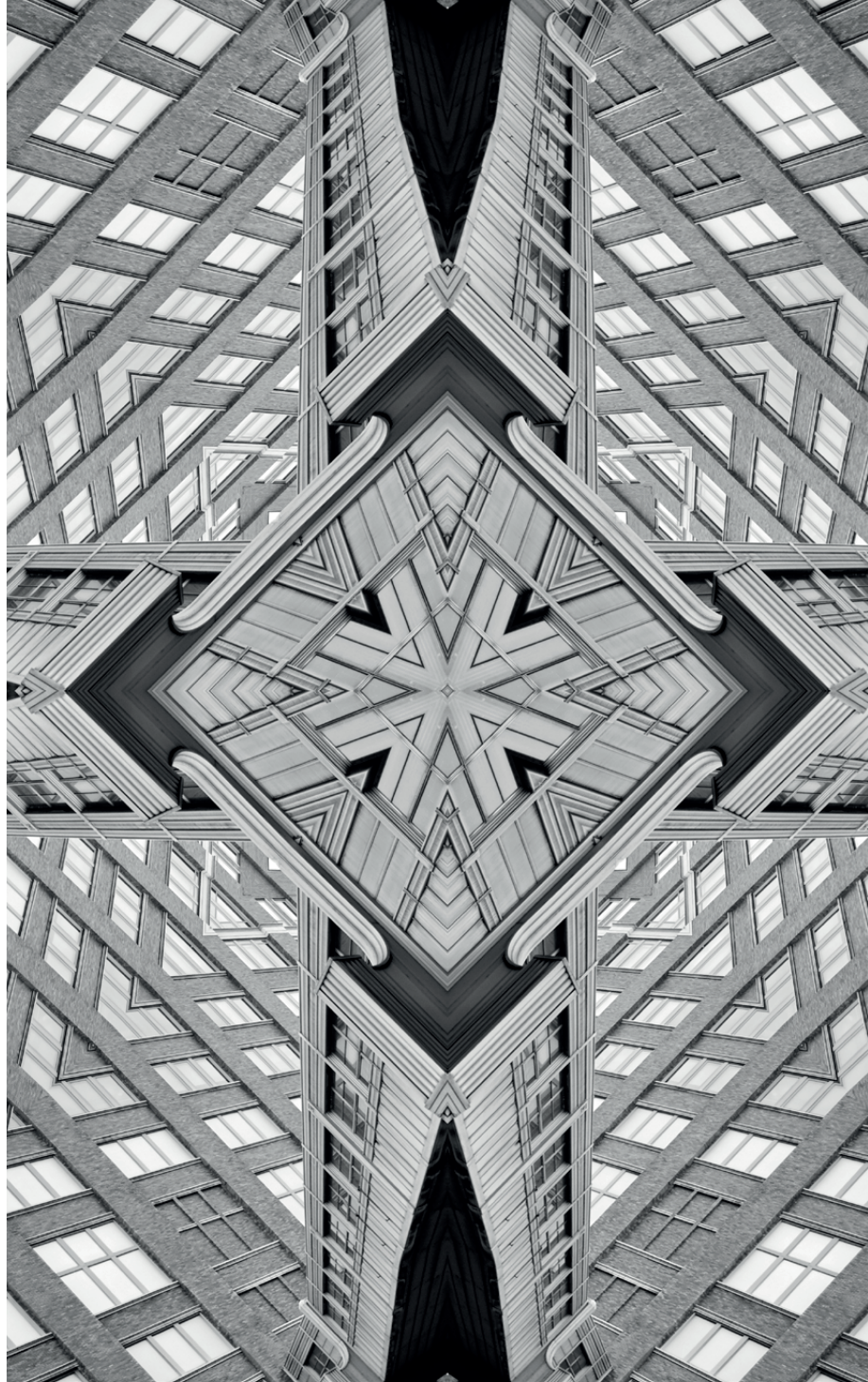


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Brief

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The Utility of a Unified Adaptation Taxonomy in Mobilising Adaptation Finance

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Abstract

As global climate adaptation finance continues to fall short of the requirement, the current diversity of interpretations and fragmented markets are further disincentivising investors. A localised adaptation finance taxonomy would establish clear standards, enabling investors to compare opportunities and better assess environmental impacts. This brief argues for a sector-specific framework for adaptation finance. It examines key challenges in developing a unified taxonomy that can accommodate varying adaptation needs across countries while preventing market fragmentation due to different national approaches. As climate change impacts intensify, the need for adaptation finance will become even more urgent. Creating a robust international adaptation taxonomy could mobilise the necessary investment while ensuring accountability and effectiveness across different regional contexts.

Global expenditure on climate change adaptation is estimated to be up to 18 times less than required.¹ This disparity is even more pronounced than in the case of mitigation finance, which is already insufficient to meet the goals set out in the Paris Agreement.² Analysis by the Climate Bonds Initiative has found that only 19 percent of sustainable bonds issued worldwide by the end of 2022 were partially directed towards adaptation initiatives.³ The underinvestment in adaptation projects can be attributed to multiple reasons, of which the OECD has identified 12 that are most critical.⁴ These reasons can be grouped into three themes.

First, countries most in need of climate adaptation often lack sufficient budgetary resources to implement relevant projects. According to the Notre Dame Global Adaptation Initiative Index,⁵ the threat from climate change and the requirement of adaptation increase in a near-linear fashion with the decline in a country's income, highlighting the Global North-South divide.

Second, the lack of funds is compounded by poor institutional capacity to request adaptation funds from international donors and foundations. This challenge is exacerbated by the lengthy approval cycle within donor organisations, which often results in project funds becoming available well after a country's priorities have shifted.

Third, and perhaps the most acute challenge, is the lack of a common approach to measuring adaptation, the vagueness of definitions, and the absence of a common understanding of needs and capabilities among investors, policymakers, and scientists. A qualitative improvement in this area is not possible without clear definitions and an accurate assessment of how to calculate the risks and benefits of adaptation projects. The lack of standardisation in adaptation turns it into a private matter for local communities, which often lack the financial and technological resources to implement long-term projects. The lack of unified approaches leads to international funds, investors, and philanthropic organisations investing in simpler and more understandable mitigation, with a focus on areas such as transport and energy.

A credible international adaptation taxonomy or commonly used taxonomical principles in the area could be a solution. Green finance taxonomies have proven effective in climate change mitigation. These taxonomies serve as

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guides for market participants, allowing them to separate climate-positive projects from others and gain assurance against greenwashing.^a National taxonomies are rarely free from the influence of politics and lobby groups. However, their level of credibility allows international investors to identify, verify, and invest in projects. Currently, taxonomies have been developed or are being developed in more than 40 countries and regions⁶ of the world, including the European Union (EU),⁷ China,⁸ Russia,⁹ and ASEAN countries.¹⁰

a 'Greenwashing' is the practice of misleading consumers by falsely portraying products, services, or companies as environment/climate friendly when they are not.

Climate Adaptation in Existing Taxonomies

Almost all developed taxonomies include activities related to climate change mitigation as well as other environmental objectives, including adaptation to climate change, although the latter is not well developed. For example, the taxonomies of Thailand¹¹ and Colombia¹² indicate that adaptation activities will be incorporated as climate science. In the EU taxonomy, which is mitigation-focused, adaptation criteria are supplemented by ‘do-no-significant-harm’ rules aimed at preventing maladaptation.^b These criteria serve as a stopgap for future developments in the domain.

The UNDP’s Climate Change Adaptation Program¹³ offers country- and sector-based studies that combine climate zones with available solutions. In 2020, the World Bank published guidelines containing six adaptation principles for the development of a robust adaptation taxonomy.¹⁴ Despite credible adaptation principles and technologies, however, adaptation taxonomy development lags behind mitigation taxonomy. This can be attributed to various reasons.

First, adaptation is more country-specific than mitigation, and therefore draws less attention from international investors. Greenhouse gas emissions affect all countries, regardless of the source of the emissions, which motivates EU or US investors and philanthropists to fund emissions reductions in Africa and Asia (emissions produced in the Global South destabilise climate all over the world, including the Global North, and vice-versa). However, each country faces the consequences of climate change independently; for instance, floods in one part of the world often have little impact on another if no value chains are affected. The consequences of a lack of adaptive investments are no less severe than those of a lack of mitigation. Without sufficient investments in adaptation, many regions will become uninhabitable due to the effects of climate change, and the resulting waves of migration will cause political and economic challenges globally. A lack of adaptation in developing economies will also affect multinational businesses in these countries.

Second, countries have unique adaptation needs, and it is difficult to develop general recommendations for all. Unlike in the case of mitigation, it is difficult to arrive at a universal numerical criterion that can be used to classify an activity as beneficial for adaptation. For example, in most taxonomies, energy production that does not exceed 100 grams of CO₂ equivalent per kWh is considered to be green. However, the type of crops that farmers need to switch to in order to adapt to climate-zone changes varies across countries. This variation highlights the need for greater attention, as taxonomies are designed, specifically, to address these region-specific challenges.

^b In a climate-change context, ‘maladaptation’ refers to actions that are intended to reduce the impacts of climate change but which create more risk and vulnerability.

A Common Modular Framework

Various attempts to provide a general framework for the development of adaptation taxonomy have aimed to harmonise approaches and address the current adaptation finance crisis. For example, the Adaptation Solutions Taxonomy (AST),¹⁵ created in 2020 by the Lightsmith Group and the Inter-American Development Bank, is focused on identifying small and medium-sized enterprises (SMEs) that offer adaptation solutions in developing countries and determining the support needs of these SMEs.^c It is not scalable, however, and is structured around SMEs and their needs.

Another example is the Taxonomy of Climate Change Adaptation Technology,¹⁶ developed by the UNEP Copenhagen Climate Centre in partnership with the Green Technology Centre of Korea. It aims to help “accurately understand the current status of technology demands in developing countries” and assist policymakers in defining what technologies they need to adopt to tackle certain problems. Seventy-nine technologies are recommended across six key sectors—agriculture, water, climate change forecasts and monitoring, marine economy, health, and forestry.^d However, it does not provide a region-specific classification of technologies but prioritises technologies by their potential positive compound effect on the environment, society, and policy. The paper is also primarily based on material from the Republic of Korea and leans towards issues and technologies applicable to the region. This approach is almost exclusively applicable to policymaking and technical experts and is difficult to use in the broader market.

Additionally, both taxonomies lack quantitative thresholds and elements essential for a modern green taxonomy, such as do-no-significant-harm provisions and mechanisms to “connect” the taxonomy to the financial market.

In 2023, the Climate Bonds Initiative, in partnership with the UN Office for Disaster Risk Reduction (UNDRR) attempted¹⁷ to create a common framework of definitions for adaptation activities. The framework¹⁸ builds on the materials mentioned above but attempts to create a methodology for developing an investment-focused, full-scale adaptation taxonomy that contains all necessary elements and safeguards and serves the same purposes as the mitigation taxonomies.

c AST has four elements: a definition of adaptation SMEs, eligibility criteria, classification of adaptation SMEs, and a climate resilience assessment framework for reporting results. It describes the results chain, including activities, inputs, outputs, outcomes, and impacts. Solutions are categorised by type, industry, risk type, and geographic region.

d The description for each technology contains general information, detailed technology description, the potential influence of its application on sustainable development, and its “paradigm shift potential”.

A Common Modular Framework

The framework recommends applying future taxonomies to four types of investments: measures, assets, activities, and entities. Two options are available for each investment type: adapted investments (beneficial to the asset or activity in question) and enabling investments (beneficial to other assets or entities). For example, an adapted solution for the construction sector at the asset level would involve the installation of passive ventilation systems in buildings to maintain healthy interior temperatures during extreme heat episodes, while an enabling solution would involve the production of heat-tolerant building materials.

To be eligible, the investment must contribute to the taxonomy objectives and avoid contributing to maladaptation. The investment must demonstrate that it can directly respond to climate change impact (e.g., coastal defences), reduce pressures that exacerbate and/or are exacerbated by climate change impact (e.g., reducing water consumption in response to increasing water scarcity), or enable either of the two previous types. The investment should also not cause significant harm to other environmental or societal aspects, such as exacerbating social inequality or habitat destruction.

Furthermore, the framework proposes dividing all technologies, practices, and activities specified in the taxonomy into three categories based on the number of additional checks and criteria required. The first category comprises items that automatically fulfil the objectives of the taxonomy because the likelihood of maladaptation in their application is negligible. The second category is the “standardised checks” category, which includes investments that contribute to climate resilience and adaptation in various contexts but may cause significant harm, which must be assessed and managed. Investments that do not pass the test for inclusion in the standardised checks category fall into the further assessment category. These are investments that must be assessed against screening criteria to confirm eligibility.

Based on an analysis of existing papers on classifying adaptation activities, the framework highlights seven areas where resilience is required and where the categorisation can be applied: agrifood systems, cities, healthcare, infrastructure, industry, biodiversity, and society. The current lists of technologies, practices, and criteria will be developed by the Resilience Technical Advisory Group under the aegis of the UNDRR, which will include representatives from NGOs, think tanks, investors, financial institutions, multilateral development banks, and rating agencies.¹⁹ The group will work with the Resilience-Focused Bonds Issuers Club and Investors Working Group to ensure that the taxonomy is applicable to the financial market. Technical expert groups will develop all the criteria, thresholds, and metrics in line with the Climate Bonds Initiative methodology, which was used as a basis for the mitigation criteria.

Learning from Past Mistakes

Two crucial challenges associated with the development of taxonomy (i.e., international entities and nation-states) can be identified.

First, as adaptation needs vary between countries, creating a single set of practices and technologies for all nations will be difficult. This problem can be solved in two ways. United Nations (UN) agencies such as UNDP or UNEP, which are equipped to interact with both researchers and the financial market through initiatives like the UNEP Financial Initiative and are familiar with the adaptation needs of different regions, can identify climate zones with unique adaptation needs and, with support from specialised technical expert groups, develop recommendations for combining a common framework of adaptation taxonomy principles with technologies and practices specific to a climate zone. While this method would require refinement at the national level, it would remove the need for resource-constrained states of the Global South to develop a unique list of technologies and practices from scratch.

The second way is to create sector-specific but flexible criteria that can be varied according to local conditions. This approach is riskier because it creates room for abusive and maladaptive behaviour, but this risk can be minimised by proper checks and balances. Such general criteria can be developed for agricultural developments (including livestock and fisheries), infrastructure creation, land management, water management, health risk prevention, building adaptation, and others. For example, agricultural criteria could include universally applicable practices like intercropping or silvopasture promotion with some locally developed practices meant to mitigate the influence of changing precipitation patterns on local crops.


Second, the potential fragmentation due to different approaches to taxonomy development in different countries would slow the cross-border flow of capital and prevent the taxonomy from realising its full potential to reduce emissions. This problem is illustrated by mitigation taxonomies that differ in their activities and principles. Notably, the two largest taxonomies in terms of coverage, i.e., the Chinese and European taxonomies, are fundamentally different. While the Chinese taxonomy is industry-focused and includes a whitelist of approved technologies, the European taxonomy is investment-focused and includes screening criteria, a do-no-significant-harm principle, and minimum social safeguards. The International Platform on Sustainable Finance is working towards the unification of these taxonomies, but this process is not fast, and the status of the final document is unclear.²⁰

Learning from Past Mistakes

The development of adaptation taxonomy can help avoid this scenario. The best option may be to entrust a single international structure with developing and upholding taxonomy principles and mechanisms. This can either be a structure like the World Bank or the International Financial Corporation, which has substantial research and outreach capacities to develop and maintain “an adaptation core” of mechanisms and practices, or an impartial UN agency like UNEP, UNDRR, or UNDP. These principles and approaches should be updated in line with recommendations for work on the United Nations Framework Convention on Climate Change global adaptation goal.

National entities like central banks and finance ministries that usually manage the development of mitigation taxonomies could also adopt the framework previously described and, in cooperation with technical experts, identify specific technologies and activities that correspond to local conditions. This can help investors ensure that all necessary checks are in place so that, for instance, regardless of the size of the flood wall, its construction will aid adaptation without harming either the environment or the people. Therefore, the overall conceptual framework, which is aimed at ensuring transparency in the assessment process, makes it possible to integrate the national priorities of various states without compromising the system's credibility.

Additionally, national technical working groups will need to compile lists of specific technologies in accordance with the specified categories (i.e., automatically compliant, small checks, checks plus criteria) and provide recommendations for their applicability in various conditions. The resulting documents should be usable by financial market players to facilitate the issuance of adaptation financial instruments, the verification of exchange-traded funds targeting adaptation, and the disclosure by companies investing in this area.

As climate change worsens and extreme natural phenomena become more frequent, the need for adaptation finance will increase. It will become necessary to create the conditions to reduce the impact of climate change on societies and economies, and creating a full-fledged international adaptation taxonomy can be an important step in this direction. 

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