Weekly Summary

Economics of Climate Change

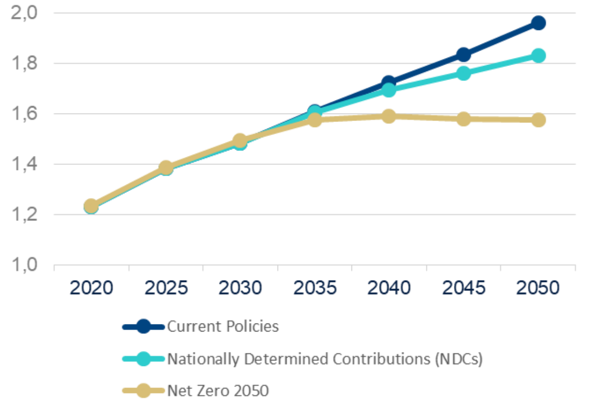
March 15, 2024

Is Adaptation to Climate Physical Risks a Financing Opportunity? Unlocking is still Pending

Adaptation to accelerated climate change is imperative, which can be an opportunity for sustainable financing from the private sector if the conditions are in place. It remains to be seen.

Adaptation efforts are needed to prepare societies for the unavoidable impacts of climate change. Temperature increase caused by the accumulation of greenhouse gasses (GHG) in the atmosphere is highly inertial in the short term because it is marginally responsive to changes in emission flows. According to the NGFS, there is virtually no difference until 2045-50 between maintaining current climate policies or aligning them with the Nationally Determined Contributions, a shift that falls within the realm of feasibility but it's not the most likely scenario at this moment.[1] To witness changes in temperature trajectory within two decades, it would be necessary to implement NetZero policies (**Figure 1**), which currently resides at the tail end of improbability. In this situation, adaptation to climate change, taking actions to prepare for and adjust to both the current effects of climate change and its predicted impacts is essential (See **Box 1** on Europe's risk assessment).

Figure 1. **WORLD LAND TEMPERATURE**
ºC, GAP OVER PRE-INDUSTRIAL LEVEL



Source: BBVA Research with NGFS Phase 4 Scenario Explorer.

Figure 2. **ADAPTATION TO CLIMATE CHANGE. DEFINITION**

- Adaptation to climate change refers to the process of **adjusting to current or expected future climate** and its effects, taking actions to prevent or minimize the harm that climate change can cause, or to take advantage of potential opportunities.
- Adaptation encompasses a **wide range of activities**: building resilient infrastructure, restoring ecosystems, modifying agricultural practices, fostering water management, lowering disaster risk impact.

Source: BBVA Research, UN-Adaptation and resilience.

1: "COP28: Real gains if fully implemented, but transformative action is still needed". BBVA Research, December 15, 2023.

Box 1. The European Climate Risk Assessment: Europe's Adaptation Imperative

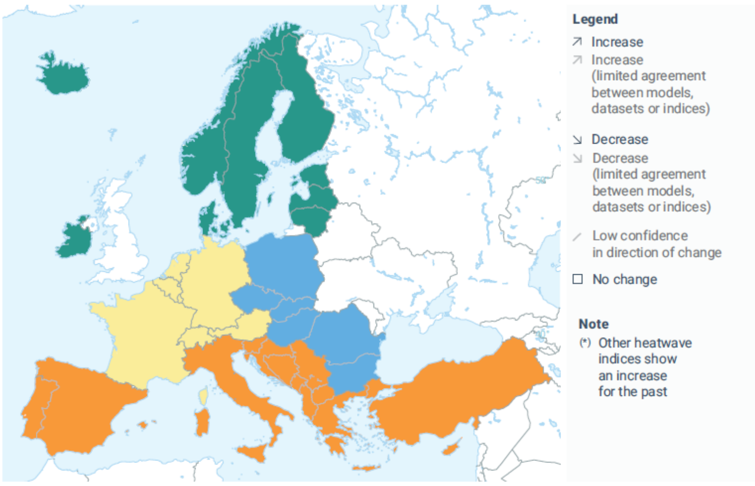
The 2024 European climate risk assessment identifies 36 climate risks with potentially severe consequences across Europe, evaluating them in terms of risk severity, policy horizon, readiness, and ownership. Extreme weather events, such as heatwaves becoming more frequent and severe precipitation events leading to catastrophic floods, alongside droughts, are notably impacting the continent. **The assessment highlights the vulnerability of southern Europe to declines in rainfall and severe droughts**, which, combined with environmental and social risk drivers, compromise food and water security, energy security, financial stability, and public health. The **changing climate acts as a risk multiplier,** exacerbating existing risks and crises, potentially leading to system-wide challenges and affecting social cohesion and stability.

Moreover, climate change poses significant risks to terrestrial, freshwater, and marine ecosystems, with the assessment emphasizing the urgent need for EU policy action to address these challenges. The effectiveness of policies and actions in reducing these risks significantly depends on the rapid reduction of global greenhouse gas emissions and the **swift and effective preparation and adaptation to unavoidable climate impacts**. Urgent, coordinated action at all governance levels is required to prevent maladaptive pathways and catastrophic risks, necessitating an integrated policy approach to ensure efficient adaptation.

Figure 3. **OBSERVED AND PROJECTED TRENDS IN KEY CLIMATIC RISK DRIVERS IN DIFFERENT EUROPEAN REGIONS**

Land regions	Northern Europe			Western Europe			Central-eastern Europe			Southern Europe		
	Past	Future		Past	Future		Past	Future		Past	Future	
		Low	High		Low	High		Low	High		Low	High
Mean temperature	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗
Heatwave days	□(*)	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗
Total precipitation	↗	↗	↗	↗	⟋	↘	↗	↗	⟋	↘	↘	↘
Heavy precipitation	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗
Drought	↗	↘	↘	↗	⟋	↗	↗	⟋	↗	↗	↗	↗

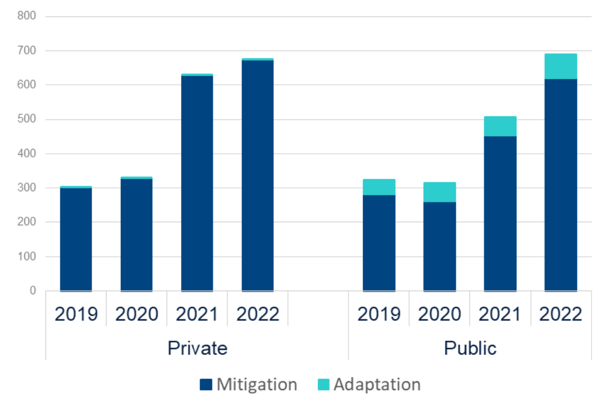
European regional seas	Past	Future
Sea surface temperature	↗	↗
Sea level	↗	↗



Source: 2024 European climate risk assessment.

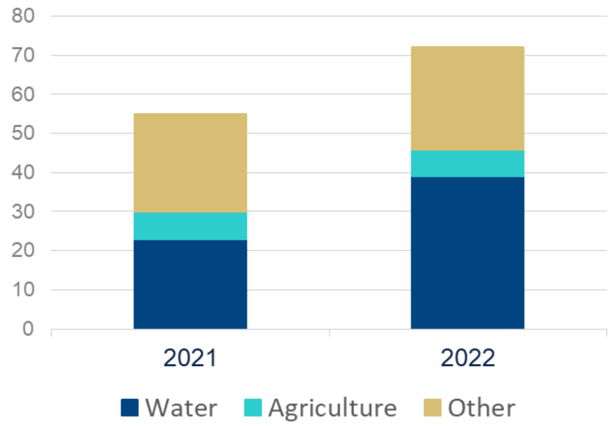
The state of adaptation finance[2]: Needs (much) improvement. Adaptation finance reached an all-time high of USD 63 billion in 2021/2022, a 28% increase from 2019/2020. Despite this growth, adaptation finance remains a small fraction of total climate finance and is significantly below the estimated needs. It is dominated by public actors, with 98% of the finance coming from public sources (multilateral and national development financial institutions), highlighting a gap in private sector investment in adaptation (**Figure 4**). Additionally, adaptation climate finance is unevenly distributed across sectors, with most funding concentrated in water related activities and agriculture (**Figure 5**).[3]

Figure 4. **GLOBAL CLIMATE FINANCE** (USD BN)



Source: BBVA Research from Global Landscape of Climate Finance 2023 - CPI.

Figure 5. **GLOBAL CLIMATE FINANCE** (USD BN)

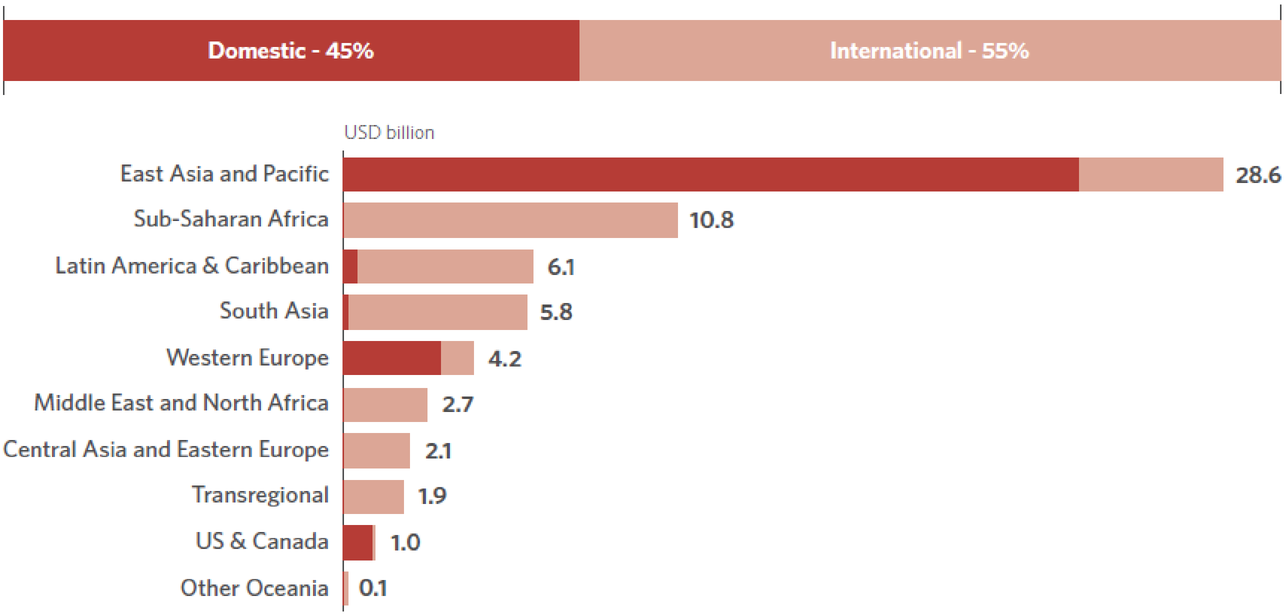


Source: BBVA Research from Global Landscape of Climate Finance 2023 - CPI..

It is worth noting that the growth in climate finance, both mitigation and adaptation, has largely benefited China, the US, Europe, Brazil, Japan, and India, while in other high-emission and climate-vulnerable countries it shows meager progress. In the case of adaptation finance, international funding is more than a half of the total funding, and that includes developed economies (**Figure 6**).

2: Information from Global Landscape of Climate Finance 2023 - CPI. It is worth noting that data gaps across actors and sectors remain despite advancements. For further details see pp. 12-14.
3: This high share is partly due to the capital-intensive nature of large water and wastewater treatment and desalination plants, but also underscores the relevance of such infrastructure to building resilience against floods and drought.

Figure 6. **ADAPTATION FINANCE BY REGION**

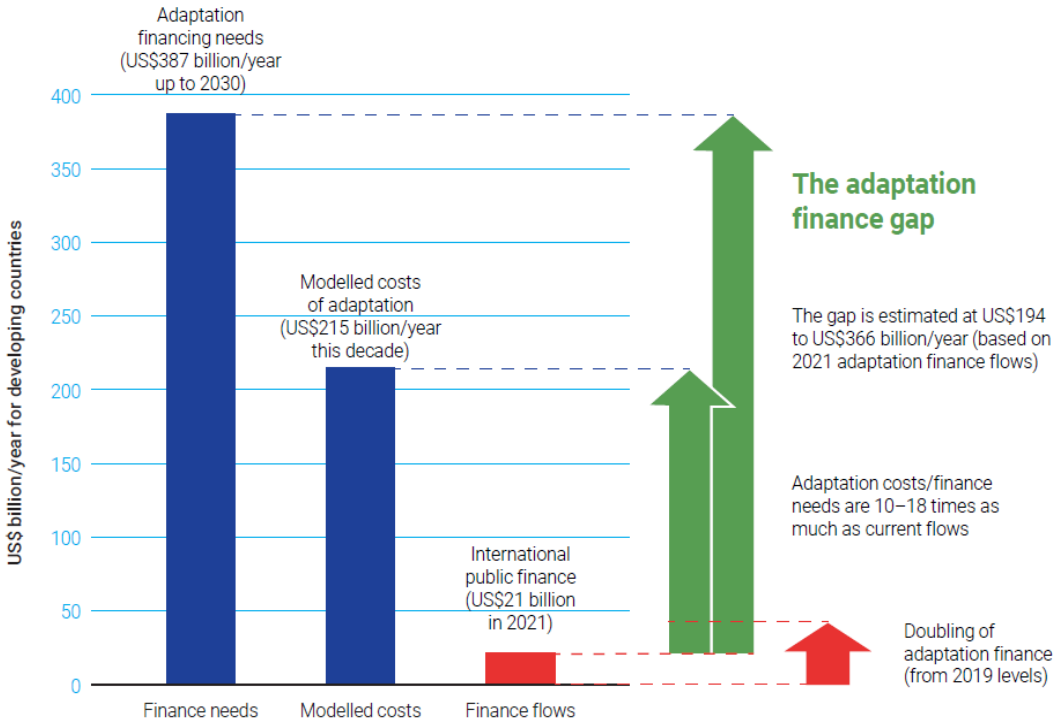


Source: Global Landscape of Climate Finance 2023 - CPI.

How much financing for adaptation to climate physical risks is needed? It depends on assumptions, but the amount would be huge because risks are large.[4] The estimated adaptation costs and needs for developing countries are in a plausible range of US$215 billion to US$387 billion per year this decade.[5] The adaptation finance gap, that is the difference between estimated adaptation financing needs and costs and available finance flows[6], stands between US$194 billion and US$366 billion per year, highlighting a critical underinvestment in climate adaptation efforts (**Figure 7**).

4: For further details: "Adaptation Gap Report". UN environment programme. November 2023.
5: Ranges are based on modeling analysis of adaptation costs and the estimated needs of implementing National Adaptation Plans in all developing countries. For further details, ibid. 4
6: It includes international public finance flows.

Figure 7. **ADAPTATION FINANCING IN DEVELOPING ECONOMIES: NEEDS AND GAP RANGES (USD BN PER YEAR UP TO 2030)**



Source: Adaptation Gap Report.

How to bridge the adaptation finance gap? Unblocking private sources of funding.[7] It requires a multifaceted approach to mobilize and increase finance from all available sources, domestic, international and private. Private finance should be able to provide the main part of funding[8], but it has barriers to its engagement:

- **Information Asymmetries and Knowledge Gaps**: Private actors often lack the necessary information or understanding about climate risks and where investments are needed, reducing their incentive to invest.
- **Inability to Capture Environmental and Social Benefits**: Due to the public good nature of some adaptation projects, private actors find it difficult to capture the benefits, resulting in perceived low market returns.
- **Tragedy of the Horizon**: Private sector investment horizons often do not align with the long-term nature of adaptation projects, making it hard to justify the upfront costs against uncertain future benefits.

What are the strategies to unlock private sector adaptation finance?

- **Improving Data Availability**: Making localized climate risk and vulnerability data available and accessible can help address information gaps.

7: For further details see Blog: Unlocking Private Sector Adaptation Finance - CPI
8: Indeed, while increasing domestic flows and leveraging private sources of funding are crucial components of the strategy to bridge the adaptation finance gap, they alone may not suffice, particularly in low-income countries. These regions face distinct challenges that underscore the necessity of a nuanced approach to adaptation finance with a key role from public international flows.

- **Changing Narratives and Long-term Planning**: Governments and public actors need to prioritize cost adaptation investment needs across sectors and foster dialogue with the private sector. This involves making the business case for adaptation in terms that align with private sector priorities.
- **Strengthening Financial Incentives**: Public actors could use financial tools such as tax breaks, risk guarantees, or concessional loans. They help to create a pipeline of bankable adaptation projects that are suitably and adequately "de-risked", making adaptation projects more attractive to private investors.

All in all, the current state of climate adaptation finance is consistent with the lower expected return on investment compared to climate mitigation finance. Changing this picture is challenging and requires the development of public policies, in particular at the international level, and aligning incentives to make bankables the investments on ecosystem services protection, lowering catastrophes' impacts, or infrastructure retrofitting, especially in developing economies.

Highlights of the Week

- **Global | Shell abandons 2035 emissions target and weakens 2030 goal - Carbon Brief.**
- **China | Is China a climate saint or villain?** It is supercharging the green transition— while burning mountains of coal.
- **China | Q&A: What does China's 'two sessions' mean for climate policy in 2024? - Carbon Brief.** Carbon Brief outlines the key signals on China's plans for meeting climate targets, developing coal power, exporting clean-energy technology and more.
- **EU | Commission sets out key steps for managing climate risks to protect people and prosperity.** It sets out how the EU and its Member States can better anticipate, understand, and address growing climate risks. It further presents how they can prepare and implement policies that save lives, cut costs, and protect prosperity across the EU.
- **Spain** | **Observatorio de la Transición Energética y la Acción Climática.**

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