinance (Dazé & Dekens, 2016). In 2013, it developed an agricultural finance department and by 2017 had introduced a new initiative to provide preferential interest rates on loans for farmers who buy climate-resilient seeds and/or irrigation kits (Parry, et al., 2017). One of the goals of the project was to incentivize climate risk management and climate change adaptation actions for local farmers. For the initiative, the bank partnered with a domestic seed company and a company with expertise in irrigation technologies. Although established before Uganda's draft NAP document, the Centenary Bank scheme aligns with its identified priority actions, especially as they pertain to climate-resilient crops and strengthened irrigation farming (Parry, et al., 2017). The NAP process provides a basis to support these initial efforts by Centenary Bank, and will contribute to further scaling up the initiative. By facilitating direct financing to farmers in Uganda, the initiative will contribute to Uganda's NAP process and adaptation efforts.

As was covered in detail in Section 2, private sector actors can support adaptation in a number of ways. They can climate-proof both their business operations (including their supply chains) and their investment portfolios. They can develop and distribute non-financial goods and services that are climate-resilient, supportive of adaptation and in line with the adaptation priorities identified in the NAP. Financiers can provide direct financing to private and public sector actors for the implementation of adaptation actions (see Case Study 9), while enterprises can increase budget allocations for increasing company resilience. They can look to replicate and expand pilot adaptation projects first tested by the public sector, scaling these up after they have been successfully implemented with government support. If clear incentives for investments in adaptation among MSMEs are present but the investments are not happening, governments can intervene.

Throughout the implementation phase of the NAP, the government should continuously engage with all stakeholders, including the private sector, to support and enhance the enabling conditions needed for private sector engagement. This can be done through an established public-private dialogue mechanism. This includes but is not limited to: disseminating new or updated climate information; making the business case for adaptation; encouraging peer learning and exchange; taking stock of existing and emerging barriers to NAP engagement;

strengthening capacities to identify, design, implement and monitor adaptation activities; supporting key business multipliers; and providing broader updates on the NAP's implementation and its evolution over time. Governments should monitor the effectiveness and reach of their communications around the NAP. They can also work to integrate adaptation and NAP considerations into public tenders, to ensure that climate risks are addressed in new construction and land development projects.

Governments should also explore opportunities for strengthening resilience through public–private partnerships (PPPs). PPPs are a good way for the private and public sector to build large-scale public assets, primarily infrastructure, with increased resilience. For such projects, both parties share the risks and, by investing in long-term infrastructure development, projects typically do not move together with public markets. These types of PPPs are typically complicated, and usually involve high contracting and upfront financing costs. Private sector participation can only be expected when market conditions are favourable and when attractive, stable, risk-adjusted returns on investment can be assured (Parry, et al., 2017). Thankfully, institutional investors working in this space tend to have long time horizons for their investments, which aligns them well with long-term infrastructure projects.

Case Study 10. Green infrastructure and systems



For the Chiansi irrigation project in Zambia and the Atotonilco Wastewater Treatment Plant in Mexico, establishing private–public partnerships has proven to be effective in implementing resilient infrastructure, thereby delivering large-scale green projects with widespread benefits for climate change adaptation.

Smallholder farmers in the Chiansi region of Zambia previously relied only on rain-fed irrigation for their crops (Ward, 2014). Increased rainfall variability in the region due to climate change was an additional challenge for the area's smallholder farmers, many of whom already relied on food aid. In 2007, a partnership was established with smallholder farmers, commercial farmers, the Private Infrastructure Development Group, and InfraCoAfrica to create a centrally managed irrigated farming enterprise (Ward, 2014). By helping address increased rainfall variability, the project is expected to increase resiliency in the agricultural sector in the region and provide smallholder farmers in the region with more stable, long-term incomes.

In Hidalgo, Mexico, the Atotonilco Wastewater Treatment Plant was established in 2009 through a partnership with the Mexican government and private sector actors Promotora del Desarrollo de América Latina, Acciona Agua, atlatec, Desarrollo y Construcciones Urbanas and Green Gas. The project received an initial investment of EUR 560 million to establish the largest wastewater treatment plant in the world (Acciona Agua, 2018). The plant is now in operation, and is cleaning up the Tula riverbed to help restore the environmental aspects of the Endhó dam; improving the health of families working in nearby fields by preventing septic material build-up; and reusing the water safely for agriculture and irrigation in the region (Acciona Agua, 2018).

PPPs are particularly well suited to large-scale projects where one party, be it the government or the private sector, would be unable to proceed with the project on its own, given the investment requirements and risks involved. This could include designing, building, financing, operating and maintaining new, climate-resilient infrastructure (see Case Study 10); climate-proofing existing infrastructure; and managing natural resources

(see Case Study 11). Smaller-scale partnerships, including investing in climate information or technologies (see Case Study 2) and working together on innovation, research and development, are also possible.

Governments may have a unit specifically tasked with liaising with private investors on PPPs, and the NAP team should collaborate with this unit as they explore options for projects that support implementation. Both the government and private sector need to be able to administer the agreement successfully, and if such a unit does not exist and the government is new to these kinds of projects, it will take both time and money to develop these capacities. Further, for PPPs to succeed requires a stable regulatory and enabling environment; tailored technical assistance, capacity building and awareness raising; and the early involvement of civil society and community groups (Parry, et al., 2017).

Case Study 11. Promoting reforestation and biodiversity in Guatemala



The communities surrounding the mountain range of Cerro San Gil are among the poorest in Guatemala (Livelihoods Funds, 2014). The biodiversity of the region has been threatened by deforestation and climate change, leaving many of the marginalized Maya Q'eqchi and Ladino communities with limited arable land (Livelihoods Funds, 2019a). In 2013, the Livelihoods Funds, the Government of Guatemala, and the NGO Fundaeco formed a public-private partnership to implement the largest community project ever undertaken in Guatemala (Livelihoods Funds, 2019a). The partnership aims to protect and promote the biodiversity of Cerro San Gil, but also to plant trees—including citrus, coffee and cardamom—that will generate new economic activity for farmers (Livelihoods Funds, 2013). Livelihoods Funds is investing EUR 2.4 million to establish nurseries, provide technical support and train communities, with the added benefit of substantial carbon sequestration; the Government of Guatemala pledged EUR 1.8 million in support, through its national reforestation program fund; and Fundaeco coordinates the project in the field (Livelihoods Funds, 2019a; Livelihoods Funds, 2013). As a result, the public-private partnership is able to deliver a large-scale project that will contribute to both climate change adaptation and mitigation processes, while improving the income and living standards of the Maya Q'eqchi & Ladino communities in Guatemala.

4.3 Reporting, Monitoring and Evaluation

The final stage of the NAP process, as outlined by the LEG Technical Guidelines, relates to reporting, monitoring and review. The aim of this phase is to collect information on the NAP process implementation and to use this information to measure results and inform regular updates of the NAP process (LDC Expert Group, 2012). An effectively designed and implemented M&E system for the NAP will help the relevant stakeholders quantify the achievements of the plan's policies, interventions and investments, and to better understand the results and impacts of these achievements. This will help determine if and how adaptation interventions are reducing vulnerability and improving a country's capacity to prepare for and respond to the impacts of climate change across sectors and levels (Ospina, 2018).

Engaging private sector actors in the design and implementation of the NAP's M&E processes will greatly increase their efficiency and usefulness. This includes involving private enterprises and financiers in the initial design of the M&E plan; in the monitoring of both the implementation of the NAP and the adaptation outcomes that result from the NAP; in reviewing progress, effectiveness and gaps; in using this information to iteratively

update the NAP and its implementation plans; and in sharing adaptation successes, shortfalls and lessons learned to strengthen the process going forward and to encourage the engagement of additional private sector actors (LDC Expert Group, 2012).

By engaging private sector representatives in the initial NAP planning phases, governments can ensure that the private sector has the opportunity to include its perspectives and expertise in the design of NAP M&E systems. Conversations can take place at this early M&E design stage as to how the private sector can support the monitoring and reporting of adaptation outcomes, including through the sharing or selling of climate data, reporting on adaptation project outcomes and the periodic disclosure of climate risk. Giving private sector stakeholders the opportunity to publicly share or showcase the results and lessons learned from adaptation actions in national or international fora could have reputational benefits, as the company or investor is seen as an active partner in the NAP, striving toward positive adaptation outcomes.

Governments can also work with civil society and development partners to build the capacities of private sector actors to measure and report on adaptation outcomes. Measuring these outcomes is increasingly complex, and expert inputs are often required to fully understand how vulnerabilities have been reduced through actions. Related to this, governments can encourage and provide guidance on how private sector actors can invest in systems and human resources for measuring adaptation results. M&E for adaptation can require updated data management and information systems, while requiring new skills for employees or entrepreneurs; provisions for both should be made at the outset of planning for adaptation actions.

As part of M&E processes, governments should also analyze the effectiveness, costs and benefits of policies, regulations and incentives designed to increase private sector engagement in the NAP. This includes looking at any financial incentive programs and mechanisms that have been adopted to support adaptation, such as tax breaks and risk guarantees. The government should analyze whether these mechanisms are effectively leading to adaptation actions and investments that increase societal resilience at a rate that justifies their cost to the public. Based on the findings of timely, periodic reviews of these mechanisms, governments should maintain, modify or annul them, depending on whether they are achieving their desired aims.

Governments should of course be cognizant of the risks related to private sector involvement in M&E systems. Companies may be hesitant to make public information on the success or failure of their adaptation actions, for fear of damaging their reputations or uncovering key parts of their competitive advantage. The costs of a business's involvement, in terms of financial resources and time, may also outweigh the benefits an individual enterprise can garner from participating in a NAP's M&E system. Governments will have to find ways of protecting the privacy of companies while also minimizing the burden of their participation in such systems.

5 Conclusions

In order to meet the aims set out by the Paris Agreement and the Sustainable Development Goals, the private sector must play an active role in the design, planning, financing, implementation and monitoring of adaptation actions. These actors, as the engines of economic growth and development, will be central to strengthening climate resilience in both developed and developing countries. Increased funding for adaptation actions is also a necessity, and while much of this financing will come from public sources, whether domestic or international, the private sector will also need to fund adaptation, either as enterprises investing in their businesses or as financiers investing in adaptation actions.

To engage the private sector in the NAP process, a clear and coherent business case for adaptation processes must be articulated by both governments and the private sector, covering the expected risks and costs of engaging in adaptation actions. Efforts should also be made to address the existing informational, financial, technical, and institutional barriers to adaptation investment, and the factors that enable private sector engagement should be established and maintained. These enabling factors include facilitating information sharing; improving financing strategies; promoting clear and inclusive institutional arrangements; establishing a stable political and regulatory environment that supports both investment and adaptation; and strengthening private sector capacities to design and deliver prioritized adaptation activities.

In many countries, the private sector is already making valuable contributions to adaptation processes, as evidenced by the case studies included in this report; communicating the impacts of this engagement to broader audiences will be a key step to crowding-in further private sector support to the NAP and NDC processes. As governments design their NAP processes, key points that they may consider for increased private sector engagement in the process include the following:

- **Generate climate data and information and communicate it to the private sector:** Governments, working with development partners, academia and civil society, should work to generate and disseminate to the private sector information and data about current and forecasted climate change, and ensure that these actors can understand and use the information in their decision-making processes. Ideally, this would be a component of the private sector engagement strategies outlined above.
- **Support research and development for adaptation:** Governments can play a strong role in supporting adaptation research and the development of innovative adaptation solutions. This can be done through investments in education and national academic institutions, as well as through the provision of government funding for research programs.
- **Work with the private sector to articulate the business case for adaptation:** Private sector actors and governments should work together in partnership to articulate the context-specific business case for investments, whether direct or indirect, in adaptation. This should be done with equal focus on the risks

and opportunities presented by climate change, and should draw on the technical capacities of the private sector to quantify the costs and benefits of adaptation action and inaction, to ensure that an accurate picture of a project's true return on investment emerges.

- **Build the capacity of the private sector to understand and respond to climate vulnerability and risk:** Working with civil society and development partners, efforts should be made to increase the capacity of private sector actors to conduct climate risk and vulnerability assessments and to integrate the findings of these assessments into their business planning or investment decisions. Private enterprises and financiers must also fully understand how to respond; they must understand the adaptation options available to them to help reduce their exposure to climate risk and to build resilience into their operations, supply chains and investment portfolios.
- **Use the NAP process as a means of communicating the country's medium- to long-term adaptation priorities to the private sector:** The NAP provides a picture to stakeholders—including civil society, private enterprises and investors—of what the country's medium- to long-term priorities are for investments in adaptation. It also outlines the policy and regulatory frameworks, including incentives, that will be in place to support public and private investments in adaptation actions. This sends a signal to stakeholders, including the private sector, of sectoral-level vulnerabilities; of the possible implications of these vulnerabilities on communities, public services, business operations, supply chains and investment risk exposure; of where public investments will be made in strengthening resilience; and where financing gaps might exist that will need to be closed with private investment. While governments will continue to drive the nationally-owned NAP process, making that process open and transparent will help all implicated stakeholders understand the role they can play in improving resilience.
- **Explore developing a private sector engagement strategy for the NAP:** Where appropriate, governments should use a consultative process during the early phases of the NAP process to develop a strategy or strategies for engaging with members of the domestic and international private sector. This will include mapping out relevant private sector actors; identifying drivers of investment in adaptation, and barriers preventing investment; communicating sectoral vulnerabilities; identifying entry points for engagement; and exploring meaningful partnerships between and with private sector actors. The development of such strategies is underway in a number of countries, including in the NAP processes for Ghana and Saint Lucia.
- **Understand NAP financing needs early, and develop feasible, bankable project pipelines:** Through consultative processes, the NAP development team should map out the financial requirements associated with NAP implementation. At the same time, the team should develop—in collaboration with a range of stakeholders including civil society and the private sector—a pipeline of practical, feasible and bankable adaptation projects aimed at increasing climate resilience. A NAP Financing Strategy should also be developed early in the NAP process. Governments should work to ensure that, through this process, adaptation projects included in the pipeline at the behest of certain private sector actors and financed with public funds are not then implemented by those same private sector actors that lobbied for their inclusion; the pipeline must reflect the country's true medium – and long-term adaptation priorities.
- **Identify and cultivate private sector champions and share stories of success and failure to promote crowding-in:** Governments, civil society and development partners should all work to identify those private sector actors that are leading efforts to adapt to the impacts of climate change—Red Stripe in Jamaica, for example—and partner with them to help reach other private sector actors. Governments should encourage peer learning among private sector actors and the sharing of successes and failures with regards to NAP implementation. This includes showcasing those positive stories of private sector engagement that illustrate collaboration and the pursuit of shared adaptation goals.

The private sector will play a crucial role in the NAP and NDC processes, and this role must continue to be analyzed, understood and encouraged to build a stronger evidence base of what works and what does not when it comes to private sector engagement in adaptation. The NAP process and the pursuit of NDC adaptation goals—in their planning, implementation, and M&E phases—present a critical opportunity for governments to align private sector interests with national adaptation priorities. Proper alignment would facilitate a longer-term scaling up of adaptation activities across wider networks, distributing ownership among more stakeholders, and ultimately becoming more representative, inclusive and successful.

References

- Acciona Agua. (2018, July 25). *Atotonilco WWTP (México), the world's largest wastewater treatment plant, celebrates its first year in operation*. Retrieved from www.accionagua.com/pressroom/in-depth/2018/july/atotonilco-wwtp-m%C3%A9xico-the-world-s-largest-wastewater-treatment-plant-celebrates-its-first-year-in-operation
- Atteridge, A. & Dzebo, A. (2015). *When does private finance count as climate finance? Accounting for private contributions towards international pledges*. Stockholm: Stockholm Environment Institute. Retrieved from www.sei.org/publications/when-does-private-finance-count-as-climate-finance-accounting-for-private-contributions-towards-international-pledges
- AXA, & UNEP. (2015). *Unusual: Why the climate is changing the rules for our cities and SMEs*. Finance Initiatives Principle for Sustainable Insurance. Business Retrieved from www.unepfi.org/psi/wp-content/uploads/2015/10/business_unusual.pdf
- Business & Sustainable Development Commission. (2018). *Home page*. Retrieved from businesscommission.org
- Business Leaders of the Caring for Climate Initiative. (2012). *Caring for climate: The Business Leadership Platform*. Rio de Janeiro: United Nations Global Compact. Retrieved from caringforclimate.org/wp-content/uploads/C4C_Statement.pdf
- Caribbean Community Climate Change Centre. (2018). *GCF readiness and preparatory support in Saint Lucia*. Belmopan, Belize: Green Climate Fund.
- Chow, J. (2017). Mangrove management for climate change adaptation and sustainable development in coastal zones. *Journal of Sustainable Forestry*, 139–156.
- Crishna Morgado, N., & Lasfargues, B. (2017). *Engaging the private sector for green growth and climate action: An overview of development co-operation efforts*. Paris: OECD. Retrieved from www.cbd.int/financial/2017/docs/oecd-private2017.pdf
- Dazé, A., & Dekens, J. (2016). *Financial services for climate-resilient value chains: The case of the Centenary Bank in Uganda*. Winnipeg: International Institute for Sustainable Development. Retrieved from www.iisd.org/sites/default/files/publications/climate-resilient-value-chains-case-centenary-bank-uganda.pdf
- Dazé, A., Terton, A., & Maass, M. (2018). *Alignment to advance climate-resilient development*. Winnipeg: NAP Global Network, International Institute for Sustainable Development. Retrieved from www.iisd.org/reader/napgn-en-2018-alignment-to-advance-climate-resilient-development-overview-brief
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (2017). *The role of the NAP process in translating NDC Adaptation goals into action*. Bonn: GIZ. Retrieved from www.adaptationcommunity.net/wp-content/uploads/2017/10/The-Role-of-the-NAP-Process-in-Translating-NDC-Adaptation-Goals-into-Action.-Linking-NAP-processes-and-NDCs.pdf

-
- Deutsche Gesellschaft für Internationale Zusammenarbeit. (2019). *Introduction to cases: Companies can manage the risks and opportunities of climate change*. Retrieved from www.climate-expert.org/en/home/case-studies/introduction-to-cases
- Deutsche Gesellschaft für Internationale Zusammenarbeit, & NAP Global Network. (2018). *Grenada: NAP process country case study*. GIZ, NAP Global Network. Retrieved from www.adaptationcommunity.net/wp-content/uploads/2018/06/giz2018-en-factsheet-nap-grenada_rev.pdf
- Deutsches Institut für Entwicklungspolitik (DIE). (2019). *Klimalog: Forschung und Dialog für eine klimagerechte Transformation*. Retrieved from klimalog.die-gdi.de
- Dougherty-Choux, L., Terpstra, P., Kammila, S., & Kurukulasuriya, P. (2015). *Adapting from the ground up: Enabling small businesses in developing countries to adapt to climate change*. Washington, DC: World Resources Institute and UNDP. Retrieved from www.wri.org/sites/default/files/Adapting_From_The_Ground_Up.pdf
- European Bank for Reconstruction and Development (EBRD). (2015). *Building an evidence base on private sector engagement in financing climate change adaptation*. London: European Bank for Reconstruction and Development. www.vivideconomics.com/publications/building-an-evidence-base-on-private-sector-engagement-in-financing-climate-change-adaptation
- Environmental Governance Consulting. (2018). *Evaluation of Saint Lucia's experience in private sector participation in response to climate change*. Castries: Climate Investment Funds (CIF) Evaluation and Learning Initiative.
- European Commission. (2019). *Private sector development*. Retrieved from ec.europa.eu/europeaid/sectors/economic-growth/private-sector-development_en
- Food and Agriculture Organization of the United Nations (FAO). (2018). *Climate-smart agriculture*. Retrieved from www.fao.org/climate-smart-agriculture/en
- Finance Innovation for Climate Change. (2014). *About FICCF*. Retrieved from www.ficcf.com/index.php/h/about
- Frei-Oldenburg, A., Wohlgemuth, J., von Stieglitz, S. M., Stahr, C., & Eisinger, F. (2018). Climate Expert: a bottom-up approach to SME resilience to climate change. In C. Schaer, & N. Kuruppu (Eds.), *Private-sector action in adaptation: Perspectives on the role of micro, small and medium size enterprises* (pp. 159–176). Copenhagen: UNEP DTU Partnership. Retrieved from www.unepdtu.org/newsbase/Nyhed?id=%7B5E9AA687-49E6-48A0-9FCA-2CEE44938241%7D
- Government of British Columbia. (n.d.). *Tree species selection tool*. Retrieved from www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/silviculture/tree-species-selection/tool-introduction
- Government of Saint Lucia. (2015). *The Saint Lucia Climate Change Adaptation Policy*. Castries: Ministry of Sustainable Development, Energy, Science and Technology. Retrieved from www.climatechange.govt.lc/wp-content/uploads/2017/10/Climate-Change-Adaptation-Policy-2015.pdf
- Government of Saint Lucia. (2018). *Saint Lucia's National Adaptation Plan (NAP): 2018-2028*. Castries: Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.
- Grenadapts. (2018). *Grand Anse Watershed Partnership: Flooding and drainage management in a marine protected area*. Government of Grenada, GIZ. Retrieved from www.giz.de/en/downloads/giz2018-en-anse-grenada.pdf
- Heineken. (2015). *Project Grow*. Retrieved from www.theheinekencompany.com/sustainability/case-studies/project-grow
- Herzberg, B. & Wright, A. (2006). *The PPD handbook*. Washington, D.C.: World Bank.

-
- Innovative Financing Initiative. (2014). *Innovative financing for development: Scalable business models that produce economic, social and environmental outcomes*. Retrieved from www.citigroup.com/citi/foundation/pdf/innovative_financing_for_development.pdf
- Jain, N. (2018). *India's groundwater crisis, fueled by intense pumping, needs urgent management*. Mongabay. Retrieved from india.mongabay.com/2018/06/indias-groundwater-crisis-fueled-by-intense-pumping-needs-urgent-management
- Jamaica Observer. (2017, July 10). Red Stripe to engage more farmers in cassava cultivation. *Jamaica Observer*. Retrieved from www.jamaicaobserver.com/latestnews/Red_Stripe_to_engage_more_farmers_in_cassava_cultivation?profile=1228
- Koh, J., Mazzacurati, E., & Trabacchi, C. (2017). *An investor guide to physical climate risk and resilience*. Global Adaptation and Resilience Investment Working Group. Retrieved from 427mt.com/wp-content/uploads/2017/12/GARI-2017_Investor-Guide_FINAL.pdf
- Lassana, C. (2017, December 18). Jury still out on huge mangrove regeneration project in Senegal. *IRIN News*. Retrieved from www.irinnews.org/feature/2017/12/18/jury-still-out-huge-mangrove-regeneration-project-senegal
- LDC Expert Group. (2012). *National Adaptation Plans: Technical guidelines for the national adaptation plan process*. United Nations Framework Convention on Climate Change. Retrieved from unfccc.int/files/adaptation/cancun_adaptation_framework/application/pdf/naptechguidelines_eng_high_res.pdf
- Livelihoods Funds. (2013, November 27). *The Livelihoods Fund, Government of Guatemala and NGO Fundaeco announced an innovative partnership to implement the largest community reforestation project ever undertaken in Guatemala*. Retrieved from www.livelihoods.eu/the-livelihoods-fund-government-of-guatemala-and-ngo-fundaeco-announced-an-innovative-partnership-to-implement-the-largest-community-reforestation-project-ever-undertaken-in-guatemala
- Livelihoods Funds. (2014, February 19). *Reducing the poverty of hundreds of families in Guatemala*. Retrieved from www.livelihoods.eu/reducing-the-poverty-of-hundreds-of-families-in-guatemala
- Livelihoods Fund. (2016). *3F: The Livelihoods Fund for Family Farming*. Paris: Livelihoods Fund. Retrieved from www.livelihoods.eu/wp-content/uploads/2015/08/BrochureL3F_FormatA5-BDhorizontal.pdf
- Livelihoods Funds (Livelihoods Funds, 2018a). (2018). *Madagascar: A resilient vanilla supply chain with farmers*. Retrieved from www.livelihoods.eu/projects/madagascar-a-resilient-vanilla-supply-chain-with-farmers
- Livelihoods Funds (Livelihoods Funds, 2018b). (2018). *Senegal: the largest mangrove restoration programme in the world*. Retrieved from Livelihoods Funds: www.livelihoods.eu/projects/oceanium-senegal
- Livelihoods Funds (Livelihoods Funds, 2019a). (2019). Guatemala: biodiversity preservation & sustainable cardamom cycle. Retrieved from Livelihoods Funds: www.livelihoods.eu/projects/fundaeco-guatemala
- Livelihoods Funds (Livelihoods Funds, 2019b). (2019). Livelihoods Fund for Family Farming. Retrieved from www.livelihoods.eu/l3f
- Organisation for Economic Co-operation and Development (OECD). (2015). *The private sector: The missing piece of the SDG puzzle*. OECD Global Forum on Development. Retrieved from www.oecd.org/dac/financing-sustainable-development/development-finance-topics/Infographic%20-%20The%20Private%20Sector%20-%20Missing%20Piece%20of%20the%20SDG%20puzzle.pdf
- Ospina, A. (2018). *Monitoring and evaluation in the NAP Process: Opportunities, challenges and emerging solutions*. Winnipeg: International Institute for Sustainable Development. Retrieved from nappglobalnetwork.org/resource/snapshot-monitoring-evaluation-nap-process-opportunities-challenges-emerging-solutions

-
- Parry, J.-E., Dazé, A., Dekens, J., Terton, A., Brossmann, M., & Oppowa, S. (2017). *Financing National Adaptation Plan (NAP) Processes: Contributing to the achievement of nationally determined contribution (NDC) adaptation goals*. Winnipeg: International Institute for Sustainable Development. Retrieved from napglobalnetwork.org/wp-content/uploads/2017/08/napgn-en-2017-financing-nap-processes.pdf
- S&P Global. (2017). *How the recommendations of the Task Force on Climate-Related Financial Disclosures may figure into our ratings*. New York: S&P Global. Retrieved from www.spglobal.com/en/research-insights/articles/How-The-Recommendations-Of-The-Task-Force-On-Climate-Related-Financial-Disclosures-May-Figure-Into-Our-Ratings
- Stenek, V., Amado, J.-C., Wright, S., Pope, B., Hunter, J., McGregor, J., ... Pabon, J. D. (2011). *Climate risks and business ports: Terminal Maritimo Muelles el Bosque, Cartagena, Colombia*. Washington, D.C.: International Finance Corporation. Retrieved from documents.worldbank.org/curated/en/659131468027590522/pdf/626410PUB00Ports0Box0361488B0PUBLIC0.pdf
- Stenek, V., Amado, J.-C., & Greenall, D. (2013). *Enabling environment for private sector adaptation: An index assessment framework*. International Finance Corporation: Washington. Retrieved from www.ifc.org/wps/wcm/connect/6060670042bd92b6b297be0dc33b630b/Enabling+Environment+for+Private+Sector+Adaptation+-+Stenek,+Amado,+Greenall.pdf?MOD=AJPERES
- UN Environment (UNEP) DTU Partnership. (2018). *Private-sector action in adaptation: Perspectives on the role of micro, small and medium size enterprises*. UDP Perspectives Series: Copenhagen. Retrieved from [www.unepdtu.org/-/media/Sites/Uneprisoe/News-Item-\(pdfs\)/MSME_Adaptation_updated_WEB.ashx?la=da&hash=E52F7E4BDCE37996F1C5F4F9BF027BAB711F9B89](http://www.unepdtu.org/-/media/Sites/Uneprisoe/News-Item-(pdfs)/MSME_Adaptation_updated_WEB.ashx?la=da&hash=E52F7E4BDCE37996F1C5F4F9BF027BAB711F9B89)
- UNEP FI, BMZ, GIZ, and the Frankfurt School. (2016). *Demystifying adaptation finance for the private sector*. Geneva: UNEP Finance Initiative. Retrieved from www.unepfi.org/publications/climate-change-publications/demystifying-adaptation-finance-for-private-sector
- United Nations Framework Convention on Climate Change (UNFCCC). (2011). *Decisions adopted by the Conference of the Parties, in Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010. Part two: Action taken by the Conference of the Parties at its sixteenth session*. Bonn: UNFCCC. Retrieved from unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf
- United Nations Framework Convention on Climate Change. (2012). *Decisions adopted by the Conference of the Parties. In Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011. Part two: Action taken by the Conference of the Parties at its seventeenth session*. Bonn: UNFCCC.
- United Nations Framework Convention on Climate Change. (2016). *Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015*. Bonn: UNFCCC.
- United Nations Framework Convention on Climate Change. (2019). *The Paris Agreement*. United Nations Climate Change. Retrieved from unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
- United Nations Global Compact. (2019). *Making global goals local business*. Retrieved from www.unglobalcompact.org
- USAID. (2017). *Climate Change Risk Profile Senegal*. USAID. Retrieved from www.climatelinks.org/sites/default/files/asset/document/2017_USAID%20ATLAS_Climate%20Change%20Risk%20Profile%20-%20Senegal.pdf
- Ward, M. (2014). *Chiansi Irrigation Project in Zambia*. Geneva: Green Growth Knowledge Platform. Retrieved from www.greengrowthknowledge.org/sites/default/files/downloads/best-practices/GGBP%20Case%20Study%20Series_Zambia_Chiansi%20Irrigation%20Project_1.pdf

World Business Council for Sustainable Development (WBCSD). (2017). *WBCSD Climate Smart Agriculture Action Plan 2020: Mid-Term Report*. Geneva: World Business Council for Sustainable Development. Retrieved from www.wbcsd.org/Programs/Food-Land-Water/Food-Land-Use/Climate-Smart-Agriculture/Resources/CSA-Action-Plan-2020

World Business Council for Sustainable Development. (2019). *Overview*. Retrieved from www.wbcsd.org/Overview/About-us

Westervelt, E. & Schwartz, M. (2019). *California power provider PG&E files for bankruptcy in wake of fire lawsuits*. NPR. Retrieved from www.npr.org/2019/01/29/689591066/california-power-provider-pg-e-files-for-bankruptcy-in-wake-of-fire-lawsuits

World Bank. (2015). *What are green bonds?* Retrieved from www.worldbank.org/en/topic/climatechange/brief/what-are-green-bonds



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