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JUNE  
2026 | No. 21

**Climate and Nature  
Economic Policy  
Scenarios (CNEPS)  
for Ministries of Finance,  
Public Development  
Banks, and Financial  
Authorities:  
What is at stake  
for the post-COP30  
implementation agenda**

**Policy Paper**



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# Executive Summary

Climate and nature risks are no longer peripheral environmental concerns. They are increasingly central to macroeconomic stability, fiscal sustainability, debt dynamics, inflation, and long-term development prospects. At the same time, the global transition toward low-carbon and climate-resilient economies is unfolding in a context of heightened uncertainty – marked by geopolitical fragmentation, tightening financial conditions, uneven technological change, and intensifying physical climate impacts.

Despite this shift, most existing analytical frameworks available to Ministries of Finance remain poorly suited to these challenges. Conventional macroeconomic tools (e.g., budget analysis, debt sustainability analysis, macroeconomic forecasting models, and cost-benefit appraisal frameworks) were developed for relatively stable environments and rely on historical relationships, linear dynamics, and marginal changes around a baseline. As such, they overlook the potentially transformative effects of accelerating climate, nature and geopolitical challenges, leaving Ministries of Finance ill-equipped to assess the macro-fiscal implications of alternative transition pathways under deep uncertainty.

While scenario exercises – particularly those developed for Central Banks – can support a deeper understanding of climate and nature issues, they also present important limitations for Ministries of Finance. First, they focus on stress-testing risks to financial stability rather than informing broader macroeconomic strategy. This limits their ability to capture the interactions between fiscal policy, structural transformation, development priorities, and climate and nature dynamics. Second, they often rely on smooth adjustment pathways, central forecasts, and constrained representations of uncertainty. This reduces their capacity to support policymakers to plan and respond to non-linear dynamics and systemic risks characteristic of the ecological and geopolitical crises.

This Policy Paper outlines a practical and flexible framework to address this gap. **Climate and Nature Economic Policy Scenarios (CNEPS)** potentially offer a structured approach to scenario design that enables Ministries of Finance to better assess multiple risks and opportunities, compare policy options, and integrate climate and nature considerations into core macro-fiscal decision-making.

A central contribution of the paper is to reposition scenario analysis from a largely technical and externally driven exercise to a policy-relevant, Ministry-owned process. In many countries, Ministries of Finance remain “scenario-takers,” relying on assumptions and pathways developed in global models. CNEPS aim to support a transition toward “scenario-making,” where Ministries actively shape the assumptions, narratives, and policy mixes that reflect their own economic structures, institutional constraints, and development priorities.

The paper highlights several key features of a CNEPS approach:

- **Focus on risk (and opportunity) distributions.**  
CNEPS emphasize the full range of possible outcomes – including low-probability, high-impact events – rather than relying solely on most-likely trajectories. This allows Ministries to develop meaningful responses ahead of fat-tailed risks and systemic shocks, both in the short and long-term.
- **Integration of climate, nature, financial, and geopolitical dynamics.**  
Scenarios explicitly account for interacting risks – such as climate shocks, energy transitions, debt dynamics, and global market disruptions – reflecting the complex environment in which fiscal policy operates.
- **Adaptation to country-specific contexts.**  
Rather than applying uniform assumptions, CNEPS are designed to incorporate national priorities and specific country characteristics, including sectoral structures, exposure to physical risks, financing constraints, and political-economy conditions.
- **Scalability and institutional feasibility.**  
The approach can be implemented at different levels of analytical sophistication – from qualitative narratives and stress tests to more advanced integrated models—ensuring relevance across countries with varying capacities.
- **Co-construction and institutional coordination.**  
Scenario development is structured as a collaborative process involving Ministries of Finance, central banks, public development banks, sectoral ministries, and international partners, strengthening ownership and policy coherence.

The paper also underscores the importance of CNEPS for incorporating the regional and international dimensions of ongoing challenges. Many macro-fiscal risks – such as food system shocks, energy disruptions, and financial crises – may originate elsewhere, yet

have significant cross-border spillover effects that must be accounted for. At the same time, scenario-based analysis can strengthen engagement with international financial institutions, support access to concessional finance, and provide an evidence base for discussions on debt, adaptation, and global financial reform.

Building on this analytical framework, this paper proposes a set of operational recommendations for Ministries of Finance. These include embedding scenario analysis into routine fiscal processes, prioritizing macro-critical risks and variables, incorporating distributional and political-economy constraints, strengthening coordination across institutions, and using scenarios to inform both domestic policy and international engagement.

Overall, the paper advances the case that improving macro-fiscal policymaking in the current context requires a shift in how uncertainty is understood and managed. By moving beyond narrow forecasting tools toward a broader assessment of risks, constraints, and policy trade-offs, CNEPS can help Ministries of Finance design more robust, credible, and forward-looking strategies for navigating the climate and nature transition.

# **Climate and Nature Economic Policy Scenarios (CNEPS) for Ministries of Finance, Public Development Banks, and Financial Authorities: What is at Stake for the Post-COP30 Implementation Agenda<sup>[1]</sup>**

## **Introduction**

Climate and nature risks are increasingly shaping the core concerns of macroeconomic and fiscal policy. For Ministries of Finance, these issues directly affect growth prospects, public finances, debt dynamics, and the feasibility of long-term development strategies. This evolving context is further complicated by broader sources of uncertainty, including geopolitical fragmentation, tightening financial conditions, and uneven technological change.

At the same time, the tools and frameworks typically used by Ministries of Finance have not fully kept pace with these shifts. Many were designed for relatively stable environments and remain better suited to incremental adjustments than to structural transformation or compounding risks. While scenario analysis is gaining traction across institutions, existing approaches are often fragmented or tailored to mandates that differ from those of Ministries of Finance.

Against this backdrop, this *Policy Paper* examines how scenario-based approaches can be further developed and adapted to support macro-fiscal policymaking in the context of climate and nature challenges. It explores both the analytical and institutional dimensions of this question, with a focus on how Ministries of Finance can better integrate uncertainty, risk, and long-term transformation into their decision-making processes.

[1] A draft version of this note was prepared as a direct contribution to the AFD-OECD workshop hosted by OECD on December 10, 2025. The workshop brought together Ministries of Finance, Public Development Banks, Financial Authorities, and other partners to consider the reasons for advancing new scenario-based approaches to economic policy in the wake of COP30. The note has also served as background for discussion with regional and country partners. We thank colleagues from the Coalition of Finance Ministers for Climate Action (CFMCA), the COP30 Circle of Finance Ministers, Finance in Common (FICS), the Network on Greening the Finance System (NGFS), CEPAL, UNECA, AISESA, CARECECO and AMRO for their feedbacks and invaluable support in constructing this document. Thanks notably to Camille Laporte (AFD) and Meron Tesfamichel (WRI, UCL and AISESA) for their detailed comments.

The remainder of the paper is organized as follows. Section 1 sets out the evolving policy context of the transition and its implications for Ministries of Finance. Section 2 reviews the roles of key public financial institutions and highlights opportunities and constraints for coordination. Section 3 examines the use of scenario analysis as a policy tool, including its current applications and limitations. Section 4 introduces the concept of Climate and Nature Economic Policy Scenarios (CNEPS) and discusses how such approaches can be designed and applied. Section 5 considers how scenario exercises can be coordinated across countries and institutions. Section 6 offers policy recommendations for mainstreaming scenario use for Ministries of Finance and other public financial bodies. The final section concludes by summarizing key insights and outlining priorities for further work.

# 1. Background

## 1.1 – The post-COP30 implementation agenda

A decade ago, the COP21 Paris Agreement marked a watershed moment in global climate governance, establishing a collective commitment to limit global warming to well below 2°C and pursue efforts toward 1.5°C. Beyond setting mitigation and adaptation targets, it created a framework for coordinated international action (Dasgupta *et al.* 2018). Participating countries agreed to define voluntary Nationally Determined Contributions (NDC) to reduce greenhouse gases and adapt to the impacts of climate change, and develop Long-Term Strategies (LTS) for achieving global sustainability pledges.<sup>[2]</sup>

Over the past decade, the shift from ambition to effective implementation has been fragmented and incomplete. At COP30, the Belém Package sought to address this gap through a new set of financial and institutional commitments, including a tripling adaptation finance (United Nations 2025), mobilizing \$1.3 trillion in climate finance per year by 2035 (UNFCCC 2025), launching the Tropical Forests Forever Facility (TFFF), and constructing new implementation platforms like the *Country Platforms Hub*, *Global Implementation Accelerator* and the *Belém Mission to 1.5°C*. These mechanisms are designed to strengthen national planning, mitigation and adaptation capacity, connect initiatives across regions, foster investment, and enable developing countries to design and carry out their own transition strategies.

COP30 also marked a shift in the role of economic policymakers, underscoring that climate and nature objectives must be integrated into macroeconomic management and fiscal decision-making. Ministries of Finance (MoFs), alongside Public Development Banks and Central Banks, are

therefore increasingly positioned at the center of the implementation agenda. For instance, the Brazilian presidency launched the *COP30 Circle of Finance Ministers* (COP30 secretariat 2025) – a coalition representing MoFs from over 35 countries – to better support implementation and financing of climate and nature commitments. At the same time, the *Network for Greening the Financial System* (NGFS) and the *Coalition of Finance Ministers for Climate Action* (CFMCA) launched a new joint dialogue platform to foster practical knowledge exchange between central banks and MoFs on the macroeconomic challenges of the climate transition (NGFS & CFMCA 2025).<sup>[3]</sup>

As MoFs and other public financial authorities take on the charge for translating high-level ecological ambition into workable economic policy (CFMCA 2023),<sup>[4]</sup> they are confronted with a complex combination of analytical, fiscal, and systemic constraints. Limited tools, constrained fiscal space, and increasing exposure to climate, financial, and geopolitical risks make it difficult to design coherent and forward-looking strategies. Understanding how these pressures interact is therefore critical.

## 1.2 – The new urgency and complexity facing Ministries of Finance

Despite leaders' efforts to come together around a common vision for the future, the post-COP30 economic landscape is characterized by profoundly uneven and uncertain geopolitical and economic landscape. On one level, there is reason for optimism. Green industrial strategies in China, Europe and (until recently) the US have contributed to drastically reduce the production costs of renewable energies (Mercure *et al.* 2025; Nijse *et al.* 2023). As the cost of renewables has declined, they have become

[2] At COP30, 119 countries have submitted their 3rd wave of NDCs. COP30 also emphasized the need to integrate Long-Term Strategies and National Biodiversity Strategies and Action Plans (NBSAPs) for coherent climate and nature action. While many countries have submitted and even updated their LTS, over 100 countries have still not submitted any plan.

[3] Against this backdrop, collective platforms – the CFMCA, the NGFS and Finance in Common (FICS) – have become increasingly important forums for collaboration for different public financial bodies. See also Box 2.

[4] Recent successive G20 presidencies – in Indonesia, Brazil, and South Africa – have also all highlighted the need for MoFs to find pragmatic ways to balance climate policy with realistic financing strategies, while ensuring policy coherence across government.

more widely adopted and accessible around the world. Increasingly, developing and emerging countries are even leap-frogging high-income countries in the pace of electrification.

Yet the transition also faces undeniable headwinds. For example, the ramping up of renewables has also been coupled with a deepening of carbon-intensive development pathways, creating new uncertainties for governments and markets alike (Espagne *et al.* 2023). This is seen, for example, in countries like the United Arab Emirates and Saudi Arabia, which continue to expand oil and gas production while also launching large-scale solar and hydrogen projects. Similarly, the United States, Canada and Australia are investing heavily in LNG and un-conventional oil for short-term energy security and export revenue, even as national or state-level renewables targets remain ambitious (EIA 2024).

These divergent and sometimes conflicting patterns are evident both between countries and within them, fueling uncertainty for policymakers and investors. This dual strategy has led to an uneven energy mix, ongoing reliance on legacy fossil infrastructure and slower adoption of new technologies. In many cases, the lack of coordinated investment in grids and market design leads to “cannibalization effects,” where renewables outcompete each other or cannot be integrated effectively, resulting in stranded solar or wind projects or abrupt policy reversals (Liebensteiner & Naumann 2022). As a result, the outlook for global energy systems remains highly unpredictable: competing technologies, infrastructure lock-ins, regulatory uncertainty, and technical incompatibilities make it difficult to chart a coherent or stable transition pathway.

Within countries, the social and economic impacts of such a transition are far from evenly distributed. Lower-income communities, workers in carbon-intensive sectors, and vulnerable populations are often hardest hit by economic adjustment, job losses, or rising energy costs, while

those with greater resources can adapt or capitalize on new opportunities (Yasser *et al.* 2026). Without robust support measures – such as targeted investments, social protection, and retraining – inequalities can significantly rise in the context of a global transition as well as in the facing of mounting damages, undermining public trust.

At the same time, many countries are entering this transition with public finances already under severe strain. Elevated debt levels, rising interest rates, and tighter global financial conditions are pushing a growing number of developing and emerging economies close to debt distress, even before accounting for the fiscal costs of climate impacts or the investment required for a low-carbon transition (Songwe *et al.* 2024). This situation constrains fiscal space precisely when large-scale public investment, risk mitigation, and social support are most needed.

Concerns around sovereign credit ratings further complicate the picture, as climate vulnerability, transition risks, and contingent liabilities are increasingly scrutinized by rating agencies, potentially raising borrowing costs and reinforcing pro-cyclical dynamics (Sun *et al.* 2023). Existing debt resolution mechanisms – from the Paris Club to the G20 Common Framework and standard debt sustainability analyses – are only beginning to grapple with climate and nature risks, as they often struggle to reconcile long-term resilience investments with short-term debt metrics (Zucker-Marques *et al.* 2024). For MoFs, managing debt sustainability, market access, and climate objectives simultaneously has therefore become a central and urgent challenge, shaping the feasibility and sequencing of any credible transition strategy.

Growing geopolitical uncertainty and fragmentation are also making the transition more volatile. Competition over access to critical minerals and strategic technologies essential for decarbonization are intensifying, driving up costs and exposing new vulnerabilities in global supply chains. Meanwhile, wavering international support

for decarbonization amidst economic uncertainty, have highlighted significant gaps in global coordination and the risk of a “transition wall” for many developing and emerging economies (Lapeyronie *et al.* 2025). The retreat of key actors like the United States from multilateral engagement undermines confidence in the collective ability to deliver on climate goals and exacerbates uncertainty for both public and private investors.

Finally, mounting environmental pressures are translating directly into macroeconomic and fiscal stresses (Mazzocchetti *et al.* 2025; Songwe *et al.* 2024). Intensifying climate shocks (e.g., extreme temperatures, storms, droughts, and flooding) and accelerating nature loss (e.g., deforestation, biodiversity decline) are now widely recognized as macro-critical, undermining long-term development prospects and social stability. Such forms of environmental degradation are increasingly linked to negative impacts on employment, fiscal balance, competitiveness, debt sustainability, financial flows, and financial stability, while also contributing to inflation and volatility across supply chains and capital markets.

MoFs, alongside other public financial bodies, are thus compelled to respond to a whole new range of interconnected challenges. Addressing these pressures requires responses that are coordinated, forward-looking, and systemic, rather than reactive or incremental.

In this context, MoFs face the challenge of adapting existing tools to manage rising uncertainty while integrating climate and nature into fiscal strategy (CFMCA 2025; Dunz & Power 2021; ADB 2024). This requires systematically accounting for transition and physical risks while balancing immediate development needs with longer-term transformation, within an increasingly constrained fiscal and geopolitical environment (Gonon *et al.* 2025).

However, MoFs readily acknowledge that they lack analytical frameworks, policy tools, and coordination mechanisms to bridge environmental policy, development strategies, and financing needs. Indeed, a recent survey found that only 6% of MoFs face no major obstacles in integrating climate and nature considerations into their economic analysis (CFMCA 2025).

New approaches may therefore be necessary to help Ministries of Finance integrate long-term sustainability objectives into core policy processes and design policies that are more robust to present and future challenges. In this regard, scenario analysis offers a promising way to systematically explore risks, uncertainties, and alternative transition pathways. This *Policy Paper* examines how CNEPS tailored to the needs and mandates of MoFs can support macro-fiscal decision-making and help guide governments towards more financially robust and environmentally sustainable futures.

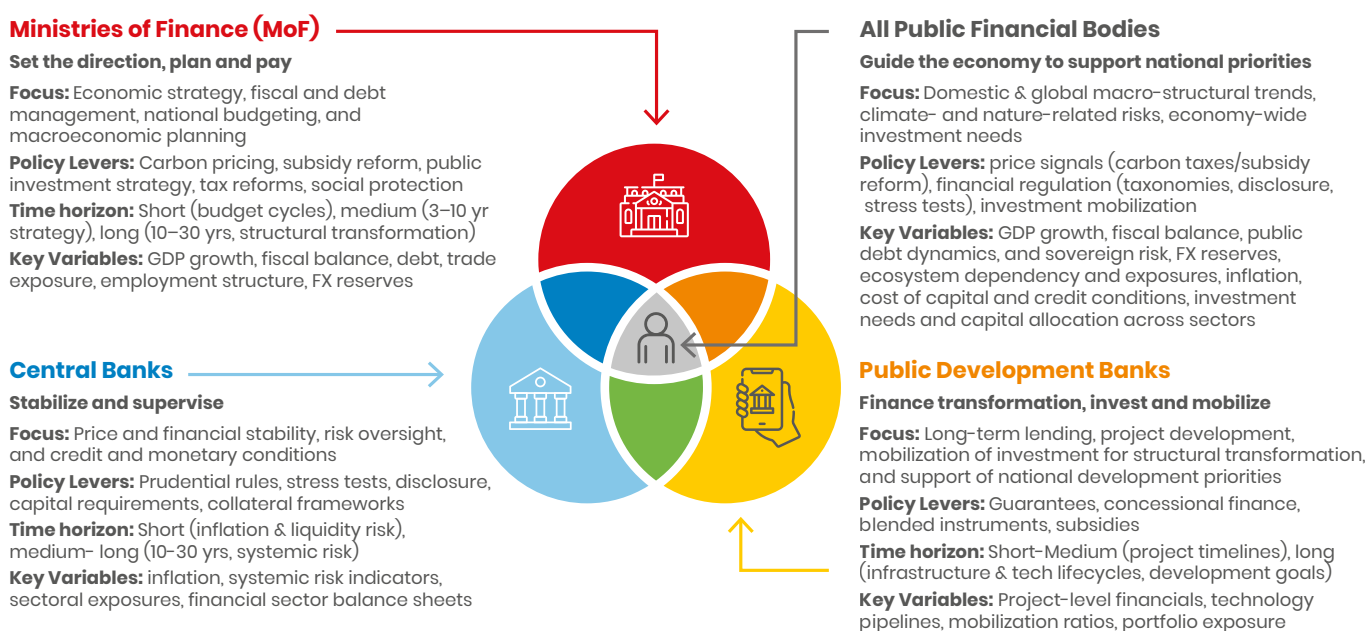
## **2. Institutional landscape: Public financial bodies in the sustainability transition**

## 2.1 – Diverging and overlapping priorities and perspectives: Ministries of Finance, Public Development Banks and Central Banks

Managing these challenges does not fall to Ministries of Finance alone. It involves a broader set of public financial institutions – particularly Central Banks and Public Development Banks – each with distinct mandates, analytical frameworks, and policy instruments (Figure 1). While these institutions are increasingly engaged in the climate and nature transition, their approaches are often developed in parallel rather than in a fully coordinated manner. Understanding how their roles intersect, and where gaps or misalignments arise, is therefore critical to assessing the current policy landscape, and identifying pathways forward.

Ministries of Finance sit at the core of economic policymaking, with primary responsibility for macroeconomic management, fiscal policy, and public resource allocation. They set national economic strategies, oversee budget preparation and execution, and manage public debt and fiscal risks. In the context of the climate and nature transition, MoFs play a central role in aligning fiscal frameworks with long-term sustainability objectives, balancing competing priorities such as growth, stability, and social equity. Their decisions shape investment conditions across the economy through taxation, public spending, and regulatory signals, while also determining the pace and sequencing of structural transformation. As such, they operate across short-, medium-, and long-term horizons, navigating immediate fiscal constraints while planning for future resilience and development outcomes.

Figure 1 – Public financial bodies’ respective stake in the sustainability transition



Note: “Public financial bodies” here include only Ministries of Finance (red), Central Banks (blue) and Public Development Banks (yellow). Text details some of each institutions’ specific focuses, policy levers, key variables and time horizons. Common overlapping concerns are highlighted in the upper-right quadrant (All Public Financial Bodies – grey).

Meanwhile, Central Banks engage in the transition through their mandates to ensure financial and price stability (Campiglio *et al.* 2018). They use stress tests, disclosure frameworks, and scenario analysis to assess risks from physical impacts and transition dynamics<sup>[5]</sup>. This involves tracking inflation drivers, sectoral credit exposures, asset valuations, and insurance coverage. Their analyses influence prudential regulation, price dynamics (Barmes *et al.* 2024), and broader financing conditions.

PDBs play a growing role as catalysts for investment in low-carbon and resilient infrastructure (Marodon *et al.* 2025; Marois 2025; Cingolani 2019; Gu *et al.* 2016). Their activities focus on medium- and long-term project cycles and sectoral transformation pathways. As such, PDBs track technology costs, project-level financials, mobilization ratios, and portfolio risks. They help crowd in private investment – through concessional and blended finance, project pipelines, and sectoral support – and translate national strategies into bankable projects.<sup>[6]</sup> As the “financial arms” of the government, they help align investment with national climate and nature objectives and are responsive to public fiscal constraints.

These overlapping responsibilities create both opportunities and coordination challenges (Box 1). For example, all three institutions must monitor macro-structural trends, climate- and nature-related risks, financial-sector conditions, and the investment demands required for economic transformation. They also work across overlapping time horizons – from short-term shocks that affect budgets, liquidity or

project pipelines, to medium-term sectoral and credit reallocation dynamics, and the long-term structural shifts needed for a climate- and nature-resilient economy. These shared concerns create substantial scope for coordination, even if their institutional mandates differ.

At the same time, differences in mandates, incentives, and analytical approaches can lead to fragmented or inconsistent policy signals. Because these institutions often operate in silos, shared ambitions do not automatically translate into coherent and actionable strategies. This challenge is compounded by rising systemic uncertainty, which makes coordination more complex and increases the risk of misaligned responses.

Addressing these gaps requires approaches that can structure uncertainty, connect macroeconomic, financial, and investment perspectives, and support more consistent decision-making across institutions and time horizons. Scenario analysis offers one such approach, providing a potential bridge between these actors and their respective mandates.

[5] See for example: <https://www.ngfs.net/en/publications-and-statistics/publications/ngfs-short-term-climate-scenarios-central-banks-and-supervisors>

[6] While attracting private investment remains important, many experts are now calling for greater emphasis on “public-public” partnerships and enhanced South-South cooperation, in which PDBs play a leading role (see Marois 2025; Cingolani 2019; Gu & Chenoy 2016).

## Box 1: Opportunities for collaboration among public financial bodies

Shared policy concerns amongst Ministries of Finance, Public Development Banks and Central Banks create substantial scope for coordination. Even if their institutional mandates differ, the choices of each institution influence one another, and they all ultimately depend on signals from sectoral line ministries, regulators, and national planning bodies to carry out their mandates.

Coordination might support more coherent policy mixes and smoother pathways from high-level ambition to real-economy outcomes. This can be done at the domestic level (e.g., through joint planning, shared scenarios, or structured dialogue across line ministries, financial authorities and the private sector), or at the international level (e.g., through emerging coalitions and peer-learning platforms).

A range of coordination mechanisms already exists to help integrate climate and nature considerations across the financial system. At the global level, *Brazil's COP30 Circle of Finance Ministers* (CFM) has been established to coordinate the contributions of MoFs to implement the Baku-to-Belém roadmap, bringing together finance ministers from over 35 countries in a new forum for collective action. The CFMCA further serves as a global platform to organize peer exchange and knowledge sharing on climate and nature policy and planning.

Regional coalitions are already well-established, with initiatives in Latin America and the Caribbean (IADB 2022), Africa (CFMCA 2025), ASEAN (ADB 2024), Central Asia (CAREC 2025), and Europe (Donohoe 2024) (Annex 1). These groupings provide important spaces for regional dialogue and collaboration for countries facing similar development challenges.

Moreover, coordination among public development banks is advancing through the Finance in Common Summit (FiCS)<sup>[7]</sup>. This group fosters shared approaches to sustainable investment and innovative financing for development.

For central banks and supervisors, the NGFS<sup>[8]</sup> acts as a key forum for advancing the integration of climate- and nature-related risks into financial supervision and to develop harmonized approaches for scenario analysis. Through this network, members collectively build capacity, publish practical guidance, and pilot scenario exercises that help set international standards for managing financial system risks.

While these coalitions and platforms provide important channels for coordination, they are forming within an increasingly fragmented geopolitical landscape, reflecting diverse worldviews and varying levels of trust in multilateral action. Competing regional priorities and the legacy of global inequalities mean that deep cooperation cannot be taken for granted. The process of aligning climate and nature objectives with economic policy is not only technical, but also political and strategic, requiring careful navigation of asymmetric interests and power dynamics.

Despite these divides, bringing climate and nature squarely into the core of economic policymaking remains a globally acknowledged imperative. The stakes of inaction transcend national boundaries, and credible progress depends on forging new forms of partnership – however partial or contested – across regions and institutions. In this context, the real test for the COP30 implementation agenda will be whether these diverse coalitions can translate dialogue into concrete action, build genuine mutual benefit, and begin to address the structural drivers of vulnerability and dependency that have long shaped the global economy.

[7] <https://financeincommon.org/>

[8] <https://www.ngfs.net/en>

# **3. Scenario Exercises: A transformative tool for Ministries of Finance**

### **3.1 – What scenario analysis is, and why it matters for Ministries of Finance today**

Amid growing fiscal, environmental, and geopolitical uncertainties, MoFs and other public financial bodies are searching for practical ways to navigate unprecedented complexity. For this, scenario analysis can be a powerful tool for forward-looking decision-making, especially under conditions of uncertainty and complexity.

Unlike traditional forecasting, which seeks to predict the most likely outcome in stable environments, scenario analysis explores a range of plausible futures through structured ‘what if’ questions and alternative assumptions to explore worst-case and best-case scenarios. This approach enhances strategic planning by considering a wide range of influencing factors and their possible impacts. As such, scenario analysis can improve resilience and adaptability in the face of uncertainty, revealing potential risks, trade-offs, and opportunities.

Scenario exercises have long been a core tool for Ministries of Finance, supporting revenue forecasting, budget planning, debt sustainability analysis, and contingency strategies (Box 2). However, their use remains uneven, and MoFs do not always apply structured scenario analysis to systematically explore a wide range of risks or inform strategic decision-making – often leaving this role to central banks or other institutions.

### **3.2 – The many tangible benefits of scenarios for Ministries of Finance**

As macroeconomic, geopolitical, and environmental uncertainties intensify, there is growing recognition that expanding and systematizing scenario use can strengthen fiscal resilience. When applied more comprehensively, scenario analysis enables

MoFs to link macroeconomic developments, fiscal outcomes, and policy choices – moving from risk awareness toward more robust, forward-looking decisions.

Scenario-based approaches complement established tools such as Debt Sustainability Analysis (DSA), Medium-Term Fiscal Frameworks (MTFFs), climate budget tagging, and stress testing. While these instruments assess sustainability and consistency under defined assumptions, they typically operate within narrow analytical boundaries. Scenarios add value by exploring how shocks, pathways, and policy choices interact over time – helping MoFs assess timing, pace, and binding constraints (e.g., fiscal space, debt dynamics, or implementation capacity).

A key contribution of scenario analysis is to support decision sequencing and policy design. By tracing how fiscal pressures, investment needs, and macroeconomic conditions evolve across alternative futures, scenarios also make trade-offs more explicit – particularly where costs are uneven over time or risks are non-linear. They also enable the assessment of policy mixes, rather than isolated instruments, supporting more coherent and robust policy strategies.

As summarized in Table 2, scenario analysis can be integrated across core MoF functions – from macro-fiscal strategy and debt management to budgeting, public investment, and external engagement. Embedded in routine processes, it strengthens the ability of Ministries of Finance to navigate uncertainty, align short- and long-term objectives, and support resilient and sustainable development outcomes.

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## Box 2: How Ministries of Finance Currently Use Scenario Exercises

Scenario analyses and prospective exercises are fundamental tools for Ministries of Finance in planning and managing public finances. In practice, most MoFs rely primarily on macroeconomic and fiscal forecasts to inform annual budgets, medium-term expenditure frameworks, and debt sustainability analysis. Where scenario approaches are applied, they are typically used to examine the impact of changes in key variables – such as growth rates, commodity prices, interest rates, or exchange rates – on government revenues and spending. Scenarios are particularly important tools to support MoF’s core policy and planning functions, including:

- **Macroeconomic Forecasting:** Preparing baseline and alternative macroeconomic projections for use in annual budgets, medium-term expenditure frameworks, and fiscal policy planning.
  - **Revenue and Expenditure Planning:** Testing the impact of different growth rates, commodity price changes, interest rates, or exchange rate movements on government revenues and spending. Here, scenarios can also be important to account for major changes in the external environment (e.g., change in United States trade or monetary policy, global pandemic, geopolitical tensions, etc.)
  - **Debt Sustainability Analysis:** Stress-testing public debt portfolios under varying assumptions for interest rates, (domestic and international) economic shocks, and fiscal balances to ensure medium- and long-term sustainability.
  - **Contingency and Emergency Planning:** Developing fiscal response strategies for economic downturns, natural disasters, or external shocks by assessing a range of plausible future events.
  - **Investment Appraisal:** Evaluating large public investment projects through cost-benefit and risk-opportunity analysis, including sensitivity tests and scenarios that account for possible uncertainties. MoFs also use cost-benefit analysis to rank or screen proposals from other ministries.
  - **Integrating Environmental and Disaster Risk:** Some Ministries of Finance have started to include climate, environmental, and disaster-related risks in their scenario exercises. They now routinely assess the potential fiscal impacts of extreme weather events, climate shocks, and long-term physical risks in budget preparation and expenditure frameworks. Moreover, scenario analysis is being used to test the resilience of national debt portfolios and public investment plans under a range of climate futures, helping to identify potential vulnerabilities and inform prudent risk management.
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Table 1 – Integration of Scenario Outputs into Core MoF Decision Processes

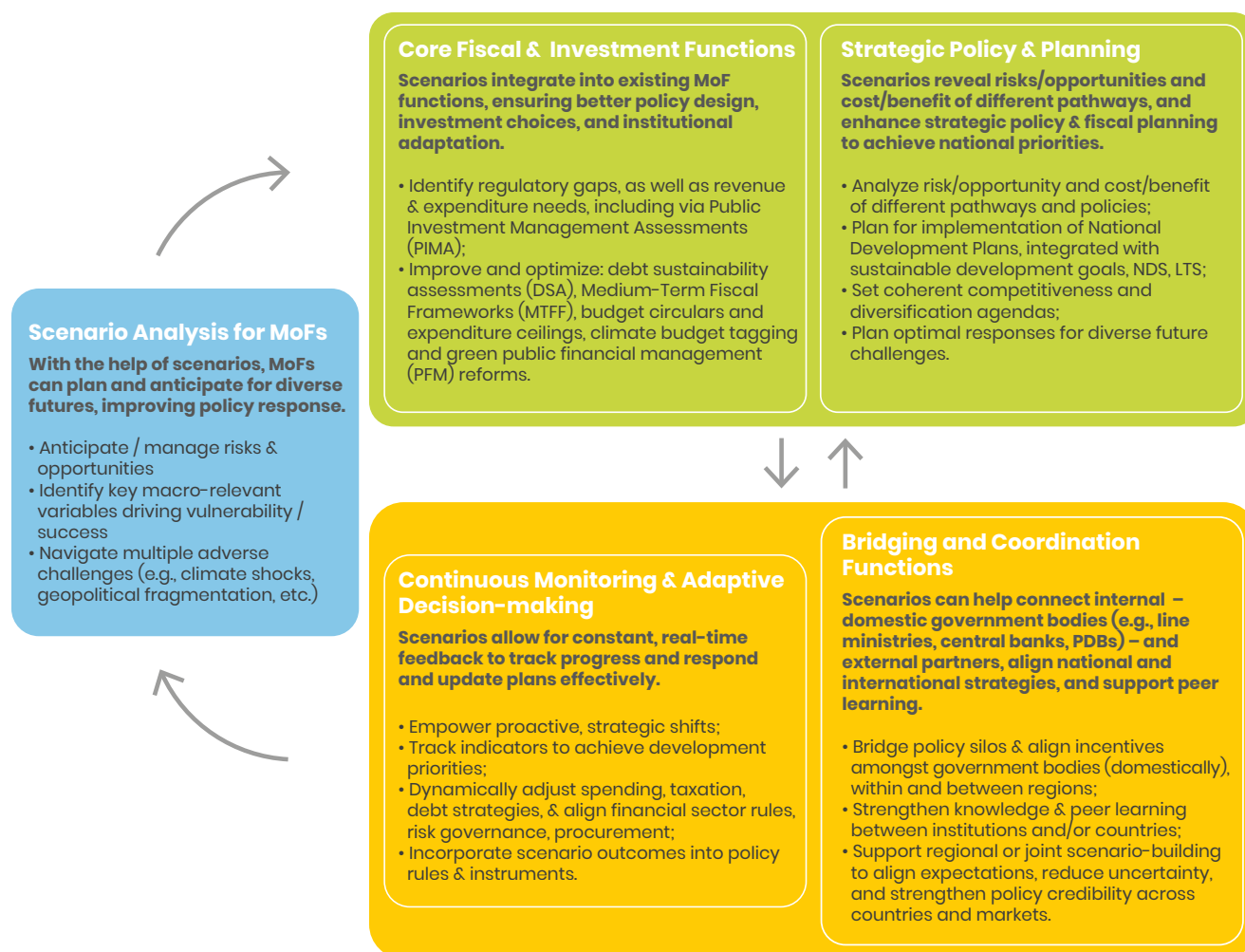
MoF Functional Category	MoF Workflow / Decision Process	Scenarios Output	Practical Value for MoFs (Application & Use)
<b>Macroeconomic &amp; Fiscal Strategy</b>	<b>Macroeconomic forecasting units</b>	Scenario-based baselines and alternative projections	Complements point forecasts with structured uncertainty analysis. Allows MoFs to move beyond “single-path” forecasts by exploring downside and upside risks to growth, inflation, revenues, and expenditures, improving preparedness for volatile and non-linear dynamics.
	<b>Medium-Term Fiscal Framework (MTFF)</b>	Scenario-consistent macro-fiscal paths (growth, revenues, expenditures, primary balance)	Enables MoFs to assess how alternative climate, nature, and geopolitical futures affect medium-term fiscal paths. Supports testing of fiscal strategies against shocks (e.g. disasters, commodity price swings, transition costs), clarifies trade-offs between consolidation and investment, and helps identify fiscal strategies that remain viable across a range of plausible futures.
	<b>Expenditure ceilings &amp; fiscal rules</b>	Distributional and sectoral impacts of shocks and policy choices	Supports calibration of expenditure ceilings and fiscal rules by making explicit how shocks and transitions affect different sectors and spending pressures. Provides analytical justification for buffers, flexibility mechanisms, or escape clauses under extreme or systemic events.
	<b>Fiscal risk statements</b>	Identification of climate, nature, and geopolitical fiscal risks and tail events	Strengthens fiscal risk disclosure by integrating climate-related physical risks, transition risks, and external shocks into formal risk statements. Helps MoFs anticipate contingent liabilities and improve transparency for legislatures, markets, and the public.
<b>Debt &amp; Financial Resilience</b>	<b>Debt Sustainability Analysis (DSA)</b>	Scenario-based debt trajectories including climate shocks and transition costs	Enhances DSAs by embedding climate and nature risks into debt dynamics. Allows MoFs to assess whether shocks translate into liquidity or solvency risks, to test debt resilience under adverse scenarios, and to inform borrowing strategies and debt management choices.
	<b>Contingency planning &amp; crisis preparedness</b>	Extreme-event scenarios and fiscal response options	Supports preparation for crises by exploring plausible extreme events (natural disasters, abrupt global shocks) and their fiscal implications. Informs the design of contingency funds, emergency financing mechanisms, and rapid fiscal response strategies.
<b>Budgeting &amp; Public Financial Management</b>	<b>Annual budget preparation</b>	Short- to medium-term scenario narratives with quantified fiscal impacts	Helps align annual budgets with medium-term risks and priorities. Ensures that budget choices reflect not only current conditions but also anticipated shocks, adaptation needs, and transition dynamics, reducing the risk of pro-cyclical or maladaptive spending.
	<b>Budget circulars</b>	Scenario-informed guidance and assumptions	Allows MoFs to translate scenario insights into operational guidance for line ministries. Provides a common set of assumptions on risks and priorities, improving coherence and comparability across budget submissions.
	<b>Climate budget tagging &amp; green PFM reforms</b>	Mapping of scenario priorities to budget programs	Strengthens the link between climate objectives and public spending by connecting scenario priorities to concrete budget lines. Supports monitoring, reporting, and evaluation of climate-related expenditures within existing PFM systems.

MoF Functional Category	MoF Workflow / Decision Process	Scenarios Output	Practical Value for MoFs (Application & Use)
<b>Public Investment &amp; Capital Allocation</b>	<b>Public Investment Management (PIMA / Climate-PIMA)</b>	Scenario-based assessment of infrastructure performance	Improves investment planning by testing infrastructure projects against multiple futures (e.g. climate impacts, demand shifts, policy changes). Helps avoid stranded or maladaptive assets and supports sequencing of investments under fiscal and capacity constraints. Where relevant, scenarios can also be used jointly with public development banks to align public investment plans with PDB financing strategies, project pipelines, and risk-sharing instruments.
	<b>Investment appraisal &amp; cost-benefit analysis</b>	Assessment of risk-adjusted returns across scenarios	Enhances project appraisal by incorporating uncertainty, non-linear risks, and long-term impacts. Supports prioritization of projects that remain economically and fiscally robust across a wide range of plausible scenarios. Scenario-based appraisals can also inform engagement with PDBs on project structuring, concessionality, guarantees, and blended finance, helping ensure that public investment choices are both fiscally sound and bankable.
<b>Structural Policy &amp; Coordination</b>	<b>Regulatory &amp; institutional review</b>	Identification of regulatory or institutional gaps	Highlights where existing regulatory frameworks or institutional arrangements may fail under transition or shock scenarios. Informs reform agendas and helps align fiscal, sectoral, and regulatory policies with long-term resilience objectives.
	<b>Cross-government coordination</b>	Shared scenario narratives and assumptions	Provides a common analytical language across line ministries and agencies. Reduces policy silos, aligns incentives, and supports coherent policy mixes by anchoring discussions in shared, MoF-led scenarios.
<b>External Engagement &amp; Finance Access</b>	<b>International finance &amp; investor dialogue</b>	Credible, MoF-owned transition and physical risk assessment	Strengthens engagement with MDBs, donors, investors, and rating agencies by presenting coherent, scenario-based accounts of risks, policy choices, and investment needs. Facilitates access to concessional finance and improves credibility with private markets. For PDBs, such scenarios provide a shared reference for aligning sovereign strategies with financing instruments, portfolio priorities, and crowd-in mechanisms for private capital.

Integrating scenarios into policy processes is therefore not only a technical enhancement, but a strategic shift. It equips Ministries of Finance to manage uncertainty more proactively, balance competing objectives, and adapt to a rapidly

evolving global context. Figure 2 illustrates the systemic role that scenario analysis can play to support continuous and adaptive decision-making over time.

Figure 2 – Practical Benefits of Scenarios for Ministries of Finance



### 3.3 – Limits of existing scenario approaches: Why Ministries of Finance need their own tools

Scenario exercises are already increasingly being applied to emerging areas such as climate and nature (Althouse *et al.* 2025). Yet despite

growing urgency to address the ecological crisis, the integration of climate and nature scenarios within MoFs remains limited. A recent CFMCA survey (2025) shows that around 70% of MoFs have not yet integrated physical climate pathways (e.g. global warming scenarios) into their policy frameworks. The situation is only slightly better for

transition pathways: about 62% of MoFs have not yet incorporated decarbonization scenarios into their policy analysis. Even among those that have begun to incorporate climate scenarios into their analyses, most rely on standardized, off-the-shelf scenarios rather than developing their own tailored approaches.

The uptake of scenarios is also uneven across income groups, highlighting persistent gaps in capacity and resources. High-income economies have generally been able to move further and faster, often by embedding climate scenarios into core fiscal and policy processes (HM Treasury 2021; Direction Générale du Trésor 2025).

Climate and nature scenario analysis has primarily been spearheaded by Central Banks and financial supervisors through organizations like the NGFS.<sup>[9]</sup> These scenarios provide structured pathways identifying both physical and transition risks. More broadly, they aim to support financial supervision and resilience, including by: enhancing resilience of individual financial institutions and insurers, maintaining systemic financial stability, informing prudential regulation, conducting financial system oversight, and adapting disclosure requirements.

As such, we refer to them as *Financial Supervision and Resilience Scenarios* (FSRS). By simulating a range of potential futures – including orderly and disorderly transitions – FSRS are designed to identify systemic risks, and promote transparency around exposures to environment-related vulnerabilities.

While these scenarios have become valuable tools for Central Banks in fulfilling their supervisory and stability mandates, they are not specifically designed for the needs of MoFs (see Box 3). Rather than focusing on financial risks for private financial institutions, MoFs are responsible for overseeing public finances: fiscal policy,

public investment, and broader macroeconomic management. They are therefore better served by scenario frameworks that are tailored to support strategic planning, budgeting, and policy appraisal. As climate and nature risks increasingly influence national economic outcomes, such scenarios can be particularly useful to inform their distinct decision-making and planning processes.

[9] <https://www.ngfs.net/ngfs-scenarios-portal/>

## Box 3: Lessons from Financial Supervision and Resilience Scenarios (FSRS) – Key Considerations for Scenario Analysis by Ministries of Finance

FSRS, such as those developed by the NGFS, have significantly advanced the integration of climate risk into financial sector oversight (Monasterolo *et al.* 2023; Taeger 2025). They provide structured approaches for assessing both physical and transition climate risks within the financial system. However, several considerations arise when reflecting on what Ministries of Finance may require from scenario analysis:

- **Intended Users:** The intended use of FSRS includes not only central banks but also, and importantly, private financial corporations and organizations, to support them in assessing and disclosing climate-related risks. The intention is to provide a tool to facilitate informed investment choices and limit the buildup of climate-related systemic risk. This can be contrasted with MoFs, whose scenarios would need to be tailored to public interest, including macro-fiscal strategy, budgeting, structural transformation, and alignment with national development goals.
- **Policy Representation and Assumptions:** FSRS are primarily constructed for global comparability and standardized policy assumptions, often centered on carbon pricing as a shadow price representative of climate action as a whole. While they are valuable for exploring high-level transition and physical risk, they provide only stylized policy representation and are not designed to reflect the diversity of policy instruments used in practice, national contexts, or the distributional and fiscal implications that are crucial for Ministries of Finance.
- **Position in the Policy Cycle:** FSRS comes much later in the policy-cycle (Figure 3). They are used to assess the stability and functioning of the existing macro-financial system once policies (or their absence) have been decided and implemented. Focus is thus placed well after major policy options have already been set. For MoFs, scenario tools must inform policy design and assessment (e.g., agenda setting and policy formulation), where critical choices about fiscal frameworks, investment priorities, and trade-offs are made.
- **Analytical Granularity and Coverage:** FSRS have been provided with a granularity suited to risk assessment and financial stability oversight, but not comprehensive fiscal or macroeconomic policy analysis. The granularity and focus needed to evaluate specific fiscal measures, sectoral pathways, or the impact of cross-border spillovers is greater and different, requiring information on policy instruments, government expenditure and revenues, and macro-sectoral structure and stocks of debts and assets.
- **Focus of Analysis:** Overall, the focus of FSRS is on financial risk assessment and financial supervision for banking and the financial system as a whole. For MoFs, the required focus is on structural transformation, jobs, public investment, economic growth and debt and expenditure management, and the global macro-financial context in which decisions are made.

# **4. CNEPS: Towards A new generation of scenario tools for Ministries of Finance and Public Development Banks**

While MoFs have not extensively engaged in the use of scenarios for environmental policy-making and planning, they can nevertheless become a key pillar of the post-COP30 implementation agenda. We refer to these types of scenarios as *Climate and Nature Economic Policy Scenarios* (CNEPS).

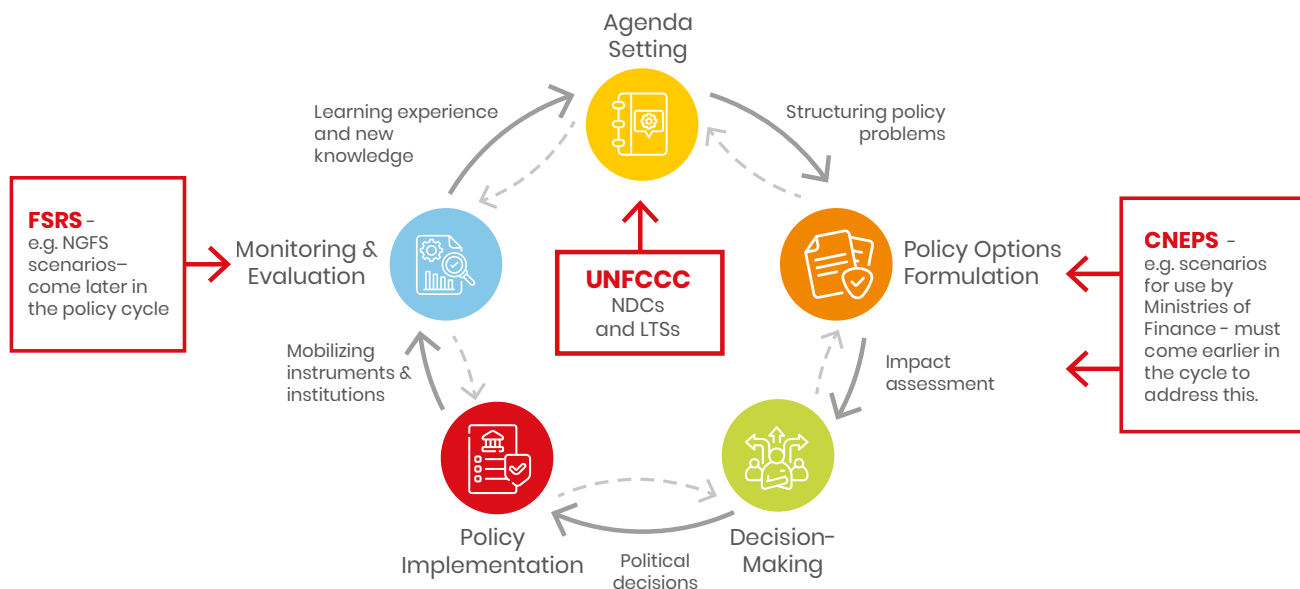
CNEPS are scenarios designed to provide MoFs with an analytical framework that connects macroeconomic planning, fiscal policy, and environmental objectives. They support governments in exploring how different policy mixes – ranging from ambitious climate action to business-as-usual – might play out in a rapidly changing and uncertain global context. Through scenario analysis, MoFs can move beyond static assessments and instead consider a spectrum of plausible futures, assessing the implications for growth, stability, competitiveness, and resilience.<sup>[10]</sup>

[10] Exploratory scenarios explore ranges of plausible futures to establish limit cases and assess risks for extreme situations, and to set up a policy agenda and define relevant targets. Intervention scenarios anticipate the outcomes of different possible approaches so that policymakers can adapt strategies to local and national contexts, thereby enhancing the policy's relevance and efficacy. By examining potential synergies and trade-offs among macroeconomic, social and ecological ambitions, climate macroeconomic scenarios would offer practical frameworks to help Ministries of Finance shape tailor-made transition pathways and support informed decision-making.

In short, they aim to fully integrate the challenges of climate change and nature loss into the broader process of macroeconomic policy assessments that MoFs already run to forecast fiscal, financial and structural change trajectories.

CNEPS can also fill some of the gaps left by FSRS for MoFs (Box 2; Annex 2). For example, CNEPS arrive earlier in the policy cycle, allowing for proactive planning (Figure 3). They also help structure problems, formulate policy options, and appraise the fiscal and macroeconomic consequences of specific interventions in line with MoFs' needs. By focusing on country relevance, cross-institutional collaboration, and actionable scenario design, CNEPS can provide the analytical basis and shared language needed for ministries to proactively navigate climate and nature risks within broader economic strategies. While FSRS remain essential for financial supervisors, and the financial sector in general, CNEPS are positioned to meet the practical and strategic needs of MoFs (and Public Development Banks, when relevant) in a turbulent and interconnected world.

Figure 3 - The policy cycle and the importance of early action for MoFs



#### **4.1 – Maximizing the efficacy of CNEPS: Exploring plausible extremes and policy mixes reflecting different global, regional and national pathways**

To maximize their utility, CNEPS should serve at least two main functions: First, they should be able to assess the risk landscape in which MoFs operate, including what originates from the global macro-financial context and from policy decisions of other nations. Second, they should be able to assess the plausible outcomes of government policies.

To achieve the former, CNEPS must define a set of shared plausible narratives that reflect global “extreme” situations – such as climate disasters, reaching various environmental “tipping points”, mechanisms of macro-financial disorder such as inflation or global commodity price instability, fragmentation of trade, and “black swan” events such as disruptive innovation, pandemics or regional conflict. These narratives could be shared between several MoFs in order to create a common language and foster collaboration to address common challenges.

To achieve the latter, MoFs can use scenario analysis to explore how their specific country can navigate challenges and achieve national objectives. This process requires careful identifying both political constraints (Box 4) and practical needs. For example, MoFs will need to identify key data sources, while also recognizing and addressing gaps in coverage or quality. Scenario narratives can then be constructed to capture economic variables alongside biophysical, social, and political uncertainties, providing a richer and more realistic basis for planning.

Once developed, these scenarios serve as a platform to rigorously assess policy options. MoFs can test the outcomes of different fiscal, monetary, and structural policy mixes by simulating

how investment strategies, regulatory reforms, or tax changes might perform under varying future conditions. This allows policymakers to identify robust responses that are likely to succeed across a wide range of scenarios, while gaining clearer insight into the risks of inaction or misalignment.

Moreover, scenarios offer an opportunity to bridge collaborations between MoFs, Central Banks and Public Development Banks. By engaging with these and other partners in joint scenario-building, MoFs can explore plausible future pathways, test policy ideas, and better anticipate cross-institutional dependencies.<sup>[11]</sup> This can help identify where fiscal, monetary, and investment strategies might reinforce (or counteract) one another, and where further dialogue or adaptation is needed.

[11] While scenario development offers an opportunity to clarify policy options and make opportunities for coordination and trade-offs more transparent, they are never fully neutral or purely technical. The choice of participants, the setting of boundaries, and the assumptions selected inevitably reflect underlying power dynamics. The scenario building process is inevitably influenced by institutional hierarchies, competing mandates, and political bargaining. These must be negotiated within and between ministries, different levels of government, and academic or international partners. For scenario-based approaches to meaningfully support fiscal strategy and public accountability, they can explicitly address who convenes, who arbitrates disagreements, and which assumptions are privileged. CNEPS can be built around transparent and participatory methods that deliberately generate opportunities for contestation to strengthen both their credibility and legitimacy. Additionally, by developing structured methods for negotiation and dispute settlement, scenario processes can help ministries and stakeholders negotiate trade-offs, clarify non-negotiables, and identify where true consensus (or necessary compromise) is possible.

## Box 4: Political feasibility and distributional risk in scenario assessment

MoFs operate under binding fiscal, social, and political constraints that shape what policies are feasible in practice. CNEPS should therefore explicitly incorporate political feasibility and distributional considerations as core elements of scenario design and interpretation. This implies recognizing that fiscal space is constrained, adjustment costs are unevenly distributed across households, sectors, and regions, and policy choices are made in environments where short-term pressures often dominate long-term objectives (de Paula *et al.* 2024).

These constraints are likely to intensify. Fiscal pressures and debt burdens are already binding for many MoFs and are expected to grow as climate change and nature loss increase both expenditures and borrowing costs (Songwe *et al.* 2024; Sun *et al.* 2023). In this context, governments may have limited capacity to move beyond reactive or emergency responses, reinforcing the need for tools that can clarify trade-offs and support more strategic decision-making.

Importantly, CNEPS are not designed to identify theoretically optimal or welfare-maximizing pathways. Rather, their value lies in supporting defensible decisions that remain credible and implementable under real-world constraints. By clarifying trade-offs, sequencing options, and distributional impacts across plausible futures, they help MoFs design policy strategies that balance ambition with feasibility.

CNEPS can help address these challenges in several ways:

- First, they help clarify why policy space is constrained and where it may be expanded – through institutional reforms, new financing sources, debt restructuring, or coordinated international support.
- Second, they make otherwise hidden fiscal risks and opportunities visible. By quantifying the macro-fiscal implications of delayed action – such as higher disaster-related expenditures, loss of revenue bases, rising debt burdens, or stranded public investments – CNEPS help MoFs articulate the costs of inaction that are typically diffuse, uncertain, and politically invisible.
- Third, they enable policymakers to compare short-term adjustment costs (e.g., higher energy prices, subsidy reforms or reallocations of public spending) with longer-term gains or losses, including impacts on fiscal stability, growth, and vulnerability to shocks.

Taken together, these functions allow scenarios to move beyond risk identification toward supporting concrete policy choices. By making constraints, trade-offs, and timing more explicit, they help Ministries of Finance prioritize actions, sequence reforms, and identify policy mixes that remain viable under different future conditions.

Over time, this more structured approach to decision-making can also open space for more ambitious strategies. By comparing business-as-usual and alternative pathways, scenarios help identify where incremental adjustments may be insufficient and where more structural shifts – such as changes in investment strategies, fiscal frameworks, or financing models – may be required. At the international level, for example, they can support engagement in global fora by underpinning discussions on debt sustainability, concessional finance, and the need for reforms to the international financial architecture.

# **5. Coordinating scenario exercises: Linking scales and institutions**

## 5.1 – Scenarios as a Bridge: Connecting Global, Regional, and National Realities

Creating scenarios with shared principles and narratives, yet adapted to diverse fiscal and institutional contexts, can offer practical value for MoFs. While each country’s vision of the future will necessarily reflect its own circumstances and strategic interests, comparable scenario exercises – at global, regional, and national levels – can serve as useful reference points and coordination tools between MoFs and other stakeholders. MoFs can use shared global scenarios for coordinating with development banks or regional partners, engaging and attracting cross-border investment, or participating in international negotiations.

The main interest in using shared or aligned scenarios is not to impose a single vision of the future or to force consensus where fundamental differences exist – such as between countries with diverging economic models or geopolitical outlooks. Rather, such scenarios help to establish a common language and set of reference assumptions that MoFs can use to communicate more effectively with partners, benchmark progress, and clarify how

diverse “external” shocks (from trade, finance, or climate events) might propagate across borders. For example, standardized global frameworks and assumptions, such as those of the NGFS or the IPCC, allow countries to compare results, align high-level assumptions, and enhance coherence across diverse national efforts.

As can be seen in Figure 4, they also serve as necessary complements to regional and national analysis. Indeed, regional and national developments do not happen in a vacuum. Geopolitical conflict, changes in the US trade and monetary policy, global recessions, and supply chain disruptions originating in other countries are significant drivers of macro-financial dynamics. Moreover, international shocks – like commodity price swings or supply chain disruptions – can have large macro-fiscal impacts. A recent European Central Bank (ECB) report suggests that indirect impacts from climate events in other countries – such as trade-related spillovers – can magnify domestic losses by up to 30-fold (Fahr *et al.* 2023). National macroeconomic policy and planning can therefore be significantly improved by considering potential global futures in which national and regional economies evolve.

Figure 4 – Linking global, regional and national scenarios for enhanced coordination and planning

### Global scenarios

- Establish a shared language & common reference point for discussing risks & policy responses at the international scale
- Enable international comparability, enhancing coherence across country-efforts
- Help align high-level assumptions – e.g., clear “external” exposures needed for regional / local scenarios

### Regional scenarios

- Fill the gap between broad global outlooks and specific national circumstances
- Essential where regional coordination is needed (e.g., regional trading blocs or shared resource markets)
- Help identify shared vulnerabilities (e.g., economic structure, commodity prices, exposure to common risks) and opportunities
- Analytical framework for shared understanding and policy coordination

### National / Local scenarios

- Tailored to each country’s unique development priorities, NDCs, LTSs, etc.
- Can directly inform risk assessment and test the feasibility (fiscal, financial, etc.) of specific policies and plans (e.g., Mongolia’s 10-yr plan, Brazil’s ETF)
- Useful for concrete policy design & identifying gaps/risks not be visible at the global or regional scale

Regional scenarios bridge the gap between global outlooks and specific national circumstances. They are particularly valuable for countries in shared commodity markets, regional trading blocs, or facing common risks. Regional coordination on scenarios could enable countries to identify shared vulnerabilities and opportunities, create a common analytical framework, and coordinate policies in response to economic structure, commodity price exposure, or climate risk. These scenarios are most effective when developed as part of region-specific consultations and dialogue, enabling a shared understanding of regional development pathways and institutional dynamics.

At the national level, scenarios can be tailored to each country's priorities and constraints – supporting more granular fiscal planning, stakeholder engagement, and fine-tuning of policy instruments – including NDCs, Long-Term Strategies (LTS) and sectoral or subnational policies. They directly inform fiscal, financial, and practical feasibility assessments of specific plans and policies, stress-testing national strategies against plausible shocks. Crucially, these approaches must be grounded in each country's institutional and social context. National scenario analysis can inform agenda setting, stakeholder dialogue, and the fine-tuning of policies that may not be visible – or actionable – at the global or regional scale.

While global scenarios offer a useful common frame of reference, national and local scenario exercises often reveal context-specific dynamics, emerging risks, and policy priorities that may not be visible from a global vantage point. Lessons learned through country-level analysis (e.g., key variables, political economy and policy constraints, etc.) can also be used to inform the evolution of global scenarios, helping to fine-tune underlying assumptions and harmonize methodologies where appropriate. In this way, the scenario process becomes a feedback loop: national and local insights enrich global frameworks, while global scenarios provide a common language and benchmark for national adaptation. This iterative exchange strengthens the relevance, credibility, and practical value of scenario analysis for MoFs and their partners at every level.

The elaboration and governance of these scenarios can be done in coordination to maximize synergies and cross-learning. For example, MoFs can coordinate at the global level through existing coalitions, within regional coalitions, or among relevant line ministries (e.g., Ministry of Environment, Ministry of Agriculture, etc.) within their own countries. This multi-level, coordinated approach can support MoFs to design robust, credible, and implementable policies, ensuring economic and financial strategies are both internationally aligned and locally relevant.

## **5.2 – Strengthening institutional coordination on scenarios for effective policymaking**

Effective implementation of CNEPS depends on robust linkages – both domestically and internationally – between MoFs, Central Banks, Public Development Banks, and a range of other financial and policy actors. The development and use of such scenarios is therefore best approached as a collaborative and cross-institutional process.

At the domestic level, MoFs can use scenarios to anchor coordination across institutions. Engagement with Central Banks helps align assumptions on inflation, interest rates, and financial stability, while Public Development Banks can translate scenario priorities into investment pipelines and risk-sharing instruments. Coordination with line ministries ensures that sectoral strategies (e.g. energy, agriculture, infrastructure) are consistent with macro-fiscal constraints and long-term transition objectives. In this way, scenarios provide a shared analytical framework to reduce policy fragmentation and improve cross-government coherence.

At the international level, coordinated scenario exercises can strengthen collective engagement with multilateral development banks, climate funds, donors, and private investors. Credible, Ministry-owned scenarios help articulate risks, policy choices, and financing needs in a consistent manner. In doing so, they can improve access to concessional finance and reinforce the credibility of national

strategies. They also support alignment between domestic priorities and international frameworks.

Scenario-based coordination can further enhance participation in international policy discussions. Platforms such as regional coalitions and global forums (e.g. CFMCA, COP30 Circle of Finance Ministers) facilitate peer learning, standard-setting, and the gradual harmonization of assumptions underpinning scenario exercises. In a fragmented global context, such collaboration helps build a shared analytical language for assessing climate and nature risks.

These forums also provide an avenue for MoFs to engage in debates on debt, concessionality, and the global financial architecture. By making explicit how climate and nature risks interact with fiscal constraints and debt dynamics, scenarios offer an evidence base to support discussions on financing terms, policy space, and potential reforms. In contexts of tight fiscal constraints, CNEPS can thus serve both as tools for domestic planning and as analytical support for more effective international engagement, helping make visible the macro-fiscal consequences of inaction, while simultaneously supporting the case for a more equitable global financial system.

Ultimately, CNEPS are most effective when they create linkages across institutions and scales – connecting domestic policy processes with international engagement, and aligning macroeconomic strategy with investment and financial flows. Strengthening these coordination mechanisms allows MoFs not only to improve policy coherence at home, but also to engage more effectively in shaping the evolving global response to climate and nature challenges.

# 6. Policy Recommendations for Ministries of Finance

The analysis developed here suggests that MoFs can no longer treat climate and nature issues as peripheral environmental concerns or as matters to be handled exclusively by line ministries, central banks, or international financial institutions. Climate and nature risks shape growth prospects, fiscal stability, debt dynamics, inflationary pressures, public investment needs, and the overall feasibility of national development strategies. In this context, CNEPS can help MoFs respond to diverse challenges by providing a practical framework to assess risks, compare policy options, sequence reforms, and coordinate action across institutions and scales.

Based on these findings, we offer a set of five practical recommendations for MoFs. These suggestions can allow MoFs to progressively embed scenario-based approaches into macro-fiscal decision-making, while adapting to different levels of analytical capacity, fiscal space, and institutional maturity. Together, they aim to support a shift from *ad hoc* or externally driven climate analysis toward a more strategic, MoFs-owned approach to managing uncertainty, investment, and structural transformation.

### **6.1 – Integrate climate and nature scenario analysis into core macro-fiscal processes**

The first priority for MoFs is to move climate and nature analysis out of the margins of policy debate and into the core routines of fiscal and macroeconomic management. Scenario exercises risk remaining marginal when they rely on (i) scarce and highly specialized modelling skills that cannot be sustained within MoFs, (ii) when they are driven primarily by external partners rather than owned and steered by MoFs themselves, or (iii) when they operate outside routine budget, fiscal, and investment cycles. CNEPS should therefore not be approached as a stand-alone technical exercise or a one-off analytical product. Rather, their effectiveness depends on being treated as an institutional process – embedded in existing workflows, aligned with MoFs mandates and capacities, and designed to progressively strengthen internal or local academic skills, coordination, and decision routines over time.

This means progressively embedding scenario analysis into the instruments that already structure everyday decision-making: macroeconomic forecasting, annual budget preparation, medium-term fiscal frameworks, fiscal risk statements, debt sustainability analysis, and public investment planning. The value of CNEPS lies precisely in their ability to connect long-term environmental pressures and transition dynamics to the fiscal choices Ministries must make today. Scenario exercises can clarify public investment priorities, test the fiscal and debt implications of shocks, and improve policy coherence under uncertainty.

In practice, this implies that Ministries should treat scenarios not as stand-alone studies, but as extensions of existing planning tools. For example, annual budget processes can be informed by short- to medium-term scenario narratives that make explicit how climate shocks, adaptation needs, or external price shocks may affect expenditures and revenues. Medium-term fiscal frameworks can incorporate alternative growth, debt, and fiscal paths under different climate, trade, or geopolitical conditions. Debt sustainability analysis can be strengthened by integrating climate and nature risks into debt trajectories, rather than assuming that shocks are rare or exogenous anomalies. The point is not to replace familiar fiscal instruments, but to make them more robust by explicitly accounting for the drivers of uncertainty that are becoming increasingly macro-critical.

Moreover, MoFs could assign institutional responsibility to a specific macro-fiscal or strategy unit, establishing recurring links with the budget and debt teams, building annual or biennial scenario review cycles, and ensuring that lessons are captured and shared across departments. It also means treating pilots as the beginning of a longer institutional journey rather than as isolated innovations. Over time, this can shift the Ministry from reactive crisis management toward a more anticipatory and strategic mode of policymaking – one better suited to a world of cascading environmental, financial, and geopolitical risks.

## **6.2 – Become scenario-makers, not just scenario-takers**

A central lesson of the paper is that MoFs should avoid relying exclusively on scenarios developed externally by other institutions. While existing global scenarios remain useful reference points, they are often built for different users and purposes. Scenarios built for central banks dedicated to financial supervision, for example, may not adequately reflect the timeframe, policy questions, institutional realities, and constraints faced by MoFs.

When Ministries rely only on externally generated scenarios, they remain “scenario-takers,” adopting predefined assumptions on technology, financing, or shocks that may not align with their national priorities. CNEPS aim to reverse this relationship by enabling Ministries to become “scenario-makers,” capable of shaping the assumptions, narratives, and policy pathways that matter for their own economies.

This requires a deliberate commitment to co-construction. Ministries should organize scenario processes that involve the relevant domestic institutions – including line ministries, public development banks, planning bodies, and where appropriate central banks – as well as regional and international partners. Such co-construction helps ensure that scenarios reflect country-specific exposure patterns, fiscal structures, sectoral dependencies, and political constraints. It also creates shared ownership over the results, making them more likely to inform actual policy choices. In this sense, the process of building scenarios is almost as important as the scenario outputs themselves: it can strengthen institutional understanding, improve coordination, and create a common language for discussing long-term risks and policy trade-offs.

## **6.3 – Place greater emphasis on tail risks, systemic shocks, and tipping dynamics**

Traditional macroeconomic analysis often focuses on central forecasts and marginal deviations from baseline projections. However, climate change and ecological degradation, alongside geopolitical conflict, introduce the possibility of non-linear dynamics, cascading shocks, and low-probability but high-impact events.

Scenario exercises for MoFs should therefore explicitly explore tail risks, including extreme climate events, sudden technological disruptions, abrupt geoeconomic shifts, or tipping points in physical and socio-economic systems. Rather than attempting to predict such events precisely, scenarios can treat them as structured stressors that test the resilience of fiscal strategies and policy frameworks.

By examining how fiscal balances, debt trajectories, and investment plans perform under extreme but plausible conditions, MoFs can better prepare for systemic shocks and avoid policy strategies that appear sustainable only under overly stable assumptions.

## **6.4 – Move beyond risks to assess policy mixes, sequencing, and trade-offs**

The purpose of CNEPS is not simply to map hazards or identify vulnerabilities. Their real value lies in supporting decisions. In particular, scenarios can help MoFs compare the macro-fiscal implications of different policy mixes and identify which interventions remain robust across multiple plausible futures. This is important because many of the challenges Ministries now face – financing adaptation, managing debt under climate stress, supporting industrial transformation, phasing out harmful subsidies, mobilizing investment, or responding to external fragmentation – cannot be addressed through one policy instrument alone. They require combinations of fiscal, regulatory, social, and investment measures that interact over time.

Scenario exercises should therefore be explicitly used to test combinations of policies rather than isolated reforms. For example, Ministries can use them to compare (under different shocks), whether a strategy centered on fossil fuel subsidy reform plus targeted social protection performs better than broad energy subsidies; or whether front-loading adaptation investment is fiscally preferable to repeated post-disaster spending. Scenarios help Ministries compare visible short-term adjustment costs with less visible but potentially much larger long-term costs of inaction, including rising debt burdens, stranded public investments, lower growth potential, and greater exposure to shocks. This ability to make hidden future costs legible is one of the strongest policy arguments for scenario use.

### **6.5 – Strengthen coordination with central banks, public development banks, and line ministries**

The institutional ecosystem around MoFs matters. Effective scenario-building depends on robust linkages between Ministries, central banks, public development banks, and line ministries. These institutions have different mandates, but their decisions have shared effects. Central banks shape financial conditions, inflation, and prudential responses; public development banks influence investment pipelines, concessional finance, and project execution; line ministries control sectoral policies that drive emissions, adaptation, and infrastructure needs. If scenarios are to inform meaningful policy, these actors cannot work in parallel silos.

MoFs should therefore establish structured coordination mechanisms around scenarios. At the domestic level, this can include technical working groups, and regular dialogue on how fiscal, monetary, and investment strategies interact. Public development banks, in particular, should be integrated into scenario discussions so that sovereign strategies are linked to financing instruments, guarantees, portfolio priorities, and crowding-in mechanisms for private capital. Line

ministries – particularly Ministries of Environment, Energy, and Agriculture – should be brought in early enough to ensure that scenario assumptions about sector transitions, adaptation needs, or technology deployment are grounded in policy and implementation realities. Properly organized, this collaboration can help turn CNEPS into a bridge between macroeconomic strategy and real-economy action.

### **6.6 – Develop regional and cross-border scenario cooperation where risks are shared**

Many of the risks facing MoFs are not purely national. Trade spillovers, food price shocks, droughts, hydropower disruptions, transport bottlenecks, migration pressures, and cross-border investment dynamics increasingly generate synchronized fiscal pressures across countries. These are intensified in an era of increasing geopolitical conflict and fragmentation.

In such contexts, national scenario exercises are necessary but insufficient. Ministries also need regional scenario frameworks that help them understand spillovers, shared vulnerabilities, and opportunities for coordinated action.

To meet this challenge head-on, MoFs can develop national scenarios alongside regional and global scenarios. Ideally, these can be done in cooperation with other regional partner countries. This does not mean harmonizing all national analyses. Rather, it means coordinating on shared narratives, common external assumptions, and region-specific stressors such as multi-country droughts, trade disruptions, or energy shocks. Regional CNEPS can potentially improve the prioritization of cross-border investments, reduce policy misalignment, and strengthen countries' collective negotiating power in climate finance, trade, and debt discussions. They can also serve as reference points for regional development banks and infrastructure platforms. Ministries should use existing regional coalitions and forums as anchors for this work rather than creating entirely new structures.

# 7. Conclusion

COP30 marked a decisive turning point for MoFs, placing climate and nature risks at the center of economic management and fiscal strategy. In a world of accelerating environmental change, financial volatility, and geopolitical uncertainty, MoFs may need to look beyond traditional policy tools to effectively meet the challenges of the 21<sup>st</sup> century. Scenario analysis – especially when tailored to the distinct needs and mandates of MoFs – offers a way forward: enabling governments to anticipate shocks, stress-test policies, and chart resilient, credible pathways for sustainable development.

This policy paper has suggested that the development and mainstreaming of CNEPS can help close the gap between ambition and implementation, providing MoFs with a practical toolkit for strategic planning, fiscal appraisal, and risk management for a new era. Importantly, this is not a purely technical exercise. As with other areas of public policy, analytical tools and policy frameworks tend to evolve together. Strengthening the capacity of MoFs to engage with scenarios can therefore contribute not only to better risk assessment, but also to more informed debates on fiscal priorities, investment strategies, and the sequencing of reforms. In this sense, scenario exercises can serve as a bridge between technical analysis and strategic decision-making.

CNEPS also serve as an opportunity for stronger institutional coordination. Climate and nature challenges cut across sectors, time horizons, and levels of governance, requiring closer interaction between MoFs, central banks, development banks, and other public actors. Scenario-based approaches – particularly when developed collaboratively across countries and institutions – can create shared reference points, improve comparability, and support more effective engagement with international partners. By fostering coordination across scales, they provide a common framework for navigating complexity and aligning domestic and international action.

Ultimately, integrating these perspectives into macro-fiscal policymaking is less about adopting a new set of tools than about progressively reshaping how uncertainty, risk, and structural change are understood and managed. This transition will necessarily be gradual and uneven, reflecting differences in institutional capacity and policy priorities. However, it represents an increasingly important step for MoFs seeking to navigate a more complex, uncertain, and rapidly evolving global context.

Looking ahead, the next phase of the CNEPS agenda is to move from conceptualization to practical testing. MoFs, development banks, and their partners are encouraged to launch pilot scenario-building exercises at both national and regional levels, tailored to local needs and capacities. In this spirit, the AFD plans to initiate pilot CNEPS projects with a handful of select “champion countries” beginning in early-to-mid 2026, working closely with government counterparts and regional partners. These pilots will provide invaluable feedback, foster peer learning, and contribute to the gradual standardization and scaling of CNEPS methodologies for broader use. By sharing lessons and results through international platforms, early adopters can help catalyze a new generation of scenario-driven macro-fiscal policy for climate and nature resilience.

As governments move to deliver on the commitments of COP30 and beyond, investing in scenario capacity and cross-institutional cooperation will be essential. MoFs, supported by Development Banks and Financial Authorities, have a unique opportunity to lead a new era of macroeconomic resilience – aligning fiscal policy with climate, nature, and development goals for the benefit of future generations.

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# Abbreviations

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<b>ADB</b>	Asian Development Bank
<b>AFB</b>	<i>Agence Française de Développement</i>
<b>AISESA</b>	African Institute for Sustainability, Energy and Sustainable Development
<b>AMRO</b>	ASEAN+3 Macroeconomic Research Office
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>CAREC</b>	Regional Environmental Centre for Central Asia
<b>CBs</b>	Central Banks
<b>CFMCA</b>	Coalition of Finance Ministers for Climate Action
<b>CNEPS</b>	Climate and Nature Economic Policy Scenarios
<b>COP</b>	Conference of the Parties
<b>COP30</b>	30 <sup>th</sup> Conference of the Parties to the UNFCCC
<b>DSA</b>	Debt Sustainability Analysis
<b>ECB</b>	European Central Bank
<b>ETF</b>	Exchange-Traded Fund
<b>FICS</b>	Finance in Common Summit
<b>FSRS</b>	Financial Supervision and Resilience Scenarios
<b>GDP</b>	Gross Domestic Product
<b>IADB / IDB</b>	Inter-American Development Bank
<b>IMF</b>	International Monetary Fund
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LNG</b>	Liquefied Natural Gas
<b>LTS</b>	Long-Term Strategies
<b>MDBs</b>	Multilateral Development Banks
<b>MoF / MoFs</b>	Ministry / Ministries of Finance
<b>MTFF</b>	Medium-Term Fiscal Framework
<b>NBSAPs</b>	National Biodiversity Strategies and Action Plans
<b>NDCs</b>	Nationally Determined Contributions
<b>NGFS</b>	Network for Greening the Financial System
<b>OECD</b>	Organization for Economic Co-operation and Development
<b>PDB / PDBs</b>	Public Development Bank(s)
<b>PIMA</b>	Public Investment Management Assessment
<b>PMF</b>	Public Financial Management
<b>SDGs</b>	Sustainable Development Goals
<b>TFFF</b>	Tropical Forests Forever Facility
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNECA</b>	United Nations Economic Commission for Africa
<b>WRI</b>	World Resources Institute

# Annex

## Annex 1: Global and Regional Finance Ministry Platforms

Annex Table 1 – Landscape of Global and Regional Finance Ministry Climate Platforms

Coverage	Platform / Coalition	Year Created	Member Countries / Region	Key Leading Countries / Chairs	Representation Level	Core Mandates / Focus	Secretariat / Supporting Institution (location)
Global	<b>Coalition of Finance Ministers for Climate Action (CFMCA)</b>	2019	100+ countries, global	Rotating co-chairs (Netherlands & Uganda)	Ministers / deputies / envoys	Support finance ministries in aligning fiscal and macroeconomic policy with Helsinki Principles. Strengthen capacity and peer learning, integrate climate & nature into public finance and macroeconomic management.	World Bank & IMF (Washington DC)
	<b>COP30 Circle of Finance Ministers</b>	2025	35+ countries, global	Rotating (Brazil)	Ministers	Steer implementation of climate finance agenda, Baku–Belém roadmap.	COP30 Host Ministry (Brasilia)
	<b>Pact for People, Planet &amp; Prosperity (4P)</b>	2024	70+ countries, global	N/A	Ministers / envoys	Accelerate efforts and build political momentum toward a renewal of the international financing architecture to promote a more inclusive global governance system and contribute to achieve greater ambition to close the Sustainable Development Goals financing gap.	OECD (Paris)
Regional	<b>Regional Climate Change Platform of Economy and Finance Ministries of Latin America and the Caribbean</b>	2022	26 Latin American and Caribbean countries	Rotating (Brazil 2025–26)	Ministers / deputies	Advancing fiscal and economic policies capable of turning climate challenges into opportunities for sustainable growth.	IDB (Washington DC)

Coverage	Platform/ Coalition	Year Created	Member Countries / Region	Key Leading Countries/ Chairs	Representation Level	Core Mandates / Focus	Secretariat / Supporting Institution (location)
Regional	<b>Africa Platform of Finance Ministers for Climate Action</b>	2025	African countries (formal launch in 2026)	TBA	Ministers / deputies	Support regional coordination and peer learning to enhance climate and nature policy across African member countries.	TBA
	<b>ASEAN Climate Finance Policy Platform</b>	2024	10 ASEAN countries	Rotating (Lao PDR 2024)	Ministers	Support finance ministries across Southeast Asia in taking a leading role in the battle against climate change. Equip finance ministries with the tools and knowledge they need to drive and sustain climate initiatives. Facilitate policy dialogues, knowledge exchange, and specialized training tailored to the needs of ASEAN finance ministries.	ADB (Manila)
	<b>Eurogroup (Green Transition Focus)</b>	2021	19–20 euro area countries	Eurogroup president (Ireland)	Ministers	Includes macroeconomic policy for green transition.	Eurogroup Secretariat (Brussels)
	<b>The Regional Environmental Centre For Central Asia (CAREC)</b>	2001	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan	TBA	Ministers / deputies	Assist Central Asian governments, regional and international stakeholders in addressing environmental and sustainability challenges across Central Asian region and Afghanistan.	CAREC (Almaty)

## Annex 2: Differentiating between FSRS and CNEPS

Annex Table 2 – Comparing Scenario Approaches: FSRS vs CNEPS

Category	FSRS	CNEPS	Why the Difference Matters for Ministries of Finance
<b>Who?</b>	Central banks, supervisors, private banks, asset managers, insurers	Ministries of Finance, PDBs, line ministries, regional partners	<i>Reflects different mandates:</i> Central banks focus on financial stability; MoFs focus on planning, budgeting, investment, and economic development. CNEPS are macro-fiscal tools for strategy and policy, not just risk regulation. Whole-of-government resilience improves when scenarios inform policy design.
<b>Purpose</b>	Ensure financial system stability and regulatory preparedness; identify systemic risks; guide prudential regulation, stress-testing, disclosure	Help MoFs anticipate fiscal pressures, identify robust policy mixes, unlock climate finance, and align national priorities; support macroeconomic strategy, fiscal policy, and public investment planning	NGFS assesses risks to the financial system; CNEPS assess how policy choices shape macro-fiscal outcomes, sector transitions, and investment needs.
<b>Questions Addressed</b>	How might climate/nature risks affect the stability of banks, insurers, and supervised institutions?	How do climate/nature pathways affect fiscal balance, growth, debt, jobs, competitiveness, public investment, and national targets?	CNEPS connect macro-fiscal outcomes to policy and investment decisions rather than focus on risks to private asset values.
<b>Policy</b>	Based on uniform global assumptions; limited representation of real-world policy mixes	Incorporates national budgets, investment programs, regulatory tools, tax/subsidy reform, and social-protection considerations	MoFs need context-specific policy realism, not abstract global carbon-price pathways.
<b>Analytical Granularity</b>	Detailed on financial exposures, credit risk, market stress; limited fiscal or sectoral granularity	Detailed on revenues, expenditures, debt, sector pathways, spillovers, employment, competitiveness, and investment requirements	MoFs require fiscal and structural detail to evaluate reforms, spending, financing needs, and economic transformation.
<b>Scenario Structure</b>	Standardized global pathways (often IPCC-based); stylized policy assumptions (carbon price as main proxy); emphasis on financial variables and shocks	Flexible; exploratory or intervention-based; tailored to national context; integrates policy mixes, fiscal instruments, distributional impacts, investment, and development priorities	MoFs need scenarios that reflect actual policy instruments and national conditions. NGFS is too stylized to evaluate specific fiscal reforms, public investment programs, or social impacts.

Category	FSRS	CNEPS	Why the Difference Matters for Ministries of Finance
<b>Policy Cycle Position</b>	Late-cycle: monitoring, evaluation, supervisory review, risk disclosure	Early-cycle: problem structuring, policy options formulation, policy appraisal, strategic planning	CNEPS intervene at the stage where policy is shaped, sequenced, and costed. Risk-based tools apply after policies already exist, to test system resilience, not to design strategy.
<b>Time Horizon</b>	Short ≈5 years and very long-term to 2100; aligned with portfolio risk assessment and physical risk trends	Short (1–2 years, budget cycles), medium (3–10 years, fiscal and sector strategies), long (10–30 years, structural transformation)	MoF horizons follow budgetary and fiscal cycles and long-term planning and investment needs; CB horizons are geared to risks on private balance sheets.



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**Publishing Director** Christophe Lecourtier  
**Editor-in-Chief** Thomas Mélonio  
**Graphic creation** MeMo, Juliegilles, D. Cazeils  
**Design and creation** eDeo-design.com

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**Legal deposit** 2<sup>nd</sup> quarter 2026

**ISSN** 2680-7416 | **digital ISSN** 2741-759X

Printed by AFD's reprography service

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