INFF | Integrated National Financing Frameworks

GUIDANCE NOTE

INFFs and Climate Finance

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About integrated national finance frameworks

Integrated national financing frameworks (INFFs) are a planning and delivery tool to help countries implement the Addis Ababa Action Agenda at the country level. INFFs lay out the full range of financing sources – domestic and international sources of both public and private finance – and guide countries in developing a strategy to increase investment, manage risks and achieve sustainable development priorities, as identified in national sustainable development strategies.

To help build cohesion and encourage knowledge exchange between countries implementing INFFs around the world, the United Nations and the European Union, in cooperation with a growing network of partners, are developing joint approaches to bring together expertise, tools and relationships in support of country-led processes. For more information about INFFs, visit www. inff.org.

Acknowledgements

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Contents

Acronyms

BUR	Biennial Update Report
CBAM	Carbon Boarder Adjustment Mechanisms
CDM	Clean Development Mechanism
CBT	Consumption-based Taxation
CBT	Climate Budget Tagging
CCFF	Climate Change Fiscal/Finance Framework
CPEIR	Climate Public Expenditure and Institutional Review
COP15	15th Conference of Parties
COP21	UN Climate Change Conference
DAC	Development Assistance Committee
DCO	Development Cooperation Office
DFA	Development Finance Assessment
DFI	Development Financial Institution
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GDP	Growth Domestic Product
IAM	Integrated Assessment Model
IFAD	International Fund for Agricultural Development

INFF	Integrated National Financing Framework
ISSB	International Sustainability Standard Board
I&FF	Investment and Financial Flows Assessment
LDCs	Least Developed Countries
MBD	Multilateral Development Bank
NDCs	Nationally Determined Contributions
NGFS	Network for Central Banks and Supervisors for Greening the Financial System
OECD	Organization for Economic Co-operation and Development
OJK	Otoritas Jasa Keuangan
PCEIR	Private Climate Expenditure and Institutional Review
PDB	Public Development Bank
PFM	Public Financial Management
SIDS	Small Island Developing States
STI	Science, Technology and Innovation
TCFD	Task Force on Climate Related Financial Disclosures
UNEP	United Nation Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
WFP	World Food Programme

1. Introduction

An Integrated National Financing Framework (INFF) helps countries incorporate financing into national planning to achieve national sustainable development priorities (see Box 1). This note provides guidance on the application of INFFs for financing national climate goals. As such, it addresses the following questions:

1. How can INFFs help finance national climate goals?
2. How can INFFs help enhance the consistency and alignment of all financing in support of national climate goals?
3. How can INFFs help bring together climate, national development, and financing actors?
4. How can INFFs support Nationally Determined Contributions (NDCs) implementation and further enhance the reflection of national adaptation policies in such contributions?

The profound implications of climate change for national development trajectories are already apparent. According to the International Disaster Database, more than 10 million people were affected by storms and heatwaves in 2021. Arctic temperatures recorded a new high of 38°C. Many developing countries—including some with large numbers of people below the poverty line—suffered from droughts, threatening people's access to water and nutritious food. After a short period of pandemic-related mobility restrictions, carbon emissions have started to increase again, exacerbating climate risks. Ending poverty and achieving universal wellbeing are now inextricably linked to addressing climate change challenges as well as investing in resilience. Climate finance is critical to achieving these missions.

In 2015, world leaders at the UN Climate Change Conference (COP21) signed the Paris Agreement to tackle climate change and its negative impacts. The Paris Agreement works on a five-year cycle of increasingly ambitious climate action carried out by countries. At the heart of the Paris Agreement are Nationally Determined Contributions (NDCs). These embody efforts by each country to reduce national emissions through mitigation and counter the impacts of climate change through adaptation.

In many cases national climate goals are articulated in countries' NDCs or incorporated in national development plans. NDC plans usually define how to reach climate targets and elaborate systems to monitor and verify progress so it stays on track. Achieving NDC commitments requires a combination of mobilising domestic public finance, private sector finance (both national and international), bi-lateral and multilateral finance mechanisms as well as development assistance. Since climate finance is key to implementing climate goals, NDCs should ideally be accompanied by nationally owned and nationally developed financing strategies.

The purpose of this note is to showcase how INFFs can help enhance the consistency and alignment of all financing in support of national climate goals. Section 2 locates climate finance in the broader financing for development context and provides an overview of relevant stakeholders. It also outlines several outstanding challenges to effectively finance climate action, which a more integrated approach to financing could help address. The focus is on national-level issues; however important global challenges are also highlighted given their impact on national-level policymaking. Section 3 guides practitioners in applying an INFF to climate goals, highlighting key questions to ask, existing tools, processes, and mechanisms, and providing country examples to illustrate suggested practices.

Box 1 - Who is This Note For?

This note is designed for policymakers, government officials, private sector participants, civil society and others who are involved in advising, developing, and implementing national strategies for financing climate goals. Equally, this piece provides useful guidance for those looking to incorporate climate considerations in broader national development planning, e.g., within the context of the INFF.

Financial resources and sound investments are essential to address climate change, reduce emissions, promote adaptation, and build resilience. This note is also intended for climate specialists looking for a greater understanding of how climate finance and integrated policymaking around financing can help countries achieve their national climate goals and address climate change.

Box 2 - What is an integrated national financing framework (INFF)?

Integrated national financing frameworks (INFFs) help countries finance their national sustainable development objectives and the Sustainable Development Goals (SDGs).

Through INFFs, countries develop a strategy to mobilise and align financing with all dimensions of sustainability, broaden participation in the design, delivery and monitoring of financing policies, and manage risk.

INFFs are voluntary and country-led. They are embedded within plans and financing structures, enabling gradual improvements and driving innovation in policies, tools and instruments across domestic, international, public and private finance.

Four building blocks can support governments in putting an INFF into practice:

1. **Assessment and diagnostics** (to provide the basis for decision making on financing – i.e. what are the needs, what financing is already available and how it is being used, what are the risks, and what are the underlying obstacles/binding constraints);
2. **Financing strategy** (to guide the design of financing policies and reforms that can mobilise financing in line with national priorities and all dimensions of sustainability);
3. **Monitoring and review** (to bring together all relevant data and information to track progress and facilitate transparency, accountability and learning on all things financing);
4. **Governance and coordination** (to ensure institutions and processes required for the formulation and implementation of coherent financing policies are in place and functional).

Note: Global guidance on each of the building blocks can be found at inff.org.

2. Climate Strategies and Finance: An Overview

Nationally Determined Contributions – or NDCs - form the basis for countries to achieve the objectives of the Paris Agreement. They contain information on targets, and policies and measures for reducing national emissions and on adapting to climate change impacts. NDCs also contain information on either the needs for, or the provision of, finance, technologies and capacity building for these actions. Countries communicate new or updated NDCs every five years starting in 2020.[1]

Finance is critical for the implementation of mitigation and adaptation actions identified by countries in their NDCs and Long-Term Strategies (LTS). An unprecedented amount of climate finance needs to be mobilized for effective implementation of national climate goals and the achievement of the Paris Agreement, and to protect individuals from both physical and transition risks posed by climate change.

With several countries progressively increasing ambition and updating their NDCs in 2022, unlocking climate finance remains the most meaningful way to accelerate the implementation of national climate goals and drive transformative action. Although discussions continue around the precise definition of climate finance, this guidance note defines it as financing flows that specifically target low-carbon and climate-resilient development, with direct or indirect greenhouse gas mitigation or adaptation objectives as outcomes.

Climate finance refers to local, national or transnational financing— drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change.[2]

Along with investments which are made explicitly for addressing mitigation and adaptation, climate-relevant financing includes investments made for other purposes but designed in a way that is sensitive to mitigation and adaptation considerations.

Climate change is linked to several financing for development areas at the core of the Addis Ababa Action Agenda. For example, to achieve the goals of international environmental agreements, fiscal systems (including taxes and subsidies) must be aligned with climate change mitigation and adaptation, particularly since domestic finance (public and domestically mobilized) forms the bedrock of financing for the SDGs and climate action. Similarly, private finance and international cooperation are essential for tackling climate change. The expansion of global trade is also increasingly recognized as playing an important role in climate change: trade directly contributes to emissions due to transportation and trade procedures, and it leads to greater economic activity, further increasing emissions. On the other hand, trade in environmentally friendly goods can help accelerate low carbon transitions. Climate change is also linked to debt sustainability issues in many countries due to increased borrowing for climate investments as well as the impacts of climate risks on the stability of the international financial system. Science, technology, and innovation (STI) are critical for advancing strategies to mitigate climate risks and build more resilient societies. Equally, climate change affects financing: many of the economies that are highly susceptible to climate-related disasters, particularly least developed countries (LDCs) and small island developing states (SIDS), face fiscal constraints, in part due to repeated climate-related disasters, and have limited space to invest in resilience and also see the borrowing costs raised on account on climate risks for the fiscus.

Because climate change touches upon all aspects of the economy and society, a broad stakeholder response and institutional ecosystem approach is required. Effective financing of national climate priorities requires bringing together stakeholders both from within and outside government and should be supported by promoting and aligning a variety of policy and regulatory processes. This is necessary to guide policy formulation and implementation across different areas and facilitate information sharing and coordination among different stakeholders. For example, the UN Food System Coordination Hub, led by the UN Deputy Secretary-General and the Principals of FAO, IFAD, WFP, UNEP, and the DCO, has been established as a mechanism to coordinate knowledge and expertise from diverse constituencies to support national progress.

Relevant institutions include the actors (entities/bodies) listed in Table 1. They also include the rules, regulations, norms, and codes of conduct that guide their actions and the relations between them, and cooperation and alignment with sustainable development.

Table 1 - Relevant Actors in Climate Action and Roles

ACTORS	POTENTIAL ROLE/CONTRIBUTIONS
	GOVERNMENT
Head of State/ Government	Custodian of overarching national climate priorities; ensures political buy-in for climate action; provides high-level political leadership.
Ministry of Finance	Channel resources into climate action; responsible for budget preparation and implementation; promotes green public investments.
Ministry of Planning	Articulates and coordinates design and implementation of national climate plans, including NDCs.
Line Ministries (e.g., environment ; infrastructure; agriculture; transport; development and health; etc.)	Provide leadership and expertise on climate-specific outcomes and related sectors; help with monitoring and review of private finance because they have systems in place to collect and report data on sectoral investments in the country, at the sub-national level; develop climate-relevant regulatory frameworks; cost sectoral priorities.
Central Bank	Oversees monetary policy and financial sector development; central banks are increasingly incorporating climate-risk considerations in their monetary policy decisions to protect their own balance sheets. They can set an example by publicly disclosing their approach. Central banks can also increase interest rates in a differentiated way, so that investments geared towards the production of green energy and energy efficiency are not harmed.[3]
Banking regulatory agencies	Oversee financial sector development; assess climate risk as a financial risk in stress tests, encourage or mandate climate-related financial disclosures, set sustainability criteria standards for green finance/lending by regulated banks.
National Public Development Bank(s)	Implements public investment programmes in climate; can help catalyse private investment in climate (including with support from development financial institutions (DFIs) and multilateral development banks (MDBs); demonstration effects of how they manage their own portfolios in the local market.

ACTORS	POTENTIAL ROLE/CONTRIBUTIONS
	GOVERNMENT
Local Governments	Design, support and coordinate local climate-relevant projects and programmes; pilot and implement climate related financing instruments, collect local revenues; allocate public spending at the local level; collect data on climate spending, ensure transparent and participative budgeting.
Revenue Authority (if not within Ministry of Finance)	Oversees public revenue administration, including administration of environmental taxation; enforce climate-relevant regulation.
Supreme Audit Institutions and Parliaments	Can play a role in quality assurance and reinforce climate change policy commitments through a review of financial statements and performance audits of climate-relevant programs and projects (e.g., including in relation to multi-stakeholder participation, and extent to which synergies are exploited and duplication of efforts avoided).
National Disaster Risk Management Authorities/ National Sendai Framework Focal Points	Can ensure INFFs and related financing policies are risk-informed from a multi-hazard perspective.
INFF oversight committees	Ministries of Finance and Ministries of Planning are typically leading INFF oversight committees.
	NON-GOVERNMENT
Development partners	Provide resources, including technical assistance, capacity building and expertise for the financing and implementation of NDCs.
Development Finance Institutions/ Multilateral Development Banks	Provide resources, including technical assistance; can help catalyse private investment in climate-relevant action.

ACTORS	POTENTIAL ROLE/CONTRIBUTIONS
	NON-GOVERNMENT
Civil society	Provides resources; holds governments and other providers of finance accountable for spending/ investment decisions; tracks impact of financing, including at the sub- national/ community level and on different population groups; can elevate views of citizens to level of governments, including those of underserved and hard-to-reach constituencies, advocate for climate goals.
Children and the Youth	Children and youth are the most impacted stakeholders in light of the long-term impacts of global climate change and the long-term nature of climate finance. Their perspective, experience and passion about climate and economic issues make them essential actors to guide policy formulation and implementation.
Climate Specialists	Provide insight, evidence and policy recommendations that can help countries pursue climate action and take decisions in different financing policy areas incorporating climate considerations.
Private Sector	Contribute to domestic resource mobilization and investment; create jobs; investment in climate-responsive technologies, services, products.
Stock exchanges	Enable the circulation of climate-related debt-based instruments (green, social, sustainability and sustainability-linked (GSSS) bonds to environmental, social and governance (ESG) labelled funds as well as emerging 'transition' and 'blue' financial instruments, see Cabo Verde's blue bond) allowing sovereign and non-sovereign (e.g., municipalities, state-owned enterprises, etc.) public actors as well as for-profit and non-profit private entities to access capital markets; integrate capital markets within the broader spectrum of financing for sustainable development.
Academia (research institutes and universities)	Provides cutting-edge scientific and social scientific research, making fundamental contributions to climate adaptation efforts by identifying the most pressing climate impacts—globally, nationally, and from region to region; informs policy; educates the broader society (especially the youth) on climate-related issues and builds up community awareness; plays a critical role in preparing society to adapt to the impacts of climate disruption by providing research and education around adaptation strategies and science; serve as 'hubs' in their local communities for creating, testing, and disseminating knowledge about regional climate projections and adaptation strategies.[4]

2.1 Financing for Climate Goals: Challenges and Gaps

Issues at the global level

At the 15th Conference of Parties (COP15) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2009, developed countries agreed to jointly mobilize $100 billion a year by 2020 from public and private sources to support climate action in developing countries. It is generally agreed that this target has been missed[5]. OECD forward scenarios of climate finance, based on information from bilateral and multilateral providers, indicate that the $100 billion target could be met from 2023 onwards. However, there is inherent uncertainty around these projections. Climate finance needs—from all sources—in NDCs are estimated at around $5.9 trillion[6]. Progress is too slow in addressing the challenges of the most climate-vulnerable countries, which also frequently face fiscal constraints, such as LDCs and SIDS. Flows fall short of the identified needs that have been costed in their NDCs, estimated at around $515 billion for LDCs and $92 billion for SIDS. These amounts could be larger as a significant portion of identified needs are not yet costed[7].

Mobilizing resources to support national climate action is an overriding priority for most developing countries. Climate finance flows through multilateral channels—both within and outside of the UNFCCC financial mechanisms, as well as through bilateral, regional, and national climate change channels and funds.

While domestic public finance and domestically mobilized finance remain the bedrock of climate finance in a majority of developing countries, these sources often do not suffice. Consequently, multilateral development banks (MDBs) and other public development banks (PDBs) as well as development agencies play a prominent role in delivering climate finance, in addition to various funds or institutions with a more dedicated focus, such as the Green Climate Fund, the Adaptation Fund and Global Environment Facility. Developing countries have highlighted that accessing some of these funds can often be a time and resource-intensive process that can stretch beyond the term of an incumbent government. For example, the accreditation system to access the Green Climate Fund – designed to assess whether countries receiving support can safeguard funded projects and programmes – remains complicated, time-consuming, and disjointed, making it difficult for developing countries to access finance directly, especially those with limited technical capacity [8].

Climate finance mobilized for developing countries remains skewed towards mitigation as compared to adaptation activities. According to the OECD, climate finance provided and mobilised by developed countries largely focused on mitigation in relatively high-emitting countries, while the relative share of adaptation finance was significantly higher in lower-income countries (LICs), SIDS and LDCs. Mitigation finance focused mainly on activities in the energy and transport sectors. In contrast, adaptation finance was spread more evenly across a larger number of sectors and focused on activities in the water supply and sanitation sector, and agriculture, forestry and fishing. The latest OECD figures indicate that while adaptation finance increased to $28.6 billion, mitigation finance was much more prominent even as it slightly fell to $48.6 billion in 2020 [9] (with $6 billion in cross-cutting activities). At the same time, estimates of total adaptation costs are rising, widening the funding gap. Despite ongoing efforts, a more coordinated and complementary approach by bilateral and multilateral agencies is required to overcome complex and fragmented climate finance architecture.

Issues at the national level

At the country level, financial mobilisation continues to be the main challenge, as countries struggle to strategically mobilize, utilize and leverage scarce public finance and scale up private finance for climate action, within the context of insufficient international support. Many countries struggle to meet development priorities, including ensuring access to affordable energy – where the share of renewables is far behind in both middle/high income and developing countries, while also making climate-responsive investments.

While some countries have developed NDCs/national climate plans, many of these lack concrete financing strategies or investment plans that can help drive policy frameworks to incentivize greater private and public investment for the implementation of NDCs and national climate goals. Financing of NDCs and national climate goals are often not well integrated across social sectors, broad national development and financing policies. Similarly, long-term climate considerations and the impact of climate on national financing policies are not properly incorporated in national financing policymaking and development planning.

Many developing countries also still face challenges in boosting private sector investment for developmental goals. One aspect of this is that there are often no clearly defined strategies for engaging and incentivising the private sector to invest in priority areas and in sustainability. Many LDCs lack a transparent enabling environment that can unlock financial flows by reducing, transferring, or compensating for investor risks. Finally, creating a regulatory environment and policy framework[10] that is backed by strong enforcement mechanisms continues to be key for influencing behaviour and enabling sustainable investment.

There continue to be gaps between the plan and the budget, and there are challenges in measuring commitments for climate change due to several factors, including inconsistent definitions of climate-relevant financing, lack of comparable data and an absence of strong and enforceable requirements for measuring, reporting and verification of financing for climate.

Governance and coordination are some of the obstacles most frequently brought up by countries implementing their national climate goals. Climate action tends to be interdisciplinary in nature, requiring involvement from multiple different ministries and implementing agencies. To successfully implement their national climate goals and NDCs, countries require clarity in roles and strong coordination across government sectors and levels.

2.2 The Need for a More Integrated Approach

More than any other issue, climate change calls for a wholesale transformation of economies and societies. No sector will go untouched – energy, industry, agriculture, water, health, social protection, transport- and businesses, institutions and individuals will need to make changes in terms of production and consumption processes to reduce emissions and assist societies and individuals adapt to the consequences of a changing climate.

Business as usual is no longer an option for the achievement of the SDGs which call for a focus on triple sustainability (economic, social and environmental) or for achieving climate responsive development. While some uncertainties remain regarding the extent of climate impacts, with the growing frequency and depth of extreme climate events, the case for more significant upfront investments and a focus on just transitions and adaptation can be made.

Thus, climate action needs to be approached through a two-fold integrated approach. On the one hand, different sectors, financing policy areas, and stakeholders should be brought together in climate discussions (see Table 1). On the other hand, climate considerations should be integrated into broader development frameworks and plans as well as the relevant financing policies, financing policymaking and regulatory frameworks at the national level.

An INFF can help bring together these dimensions of integration and ensure they are carefully considered in national policymaking processes by ensuring that INFFs are more climate-responsive by design. INFFs can help address several issues that countries encounter at the national level when financing national climate action (Section 2.1).

An INFF can enhance support for the identification and establishment of systems required to finance national climate goals as well as integrate financing for climate and NDCs with broader financing for development at the national level. Countries can apply their INFF to wider national development planning to ensure policy coherence and synergies by integrating a focus on the implementation of climate change priorities, while providing a forum for addressing policy trade-offs and synergies. In both instances, INFFs can facilitate a holistic approach to policymaking where climate considerations are integrated into financing discussions across the board (e.g., around taxation, the enabling environment) and vice versa.

Climate change considerations must be well-integrated into national planning and budgeting[11]. A cross-government and coordinated approach, driven by countries' priorities and well-defined national investment plans is needed to deliver a coherent national response to climate change involving all relevant stakeholders from both the public and private sectors. More transparent, risk-informed climate-responsive plans and budgets can help boost investor and donor confidence. An INFF can help countries think through and prioritise how to address impediments to attracting greater private capital investment and improving the generation and use of public resources for climate action. Better coordination in the context of an INFF can help overcome policy silos, enhance joint planning, reduce duplication of efforts, decrease inconsistencies (e.g., subsidies for fossil fuels) as discussed further below, and increase efficiencies in policymaking across climate action and broader financing policymaking.

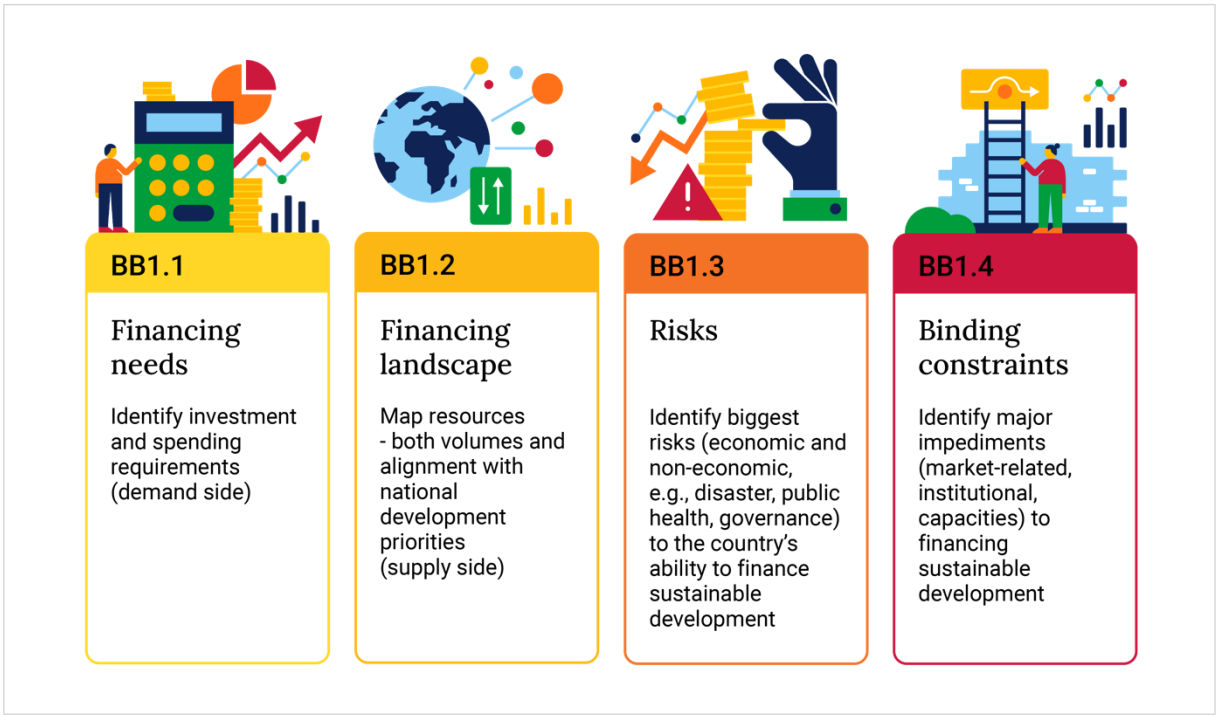
In 2023, the first in a series of global 'stocktakes' will take place, allowing for a critical assessment of collective progress under the Paris Agreement and addressing opportunities for enhanced action and support. This process will further encourage countries to take ambitious climate actions that keep warming below 1.5 degrees Celsius. As countries aim to achieve ever more ambitious climate goals, using an INFF can help:

- Strengthen or complement existing NDC financing strategies to mobilize and align financing with long-term climate priorities
- Mainstream climate considerations across existing financing strategies and promote to address the triple dimensions of sustainability (economic, social and environmental which are at the core of the SDG paradigm)
- Identify and address policy incoherencies as well as common trade-offs in policymaking for climate finance (Table 2)
- Ensure the integration of climate risks in fiscal, regulatory and financing strategies
- Complement the climate-risk informed approach by also focusing on opportunities to leverage private sector engagement for financing national climate action, not just in areas such as renewable energy and other areas key to mitigation but also in adaptation which is key for the SDGs.
- Strengthen monitoring and impact measurement systems for climate finance
- Foster coordination by providing a platform for dialogue, collaboration and partnership
- Strengthen transparency across the actions of different stakeholders
- Have planning in place with clear asks for development partners[12]

3. Applying an INFF to Finance National Climate Goals

While the approach to preparing a financing framework for NDC implementation is likely to differ across countries, the following is an overview of how climate finance can be mainstreamed across the INFF building blocks.

3. 1 Assessment and Diagnostics



Source inff.org

Building Block 1.1 - Financing Needs Assessment

Recent data indicates that 60 percent of identified needs in NDCs have not been costed[13]. While some national strategies include cost estimates for climate actions, studies show that their quality and level of precision varies. Many countries include estimates for some sectors only and very few collect quantitative cost information for crucial activities, such as technology transfer and capacity building.

The financing needs assessment outlined in the INFF global guidance can offer learning for NDC costing efforts and may be able to help to estimate the costs of national climate actions (through quantitative costing), identify those areas where there are significant co-benefits for which multiple sources of financing may be tapped into as well as support the identification of possible financing options (through qualitative considerations) more generally[14].

First, this requires identifying the climate actions and sub-actions that need to be costed as well as the stakeholders that should be involved in costing climate actions. Governments should use primarily national resources to conduct this exercise. Where this is not possible, they may assess whether support can be provided by development partners. For example, the Development Finance Assessment (DFA)[15] tool is a cornerstone of the INFF in many countries and encompasses a focus on mapping financing needs, the sources of finance/landscape and identifying the policy and reform priorities and risks that need to be addressed to unleash or increase access to financing for national development plans or priorities. See Annex 1 for examples of additional tools offered by the international community to support costing of national climate goals.

To the extent possible, financing needs assessments should build on costings that have been done at the national or sub-national level. As noted in the INFF global guidance, the ultimate choice of the methodology will depend on the predicted scope of the costing (e.g., short- or longer-term estimates) and should be informed by the specific characteristics of climate financing[16]. For example, estimates should incorporate different forward-looking scenarios given that costs for climate action fluctuate often because they are based on assumptions that change frequently (e.g. the price of technology)[17], and that climate action also spans longer time periods compared to typical development projects. Estimates are also likely to encounter additional challenges, such as dealing with costs that spread widely across an array of sectors, or such as accounting for costs both of investments that are directly about addressing climate issues as well as the marginal cost of enhancing the sustainability of investments that are not directly designed with climate issues in mind. Finally, it is important to understand and estimate the opportunity cost of not investing in climate (e.g., compiling evidence on the current/future costs of climate change if investments are not made). Wide ranging consultation efforts across departments and sectors should also be ensured, to reflect the breadth of stakeholders who can offer relevant insight and knowledge when it comes to costing climate action (see Table 1).

The INFF global guidance on financing needs assessment can also help ensure that climate and environmental considerations are incorporated in costings for broader national development strategies. For example, by considering different scenarios policy makers can explore alternative, greener interventions, and identify possible trade-offs between objectives to inform policy decisions[18].

Some of these interventions and investments (e.g., investments to protect ecosystems) will generate future financial benefits, including new and expanded fiscal revenue streams or future savings as well as avoided costs. By taking these second-round benefits into account, policy makers can build a more holistic picture of the actual cost of identified interventions.

Building Block 1.2 - Financing Landscape Assessment

Some countries already identify existing and projected support for national climate actions by considering all available financing, public and private, as well as expected bilateral and multilateral support[19].

For climate finance, building on the approach and experience of public expenditure reviews, Climate Public Expenditure and Institutional Reviews (CPEIRs) have been used to analyse the allocation, management, and results of public expenditures in relation to climate action. The CPEIR analytical framework has three key pillars: Policy Analysis, Institutional Analysis and Climate Public Expenditure Analysis. The latter assesses volumes of funds within national budgets that are relevant to climate action, starting from a review of public expenditures across the whole of government.

Most CPEIRs undertaken to date focus on the linkage between budgeted expenditures and climate change; however, when conducting financing landscape assessments, countries should not overlook the relationship between tax policy and climate change as well as indirect expenditures such as tax expenditures and public private partnerships. A methodology for undertaking a private climate expenditure and institutional review (PCEIR) was elaborated in 2015 and piloted in several countries, including Vietnam. Many countries such as Gabon conduct in-depth studies on green taxation and green public financial management (PFM) systems. An OECD-led Research Collaborative on Tracking Private Climate Finance and the Development Assistance Committee (DAC) are also making steady progress in developing methods and collecting data to measure the mobilisation of private finance. Such methodologies balance accuracy with practicality and aim to avoid double counting.

UNDP's Investment and Financial Flows Assessments (I&FF) can help define the costs of climate change measures and potential sources of investment funds. In using the I&FF methodology, countries can determine: how to organise investment and financial flows efficiently; what shifts in investments are needed; and what additional investments are needed to implement adaptation and mitigation measures and strategies at the national level.

While CPEIRs and I&FF are one-off assessments, climate budget tagging – particularly if it is encoded in national budget information systems (e.g., IFMIS) can help institutionalise the process of identifying climate-relevant expenditures and facilitate tracking throughout the budget process. A number of countries (e.g., Philippines) are now undertaking both climate and SDG budget tagging and this offers scope to identify synergies and track investment offering co-benefits.

Sustainable Finance and Green Taxonomies classify economic activities based on their contribution to sustainability and climate change objectives and can be used to get a clearer picture of climate financing available at the national level as well as direct financing to more sustainable investments.

National governments may want to identify and tag activities and expenditures that have adverse climate impacts along with activities that are aligned with climate policy goals. As of 2022, France is the only country to tag expenditures on activities that have an adverse impact on the environment. Although the extension of tagging to encompass adverse environmental impacts increases its complexity, it also provides a more comprehensive and balanced picture of the environmental and climate change impact of public spending.[20]

Analyses of current levels of financing for climate goals can be combined with findings from financing needs assessment to estimate financing gaps[21]. A disaggregated picture of current climate financing can provide a baseline for calculating financing gaps for climate goals. Tools exist to support countries' efforts in such disaggregated analysis. For example, outcome-based monitoring tools can facilitate mapping and monitoring of linkages between financing and climate outcomes. Disaggregated financing data can be cross-referenced with outcomes or other descriptive data – e.g., by comparing carbon emissions by sector/industry against trends in lending or foreign investment in those sectors. Analysing data disaggregated by climate finance action (e.g., mitigation or adaptation) and sub-national locations can provide insight into the extent to which key strategic areas are being left under-resourced. Not all types of financing will be appropriate for filling all financing gaps and needs. A second part of this assessment should thus focus on understanding which types of financing flows are better suited for addressing certain funding gaps. SDG Investor Maps can also provide data-driven recommendations on viable green investments and enable governments to identify entry points for green Public-Private Partnerships. This can further help identify green sectors and business models where new capital can facilitate scale and accelerate transition.

Building Block 1.3 Risk Assessment

INFFs encourage the long-term horizon thinking that is required to strengthen resilience and preserve financing for climate goals overtime. Regular assessment of risks is a crucial aspect of effective climate action in the context of an INFF. First, policymakers should think through the different risks that may affect financing of national climate goals over time[22]. Economic or financial shocks, such as an increase in global interest rates or a sudden change in commodity prices, can affect the availability of all financing, including financing for climate goals. Non-economic shocks can also have an impact: political instability may generate increased uncertainty and affect access to private and external financing or the allocation of public finance to national climate action. Environmental, climatic, and disaster-related risks can affect the ability of countries to not only sustainably finance climate action, but also impact development finance through adversely affecting sovereign risk ratings[23]. Moreover, they potentially divert spending to short-term response to address loss and damages if/when extreme weather events and shocks materialise and thus can contribute to widening financing gaps. For example, climate physical risks could damage physical assets and firms' production capacity, increasing the credit risk of banks, inducing financial losses for the insurance sector, and impairing governments' financial position, hence indirectly affecting the availability of financing the NDCs[24].

Taking into consideration the leave no one behind principle which underpins integrated policy making, risk assessments should incorporate a thorough understanding of the disproportionate effects that potential disruptions to climate financing may have on different population groups, including women and other vulnerable groups.

Findings from the financing landscape assessment can inform the scope and focus of risk assessments. For example, if specific types of climate finance dominate the financing landscape, risks related to their volatility may warrant particular attention and may call for leveraging broader financing policymaking for climate action. The range and depth of risk assessments will depend on the tools and systems already in place at the national level. See Section 4.2 in the global guidance on Building block 1.3 risk assessment for an overview of existing risk assessment tools and approaches from the international community.

Countries must then assess how the identified risks will affect their climate financing system[25]. This entails distinguishing between risks such as extreme weather events (e.g., droughts) and slow-onset risks (e.g., the viability of certain development pathways for sustaining long-term climate action). This will help prioritize technical expertise, measures, and resources to address the risks with the highest impact and probability. Once they have been identified, underlying risk-factors should be addressed cost-effectively through investment in prevention and risk management, instead of relying primarily on post-disaster response and recovery. The global guidance on risk assessment (see link above) can help inform feasible and cost-effective policy solutions and measures to reduce, prevent, manage, or transfer residual risks to climate financing. The design of risk sharing instruments must recognize the fundamental importance of continuing to invest in the SDGs and ensuring equitable distributions in the event of climate shocks[26].

Building Block 1.4 Binding Constraints Assessment

A binding constraints assessment can help highlight bottlenecks that limit the ability of countries to finance their national climate goals over time – both in relation to the mobilisation of adequate volumes of finance (public and private) and effective alignment between financing flows and national climate actions[27].

Binding constraints for financing climate action include capacity, economic, institutional, as well as policy constraints. For example, channeling and monitoring finance for green and climate objectives will require significant capacity over the coming years to introduce a whole range of instruments and processes across the public and private sectors (e.g., comprehensive monitoring and verification systems). Environmental taxes, including carbon taxes, are generally considered powerful tools to support national climate action. However, in some countries, existing laws and regulations may limit their use, such as in Chile, where earmarking revenues from any tax is prohibited by the Constitution.

The binding constraints analysis will highlight the most relevant structural challenges to countries' efforts for financing national climate goals. Once binding constraints are identified, policymakers should assess whether lifting those constraints will result in positive outcomes for climate financing. This can be done through a participatory approach that involves government departments as well as experts and practitioners that operate on climate-related projects and using quantitative and qualitative tools including econometric analysis; historical trends analysis; surveys, etc.

3.2 Financing Strategy

The INFF global guidance on financing strategy development can be used in two ways. First, to ensure that prioritised financing reforms are climate-sensitive (do no harm principle). Second, to design a climate financing strategy for mobilising and aligning public and private finance with development interventions consistent with national green and climate objectives.

1. Ensuring prioritised financing reforms are climate-sensitive

As described in the INFF global guidance on Building Block 2, **coherence checks** can help make sure that financing policies are aligned with national climate goals and highlight any unintended consequences that must be considered.[28]

For example, carbon pricing is a powerful tool that may provide incentives to reduce carbon-intensive activities across all sectors and for all households and enterprises throughout the economy. However, introducing carbon pricing measures without revenue recycling schemes to address equity may have adverse distributional effects that raise concerns, and generate political backlash, making the implementation of these measures more difficult. Similarly, a carbon price may force domestic producers to partially internalize the cost of environmental damage and can therefore raise their cost of production. When the carbon tax is not imposed on producers outside that country or region, this can reduce the competitiveness of domestic producers as compared to foreign companies. Some jurisdictions are considering the establishment of a carbon border adjustment mechanism (CBAM), which could impact producers in third countries that do not have a carbon tax. Table 2 illustrates other examples of trade-offs commonly associated with climate change adaptation and mitigation actions.

Table 2. Examples Of Climate Policy Trade Offs and Corrective Measures

PROPOSED POLICY MEASURE	TRADE-OFFS	POTENTIAL CORRECTIVE MEASURES
Carbon pricing measures (effects on individuals)	• Distributional impacts and equity implications (e.g., through increases in fuel prices or increased prices of carbon-intensive goods and services).	• Revenue recycling and increased and targeted social spending • Supportive fiscal policies, including reductions on other taxes (e.g., value-added tax or income tax) • Introduction of luxury carbon taxes[29]
Carbon pricing measures (effects on firms)	• Higher costs of production for firms if costs cannot be passed onto consumers • Reduction in competitiveness for domestic firms and effects on trade	• Output-based rebates – Reallocating carbon tax revenues collected from a sector to the firms within the same sector based on their share of domestic production • Supportive fiscal policies, such as reductions on corporate income taxes • Carbon Border Adjustment Mechanisms (CBAM) albeit challenges include administrative burden, technical feasibility, data availability, shifting emissions intensive production and risking retaliation from other countries • Consumption-based taxation (CBT) – Carbon tax is levied on domestic consumers, and products are taxed on their carbon-intensity regardless of where they are produced.

PROPOSED POLICY MEASURE	TRADE-OFFS	POTENTIAL CORRECTIVE MEASURES
Feed-in-tariff schemes	Effects on electricity affordability and equity implications[30]	• Targeted flat payments for affected groups • Supportive fiscal policies, including tax reductions on income taxes and tax payment refunds
Decarbonisation of the power sector	Loss of fiscal space because of increased public investment and aggregate economic costs	• Front-loading the decarbonisation of the power sector • Decarbonizing the power sector early allows phasing out expensive subsidies sooner and thus, while generating short-term marginal losses, it is less costly in the long-run than delayed decarbonization. It also lessens the cumulative emissions and, as such, has positive environmental impacts from the onset[31].
	Labour displacement	• Supportive fiscal policies to cushion the impact of the most geographically concentrated effects and to facilitate the reallocation of labour (potentially through interventions to support the acquisition of new skills, move geographically and incentivize hiring).

The global guidance's suggested approach (particularly step 2) can help think through trade-offs and potential remedies. To mitigate the negative economic distributive effects, governments may need to consider other changes to the tax or social protection systems to alleviate the burden of middle, low-income, and vulnerable people either through tax relief or economic support, while simultaneously strengthening renewables and clean energy alternatives. Similarly, in dealing with competitive disadvantage and potential carbon leakage, it is important for governments to gain industry acceptance of climate policy, including carbon pricing. Some governments are exploring carbon border adjustment mechanisms as a tool to deal with carbon leakage and competitiveness.

By fostering integrated thinking, the suggested approach can also help spot policy incoherencies related to climate in national development plans. This includes incentives and subsidies that must be redirected or phased out because they are inconsistent with climate action. For example, incentives for deforestation, including agricultural incentives, and subsidies for fossil fuels and infrastructure construction on flood plains. Annex 3 lists other useful tools and approaches for effective mainstreaming of climate actions in national financing policies. This type of analysis will help determine when specific policy options should be pursued, such as carbon pricing, and when other measures, such as regulations, are best suited to the country context.

2. Designing a climate financing strategy

The global guidance on Building Block 2 can help strengthen the development of the national climate financing strategy. Findings from relevant assessments and diagnostics (see above) will inform the scope, the horizon (i.e., short term or long term) and policy objectives of the climate financing strategy. National authorities will also need to identify policies, legal or regulatory measures, financing instruments, and processes that can support the achievement of identified climate objectives[32]. For example:

- **Fiscal policies:** Energy taxes and carbon pricing mechanisms can shift private investment decisions and consumer behaviour towards low-carbon, climate-resilient activities. Countries can also provide tax incentives for green investments. In addition to shaping investment, fiscal policy levers play a parallel role in raising public revenues that can then be used to support public investment (in priorities including health, education, security, resilience, and climate compatible infrastructure), all the while reducing public expenditure on activities that are misaligned with climate goals. Countries can adapt Public Financial Management (PFM) practices to support environment-sensitive policies, so-called green PFM. This includes adding green components to more standard PFM elements such as fiscal transparency, external oversight and coordination with state-owned enterprises and subnational governments. For example, it may include concrete actions such as repurposing agricultural subsidies to more climate friendly production processes.
- **Regulation:** Regulations, including financial-sector regulations, can be developed to shift and mobilise finance towards low-emission and climate-resilient development. For example, in 2017, Indonesia's Financial Services Authority (OJK) Board of Commissioners issued a mandatory regulation on sustainable finance for banking, capital markets and non-bank financial institutions, coupled with voluntary financing guidelines for renewable energy, energy efficiency, green buildings, organic farming and palm oil[33]. Sustainability disclosure requirements can also improve transparency and avoid green washing to channel private capital towards climate action.
- **Debt:** Green and sustainability-linked bonds provide an opportunity to raise resources for climate action and biodiversity conservation efforts. For example, PDBs can help issue bonds to support sustainable marine and fisheries projects (e.g., the Seychelles' "blue bond"), as well as target biodiversity conservation as a co-benefit on other government issuances (e.g., debt for nature swaps).

- **Trade:** Reducing trade barriers can support adaptation to climate change in several ways. For example, trade policy can contribute to enlarging global markets for renewable energy. This can be achieved via reduced tariff rates on the components of the solar photovoltaic system or wind turbines. Reducing tariff and non-tariff barriers on environmental goods and services can contribute to a cross-border spread of cleaner production technologies.
- **Monetary policy:** Weather-related hazards and the low-carbon transition are affecting investment choices, GDP growth and volatility, employment, and productivity; and price levels at the sectoral and aggregate level. Monetary policy must react flexibly to these changes to maintain price stability and support economic policy goals. The Network for Central Banks and Supervisors for Greening the Financial System (NGFS) has developed best practices to support central banks in designing protective and more proactive monetary policies to facilitate the transition to a low-carbon economy. Generally, macroeconomic policy plays a pivotal role in the green transformation: policymakers can use integrated assessment models (IAMs) that incorporate economic and climate modules to evaluate the impact of macroeconomic policies on sustainable recovery and green transformation, including monetary policy interventions that incentivize green investments, and the impact of credit policy on green and sustainable sectors.
- **Private finance:** Private finance is an important source of funding for mitigation and adaptation strategies in the face of climate change. Governments can mobilise private finance for climate action by improving the risk-return profile of specific low-emissions and climate-resilient projects. Among other things, governments can also provide incentives through financial support such as tax breaks and feed-in tariffs. Capacity building and other policies can be considered as having more indirect effects on private investment, while broader enabling conditions provide the initial catalyst[34].
- **Migrants and diaspora** can be important sources of climate financing. For instance, as a stable financial flow for developing countries, policies that encourage remittances and diaspora investment in climate change mitigation and adaption strategies ought to be developed particularly where they can be directed to community-based projects, green technologies or the creation of green jobs.

For each of these policy options, policymakers should evaluate whether they align with coherence, sustainability as well as risk checks[35]. Undertaking these exercises and considering preconditions (institutional as well as procedural) as well as resource requirements will help narrow down the form that specific policies will take. For example, whether a carbon pricing mechanism should be a carbon tax, an emission trading system, or a mixture of the two. The suggested approach will help considers inherent trade-offs and externalities in policymaking, ultimately weighing up costs and benefits of policy choices and guiding the prioritisation of policy interventions in the short, medium, and long-term.

3.3 Monitoring and Review

When it comes to monitoring and review for climate action, countries can make use of already existing systems. The INFF global guidance on Building Block 3 can help establish a baseline by looking at systems that are already in place to track volumes and impact of different types of climate-relevant financing[36]. Monitoring and review in the context of an INFF will help integrate and bring together planning, budgeting, and tracking systems from climate and the broader financing policymaking landscape. With strong governance and coordination systems in place (Building Block 4), INFF monitoring and review will help streamline efforts and provide access to policy-relevant information across multiple financing policy areas and feed it back into policy-making processes for climate action.

For countries whose NDCs are conditional upon the receipt of international support, there may be existing systems which can provide the foundation for establishing comprehensive climate finance monitoring and review systems. These include Biennial Update Reports (BURs) and National Communication submissions to the UNFCCC.

Several countries have adopted climate budget tagging (CBT) to identify, measure and monitor climate-relevant public expenditure. The scope and coverage of climate budget tagging initiatives can be tailored to country priorities and circumstances. For example, Indonesia initially focused its CBT on mitigation, but subsequently expanded tagging to encompass adaptation. Honduras and Nicaragua, both vulnerable to extreme weather events, give particular emphasis to disaster risk reduction. Comprehensive monitoring and review systems, including climate budget tagging, benefit from the adoption of clear definitions of climate-relevant financing. World Bank research has shown that CBT methodologies that align definitions of climate relevance with national policies are most likely to generate information that can be used to monitor and steer policy implementation.

For private finance, the monitoring and reporting landscape on climate finance is fragmented and often difficult to navigate. Vietnam piloted a bottom-up structured approach for gathering information on private investments relevant for supporting climate actions and green growth. The growing number of companies publishing sustainability reports can also ease data collection on climate-related financial information, especially with the emergence of international guidelines and standards such as the Task Force on Climate-related Financial Disclosures (TCFD)'s recommendations and standards from the recently established International Sustainability Standard Board (ISSB). The SDG Impact Standards can also be a useful tool to address the management practice gap by guiding businesses and investors on a path to embedding sustainability and the SDGs. However, corporate disclosure remains often voluntary, and information is not always comparable across companies.

Green taxonomies that classify economic activities based on their contribution to sustainability and climate change objectives can also help enhance monitoring and reporting on the volumes of private business and finance related to national climate goals. China adopted its taxonomy in 2015; France in 2016 as part of a green labelling scheme; Bangladesh in 2017 (updated in 2020); Mongolia in 2019; and the EU in 2020. In July 2020, the EU and China initiated a Working Group on taxonomies to undertake a comprehensive assessment of existing taxonomies for environmentally sustainable investments, including identifying the commonalities and differences in their respective approaches and outcomes ('the Common Ground Taxonomy'). There are also efforts to establish a common green taxonomy framework for Latin America and the Caribbean. Cabo Verde also recently adopted a regulatory framework that outlines the norms and principles for the issuance of blue debt instruments[37]. Aligning definitions of climate-relevant activities across the public and private sectors may facilitate comprehensive reporting and monitoring. Colombia is currently considering a more cohesive methodology for budget tagging and green taxonomy that would harmonize definitions of green activities across the private and public sectors. Finally, interoperable taxonomies can improve comparability between countries, including in terms of INFF progress and monitoring, which is also relevant for reporting standards.

Once a baseline is established, the global guidance on Building Block 3 can help guide the identification of areas (e.g., mitigation, adaptation, co-benefits of climate action) where monitoring and review systems should be strengthened and highlight potential solutions for filling gaps[38]. This includes gauging the level of buy-in from key stakeholders as well as using a participatory approach to put in place necessary systems (e.g., data-sharing agreements between relevant departments and institutions, key performance indicators to ensure data comparability, or regular reporting timeframes). The World Bank and NDC Partnership recommend that, where possible, monitoring and review of climate action be aligned with the five-year NDC cycle because this will facilitate tracking progress towards NDC goals and reporting to development partners.

National governments are critical to monitoring and reviewing because they can enforce reporting across all public agencies. Specialised environment and climate agencies can verify alignment with national climate change objectives and international commitments. In Moldova's climate budget tagging methodology, the National Climate Change Committee is designated to review the tags applied by sectoral agencies. In Pakistan, the Ministry of Climate Change defines the climate-relevance criteria and produces analysis and reports of the tagging data. Audit institutions can play a role in quality assurance and reinforce climate change policy commitments through a review of financial statements and climate-relevant programs and projects. Relevant line ministries (e.g., ministries of Environment) may be well-placed to help with monitoring and review of private finance because they have systems in place to collect and report data on sectoral investments in the country, including in relation to climate action at the sub-national level.

The cost of setting up adequate climate finance monitoring and review systems should be primarily borne by governments; this will maximise country ownership and sustainability over time. Adequate resources and capacity should thus be set aside by government to facilitate the set up and maintenance of monitoring and review systems. If needed, support from development partner resources may be sought to help in the initial set up phase, but to the extent possible should not feature as an ongoing funding source for these efforts.

Assessing the impact of the policies introduced in the Financing Strategy will feed into the knowledge and guide the Government on how to finetune the existing policies.

Civil society can also play a meaningful role in the monitoring process. CSOs, especially NGOs, can play an important role in raising awareness, mapping vulnerability and empowering local stakeholders and communities. At the local level, CSOs and NGOs can play a catalytic role in building up community awareness of climate change and its likely impact on their lives, livelihoods and habitats. They can help build up their capacities to undertake the needed adaptive actions to reduce vulnerability, mitigate risks and build resilience [39].

3.4 Governance and Coordination

Both financing for climate change and the incorporation of climate considerations in financing policy making processes, require the involvement and coordination with climate and sector ministries and a wide range of stakeholders who may not typically be part of an INFF process, and thus this would have to be clear guidance to do things differently even with regard to standard guidance on the INFFs if there is to be integrated focus on the triple dimensions of sustainability, which lies at the heart of the SDGs.

Most countries do have governance arrangements in place to deal with climate change (e.g. those related to NDC implementation) and/or broader national development objectives. In the context of an INFF, these should be used as starting point and expanded to encourage representation and input from financing and climate change actors. INFF governance mechanisms usually rest on existing institutions and processes, but to maximise buy-in and sustainability over time, as indicated above, there needs to be a clear change in collaborative planning processes to better ensure sustainable development priorities and link the SDGs and NDCs. Where no relevant governance arrangements are in place, the INFF represents the opportunity to create mechanisms that can foster participation, interlinkages and coordination and exchanges between financing, climate and development actors. Ministries/departments in charge of climate are not always well placed with regards to ministries of finance and planning, although this is changing, and so there is clear opportunity to advance the process.

The global guidance on INFF governance and coordination can help: 1) Identify and assess existing institutions and processes related to financing climate action and those related to financing national development objectives more broadly which could be used to mainstream climate considerations across financing policy making, and 2) Consider steps to strengthen existing governance and coordination mechanisms as well as foster transparency and accountability in both areas[40].

Decisions related to climate financing are often fragmented due to many different line ministries involved e.g., Ministries of Agriculture, Environment, Transport and so on. Where countries have existing governance arrangements in place for NDC implementation or broader national climate action, these may be used to foster the required dialogue and coordination around financing too. When existing structures are not appropriate, new ones may be established and integrated/linked as part of the INFF process. An INFF Oversight body that can draw on and foster collaboration across climate and development financing ecosystem actors can provide the overall direction for intra-governmental coordination as well as alignment with development partners and the private sector both with regard to financing climate objectives and incorporating climate considerations in financing policy making processes more broadly[41]. Finance ministries play a central role in INFF Oversight Committees, and hence hold the keys to unlocking climate action[42].

As outlined earlier, there are already a number of good examples to build upon, although changes in public finance management (PFM) systems can take time.[43] The annual budget process can provide an effective entry point for greater coordination and coherence across government when it comes to climate action. It can facilitate mainstreaming of climate considerations across ministries and agencies. For example, in Pakistan, the Khyber Pakhtunkhwa provincial government has incorporated climate change within its budget call circular encouraging provincial ministries to budget for climate change expenditures. With support from the NDC Partnership, the Government of Eswatini developed its first Private Sector Engagement plan to stimulate the private sector's involvement in financing, supporting, and implementing technically sound and financially viable risk-informed mitigation and adaptation actions.

The global guidance on Building Block 4 shows how strong governance and coordination mechanisms underpin all phases of INFF design and implementation and can help increase transparency and accountability in service of financing climate action. In 2020, the NGO Forum on Cambodia developed a citizen climate budget. This presented an accessible analysis designed to inform the public about how public funds are being used to combat climate change. This citizen climate budgets represented the first analysis of its kind, showing how government spending on climate change has grown, how it is disbursed and considering related issues, such as the higher vulnerability of women to the effects of climate change in the country.

Annex 1. Financing Needs Assessment

TOOL	DESCRIPTION	LINK
The International Energy Agency's World Energy Model (WEM)	Excel-based dynamic policy simulation model for estimating investment needs for power generation under current and alternative scenarios. The cost difference between a business-as-usual scenario and a sustainable development scenario can be used to estimate climate action costs.	Here
Cost Effectiveness Analysis (CEA)	Compares an initiative's monetary costs to outcomes such as tons of CO2 emissions avoided or reduced as a result of the intervention project or program.	Here
Institute for Global Environmental Strategies (IGES)' SDG Interlinkages Analysis and Visualisation Tool	Enables users to visualise interlinkages between SDG targets (e.g., climate action and health) and identify potential synergies and trade-offs. Users can select countries, goals, and targets to see the interlinkages between the selected targets and others and explore time series data for selected indicators.	Here
World Bank costing approach for infrastructure (presented in the 2019 book 'Beyond the Gap – How Countries Can Afford the Infrastructure They Need while Protecting the Planet')	Offers a systematic approach to estimate the funding needs to close the service gaps in selected infrastructure sectors: water and sanitation, transportation, electricity, irrigation, and flood protection. Facilitates the identification of conditions under which the infrastructure system will meet infrastructure-related SDGs as well as stay in track with climate goals. It uses a combination of unit cost-based, partial equilibrium models and other sector-specific methodologies.	Here

TOOL	DESCRIPTION	LINK
The International Institute for Applied System Analysis' Global Biosphere Management Model (GLOBIOM)	Partial equilibrium model used to explore trade-offs and synergies around land use and ecosystem services. It helps policymakers understand and minimise land use and resource competition through more holistic thinking. It captures the multiple inter-relationships between the different systems involved in provision of agriculture and forestry products (e.g. population dynamics, ecosystems, technology, climate) and solves for the market equilibrium at which the sum of producer and consumer surplus is maximised subject to resource, technological and political constraints.	Here
UNDP biodiversity costing approach (BIOFIN)	Uses a unit-cost based approach to make a comprehensive estimate of the financial resources needed to achieve national and subnational biodiversity targets as well as Aichi Biodiversity Targets on a global level. Unit costs are based on government norms and on economics and biodiversity literature – with the latter being particularly useful to cost action areas such as reforestation, coral reef reforestation and seagrass reforestation. Investment need estimates are refined via expert consultations and workshops to validate underlying models and assumptions before the detailed unmet finance needs are finalized.	Here
African Development Bank Group's Adaptation Benefit Mechanism (ABM)	ABM will de-risk and incentivize investments by facilitating payments for delivery of Adaptation Benefits. ABM will certify the social, economic and environmental benefits of adaptation activities. The value of adaptation action captured in these certificates, including the incremental costs of generating the benefits, will be promoted to potential investors or lenders. The expectation is that verified certificates of the benefits of specific adaptation activities issued by a reputable international organization and based on sound methodological and technical work, in consultations with stakeholders and with the approval of the host country government will guarantee the credibility of the adaptation activities and increase their attractiveness to potential investors or lenders.	Here

Annex 2. Financing Landscape Assessment

CROSS-CUTTING TOOLS		
TOOL	**DESCRIPTION**	**LINK**
UNDP Biodiversity Finance Initiative (BIOFIN)	Used to assess trends and the current state of public and private biodiversity finance, including financing instruments, biodiversity-related revenues, subsidies, and spending. It also provides guidance on how to project future biodiversity expenditures.	Here
UNESCAP SDG Investment Trends Dashboard	Provides a snapshot of volumes of domestic spending and investment in Asian countries across SDG areas, broken down by government, households, repayable finance, and external finance.	Here
UNDP Development Finance Assessment (DFA)	The analytical aspect of DFAs provides an overarching picture of a country's financing landscape and helps to identify challenges and opportunities for more integrated and effective SDG financing.	Here
IMF Article IV consultations	Article IV consultations are the culmination of the IMF country surveillance process. Reports include an assessment of economic and financial developments and policies, as well as analysis on domestic public finance and private investment and financial sector. Also see climate guidance.[44]	Here
OECD Transition Finance Dashboard	Allows users to conduct analysis on financing trends and the financing mix at the country level, with a focus on tax revenue, ODA, Other Official Flows (OOF), foreign direct investment (FDI) and remittances. Data on these flows is also used to assess the relative significance of public/ private and domestic/ external financing, and to compare the financing mix in one country to that in countries with similar structural characteristics ('peers').	Here

PUBLIC FINANCE TOOLS		
TOOL	**DESCRIPTION**	**LINK**
UNDRR Risk Informed Budget Review	Used to review public budgets across all sectors against national disaster profiles to uncover gaps in allocation to risk reduction and prevention.	
Public Expenditure and Financial Accountability (PEFA) Climate Framework	Standard methodology for climate responsive public financial management (PFM). The framework is in a piloting phase and provides PEFA users with guidance on the application of the PEFA framework for assessing climate responsive PFM (PEFA Climate). PEFA can be used to assess the strengths and weaknesses of public finances, which in turn can inform the identification of key challenges and opportunities within the broader financing landscape assessment.	Here
UNDP Climate Public Expenditure and Institutional Reviews (CPEIR)	Assesses volumes of funds within national budgets that target climate actions, and identifies relevant fiscal policies contributing to climate financing, including tax incentives and subsidies.	Here
Climate Budget Tagging	A tool for monitoring and tracking of climate-related expenditures in the national budget system. Provides comprehensive data on climate-relevant spending, enabling governments to make informed decisions and prioritize climate investments. By generating data on climate change investments which usual budget classification would not do, CBT enables public scrutiny of governments' and donors' spending on tackling climate change issues strengthening accountability and transparency.	
UNDP's Investment and Financial Flows Assessments (I&FF)	Can help define the costs of climate change measures and potential sources of investment funds. In using the I&FF methodology, countries can determine: how to organise investment and financial flows efficiently; what shifts in investments are needed; and what additional investments are needed to implement adaptation and mitigation measures and strategies at the national level.	Here

PRIVATE FINANCE TOOLS		
TOOL	**DESCRIPTION**	**LINK**
UNDP Private Climate Expenditure and Institutional Review (PCEIR)	Provides guidance to developing countries interested in designing and/or enhancing integrated public and private expenditure reporting and planning systems for mitigation. The aim is for countries to be able to own a full picture of what has happened and what may happen in terms of financial flows for mitigation, with a view of building credible mechanisms/capacities to Monitor, Report and Verify (MRV) a host country's mitigation efforts and improve transparency and accountability.	Here
UNCTAD Investment Policy Reviews (IPR)	Involves the review of the policy, regulatory and institutional environment for investment; the identification of strategic investment priorities consistent with the SDGs and national development objectives; and concrete recommendations. It also includes an overview of the state of FDI in the country, with focus on sectors relevant to the country context.	Here
IFC Country Private Sector Diagnostic (CPSD)	Assesses opportunities and constraints in private sector growth. It looks at the overall state of the private sector and the range of near-term opportunities for private sector engagement and provides recommendations for reforms and policies to mobilise private investment. It combines economy-wide with sector-specific analysis.	Here

Annex 3. Financing Strategy

TOOL	DESCRIPTION	LINK
IMF Green Public Financial Management Framework	Framework proposed by the IMF for adapting existing PFM practices to support climate-sensitive or more broadly environmental-friendly policies. Supports idea that, given the cross-cutting nature of climate change and wider environmental concerns, "green PFM" can be a key enabler for the implementation of an integrated government strategy to combat climate change. It emphasises the need for an approach combining various entry points within, across, and beyond the budget cycle. This includes components such as fiscal transparency and external oversight, and coordination with state-owned enterprises and subnational governments.	Here
UNDP Climate Change Budget Integration Index (CCBII)	An innovative tool that helps measure the level of integration of Climate Change into the national Public Financial Management (PFM) systems. Focuses on four dimensions to understand how well climate change finances are integrated into the national budget/PFM systems: 1. **Policy dimension** – the level of awareness on climate change policies, recognition, and commitment to integrate CC, as well as availability of enablers to link CC policies with budgets. 2. **System dimension** – the capacity and current practices of PFM systems to absorb CC dimension. 3. **Accountability dimension** – how much is the CC dimension is part of the overall PFM accountability system. 4. **Development Partners dimension** – how much is DPs' CC finance integrated into national PFM systems.	

TOOL	DESCRIPTION	LINK
UNDP Climate Change Financing Frameworks	A voluntary, whole-of-government process to structure a more strategic approach toward the mobilization, management and targeting of climate change finance. The process and workflows associated with a CCFF serve to align a country's climate policy framework with its budget process and to integrate climate finance into its existing public economic and financial management systems. This alignment will support the overarching goal of making financing flows more consistent with low-carbon, climate-resilient development pathways.	
OECD Green Budgeting Framework	Approach to budgetary policy making to help achieve environmental and climate goals. Underpinned by four building blocks that are mutually reinforcing: a strong strategic framework, tools for evidence generation and policy coherence, reporting to facilitate accountability and transparency and an enabling budgetary governance framework.	Here
IMF Climate-Public Investment Management Assessment (C-Pima)	The "Climate-PIMA" (C-PIMA) adds a climate-responsive dimension into the PIMA framework and assesses countries' capacity to manage climate-related infrastructure. The C-PIMA helps governments identify potential improvements in public investment institutions and processes to build low-carbon and climate-resilient infrastructure. The C-PIMA involves an assessment of the five institutions of public investment management that are key for climate-aware infrastructure: C1. Climate-aware planning. C2. Coordination between entities. C3. Project appraisal and selection. C4. Budgeting and portfolio management. C5. Risk management.	Here

Endnotes

[1] UNFCCC.
[2] UNFCCC. Introduction to Climate Finance
[3] Jens Van 'T Klooster, The European Central Bank's strategy, environmental policy and the new inflation: a case for interest rate differentiation.
[4] American College & University President's Climate Commitment, Higher education's role in adapting to a changing climate.
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[6] UNFCCC Standing Committee on Finance. First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement (NDR)
[7] OECD (2021). Forward-looking Scenarios of Climate Finance Provided and Mobilised by Developed Countries in 2021-2025.
[8] United Nations (2022). Financing for Sustainable Development Report 2022
[9] OECD. Climate Finance Provided and Mobilised by Developed Countries in 2016-2020
[10] For example, refer to Section 3: Building Block 2.
[11] For guidance on measures to take to advance such an integrated approach through the budget cycle, please see Budgets for climate, sustainability and social inclusion.
[12] See deep dive on INFFs and Development Cooperation.
[13] UNFCCC, 2021.
[14] See suggested approach laid out in the global guidance on Building Block 1.1 Financing needs assessment.
[15] In a number of cases, the DFAs have encompassed deep dives into thematic focus areas, including those relevant to the climate agenda. E.g., mini DFAs on energy, climate and WASH related SDGs in the case of Bangladesh. In the case of Bangladesh, for the climate chapter this drew heavily on Bangladesh's Climate Change Fiscal Framework, but this was just a start rather than a full integration of climate.
[16] See Step 2 of the suggested approach laid out in the global guidance on Building Block 1.1 Financing needs assessment.
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[18] See work of Climate Policy Initiative and the Climate Change Fiscal/financing Frameworks supported by UNDP. Also see Step 3 of the suggested approach laid out in the global guidance on Building Block 1.1 Financing needs assessment.
[19] See suggested approach laid out in the global guidance on Building Block 1.2 Financing landscape assessment.
[20] GFLAC has developed a methodology for a sustainable finance index, which includes both sustainable and climate-intensive income and expenditure. See Results report for Latin America and the Caribbean (2020).
[21] See Step 2 of the suggested approach in the global guidance on Building Block 1.2 Financing landscape assessment.
[22] See Step 1 of the suggested approach in the global guidance on Building Block 1.3 Risk assessment.
[23] See Klusakab, P. and M. Agarwalabc, M. Burkeab, M. Kraemerde, K. Mohaddes (2021). Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness.
[24] See Building Block 1.3 of the global guidance for a comprehensive overview of risks.
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