Unlocking Climate Finance in neglected and hard-to-abate sectors

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Executive summary

Climate change poses one of the most significant challenges of our time, with its impacts felt across ecosystems, economies and communities globally. This report, "Unlocking Climate Finance in Neglected and Hard-to-Abate Sectors," explores the critical role of neglected sectors—such as smallholder agriculture, peatlands and informal waste management—and hard-to-abate sectors, including heavy industry (e.g., cement, steel) and transportation (e.g., shipping, aviation), in achieving net-zero goals. Despite their substantial contributions to global emissions, these sectors, each with quite different roles to play, often lack the financial support and policy focus necessary for effective decarbonisation as well as the policy and market forces that could incentivize, or "pull", demand and supply toward an innovative solution.

Transforming neglected sectors is vital for achieving net-zero targets due to their significant potential for emissions reduction and carbon sequestration. When managed sustainably, these areas can enhance biodiversity conservation and ecosystem health while improving livelihoods and food security for local communities. The World Economic Forum's Nexus Analytical Framework aligns with global research initiatives at organizations like the Food and Agriculture Organisation (FAO) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), emphasising the importance of integrated resource management and biodiversity conservation. By incorporating insights from these institutions, the framework supports evidence-based strategies that enhance sustainability and resilience in neglected sectors, further amplifying their impact on climate goals[1].

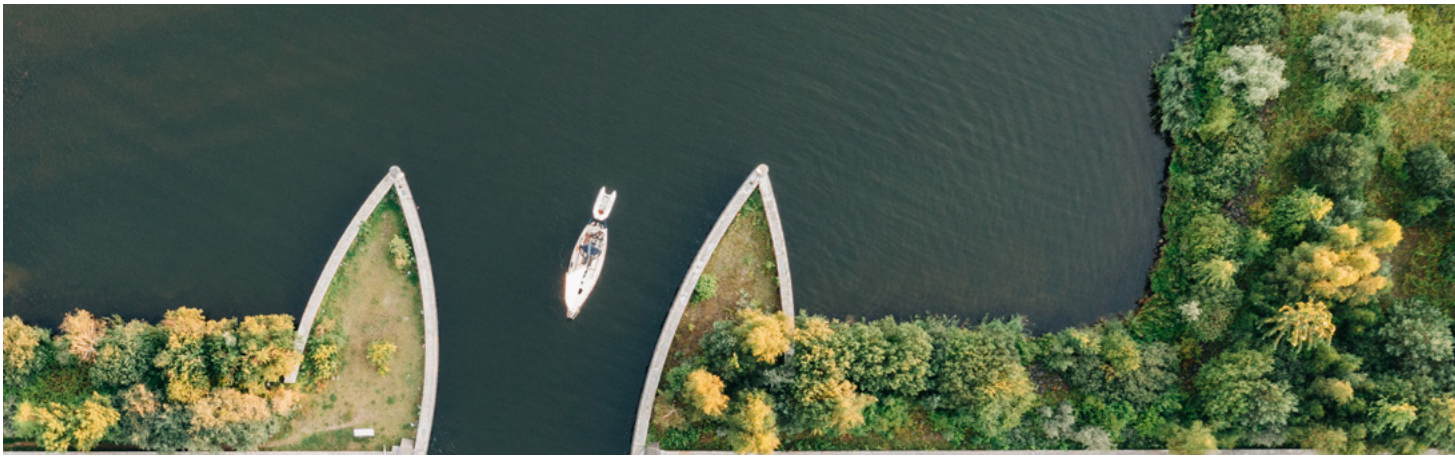
In contrast, hard-to-abate sectors account for 31% of global greenhouse gas emissions[2] and face substantial challenges in transitioning away from fossil fuels. Without targeted efforts, emissions from these sectors are projected to increase by over 50% by 2050 under a business-as-usual scenario.

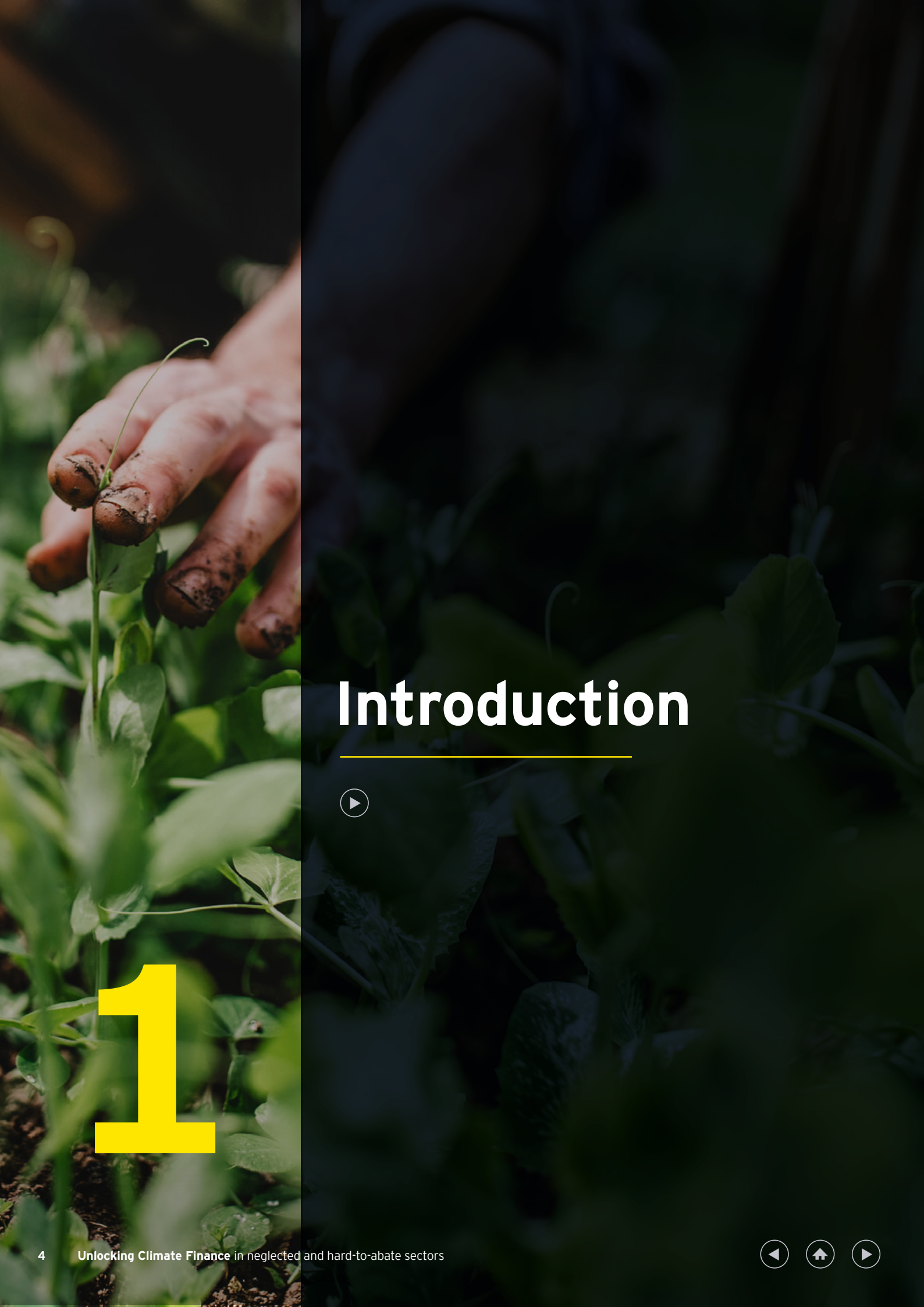
There are two overarching solutions to address and overcome the holistic challenges of both neglected and hard-to-abate sectors, respectively: (a) innovative financing mechanisms such as blended finance, concessional capital and alternative 'incentives' such as pull-financing mechanisms, and (b) high-integrity nature-based solutions (NbS). NbS have emerged as a promising strategy to effectively address challenges faced by neglected sectors, offering cost-effective pathways for emissions reduction while delivering additional social, economic and environmental benefits. However, it is essential to recognise that NbS themselves are often overlooked in climate finance discussions, receiving less attention and funding compared with technological solutions.

Following on from the recent EY report exploring how bridging the climate finance gap can be delivered through innovative financing mechanisms and greater collaboration between the public and private sector, this report highlights the potential of NbS to support neglected sectors in accessing financial initiatives, thereby fostering sustainable practices and enhancing community resilience.

By examining the barriers to financing and proposing actionable strategies and solutions, this report aims to mobilize climate finance in these critical areas and help policy makers and governments re-think their domestic net-zero strategies, to better enable access to capital and innovative solutions for climate solutions across all sectors.

	Summary of proposed actions for change	Directed to
1	**Enhance policy frameworks**	National and local governments
2	**Foster public-private partnerships**	Government agencies and private sector companies
3	**Promote innovative financing mechanisms**	Financial institutions, investment firms, and policymakers
4	**Support capacity building and awareness**	NGOs, community organizations, and educational institutions
5	**Encourage international cooperation**	International organizations, governments, and multilateral development banks





1

Introduction

Studies indicate that to restrict global warming to 1.5°C–2°C, annual climate investments of US$5–9 trillion are required by 2030, increasing to over US$10 trillion each year from 2030 to 2050.[3] However, there is a substantial gap between these levels of financing required to address the current climate crisis and the financing that climate initiatives are currently receiving. This situation is even more exacerbated in certain areas such as neglected and hard-to-abate sectors.[4]

Whilst significant progress has been made in decarbonising certain sectors, such as energy and transportation (e.g., cars, buses, motorbikes) there remains several neglected and hard-to-abate sectors that pose substantial challenges to achieving climate targets. These sectors, including heavy industry, such as cement and steel industries, agriculture and waste management, are often characterised by high emissions and limited technological solutions for reduction. Additionally, the high cost of new technological solutions and limited incentives to invest in research and development for emissions reduction further complicate efforts in these areas. Focusing on these areas is crucial, as they account for one third of global emissions and are essential for a comprehensive approach to climate mitigation.

To help address the associated decarbonisation challenges, there are several solutions to explore, each with their own distinct implementation challenges. We will focus on two solutions that have the potential to mitigate emissions and transform the respective industries, while supporting local communities and industry: innovative finance mechanisms that "pull" the market towards change, and NbS.

As explored in our first paper, there are a number of finance mechanisms that, under the right conditions, can incentivize and stimulate market demand for specific climate mitigation solutions. Utilising "pull" finance, in conjunction with more traditional 'push' mechanisms, can help enhance the efficiency of more traditional methods while driving market actors — such as customers and manufacturers — to produce more efficient and cost-effective alternatives to traditional fossil fuels and carbon emitters. To effectively deliver a pull finance mechanism, there needs greater cooperation and coordination between the public and private sector, sharing the cost of capital, managing returns and risk profiles and utilising the combined influence and networks to stimulate innovation. A quick fix isn't possible, particularly for neglected sectors, however utilising both pull and blended finance in tandem can help create a market for the relevant technologies, while managing the short, medium and long-term risk and returns.

A key solution to decarbonising neglected sectors is through NbS. NbS are defined as 'actions to protect, sustainably manage, and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well being and biodiversity benefits.'[5] NbS offer a dual benefit; not only do they support mitigating climate change by enhancing carbon sequestration and restoring ecosystems, but also provide additional social, economic, and environmental benefits. By leveraging natural processes and ecosystems, NbS can promote sustainable land management practices, enhance biodiversity, and improve community resilience. Well-designed, high-integrity NbS will manage and mitigate any ecological, economic and social trade-offs, optimise outcomes for people, climate and nature.

This report explores the dual role of innovative finance mechanisms, such as pull finance, and that of nature-based solutions, alongside other viable solutions, in unlocking climate finance for neglected and hard-to-abate sectors. We highlight their potential to drive transformative change and contribute to a sustainable, resilient future and lay out a set of actions for public and private sector actors to help drive this transformation.

2

Understanding neglected and hard-to-abate sectors and the role Nature-based Solutions (NbS) can play

Neglected sectors

Neglected sectors are those industries or areas which have historically received less political, social or financial attention and investment to help decarbonise. The reasons for the lack of investment and attention are plentiful. Such sectors may lack robust regulatory frameworks, financial incentives (such as timely or high returns), have higher risk profiles and few clear technological solutions to effectively decarbonise, thereby reducing both political and investor motivation to support these sectors. There are also various cultural challenges to decarbonising these sectors – for instance, many farmers can be resistant to changes to their ways of life and farming that have been in place for decades.

Some examples of neglected sectors include:

- **Smallholder agriculture**: Small-scale farmers, particularly in developing countries, frequently face barriers to accessing climate finance and resources for sustainable practices, despite their critical role in food security and land stewardship.
- **Informal waste management**: Often involve unregulated and unlicensed waste workers (waste collectors, recyclers and scavengers) and are usually overlooked in formal waste management policies and strategies.
- **Peatland restoration**: Peatlands are regularly drained for agriculture and development, leading to sizable greenhouse gas emissions, while the restoration of these ecosystems remains under prioritised in climate finance and conservation efforts.

These sectors have long-term potential for contribution to the global climate effort, and every pound invested today in decarbonising them will yield a significant impact, considering the relatively low level of funding available.[6]

Hard-to-abate sectors

Technically a sub-sector within the neglected sector, hard-to-abate sectors are those industries or areas that are difficult to decarbonise due to their dependence on fossil fuels, process emissions (i.e., emissions during the making of the product and delivering the service), or limited low-carbon alternatives. These sectors cannot transition as easily to less carbon-intensive solutions than other industries. They need specialised and innovative solutions to address their high energy consumption and significant emissions, increasing the cost of capital and risk profile for such solutions.[7]

Some examples of hard-to-abate sectors are as follows:

- **Construction**: The production of construction materials like cement and steel is carbon-intensive, relying on high-temperature processes that emit significant greenhouse gases, with cement generating CO2 from both fuel combustion and limestone transformation, and steel production predominantly using coal with limited alternatives for emissions reduction.
- **Chemicals**: The production of materials like petrochemicals and fertilisers involves complex processes that emit significant greenhouse gases, with many chemical reactions, such as ammonia production, releasing CO2 as a byproduct, necessitating innovative technologies and alternative feedstocks for emissions reductions.
- **Shipping**: This sector relies on carbon-intensive bunker fuel, contributing significantly to greenhouse gas emissions, and faces challenges in decarbonisation due to the long lifespan of ships and the lack of low-carbon alternatives, requiring substantial investment in new technologies and infrastructure.
- **Aviation**: The aviation industry depends on high-carbon aviation fuel, with challenges in developing viable low-carbon alternatives like sustainable aviation fuels and electric aircraft, making meaningful emissions reductions difficult without significant technological advancements and investment.
- **Heavy-duty transport**: This sector relies on diesel and fossil fuels for large vehicles, facing challenges in transitioning to low-carbon alternatives due to high energy demands, infrastructure investment needs, and limitations in battery technology and charging networks, complicating emissions reduction efforts.

Why are these sectors considered challenging?

These sectors are challenging to decarbonise for the following reasons:

- **High energy intensity**: Sectors like heavy industry and transportation require significant energy inputs, making it challenging to transition to low-carbon energy sources without compromising efficiency and productivity.

- **Few viable zero-carbon alternatives**: Currently there are limited technological alternatives available for reducing emissions in these sectors. For example, while electric vehicles are becoming more common, heavy-duty transport and aviation still rely heavily on fossil fuels with few viable substitutes.
- **Long investment cycles**: Inadequate regulatory frameworks and lack of incentives for emissions reduction can hinder progress in these sectors, making it difficult to implement necessary changes.
- **Infrastructure and capital lock-in:** Many hard-to-abate sectors are characterised by long-lived infrastructure, such as power plants and industrial facilities, which can take years or decades to replace or retrofit with cleaner technologies.

Why do neglected sectors matter?

Neglected sectors can play a critical role in achieving net-zero goals due to their significant potential for emissions reduction and carbon sequestration. These sectors often encompass vast areas of land and resources that, when managed sustainably, can contribute to biodiversity conservation and ecosystem health.

Additionally, addressing the challenges within these sectors can lead to improved livelihoods for local communities, enhance food and water security and promote sustainable practices that align with climate objectives.

Why do hard-to-abate sectors matter?

Hard-to-abate sectors are critical to address because they make up more than one-third of energy-related greenhouse gas emissions that contribute to climate change.[8]

While advancements have been successful in electrifying vehicles and homes and utilising alternative energy sources (e.g., solar), hard-to-abate sectors continue to present a substantial challenge. These sectors depend significantly on fossil fuels or involve processes that are highly emissions-intensive, which means they are not on course to achieve net-zero emissions by 2050.[9]

Not only are emissions not reducing across these sectors, but they are actually projected to increase by over 50% by 2050 under a "business-as-usual" (BAU) scenario, assuming there are no additional innovations that can reduce greenhouse gas emissions in these industries.[10] Further exacerbating the challenge is the lack of incentive for companies within these industries: 56% of companies within hard-to-abate sectors have not set any global greenhouse gas (GHG) reduction targets by 2050.[11] This highlights the need to focus on these sectors further and look at what solutions are available to mitigate their high emissions.

Contribution of neglected/hard to-abate sectors to Sustainable Development Goals (SDGs) and Paris Agreement targets

Investing in neglected and hard-to-abate sectors is essential to achieving both the Sustainable Development Goals (SDGs) and the targets set by the Paris Agreement. While these sectors are vital for economic activity, they also necessitate considerable technological advancements and policy innovations to achieve decarbonisation and net-zero emissions. Their considerable contribution to global emissions (it is estimated that hard-to-abate sectors account for 40% of global greenhouse gas (GHG) emissions) means that neglecting these areas will further impede progress toward climate goals, making it imperative to focus investment efforts on transforming these sectors for a sustainable future.[12]

What are Nature-based Solutions (NbS)?

Nature-based solutions (NbS) are actions that utilise natural processes and ecosystems to address environmental challenges, such as biodiversity loss and water insecurity. These solutions often involve the conservation, restoration and sustainable management of ecosystems, such as forests, wetlands, grasslands and coastal areas, to enhance their capacity to sequester carbon and provide other ecological benefits. Typical solutions seek to help communities mitigate against the effects of climate change, adapt to them and create greater resilience to its impacts. The most successful solutions will offer multiple benefits by, for example, protecting and restoring coastal mangroves, which not only reduces flood risk and stores carbon but also enhances livelihoods by increasing incomes for local communities dependent on these ecosystems. This approach exemplifies both mitigation (protection) and adaptation (restoration) while fostering economic resilience.

While NbS activities are seen as an effective tool to help communities manage the present and future effects of climate change, such solutions receive far less financial support and policy attention than more technological solutions for emissions reductions. NbS have the potential to contribute 30% – 37% of total emissions reduction required to stabilise the climate by 2030[13]; however, the sector has only received 3% of mitigation funding as of 2017 and 8% of public climate finance as of 2021.[14]

Naturebase is a recently developed tool based on the latest science and best-available data to identify where, why and how to implement high-integrity nature-based projects with the highest carbon mitigation impact, while improving ecosystem benefits and livelihoods. The tool is available for governments, communities, businesses, and project developers to identify the most impactful NbS pathways in the most appropriate locations with optimised co-benefits for people and nature.[15]

Investment and innovation on technology-based solutions are critical and should not be disincentivezed, but support for NbS needs a corresponding focus. NbS has the potential to play a material role in carbon removal activities by creating solutions that help support reforestation and more climate friendly agriculture activities by supporting nature regeneration and the efficient use of land. They also can be an emissions reductions solution because Land Use, Land Use Change, and Forestry (LULUCF) and Agriculture (AFOLU) are significant sources of emissions in their own right. NbS often also contribute multiple co-benefits for biodiversity, human resilience, and wellbeing. We aim to position NbS as a worthwhile investment for the public and private sector, alongside and in addition to other, more traditional, mitigation solutions thereby balancing risk, reward and short, medium and long-term gains.

Example of NbS being deployed

There are several examples of the successful utilisation of NbS to mitigate, adapt and enhance resilience to the effects of climate change, alongside both more traditional solutions and utilising innovative finance methods (such as pull financing) successfully. Examples include:

The Institute for Public Policy Research (IPPR; 2024) revealed that the UK ranks among the most nature-depleted countries globally. It highlighted a concerning statistic: only 3% of England's land is designated as protected for nature, despite the government's pledge to protect at least 30% by 2030. In parallel, the Climate Change Committee has advised that nature-based solutions are integral for the UK to meet its net-zero target, setting a target of increasing woodland cover from 13% to 16%, and a goal to reach 55% of peatlands in a natural or rewetted condition by 2040. To meet the urgent needs for nature restoration and climate sequestration, the UK government therefore turned to NbS to tackle this issue, some examples included restoring and protecting forests and wetlands in catchments, bringing nature into cities through blue-green infrastructure (BGI), as well as coastal habitat restoration.[16] The government has also pledged to plant

millions of trees across the UK, launching a rapid review of the Environmental Improvement Plan to ensure the UK meets its legal targets, including the Environment Act target of 16.5% tree cover by 2050.[17]

A good example of pull finance for NbS is the LEAF Coalition (Lowering Emissions by Accelerating Forest finance). LEAF is a global initiative with a goal to secure at least $1 billion in financing through a major public-private initiative to protect tropical forests and support the 1.6 billion[18] people reliant on them, with participation from Norway, the UK, and numerous private companies like Amazon and Unilever. By leveraging innovative financing mechanisms, the coalition seeks to create a sustainable market for forest conservation and enhance the livelihoods of local communities.[19]

One of the most widely cited examples of pull finance for NbS is the Norway-Brazil Amazon Fund, through which Norway pledged up to $1billion in results-based payments.[20] Payments were only made once Brazil had independently verified reductions in Amazon deforestation, tracked by satellite monitoring. The money was then channelled into a national trust fund that supports indigenous land rights, community forestry, and sustainable livelihoods. At its peak, the mechanism helped Brazil cut Amazon deforestation by nearly 75% compared to the 2004 levels, illustrating how performance-based finance can reward large scale deployment while ensuring accountability to investors.[21]

There are also compelling cases of push finance, where upfront capital is structured to unlock and de-risk NbS investment. In Ecuador, a groundbreaking debt-for-nature swap was completed in 2023, refinancing $1.1 billion debt and generating $450 million for conservation funding, without adding to Ecuador's debt.[22, 23] A major portion of the savings now flows into the Galápagos Life Fund, which disburses around $18 million annually for marine conservation, sustainable fisheries, protected area management and climate resilience for local communities, showcasing how financial innovation can directly enable critical NbS in biodiversity hotspots.[24]

This deal not only helped strengthen Ecuador's public debt management but also created a steady flow of finance for critical NbS in one of the planet's most biodiverse ecosystems, showing how financial innovation can align fiscal stability with nature protection. It displays how nature-rich but indebted countries can convert commercial debt into conservation finance with investor confidence intact, illustrating how financial engineering can unlock large-scale, de-risked investment for NbS, biodiversity protection and climate action.

Carbon markets can also be used to facilitate financial support for climate mitigation and serve as a wealth transfer mechanism between the global north and south. For hard-to-abate sectors, high-integrity carbon markets are among the few viable paths to achieving net-zero by 2050, especially when included in a science-based transition plan.

How can NbS play a role?

Mitigation Hierarchy

The mitigation hierarchy is fundamental for addressing environmental impacts by prioritising actions to avoid, minimise, restore and offset harm, thereby promoting sustainable development and ecosystem protection.

NbS play a vital role in this framework by supporting neglected sectors like agriculture and land use in mitigating and adapting to climate change, going beyond their role as carbon offsets. They address the hierarchy in the following ways:

Avoid:

Agriculture can avoid the use of fossil fuel-intensive chemical fertilisers and deforestation through applying NbS such as cover cropping, pollinating flowerbeds etc.

Minimise:

NbS can help minimise impacts of development, for instance through landscape sensitive design and low-carbon, nature-inclusive construction methods e.g., green walls.

Restore:

NbS can help restore landscapes impacted by development and intensive agriculture e.g., reforestation of degraded pasturelands.

Offset:

High integrity NbS projects can be used to offset carbon emissions when used as part of a wider, scientifically credible decarbonisation plan (exampled in The Nature Conservancy (TNC) report 'Bending the Curve'[25]).

What are the co-benefits of NbS?

Environmental co-benefits

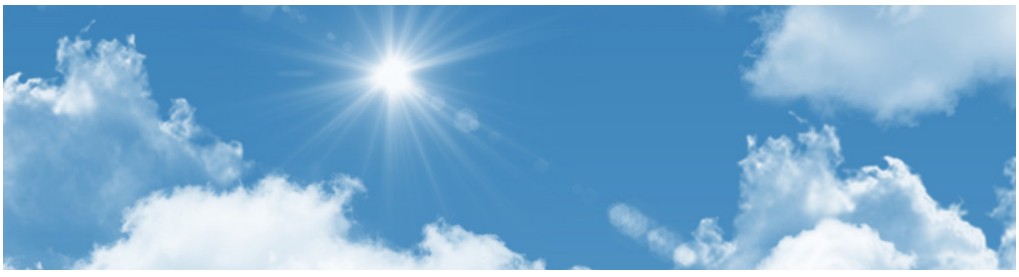
The environmental co-benefits of NbS include enhanced biodiversity, improved air and water quality, increased carbon sequestration, soil health restoration, flood risk reduction, and the preservation of ecosystems and habitats. Additionally, NbS can positively benefit the economy as 55% of all GDP is dependent on nature.[26]

Community co-benefits

Investing in nature-based solutions (NbS) has the additional benefit of creating jobs and boosting local economies. Long-term stewardship of natural resources requires local involvement and ownership, and since Indigenous Peoples and local communities collectively manage one-quarter of the world's lands and 17% of all forest carbon, investments in IP&LC-led NbS projects are can also benefit Indigenous Peoples, who to date have received less than 1% of climate finance.[27, 28, 29]. Many communities depend on their local ecosystems for water and food, as well as spiritual and cultural practices. Thereby through exploring the incentives at play among different stakeholders and utilising systems thinking to identify potential trade-offs, NbS can be designed to create win-win situations. This approach leads to enhanced social cohesion, improved livelihoods, and greater access to ecosystem services, while simultaneously fostering a sense of ownership and stewardship over natural resources.[30] In addition, NbS can build resilience to climate change: tree planting in cities can reduce temperatures, mangroves and coral reefs can reduce the impacts of climate-related coastal hazards such as storm surges and coastal erosion, and NbS in agricultural landscapes can reduce soil erosion.

CASE STUDY – Cumberland Forest Project

The Cumberland Forest Project, spanning 253,000 acres across Southwest Virginia and the Kentucky-Tennessee border, is one of The Nature Conservancy's largest conservation initiatives in the eastern U.S. It was financed through an innovative sustainable forestry fund created by TNC's NatureVest team. This project not only holds cultural significance for Indigenous communities, including the Cherokee, Shawnee, and Yuchi Nations, but also aims to combat climate change by sequestering millions of tons of carbon dioxide and establishing a vital migratory corridor for species adapting to shifting climates.[31]



CASE STUDY – Blue Revolution Fund

The Blue Revolution Fund (BRF), a sustainability-focused aquaculture impact investment fund established by Hatch Blue and advised by The Nature Conservancy, has successfully closed with €93 million in commitments to invest in over a dozen early-stage aquaculture ventures aimed at improving ocean health, combating climate change, and supporting coastal communities. As aquaculture becomes the fastest-growing form of food production, BRF seeks to enhance sustainable practices and technologies in the sector, targeting investments in next-generation fish farms, regenerative farming, and alternative seafood, while ensuring that financial returns are aligned with meaningful environmental outcomes.[32]

Current global climate finance flows

Current global climate finance flows are characterised by a significant increase in investments aimed at mitigating and adapting to climate change, yet they remain insufficient to meet the targets outlined in the Paris Agreement. Notably, funding for adaptation to climate change is considerably lower than for mitigation, and adaptation interventions often lack a revenue stream, complicating the role of private finance in supporting these essential initiatives.

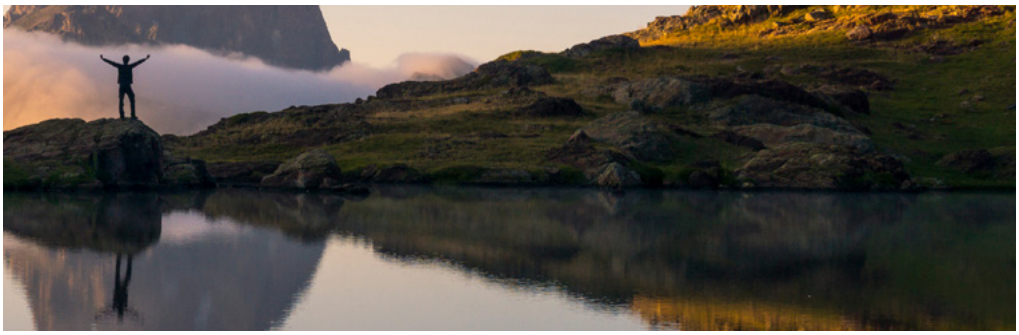
While public funding from governments and international organizations plays a crucial role, private sector investments are essential for scaling up climate finance, particularly in developing countries where the need for sustainable infrastructure and nature-based solutions is critical.

At COP29, a goal of $1.3 trillion was set to mobilize climate finance, with a roadmap to be developed by COP30 to outline strategies for achieving this target and enhancing global climate action.

Where are the gaps in global climate finance?

Gaps in climate financing, particularly for neglected and hard-to-abate sectors, stem from several key issues. High perceived risks associated with these sectors discourage private investment, while a lack of capacity in developing regions limits access to available funding. Insufficient public funding and a focus on short-term returns further exacerbate the problem, as many climate projects require long-term commitments. The cost of capital is also a major stumbling block for emerging markets attempting to deliver more innovative solutions. According to a recent Columbia University study, emerging markets and developing economies (EMDE's) face 3-5x higher borrowing costs, further exacerbated by sovereign credit ratings (that are often a self-perpetuating cycle of borrowing to cover interest payments).[33] Debt servicing is therefore costing a lot for EMDEs, and thus restricting their spending on climate e.g., 3.4 billion people live in countries that spend more on interest than on health or education.[34] This also creates an environment where the cost of cleaner energy and technological solutions, irrespective of sector, is higher than in more developed nations, meaning fossil fuels remain cheaper in EMDEs.

The situation is not helped by a fragmented funding landscape, which creates confusion for project developers. Geopolitical factors can also hinder investment. Addressing these challenges is crucial for mobilising resources to support climate initiatives in neglected and hard-to-abate sectors.



Public and private finance alone cannot close the investment gap; effective collaboration and resource utilisation are crucial for achieving net-zero. A unified approach is needed for the energy transition and to tackle AFOLU drivers of emissions, with government policies and public funding fostering an environment that encourages private investment[35] as well as supporting innovation by incentivising the market (both manufacturers, suppliers and customers) to demand new solutions. Policy and market incentives across the innovation adoption curve drive both development of new technology and its uptake. Without incentives to change, whether that is from the government, consumers or the private sector, there is little motivation for new technologies to become more readily available. This is minimising the potential for new, innovative solutions to become commercially viable (due to lack of market forces 'pulling' the market towards a specific solution) and therefore stymying solutions that could accelerate emissions reductions around the world.

Sections 3 - 5 of this report will dive deeper into the existing gaps and barriers, as well as what strategies exist to overcome them.

3

Barriers to financing

Climate financing is essential for supporting the transition to a low-carbon economy and addressing the impacts of climate change. However, there are many barriers and gaps in financing for climate and net-zero initiatives – particularly in neglected and hard-to-abate sectors, which stem from several key challenges in mitigating emissions from these sectors as well as wider socio-economic and geopolitical influences. Addressing even some of these barriers is essential to meeting global climate commitments and transitioning away from fossil fuels.

Policy and institutional barriers

Policy and institutional barriers to climate financing are plentiful. They include, but are not limited to:

- **Lacking clear regulatory frameworks and policy impetus**: Without consistent and agreed standards, both internationally and domestically, it is difficult for both investors and entrepreneurs to identify and develop appropriate solutions that can become commercially viable. A robust regulatory environment also gives investors confidence that products, technologies and wider activities can be assessed and evaluated to determine efficacy. Demand for change must come from international institutions who are able to influence wider (governmental) policy and support EMDEs, in particular, manage their debt and capital challenges by, for example, re-evaluating how credit ratings are made.
- **Insufficient incentives**: Without incentives for consumers and producers (including product sellers) to innovate and develop more cost-effective solutions, fossil fuels will remain one of the cheaper options. Managing risk and return on investment is particularly challenging in EMDEs, as previously outlined, due to increasingly high debt, poor credit ratings and insufficiently mature markets to effectively support solutions over the long term. Utilising alternative and innovative financing mechanisms, such as pull finance, blended finance, concessional capital, or even debt swaps, can help alleviate some of these challenges.

These challenges can deter investment in climate initiatives and hinder the effective allocation of resources needed to address climate change and require both public and private sector engagement to overcome.

Neglected and hard-to-abate sectors face a unique set of barriers to obtaining financial support, these include but are not limited to the following:

- **High capital costs**: Many hard-to-abate sectors, such as cement and steel, require significant upfront investment for low-carbon technologies, which can be a barrier to financing.
- **Perceived risk**: Investors may view neglected and hard-to-abate sectors as high-risk due to regulatory uncertainties and the potential for stranded assets, leading to reluctance in providing funding.
- **Limited market demand**: A lack of market demand for low-carbon products in these sectors can reduce the incentive for investment in sustainable practices.
- **Insufficient policy support**: Many neglected and hard-to-abate sectors do not receive adequate policy attention or support, leading to a lack of targeted financing mechanisms to facilitate their transition to low-carbon alternatives.

The implementation of nature-based solutions (NbS) in neglected sectors has been slow, primarily due to concerns about the perceived risks associated with the long timeframes for return on investment and permanence of NbS. Many stakeholders view NbS as a relatively novel concept, resulting in low awareness and understanding of their potential benefits. Decision-makers often question the reliability, cost-effectiveness and long-term performance of nature-based projects compared to traditional "grey" infrastructure, which can appear more immediately beneficial. "Grey" infrastructure is often seen as more beneficial due to its ability to deliver immediate results, predictability, and established technologies, as well as the short-term economic benefits it provides. That said, NbS can have lower maintenance costs over a project lifecycle and as a result, research is finding that NbS can, in many cases, be more cost-effective than grey infrastructure.[36, 37] Additionally, traditional funding mechanisms are more readily available for grey infrastructure projects, making them easier to finance compared to NbS, which may require innovative approaches.

Furthermore, the financial barriers to NbS are significant. Securing funding and institutional support can be challenging to achieve without robust evidence of success elsewhere, particularly when the benefits are dispersed or realized only over the long term.

Limited private sector engagement

Private sector investment in NbS is restricted due to the time and resources required for effective design and long-term sustainability, coupled with the inadequacy of traditional funding sources like government support and philanthropy. There are also often questions about ability to effectively monitor, track and report on results from NbS, making the case for private, and longer term, investment more challenging amongst the multitude of other shareholder priorities.

As touched on earlier, there is a pressing need for alternative financing mechanisms from private and blended sources. However, many NbS projects that could attract private investment are not structured from the beginning to leverage this funding as they often lack well-defined business models with clear revenue streams, making them less appealing to private investors. There is the case for putting into place incentive systems to attract more private investors,[38] as well as create alternative, nature forward investment and funding opportunities. Such options see various environmental organizations look at ways to challenge and change the nature financing landscape through innovative mechanisms like nature bonds, blended finance impact funds, locally-led market shaping and de-risking via insurance solutions that reward nature-based resilience.

To build a pipeline of investable projects for the private sector, it is essential to mainstream biodiversity into financial systems and business operations, recognising nature as both an asset and a risk. This requires the development of innovative financing mechanisms like blended finance, nature bonds, and payments for ecosystem services, alongside companies acknowledging their dependencies on nature through frameworks like the Taskforce on Nature-related Financial Disclosures (TNFD) and setting science-based targets via the Science Based Targets Network (SBTN) framework. Additionally, governments must redirect harmful environmental subsidies to promote NbS and integrate nature considerations into all decision-making processes.

Other Barriers

- **Lack of standardised metrics and valuation**: Without universally accepted metrics, investors struggle to compare projects, evaluate risks, and determine potential returns on investment, leading to hesitancy in committing funds. Recently this issue has been highlighted by SHIFT-CM, a coalition of scientists co-led by The Nature Conservancy and Yale University aiming to advance integrity in this area, who just launched an official partnership with the Integrity Council for Voluntary Carbon Markets (ICVCM).[39]
- **Scale of projects**: The scale of NbS projects poses a barrier to financing in neglected and hard-to-abate sectors because larger projects often require substantial upfront investment and long-term commitment, which can deter potential investors. Many financial institutions prefer smaller, more manageable projects with quicker returns, making it challenging to secure funding for larger initiatives that may take years or even decades to yield significant benefits. However, jurisdictional approaches such as REDD+ are helping to overcome the scale-challenge, especially for forest solutions, and a pipeline of large-scale J-REDD+ projects is now available to invest. Furthermore, companies are increasingly recognising the potential and value of landscape-level approaches (CDP, 2024), collaborating around sustainable use and management of a wider landscape, often around supply chain footprints.[40]
- **Lack of extensive track record in successful projects**: Financiers are often hesitant to invest in unproven initiatives due to perceived risks and uncertainties associated with their viability and returns.

Nature-based solutions (NbS) can play a vital role in overcoming these barriers by providing cost-effective, scalable approaches that enhance carbon sequestration while delivering co-benefits such as biodiversity conservation and improved community resilience, thereby attracting much-needed investment. There is increasing evidence that NbS can provide financial returns, particularly when focused on adaptation solutions, and with the billions of dollars needed to scale climate finance goals, NbS provides an increasingly attractive option for businesses to invest (and protect their assets).[41]

Proposed Actions for Change

- **The private and public sectors can collaborate** to scale up nature-based solutions by forming partnerships that leverage public funding and incentives to attract private investment, while jointly developing projects that enhance environmental sustainability and community resilience.
- **Utilise the challenges that businesses face** in operating global businesses to help shift the narrative from a 'climate solution' into a 'business solution.'
- **Align the valuation of NbS** thereby establishing clearer frameworks that can be utilised, measured and evaluated by investors, enhancing transparency and the ability to report on results. This also links to better data management, providing investors, businesses, policy makers, consumers and suppliers with a better understanding of what works and what doesn't.
- **Develop a more effective country partnership model** that leverages local expertise and builds community engagement and socio-economic benefit as part of each programme.
- **Private sector to disclose nature-related dependencies, risks, and impacts**, e.g., through the Taskforce on Nature-related Financial Disclosures (TNFD), and **set science-based targets for nature** e.g., through the Science Based Targets Network (SBTN). This will help identify which parts of the business depend on nature and would benefit from investments in nature; and identify which areas of the business have the largest impacts to be mitigated.

The case for investing

4

Investing in neglected and hard-to-abate sectors is essential for achieving significant emissions reductions and fostering sustainable economic growth. Nature-based solutions (NbS) can offer a cost-effective approach to addressing these challenges, providing long-term benefits by building resilience, helping communities adapt to climate change and, in the shorter term, help mitigate those same effects.

Cost-effectiveness and long-term benefits of NbS

The cost-effectiveness and long-term benefits of nature-based solutions (NbS) are often evaluated in terms of the balance between potential returns and associated risks.

Nature-based solutions (NbS) are often more cost-effective than traditional infrastructure due to their lower implementation costs and the multiple benefits they provide. Once established, NbS typically require less expensive maintenance, leading to reduced long-term operational costs. By leveraging natural processes, NbS not only deliver essential ecosystem services but also contribute to sustainable solutions that adapt to changing environmental conditions, making them a valuable investment for both economic and ecological stability.

Years of research have demonstrated that such solutions offer numerous ecological and socio-economic advantages at the local level. For instance, restoring a forest adjacent to a stream can help reduce flooding, enhance carbon storage and support fish populations. As the world continues to face extreme weather events, utilising NbS can help local communities adapt in a changing world. Additionally, new WRI research has found that 'investing $1 in adaptation can yield more than $10.50 in benefits over 10 years' with such yields occurring even when extreme weather events don't occur.[42]

NbS offer many effective long-term benefits and must be designed to produce results for all stakeholders involved, not just investors, over an extended period to ensure sustainability.

1. **Sustainability**: NbS can provide sustainable solutions that adapt to changing environmental conditions, ensuring continued benefits over time. They also enhance community livelihoods by providing sustainable income opportunities, improving access to resources, and fostering local engagement, thereby creating strong incentives for environmental stewardship.
2. **Ecosystem services**: By restoring and preserving ecosystems, NbS contribute to the long-term provision of essential services, such as pollination, soil fertility, and water regulation, which are critical for human well-being and economic stability.
3. **Climate resilience**: NbS enhance the resilience of communities and ecosystems to climate change impacts, reducing future costs associated with disaster recovery and infrastructure repair.

As awareness of these benefits grows, and more research and evidence published, nature-based solutions should see heightened interest and resulting increase in viability from policy makers, suppliers and manufacturers and the business community, including impact funds and climate investors.

CASE STUDY — Delivering through civil society — Blue Forests

The Blue Forests project, an expansion of a successful pilot funded by the Darwin Initiative, exemplifies the effectiveness of nature-based solutions for climate mitigation and adaptation. Led by Blue Ventures, this initiative collaborates with local communities, the private sector, and government to address mangrove forest loss in Madagascar and Indonesia. By employing a holistic approach that tests various intervention models, the project aims to establish sustainable livelihoods, promote green businesses, and enhance community health and governance. It is projected to support the livelihoods of 86,000 people, prevent the deforestation of 4,400 hectares of mangroves, and protect over 180,000 hectares of forest. Additionally, the project is expected to save 7.8 million tonnes of greenhouse gas emissions over 20 years while fostering biodiversity. Its success could lead to the adoption of its models in over 90 additional sites, creating a transformational impact.[43]

5

Strategies to mobilize Climate Finance for these sectors

Effective strategies to mobilize climate finance for neglected and hard-to-abate sectors are critical for achieving global climate goals. By leveraging innovative funding mechanisms, in conjunction with policy initiatives such as subsidies, we can enhance the attractiveness for investment and catalyse funding.

Policy recommendations

Establishing National Targets and Carbon Pricing

Countries could support the transition by establishing long-term, sector-specific, national targets and transition plans/pathways with clear intermediate milestones. The adoption of green technologies in hard-to-abate sectors can also be incentivized by implementing national carbon pricing policies that internalise the full value of the negative environmental externalities of fossil energy. Building complementarity across national carbon and emissions trading schemes and aligning with international standards will also help avoid a patchwork approach and facilitate greater transboundary investment in NbS across markets.

Aligning taxes and subsidies for energy, industry and agriculture with decarbonisation objectives can also play an important role, driving the electrification of heat and transport applications and enhancing incentives to take up NbS.[44]

Incorporating Nature Value in Decision-Making

Another route is to help governments, central banks, businesses and financial institutions recognise how a failure to incorporate the value of nature into their decision-making processes is a short-, medium- and long-term business risk. Therefore, they need to support the redirection of global financial flows toward a nature-positive future. This includes the integration of nature-based solutions for infrastructure within planning and investment strategies and detailed evaluation of supply chain operations.[45]

Integrating NbS into Decarbonisation Pathways

Integrating NbS into sectoral decarbonisation pathways and Nationally Determined Contributions (NDCs) is also important for enhancing climate action and promoting sustainable development. This can be achieved by aligning NbS with sectoral goals, incorporating them into NDCs, conducting comprehensive assessments, engaging stakeholders and leveraging financial mechanisms, all while establishing monitoring frameworks and promoting capacity building to ensure effective implementation and maximise climate benefits. Governments and regulators need to work on developing high integrity carbon markets so the impact of NbS in this area is not undermined. This can be achieved by utilising tools such as the Paris Agreement Crediting Mechanism (PACM), which serves as the UN's new high-integrity carbon crediting mechanism.[46] Ensuring that nature-based solutions are recognised and fully accepted under Article 6.4 is critical.

Supporting Legislation for Transparency in Nature Impact

Governments could also support by bringing forward appropriate national legislation. For example the UK should mandate the Taskforce on Nature-related Financial Disclosures (TNFD) to ensure that companies transparently assess and report their dependencies and impacts on nature, thereby promoting accountability and driving investment towards sustainable practices that protect biodiversity.

Policy incentives

Policy and green tax incentives can boost climate financing in hard-to-abate sectors by reducing financial risks and making sustainable practices more attractive to investors. By offering tax credits, subsidies, or grants for low-carbon technologies and nature-inclusive land management and agricultural practices, governments can encourage private sector participation and innovation. The market for nature-based solutions in Europe is dominated by public sector funding in the form of grants, this is something which should be more focused on neglected sectors.[47, 48]

Governments can also consider establishing regulated markets for biodiversity to stimulate private sector investment into NbS and provide alternative revenue streams for farmers to introduce biodiversity into their land. In the UK, the Biodiversity Net Gain scheme rewards farmers for setting aside land for nature, which in turn can benefit agricultural productivity and resilience and enhance carbon sequestration. The EU has set out a roadmap for nature credits (see below), also to create a well-regulated, high-integrity market for nature-based solutions.

However, when we look at EMDE's, there is less incentive for private sector companies to move away from higher carbon emitting sectors, even with finance flows into climate technologies increasing year on year.[49] In EMDE's there is a greater need for pushing more localised policy initiatives that can support pathway development for certain climate solutions and changes to industry. Leveraging Country Platform models, for example, as discussed by the Centre for Global Development when discussing the future of Official Development Assistance (ODA), can help countries advance their domestic priorities with support from the international community, rather than being driven by the international agenda. Country platforms strengthen the alignment of climate, nature, and development initiatives, enabling countries to formulate informed investment strategies and bankable projects while fostering cross-sectoral collaboration and attracting public and private investment.

CASE STUDY – Nature Credits Roadmap

The European Commission launched the "Roadmap towards Nature Credits" on July 7, 2025, to incentivize private finance for nature-based solutions (NbS) by rewarding individuals and organizations that protect and restore nature, such as companies, farmers, and local communities.

Nature Credits serve as a market-based instrument that allows companies, investors, and citizens to invest in nature-positive actions like reforestation and wetland restoration, offering benefits such as cleaner ecosystems, enhanced reputation, and reduced risks from environmental hazards. With three out of four EU businesses relying on nature, these credits help internalise environmental risks and mitigate potential profit losses due to climate and nature degradation. The EU is piloting nature credit markets in France, Estonia, and Peru while collaborating with international partners to establish clear standards and certification processes to attract private capital and close the ecological investment gap.

"We have to put nature on the balance sheet. That's exactly what nature credits do. When well-designed, they will provide an efficient, market-driven instrument that encourage the private sector to invest and innovate. With investment and innovation, we generate revenue for those who work to protect nature, including our farmers, our landowners, our foresters.[50]

Ursula von der Leyen, President of the European Commission

Fast-tracking technology adoption

The transition in hard-to-abate sectors can be supported by working to scale up global supply chains for specific solutions or technologies where a shared challenge exists, such as biomass, which addresses the need for sustainable energy sources and carbon reduction by utilising organic materials that would otherwise contribute to waste, thereby providing a renewable alternative to fossil fuels.

This transition can be achieved with policies that provide incentives for the production and/or use of, for example, bioenergy, coupled with strict sustainability governance procedures and regulations. Another measure to accelerate the decarbonisation of hard-to-abate sectors is supporting the production of low carbon commodities using green hydrogen — such as ammonia, methanol and iron. However, to catalyse investment into these harder to reach and more technologically challenging areas requires changes to the financing and risk landscape that currently stymies investment into EMDEs.

The innovation adoption curve can be reviewed to illustrate the stages through which new technologies or ideas gain acceptance, and policies to encourage innovation along this curve range from investing in research and development (R&D) to establishing corporate standards that promote widespread adoption and integration of innovative solutions.

Role of international cooperation and multilateral development banks

International cooperation and leveraging DFI's, particularly through an improved usage of their balance sheets, could be a way to de-risk and catalyse investment into hard-to-abate sectors and NbS. For instance, countries can work together towards further international convergence in the decarbonisation objectives for key traded commodities such as steel, ammonia and methanol, as well as aviation and shipping fuels. There should also be alignment in definitions, standards, thresholds and certification procedures to enable the international trade of such low-carbon commodities.

The issuance of green bonds can be a powerful tool in this context, as they provide a mechanism for raising capital specifically for projects that support the transition to low-carbon alternatives. They can also be 'localised,' meaning they can reduce certain types of risk that are unattractive to foreign investors in EMDEs (e.g., currency). By linking bond financing to the production and trade of these commodities, countries can incentivize investment in sustainable practices, enhance market confidence, and drive innovation in low-carbon technologies, ultimately facilitating a more robust and interconnected global market for decarbonised goods.

MDBs should double-down on and accelerate progress towards the objectives set out in the Joint Statement on Nature, which outlined targets for mainstreaming nature in all operations, policies and investments, and to foster nature-positive investments. MDBs have a powerful role to play in creating enabling conditions for private finance to invest in NbS through investing in policy frameworks and providing catalytic capital to de-risk private finance.

CASE STUDY – Seychelles Blue Bond (2018)

In 2018, the Seychelles became the first country to issue a sovereign blue bond, raising $15 million from international investors to support sustainable marine and fisheries projects. Backed by a $5 million World Bank guarantee and a $5 million concessional loan from the Global Environment Facility, the bond aimed to transition the country from overfishing to sustainable use of its marine resources. Proceeds were allocated to the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), funding community-based conservation initiatives and enhancing coral reef resilience, ultimately protecting over 400,000 km² of ocean. This innovative approach demonstrated how small nations can leverage capital markets for marine conservation, setting a precedent for future "blue finance" initiatives and showcasing the potential of blended finance to unlock funding for ocean-focused nature-based solutions.[51]

De-risking investment and enhancing private sector participation

There are a number of innovative financing mechanisms that are being utilised to catalyse investment into climate mitigation and, to a lesser degree, adaptation solutions, including but not limited to: green bonds, debt conversions, blended finance, carbon markets, pull finance mechanisms, guarantees, localised financial policy and regulatory alignment. The majority of these mechanisms are, at their core, de-risking the investment, irrespective of sector or geography. For instance, by developing localised solutions in EMDEs (such as through green bonds or guarantee mechanisms), foreign investors may be less deterred by currency risk and fluctuations. As the recent CPI report states 'EMDEs still need more catalytic forms of capital, such as guarantees, grants and catalytic equity in blended finance models, to demonstrate and accelerate new solutions and derisk commercial structures.'[52]

Governments can therefore be drivers of supporting the transition within hard-to-abate sectors through blended finance vehicles (in conjunction with the private sector) and through pull finance mechanisms. We discuss both of these further below.

Blended Finance

Blended finance is a mechanism whereby multiple funders, with varying levels of risk appetite, can participate in different components of previously unattractive or 'unbankable' investments to unlock opportunities deemed too risky or unprofitable. Such mechanisms have typically been directed toward lower-risk climate projects by strategically leveraging public or philanthropic funds to enhance the financial viability of these initiatives. Governments can explore the use of concessional capital-funds that are offered on more favourable terms than the market rate-to absorb some of the risks associated with the project. By doing so, blended finance can create a more secure investment environment that attracts private investors who may be wary of high-risk projects, as well as generating meaningful returns for senior tranche investors.

For example, the Financing Steel Decarbonisation (FSD) initiative in India is a $1 billion blended fund (matched public and private debt) paired with technical assistance, designed to finance deployment of low-carbon steel technologies and prepare bankable projects. FSD aims to mobilize an additional $3.4 billion in private investment and cut steel emissions intensity ~25% across 20 Mt of production.[53]

Blended finance can have a significantly stronger catalytic impact on nature-based solutions (NbS) compared to established climate finance pathways, as public finance mechanisms, like first-loss guarantees, are essential to strengthen the investment case for NbS. Given the weaker investment ecosystem and limited track record, blended finance plays a crucial role in driving progress. Additionally, blended finance, particularly lower-cost debt, is vital for addressing high upfront costs associated with wetlands, peat, and mangrove restoration, as well as reforestation, helping to mitigate longer repayment periods and cash flow challenges.

Pull Finance mechanisms

Pull mechanisms come in many forms — advance market commitments, contracts for difference, outcomes / results-based finance — and have been used successfully over the years, most notably the AMC for the COVID-19 vaccine. Pull mechanisms have been gaining significant traction in climate, particularly as it relates to NbS. For example, in February 2025, the Small-Scale Fisheries Impact Bond was launched as the first marine outcome-based finance (OBF) facility, where funding is only paid out when results are independently verified and achieved.[54]

The opportunities for utilising Pull mechanisms are numerous. They are, by their very nature, de-risking mechanisms. In the case of OBF or RBF, funds are typically not dispersed until outcomes are verified and achieved. With AMCs, governments are not required to provide rebates or other financial support until a product is deemed effective and commercially viable. Contracts for difference incentivize the end user to buy or utilise the product on offer. Whilst potentially more challenging within the context of NbS, to reduce carbon emissions and manage the transition for hard-to-abate sectors, contracts for difference is becoming more common — particularly since the European Union's Emission Trading System came into effect. There have been successful usages of CfD in the Netherlands, Denmark and the UK.[55]

Although there are intrinsic challenges with Pull mechanisms, such as delivering independent, verifiable results, the upsides of utilising a diverse set of mechanisms can help catalyse both public and private sector investment by de-risking projects in EMDEs. They can operate as a tool to incentivize technological development in hard-to-abate sectors by subsidising successful, commercialised products that can then be scaled. Working with partner governments, DFIs and private sector organizations to build a pathway for greater scaling of pull mechanisms is the first step to make these innovative tools more common when combating hard-to-abate sectors and delivering impactful adaptive nature-based solutions.

Proposed Actions for Change

- **Explore innovative funding mechanisms** to support adaptive and mitigative nature-based solutions, as well as the decarbonisation of hard-to-abate sectors. By providing targeted financial resources, we can enable the development and implementation of sustainable projects, reduce upfront costs, de-risk investments for foreign investors, and incentivize collaboration among stakeholders. This approach will ultimately foster long-term environmental and economic benefits.
- **Enhance local and regional delivery in and amongst EMDE's** to better establish Country Platforms that can coordinate with the local, regional and international ecosystem to better build coherence and cooperation for specific climate challenges facing each country.
- **Co-develop pathways for technological advancement** by focusing on a specific solution and create a framework that can be rolled out quickly by incentivising the private sector to innovate and create more sustainable solutions.
- **Private sector should work to identify risks and dependencies** (both climate and nature), as this will help drive investment in mitigating those risks and investing in dependencies

6

Conclusion and recommendations

Addressing the challenges posed by hard-to-abate sectors and catalysing investment into NbS is essential for achieving global climate goals and fostering sustainable development. These sectors, which range from smallholder agriculture, peatlands and informal waste management to the construction and power industries, hold significant potential for emissions reduction and carbon sequestration. Nature-based solutions (NbS) can play a pivotal role in unlocking climate finance for these areas — particularly in the neglected sectors, offering cost-effective and sustainable pathways to mitigate climate change while delivering co-benefits for local communities and ecosystems. However, substantial barriers remain, including limited private sector engagement, high perceived risks, and inadequate policy support, which hinder investment in these critical sectors.

To overcome these challenges, we recommend the following actions:

1. **Enhance policy frameworks:** Governments should establish clear regulatory frameworks and long-term, sector-specific targets that incentivize low-carbon technologies and support the integration of NbS into Nationally Determined Contributions (NDCs). This includes implementing carbon pricing mechanisms that internalise the environmental costs of fossil fuels.
2. **Foster public-private partnerships**: Collaboration between public and private sectors is vital to mobilize resources and drive innovation. By targeting public funding where only public funding can go, governments can attract private investment in neglected and hard-to-abate sectors, facilitating climate finance flows to where they are most needed.
3. **Promote innovative financing mechanisms**: The development of blended finance models, green bonds, high-quality carbon, and nature credits can help de-risk investments in NbS and create a more secure environment for private investors. These mechanisms should be tailored to address the unique challenges faced by neglected sectors.
4. **Support capacity building and awareness:** Increasing awareness of the benefits of NbS and providing technical assistance to stakeholders in neglected sectors can enhance engagement and investment. This includes developing standardised metrics for evaluating NbS projects to build investor confidence.
5. **Encourage international cooperation**: Countries should work together to align definitions, standards, and certification processes for low-carbon commodities, facilitating international trade and investment in sustainable practices. Utilising Article 6 of the Paris Agreement can also unlock financial support for developing countries through carbon crediting mechanisms.

By implementing these recommendations, we can unlock the potential of neglected and hard-to-abate sectors, drive transformative change and contribute to a sustainable, resilient future that aligns with global climate objectives.

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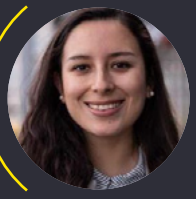

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Appendix

1 Annex-9_Water-Energy-and-Food-Security-Nexus-Indicator-Framework-1.pdf

2 HARD TO ABATE SECTORS AND EMISSIONS II:The road to decarbonization

3 Cognizant. (n.d.). How the World Can Fund the Trillions Needed for Net Zero. https://www.cognizant.com/us/en/insights/insights-blog/how-the-world-can-fund-the-trillions-needed-for-net-zero-wf2410500

4 Ernst & Young (EY). (n.d). International Climate Finance. https://www.ey.com/content/dam/ey-unified-site/ey-com/en-uk/insights/sustainability/documents/ey-international-climate-finance.pdf

5 International Union for Conservation of Nature (IUCN). (n.d.). Nature-Based Solutions. https://iucn.org/our-work/nature-based-solutions

6 Subak. (n.d.). Neglected Climate Areas: A High-Level Analysis. https://www.subak.org/neglected-climate-areas

7 NetNada. (n.d.). Decarbonising Hard-to-Abate Sectors: Real-Life Examples of Decarbonisation Strategies. https://www.netnada.com/post/decarbonising-hard-to-abate-sectors-real-life-examples-of-decarbonisation-strategies#strongwhat-are-hard-to-abate-sectorsstrong

8 Citi. (n.d.). Hard to Abate Sectors & Emissions II The Road to Decarbonization. https://ir.citi.com/gps/k1VJq1IEP6T2xuYhPeSAK5LfPi8IKpSjOS_xj8-L_68ZLfYC0sGobEAOoj5g7jDoa3qREqZdmSO2GTRmWVYG7pviZ_OZgAvQA_J2aIwXIFAIIXSt6yhuX_mgCBkKx4Yg0FetTY_ZlpTuOX2MwsrWyg%3D%3D

9 Revolve Media. (n.d.). Decarbonising Hard-to-Abate Sectors. https://revolve.media/opinions/decarbonising-hard-to-abate-sectors#:~:text=While%20progress%20has%20been%20made%20in%20electrifying%20cars,and%20the%20production%20of%20steel%2C%20cement%2C%20and%20chemicals

10 Iberdrola. (n.d.). Hard-to-Abate Sectors. https://www.iberdrola.com/sustainability/energy-transition/decarbonized-economy-principles-regulatory-actions/hard-to-abate-sectors

11 SS Governance. (n.d.). Beyond Net Zero Pledges: Navigating Hard-to-Abate Sectors. https://insights.issgovernance.com/posts/beyond-net-zero-pledges-navigating-hard-to-abate-sectors/

12 ISS Governance. (n.d.). Beyond Net Zero Pledges: Navigating Hard-to-Abate Sectors. https://insights.issgovernance.com/posts/beyond-net-zero-pledges-navigating-hard-to-abate-sectors/

13 Proceedings of the National Academy of Sciences (PNAS). (2017). Natural Climate Solutions. https://www.pnas.org/doi/full/10.1073/pnas.1710465114

14 Regeneration Works. (n.d.). The Tradeoffs Between Engineered and Nature-Based Solutions to Climate Change. https://weekly.regeneration.works/p/the-tradeoffs-between-engineered

15 https://www.naturebase.org/

16 New Civil Engineer. (n.d.). Is the Uptake of Nature-Based Solutions Advancing Quickly Enough? https://www.newcivilengineer.com/latest/is-the-uptake-of-nature-based-solutions-advancing-quickly-enough-23-03-2023/

17 UK Government. (n.d.). Government Launches Tree Planting Taskforce to Oversee Planting of Millions of Trees Across Our Four Nations. https://www.gov.uk/government/news/government-launches-treeplantingtaskforce-to-oversee-planting-of-millions-of-trees-across-our-four-nations

18 Rainforest Alliance. 9 rainforest facts everyone should know. https://www.rainforest-alliance.org/everyday-actions/9-rainforest-facts-everyone-should-know/

19 World Environment Day. (n.d.). LEAF Coalition: New Public-Private Initiative to Protect the World's Forests. https://www.worldenvironmentday.global/featured-updates/leaf-coalition-new-public-private-initiative-protect-worlds-forests

20 Brazilian Development Bank (BNDES). (n.d.). Norway Fulfills Its Commitment to Contribute One Billion USD to the Brazilian Amazon Fund. https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/conteudos/noticia/Norway-fulfills-its-commitment-to-contribute-one-billion-USD-to-the-Brazilian-Amazon-Fund/

21 TNP. (n.d.). Norway Pays One Billion Dollar to Brazil for Reduced Deforestation in the Amazon. https://www.tnp.no/norway/panorama/5084-norway-pays-one-billion-dollar-to-brazil-for-reduced-deforestation-in-the-amazon/

22 Climate Policy Initiative. (2024). Toolbox on Financing Nature-Based Solutions. https://www.climatepolicyinitiative.org/wp-content/uploads/2024/09/Report-Toolbox-on-Financing-Nature-Based-Solutions.pdf#page=49

23 The Nature Conservancy. (n.d.). Ecuador Announces Debt Conversion for Amazon Conservation: TNC Nature Bonds. https://www.nature.org/en-us/newsroom/ecuador-announces-debt-conversion-for-amazon-conservation-tnc-nature-bonds/

24 Reuters. (2023). Ecuador Seals Record Debt-for-Nature Swap with Galapagos Bond. https://www.reuters.com/world/americas/ecuador-seals-record-debt-for-nature-swap-with-galapagos-bond-2023-05-09/

25 The Nature Conservancy. (n.d.). Corporate Uses of Carbon Credits. https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/carbon-market-credits-offsets/corporate-uses-of-carbon-credits/

26 PwC. (n.d.). More Than Half of Global GDP is Exposed to Material Nature Risk. https://www.pwc.co.uk/press-room/press-releases/corporate-news/more-than-half-of-global-gdp-is-exposed-to-material-nature-risk-.html

27 Nature article: Nature Sustainability. https://www.nature.com/articles/s41893-018-0100-6

28 Global Baseline report: Rights and Resources Initiative. (2018). A Global Baseline. https://rightsandresources.org/wp-content/uploads/2018/09/A-Global-Baseline_RRI_Sept-2018.pdf

29 Mongabay. (2021). Indigenous people get less than 1% of climate funding; it's actually worse. https://news.mongabay.com/2021/11/indigenous-people-get-less-than-1-of-climate-funding-its-actually-worse-commentary/

30 International Renewable Energy Agency (IRENA). (2024). Decarbonising Hard-to-Abate Sectors. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2024/Apr/IRENA_G7_Decarbonising_hard_to_abate_sectors_2024.pdf

31 The Nature Conservancy. (n.d.). Cumberland Forest Project. https://www.nature.org/en-us/what-we-do/our-priorities/protect-water-and-land/land-and-water-stories/cumberland-forest-project/

32 The Nature Conservancy. (n.d.). Blue Revolution Fund Exceeds Target. https://www.nature.org/en-us/newsroom/blue-revolution-fund-exceeds-target/

33 Columbia Center on Sustainable Investment (CCSI). (n.d.). Lowering the Cost of Capital for Climate and the SDGs in EMDs. https://ccsi.columbia.edu/content/lowering-cost-of-capital-climate-sdgs-emdes#:~:text=This%20paper%20provides%20a%20holistic%20diagnosis%20of%20the,required%20by%20both%20global%20goals%20and%20national%20ambitions.

34 United Nations Conference on Trade and Development (UNCTAD). (n.d.). World of Debt. https://unctad.org/publication/world-of-debt

35 Climate Policy Initiative. (2023). How Big is the Net Zero Financing Gap? https://www.climatepolicyinitiative.org/wp-content/uploads/2023/09/How-big-is-the-Net-Zero-financing-gap-2023.pdf

36 Landscape Performance. Nature-based infrastructure is less expensive. https://www.landscapeperformance.org/fast-fact-library/nature-based-infrastructure-less-expensive

37 World Bank. (2023). Assessing the benefits and costs of nature-based solutions for climate resilience: A guideline for project developers. https://www.worldbank.org/en/news/feature/2023/05/22/assessing-the-benefits-and-costs-of-nature-based-solutions-for-climate-resilience-a-guideline-for-project-developers

38 World Wildlife Fund (WWF). (2024). Delivering More by Insetting Through Nature-Based Solutions. https://www.wwf.org.uk/sites/default/files/2024-07/Delivering-more-by-insetting-through-nature-based-solutions.pdf

39 The Nature Conservancy. (n.d.). Integrity Council for the Voluntary Carbon Markets: A Shift in the Carbon Market Partnership. https://www.nature.org/en-us/newsroom/icvcm-integrity-council-voluntary-carbon-markets-shift-cm-partnership/

40 Forest Carbon Partnership Facility. (n.d.). What is Jurisdictional Scale REDD? https://www.forestcarbonpartnership.org/what-jurisdictional-scale-redd

41 World Business Council for Sustainable Development (WBCSD). (n.d.). Natural Hazards: How Nature-Based Solutions Can Help Protect Commercial Buildings and Infrastructure. https://www.wbcsd.org/news/natural-hazards-how-nature-based-solutions-can-help-protect-commercial-buildings-infrastructure/

42 World Resources Institute (WRI). (n.d.). The Climate Adaptation Investment Case. https://www.wri.org/insights/climate-adaptation-investment-case?apcid=00672924c19f22ad60427606

43 United Kingdom Government. (n.d.). Together for People and Planet: UK International Climate Finance Strategy. Together for People and Planet: UK International Climate Finance Strategy

44 International Renewable Energy Agency (IRENA). (2024). Decarbonising Hard-to-Abate Sectors. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2024/Apr/IRENA_G7_Decarbonising_hard_to_abate_sectors_2024.pdf

45 United Kingdom Government. (n.d.). Together for People and Planet: UK International Climate Finance Strategy. Together for People and Planet: UK International Climate Finance Strategy

46 United Nations Framework Convention on Climate Change (UNFCCC). (n.d.). Article 6.4 Mechanism. https://unfccc.int/process-and-meetings/the-paris-agreement/article-64-mechanism

47 AITPR. (n.d.). Climate Change and Green Tax Incentives Driving Sustainable Economic Growth. https://aitpr.org/climate-change-and-green-tax-incentives-driving-sustainable-economic-growth

48 European Investment Bank (EIB). (2023). Investing in Nature-Based Solutions. https://www.eib.org/attachments/lucalli/20230095_investing_in_nature_based_solutions_en.pdf

49 Climate Policy Initiative. (2025). Global Landscape of Climate Finance 2025. https://www.climatepolicyinitiative.org/wp-content/uploads/2000/06/compressed_Global-Landscape-of-Climate-Finance-2025.pdf

50 European Commission. (2025). Nature Credits Roadmap to Reward Nature-Positive Action and Boost Private Finance. https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1679

51 Climate Policy Initiative. (2024). Toolbox on Financing Nature-Based Solutions. https://www.climatepolicyinitiative.org/wp-content/uploads/2024/09/Report-Toolbox-on-Financing-Nature-Based-Solutions.pdf#page=53

52 Climate Policy Initiative. (2025). Global Landscape of Climate Finance 2025. https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2025/

53 Climate Finance Lab. (n.d.). Financing Steel Decarbonization. https://www.climatefinancelab.org/ideas/financing-steel-decarbonization/

54 Rare. (n.d.). The Small-Scale Fisheries Impact Bond. https://rare.org/the-small-scale-fisheries-impact-bond/

55 Clean Air Task Force (CATF). (2024). Carbon Contracts for Difference: Policy Brief. https://cdn.catf.us/wp-content/uploads/2024/02/15092725/Carbon-Contracts-for-Difference-Policy-Brief.pdf

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