



Nordic Council
of Ministers

Study on

LOSS AND DAMAGE FINANCING SOLUTIONS & SOURCES



STUDY ON LOSS AND DAMAGE FINANCING SOLUTIONS & SOURCES

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We would like to acknowledge the contribution and inputs to this study through discussions, presentations and dialogue. The following experts are listed in no particular order: Michai Robertson, Ash Sharma, Liudmila Naydenova, Professor Benito Müller, Gunn-Britt Retter, Stephen Hammer, Genaro Godoy and Silvia Mancini.

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Preface

Climate change is one of the greatest challenges of our time. This year has seen record breaking heat and has by some scientists been said to be the warmest year on earth in more than 120 000 years. The UN Secretary General has also sounded the alarm bells announcing that the era of global boiling has arrived. Climate change introduces risks to all parts of society and natural systems, and the scale of the issue necessitates urgent action and cooperation at global, regional, national and local levels.

Although the Paris Agreement has led to broad global commitment towards a climate neutral and resilient development pathway, the world is not on track to meet the long-term goals of the Paris Agreement. Emission reductions are not deep and fast enough and future tipping points where the earth's climate system will be changed beyond repair are getting closer in time. For every additional fraction of temperature increase the gravity, scope and frequency of loss and damage will increase. Mitigation activities are the first stance of action, which, together with adaptation can reduce the potential loss and damage. However, both mitigation and adaptation actions are falling far behind what is needed.

Actions to avert, minimize and address loss and damage are urgently needed when projected impacts from climate change on human and natural systems meet soft or hard limits to adaptation. Loss and damage due to climate change is increasingly becoming a reality, and the consequences affect the most vulnerable and poorest countries, communities and ecosystems the worst.

Last year, Parties came together under the climate negotiations at COP27 and acknowledged the urgent and immediate need to assist developing countries that are particularly vulnerable in responding to economic and non-economic loss and damage associated with the adverse effects of climate change. As part of this response, new funding arrangements and a fund for responding to loss and damage was agreed to be established, and a Transitional Committee was set up to develop recommendations to be discussed at COP28 with the view to operationalise the COP27 decision. As part of the mandate of the Transitional Committee was the need to identify and expand sources of funding.

This study was commissioned by the Nordic Council of Ministers' Working Group for Climate and Air as a response to the need to get more clarity on the potential to mobilize additional funding for loss and damage through innovative finance solutions. The project is funded by the Nordic Council of Ministers and a Nordic steering group has provided support and guidance. However, the report content does not necessarily reflect the Nordic Council of Ministers' views, opinions, attitudes or recommendations.

The Nordic countries are considered strong contributors of grant based official development assistance (ODA), both bilaterally and through the UN auspices. Contributions from the Nordic countries have been reliable for decades and most Nordic countries have met the UN target of official development assistance of 0.7% of Gross National Income (GNI) since the 1970s. The Nordic countries are also leading donors of climate finance based on per capita contributions to the Green Climate Fund (GCF) and other global climate funds. Through these existing funding arrangements, Nordic countries are already providing funding for loss and damage. Furthermore, Nordic countries strongly support the ongoing efforts to find new and innovative sources of finance for the funding arrangements and a fund responding to loss and damage, noticing the limitations of government grants in responding to the scale of the issue.

In this context, this study is an important step in mapping, identifying and further developing potential solutions and sources for financial support to developing countries that are particularly vulnerable to climate change induced loss and damage.

The study aims at furthering the political dialogue from a factual perspective. It showcases different sources of finance and their potential in enhancing finance for loss and damage. Our hope is to invite to a broader dialogue including the public and private sector, highlighting opportunities for international cooperation and national government action, giving guidance on the choices that are in the hands of politicians and government officials.

The vision of the Nordic Council of Ministers is that the Nordic Region will become the most sustainable and integrated region in the world by 2030. One strategic priority area is that the co-operation within the Nordic Council of Ministers should contribute to the positive development of international co-operation on the environment and climate, and thus support the objectives of the Paris Agreement for combatting climate change. The Nordic initiative to increase the knowledge base on innovative finance for loss and damage aims to serve this purpose.

Mia Nielsen

Chair, Nordic Working Group for Climate and Air (NKL)
10th October 2023



Summary (English)

The Nordic Council of Ministers' Working Group for Climate and Air (NKL) has commissioned a project in which the main objective is to map, identify and further develop potential solutions and sources for financial support to developing countries that are particularly vulnerable to climate change induced loss and damage (L&D). This objective was achieved through a series of outcomes. This study on loss and damage financing solutions and sources is a key outcome from this project, which, together with a public webinar in which the findings of the report was presented and discussed with experts and stakeholders, are meant to inform the discussion on sources of finance for L&D.

In short, this study's focus is on how to enhance and improve existing solutions and sources and innovate and create new sources of finance that can be used for financing L&D actions, with focus on both the funding arrangements and the fund for L&D.

The study will be presented at a side event on L&D financing solutions in the Nordic pavilion at COP28.^[1]

Key take aways

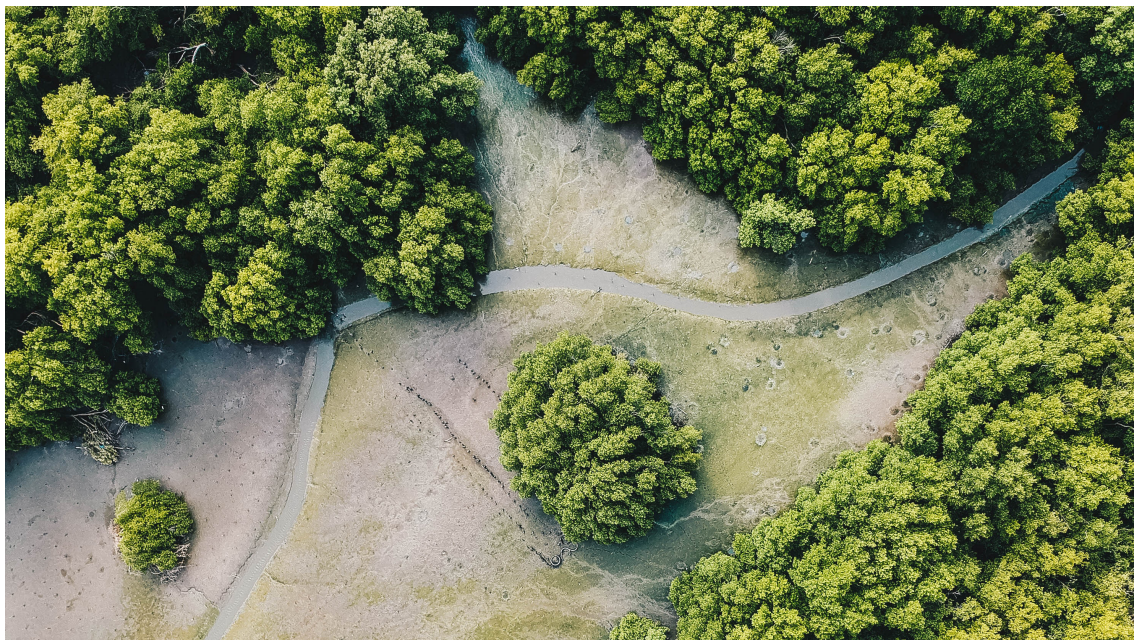
The study/report is structured in four main chapters covering a wide range of potential sources and instruments for financing L&D:

CHAPTER 1: Carbon Markets, the Nature Credit Market, New Markets and Non-Market Mechanisms

This chapter includes new and innovative thinking on the possibilities for using cooperative approaches under the Paris Agreement (PA), the Voluntary Carbon Markets (VCM), the Nature Credit Market (NCM), as well as potential new and

1. Please note that this study was funded by the Nordic Council of Ministers. However, the content does not necessarily reflect the Nordic Council of Ministers' views, opinions, attitudes or recommendations.

innovative markets or mechanisms for engaging private sector in funding L&D. **The paper finds that the discourse on L&D is almost completely absent from the discussion under the PA article 6, the VCM and the NCM. The potential for enhancing sources of finance is clearly present, although it will require many of the actors within the L&D community to create new programs, markets or mechanisms.**



The key findings are the following:

- Share of Proceeds (SOP) is a levy on transactions of carbon reduction instruments going towards financing adaptation actions. It was introduced to de-couple some of the finance of mitigation projects and re-direct it towards adaptation in those States that were not benefiting from mitigation projects and programs. SOPs under Paris Agreement's article 6.4 is limited to the Adaptation Fund (AF). The AF does not have a specific mandate to finance L&D. However, it finances activities that 'avert and minimize' L&D if it has a clear adaptation component. **For AF to provide resources for 'addressing' L&D, including non-economic measures, rehabilitation and reconstruction and so on, it will be necessary to clarify and expand its mandate to include L&D activities more comprehensively.** In addition, **Parties should consider how to create 'additional' finance for L&D through increasing the SOP. However, the potential of increasing the rate of SOP beyond the current 5% and direct it to the L&D fund is limited.** This is because the level of SOPs for adaptation is already set relatively high under the Paris Agreement (more than double than under the Clean Development Mechanism), and because it is likely to be challenging to 're-open' these topics in the negotiations. Finally, an additional SOP levy for a L&D fund could limit the viability of mitigation projects under article 6.4. Thus, if an additional SOP is to be introduced it should not lead to fewer mitigation projects being developed.

- **The Voluntary Carbon Market (VCM) has evolved to finance sustainable development benefits related to the Sustainable Development Goals (SDGs) that are independent from mitigation activities. These stand-alone SDG benefits have the potential of financing activities that avert, minimize and address L&D as long as there is an SDG rationale to support them.** There are pilot projects under Verra, one of the largest providers of these benefits, which could be utilized to channel new sources of finance for projects to avert, minimize and address L&D. The VCM is unlikely to be useful for direct funding for the L&D fund, however.
- The Nature Credit Market (NCM) is a nascent market creating credits for positive biodiversity benefits. Private sector is encouraged to purchase these credits as their core activities are closely linked to natural resources. However, **for L&D the Nature Credit Market is limited to financing of positive benefits reducing biodiversity loss.**
- There are several ways to enhance finance from private sector for L&D:
 - **One option is to create a new market for adaptation, resilience and L&D, in the similar veins as the Nature Credit Market (NCM).** The increased focus on the need for a more comprehensive response to climate change which includes supporting L&D efforts of developing countries that are particularly vulnerable could be used as a rationale for encouraging financial contributions from companies and other private sector actors. L&D credits could be established that reflect positive benefits from averting, minimizing and addressing L&D, potentially also including benefits of enhancing adaptive capacity, increasing resilience and reducing vulnerability. In establishing this market, it would be necessary to involve both public and private sector actors as well as other actors working with L&D projects to create voluntary guidelines for how to engage in this market. It could also be helpful to have a system of reporting in place which can enable these actors to clearly define their contributions (or 'claims') in their annual reports on climate risk.
 - **Another option is to establish a private sector L&D finance mechanism as part of a L&D fund, or serving a L&D fund as a satellite mechanism with its own board.** The board(s) could be tasked with developing a framework stipulating the criteria for how private sector finance could be undertaken and what type of information these actors could use to report on their contributions in their annual reports. It is likely that private sector actors would need a seat in the board with voting rights for this option to be viable. This could be an option for enhanced sources to be considered at COP28, including the necessary arrangements to be put in place for this to be possible.



CHAPTER 2: Taxation & Levies

The role of the climate negotiations under the COP/CMA is not to prescribe national or regional taxes. However, it can use its position to welcome any proceeds from these taxation and levy measures towards the GCF and/or an L&D fund, and to encourage steps towards meeting the Paris Agreement's temperature goal through putting a price on carbon (which is what these taxation systems essentially do). This could be considered in with a view to expand sources of funding for loss and damage. More specifically, the Report finds that:

- Although progress on GHG emission reductions in the IMO has been slow, a revised strategy on reduction of GHG emissions from international shipping was agreed in 2023 with an ambitious workplan to finalise the 'basket of measures' already in spring 2024. Several options are on the table, with varying potential for revenues for IMO. There seems to be a political agreement that the revenues will be used for investments in emission reduction innovation in the maritime sector, including on-land technology and infrastructure linked to this. **Going forward, regardless of the chosen measures, IMO should be encouraged to earmark some of the proceeds to the GCF and/or the L&D fund.**
- Despite the ICAO's CORSIA market, emission reduction in the aviation sector is slow. The ICAO guidelines on international aviation fuel has hindered actors in using taxes and levies for these fuels, with the exception of domestic flights. Initiatives to establish a levy on international aviation fuels has been initiated by the Scandinavian countries. **It could be envisioned that**

a group of progressive countries come together and agree on a levy on international aviation fuels between these countries bilaterally. This could be encouraged by the Transitional Committee in its recommendations for the COP/CMA.

- Concurrently, there are some countries that have been establishing an air passenger duty (also known as departure tax). There is the example of France, who has added an additional levy, called the solidarity levy, to the air passenger duty, using parts of the finance from that for international development, including the UNITAID. As international aviation is currently taxed relatively lightly compared to other high-emitting industries and sectors, **introducing these progressive air passenger levies could be a welcome addition to the government budgets, and could potentially be earmarked to the L&D fund, at a percentage decided by each country themselves. For the poorest and most vulnerable countries, including the least developed countries (LDCs), these potential levies could go to a national L&D fund instead of an international L&D fund.**
- Taxation of the use of oil and gas for everyday consumers with limited means is difficult to introduce in a regressive way and could lead to backlash and lack of government support for green measures (i.e. the protests by the 'Yellow Vests' in France). The attention on taxation of production came to the fore due to the excess revenues due to the Russian invasion of Ukraine. Taxation of fossil fuel production and receipt across sea is not new. However, taxation of fossil fuel, linked to windfall profits, over a time-limited period and earmarked for climate purposes, including financing L&D actions, is a potential new source of income. A windfall tax on oil and gas production has been introduced in several European countries as well as the UK, but the revenues has not been allocated for international climate finance. However, **if fossil fuel producing countries come together and agree on a percentage of this levy for international climate finance purposes, it has the potential of setting new examples in the search for new and innovative sources of finance for L&D activities.**
- **Introducing small levies for other industries, such as the financial industry, has the potential of raising quite substantial amounts of finance, some of which could be earmarked for climate purposes, including for a L&D fund.**



CHAPTER 3: Cat Bonds, Debt-Swaps, Guarantees, Private Sector Risk Pooling, Frontloading and Philanthropy

This chapter identifies seven potential sources of private finance for developing countries vulnerable to climate change induced loss and damage (L&D). Three of the key findings are the following:

- **Catastrophe bonds, or cat bonds, have significant potential as a source of private finance towards L&D**, i.e., an L&D Cat Bond. However, to realize this potential the design of the bonds will need to be adapted as follows: a) an expanded range of trigger events covered within a single product and, if possible, inclusion of slow onset events; b) the provision of subsidies which can cover the higher structuring costs and interest rates that these bonds attract, and; c) the provision of guarantees in favour of countries with low sovereign credit risk ratings in order to attract investors to these bonds.
- In climate finance, debt for nature swaps have become an increasingly popular alternative to provide debt relief to highly indebted countries while also encouraging these countries to earmark a portion of the forgiven debt proceeds towards environmental conservation. **A debt for L&D swap would require limited adjustments to the existing template used for debt for nature swaps.** The most significant adjustment would be to agree with the borrowing country on a set of L&D criteria for the deployment of the funds towards L&D uses. This capital may be deployed from a national L&D trust fund, similar to the conservation trust funds that are typically set up in debt for nature swaps.

- Donors and the public sector often offer guarantees to support investments that can generate social and environmental outcomes. This includes climate finance, where guarantees can support investments with positive climate mitigation and adaptation outcomes but have comparatively weak risk-return profiles. **L&D guarantees that can catalyze private sector finance need to provide explicit coverage and support in the event of defaults or loss in value due to extreme and slow onset L&D events, as compared with the indirect blanket coverage that guarantees currently offer.** This may include: a) concessionary support to mitigate a higher proportion of portfolio losses due to L&D than due to other shocks; b) subsidized guarantee utilization fees for L&D guaranties as compared with 'standard' guarantee products; and c) offering direct support for post-L&D actions that may help investees and their communities and landscapes recover more quickly from L&D.

CHAPTER 4: Insurance

This chapter points out that several options exist to further the agenda on insurance addressing L&D. With that, it becomes clear that insurance is indeed 'one colour in the rainbow' of solutions that will be required to address L&D. **Insurance as a tool for the new funding arrangements and the fund for L&D should not be underestimated.** Under follows three of the key findings of the report:

- **Establishing an effective insurance system necessitates a well-structured legal and regulatory framework.** Government intervention in insurance markets typically occurs in response to market failures, often following major disasters. These interventions can take various forms, such as public sector insurance schemes, public-private partnerships, and regulatory measures to stimulate demand.
- **Regional risk pools, such as CCRIF-SPC in the Caribbean, ARC in Africa, and PCRIC in the Pacific, play a crucial role in helping countries effectively manage and mitigate losses from disasters.** These pools, owned by member countries, offer parametric insurance coverage for short-term liquidity after disasters and leverage risk pooling to provide more affordable risk transfer options. They not only provide rapid funding for disaster responses but also offer advisory services, access to international markets, and integration with social protection systems.
- There are also new frontiers for insurance in responding to L&D. Insurance, traditionally associated with acute loss events, should also be explored for addressing slow-onset climate risks and non-economic L&D situations. **Innovative insurance solutions are emerging to tackle these challenges:**
 - **Anticipatory Insurance:** Anticipatory insurance, driven by advanced forecasting, aims to provide early payouts for preventive actions. It can

help reduce the need for risk transfer and enhance preparedness for climate-related events.

- **Parametric Insurance for Debt-Servicing:** Parametric insurance can cover debt-servicing obligations for climate-vulnerable countries, reducing the financial burden on governments after disasters. It can also be bundled with disaster liquidity coverage.
- **Insurance for Natural Capital and Ecosystems:** Insurance products are being developed to cover natural capital and ecosystems, helping address both slow-onset processes and non-economic L&D. For example, reef insurance supports coral reef recovery after hurricanes.
- **Insurance for Emerging Risks:** Insurance can provide coverage for emerging risks resulting from shifts in livelihoods or business models, promoting resilience in evolving economic landscapes.
- **Long-Term Insurance Solutions:** Efforts are underway to link insurance to long-term resilience strategies, offering insurance contracts beyond the traditional yearly renewals. These solutions could encourage investment in resilient infrastructure.
- **Life Insurance Model for Slow-Onset Events:** Insurance for slow-onset events could focus on timing risks rather than the event itself. It could provide payouts when pre-agreed thresholds are surpassed within specified timeframes.

Please note that information on the public webinar can be found in [Annex II](#).



Conclusions & way forward

This study is meant as a starting point for further discussion on innovative finance solutions for L&D. Some areas of further research could include assessing the technical potential of a new market for L&D, including a new mechanism for private sector finance of L&D connected with the L&D fund. This could include the possibility and potential of creating guidelines for private sector finance in L&D. Another potential area for further research could be to assess how COP28 (and potentially COP29) could ensure that it promotes a call for broadening the scope and application of a diverse range of sources. Main findings and potential for further research will be presented and further discussed at the COP. Further, the potential of introducing both air ticket levies and international aviation fuel tax could benefit from Nordic coordination and cooperation given the sensitive political environment connected with diverting from ICAO's guidelines on international aviation fuel.



Summary (Norwegian)

Nordisk Ministerråds arbeidsgruppe for klima og luft (NKL) har bestilt et prosjekt der formålet er å kartlegge, identifisere og videreutvikle potensielle løsninger og kilder til økonomisk støtte til utviklingsland som er spesielt sårbare for tap og skade knyttet til klimaendringene. Denne studien/rapporten er et av hovedresultatene fra dette prosjektet, som i tillegg til et offentlig webinar der funnene i rapporten ble presentert og diskutert med eksperter og interessenter, er ment å styrke diskusjonen om finansierings-løsninger og -kilder for tap og skade.

Helt overordnet gir studien et overblikk over hvordan man kan utvikle og forbedre eksisterende løsninger og finansieringskilder, samt å utvikle nye finansieringskilder som kan brukes til å finansiere arbeidet med å hindre, minimalisere og bøte på tap og skade knyttet til skadevirkningene av klimaendringer, med fokus på finansieringsordninger og fondet for tap og skade.

Visjonen til Nordisk Ministerråd (NM) er å gjøre Norden til verdens mest bærekraftige og integrerte region innen 2030. Som en del av visjonen har Nordisk Ministerråd som mål å bidra til en positiv utvikling av internasjonalt samarbeid på miljø og klima, for å kunne bidra til å fremme ambisiøse og løsningsorienterte utfall i de internasjonale klimaforhandlingene. Støtten til dette prosjektet forventes å være i tråd med dette formålet ved at det øker kunnskapsgrunnlaget om mulig nye og utvidede finansieringskilder.^[2]

Studien vil også bli presentert på et side-arrangement om finansieringsløsninger i den Nordiske paviljongen på COP28.

Oppsummering

Studien/rapporten er strukturert i fire hovedkapitler som dekker et bredt spekter av potensielle kilder og instrumenter for finansiering av tap og skade:

2. Vær oppmerksom på at denne studien ble finansiert av Nordisk Ministerråd. Innholdet gjenspeiler imidlertid ikke nødvendigvis Nordisk Ministerråds synspunkter, meninger, holdninger eller anbefalinger.



KAPITEL 1: Karbonmarkeder, Naturmarkedet, Nye Markeder og Ikke-markedsbaserte Tilnærminger

Dette kapittelet vurderer mulige markedsløsninger under Parisavtalen (PA), de frivillige karbonmarkedene (VCM), Naturmarkedet (NCM), samt potensielle nye og innovative markeder eller mekanismer for å engasjere privat sektor i finansiering av tap og skaded. Studien finner at diskursen om tap og skade er nesten helt fraværende i diskusjonene under PA-artikkel 6, VCM og NCM. Potensialet for å styrke finansieringskildene er klart tilstede, selv om det vil kreve at mange av aktørene på disse feltene oppretter nye programmer, markeder eller mekanismer. De viktigste funnene er følgende:

- Andel av Provenyet (SOP) er en avgift på resultater fra utslippsreduksjoner som går til finansiering av tilpasningstiltak. SOPs under Paris-avtalens artikkel 6.4 er begrenset til Tilpasningsfondet (AF). AF har ikke et spesifikt mandat til å finansiere tap og skade. Den finansierer imidlertid aktiviteter som «avverger og minimaliserer» tap og skade dersom den har en klar tilpasningskomponent. For at AF skal kunne finansiere aktiviteter som 'bøter på' tap og skade, inkludert ikke-økonomiske tap, rehabilitering og gjenoppbygging og så videre, vil det være nødvendig å avklare og utvide AFs mandat. Det er også mulig å vurdere hvordan man kan øke finansiering for tap og skade gjennom å øke SOP. Det er begrenset potensial for å øke SOP-raten utover de nåværende 5 %. Dette er fordi nivået på SOP for tilpasning allerede er satt relativt høyt under Paris-avtalen (mer enn det dobbelte enn under den grønne utviklingsmekanismen (Clean Development Mechanism)), og fordi det sannsynligvis vil være utfordrende å «åpne» disse temaene på nytt så sent i forhandlingene. En høyere SOP-avgift for et tap og skade fond kan også begrense levedyktigheten til utslippsreducerende prosjekter under

artikkel 6.4. Hvis en høyere SOP skal innføres, bør det derfor ikke føre til at færre utslippsreduserende prosjekter utvikles.

- Det frivillige karbonmarkedet (VCM) kan finansiere dobbeltfordeler (også kjent som 'co-benefits') og frittstående fordeler knyttet til bærekraftsmålene (SDGene). Utviklingen av VCM til å etablere og finansiere SDG-fordeler uavhengig av utslippsaktiviteter er under utvikling. Disse «frittstående» SDG-fordelene har potensialet til å finansiere aktiviteter som hindrer, minimaliserer og bøter på tap og skade så lenge de har en SDG-rasjonale. Det finnes pilotprosjekter under Verra, en av de største leverandørene av disse SDG-fordelene, som kan brukes til å kanalisere nye finansieringskilder til prosjekter for å hindre, minimalisere og bøte på tap og skade. Det er imidlertid lite sannsynlig at VCM vil være nyttig for å kanalisere finansiering til tap og skade fondet.
- Naturkredittmarkedet (kjent som Nature Credit Market på engelsk) (NCM) er et nytt marked for kreditter med positive fordeler for biologisk mangfold. Privat sektor oppfordres til å kjøpe disse kredittene da deres kjernevirksomhet er nært knyttet til naturressurser, og de derfor vil kunne høste positive fordeler med prosjekter eller programmer som tar vare på det biologiske mangfoldet. For tap og skade er imidlertid dette markedet begrenset til finansiering av positive fordeler som reduserer tap av biologisk mangfold.
- Det er flere måter å forbedre finansiering fra privat sektor for L&D:
 - Et alternativ er å skape et nytt marked for tap og skade, på samme måte som Naturkredittmarkedet (NCM). Det er et økt fokus på viktigheten av en helhetlig respons til klimaendringer. En slik respons kan inkludere støtte til tap og skade-innsats i utviklingsland som er spesielt sårbare. Viktigheten av en mer helhetlig respons som inkluderer tap og skade kan oppmuntre til økonomiske bidrag fra bedrifter og andre aktører i privat sektor. Tap og skade-kreditter kan etableres. Disse kan reflektere positive fordeler ved å hindre, minimalisere og bøte på tap og skade, og potensielt også positive fordeler ved å øke tilpasningsevnen og redusere sårbarhet. For å etablere dette markedet vil det være nødvendig å involvere både offentlige og private aktører samt andre aktører som jobber med tap og skade-prosjekter til å lage frivillige retningslinjer om hvordan markedet bør fungere. Det kan også være nyttig å ha et rapporteringssystem på plass slik at aktørene kan rapportere på bidragene i ESG- og årsrapportene.
 - Et annet alternativ er å etablere en tap og skade-finansieringsmekanisme for privat sektor som en del av et tap og skade-fond, eller som kan betjene et tap og skade-fond (feks som en satellittmekanisme med eget styre). Styret kan få i oppgave å utvikle

et rammeverk som fastsetter kriteriene for hvordan privat sektors finansiering kan gjennomføres og hvilken type informasjon disse aktørene kan bruke for å rapportere om bidragene i årsrapportene. Det er sannsynlig at det vil være nødvendig med en eller flere plasser i styret og stemmerett for aktører fra privat sektor for at dette alternativet skal kunne gjennomføres. Dette kan fremmes som et forslag for COP28 for å sikre at slike finansieringskilder vil kunne etableres, og peke på nødvendige ordninger for at dette er mulig å utvikle.



KAPITEL 2: Skatter og avgifter

Rollen til klimaforhandlingene under COP/CMA er ikke å bestemme nasjonale eller regionale skatter og avgifter. Men COP/CMA kan benytte sin posisjon til å ønske finansiering fra disse skatte- og avgiftstiltakene velkommen til GCF og/eller tap og skade-fondet, og til å oppmuntre til tiltak som søker å oppfylle Parisavtalens temperaturmål gjennom å sette en pris på karbon (som er hva disse beskatningssystemene gjør). Kort oppsummert er hovedpunktene fra dette kapitelet følgende:

- Selv om fremdriften med utslippsreduksjoner i IMO har gått sakte, ble en revidert strategi for reduksjon av utslipp av klimagasser fra internasjonal skipsfart vedtatt i 2023 med en ambisiøs arbeidsplan for å ferdigstille «tiltakskurven» allerede våren 2024. Flere alternativer er på plass, med varierende inntekspotensiale for IMO. Det ser ut til å være politisk enighet

om at inntektene skal brukes til investeringer i innovasjon og utslippsreducerende tiltak i maritim sektor, inkludert landbasert teknologi og infrastruktur tilknyttet dette. Fremover, uavhengig av hvilket av forslagene som blir vedtatt, bør IMO oppfordres til å øremerke noen av inntektene til GCF og/eller tap og skade-fondet.

- Til tross for ICAOs CORSIA-marked, går utslippsreduksjonene i luftfartssektoren sakte. ICAOs retningslinjer for internasjonalt flydrivstoff har hindret aktører i å etablere skatter og avgifter på dette drivstoffet, med unntak av for innenlandsflyvninger. Initiativer for å etablere en avgift på internasjonalt flydrivstoff er igangsatt av de skandinaviske landene. Man kunne tenke seg at en gruppe progressive land kan komme sammen og bli enige om en avgift på internasjonalt flydrivstoff bilateralt mellom disse landene. Et slikt initiativ kan dette oppmuntres på COP/CMA med bakgrunn i viktigheten av å øke finansiering til tap og skade.
- Samtidig er det noen land som har etablert en flypassasjeravgift (også kjent som avgangsskatt). For eksempel Frankrike, som har etablert en tilleggsavgift, kalt solidaritetsavgiften, i tillegg til flypassasjeravgiften, og bruker deler av finansieringen fra den til internasjonal utvikling, inkludert UNITAID. Siden internasjonal luftfart for tiden beskattes relativt lavt sammenlignet med andre næringer og sektorer, kan innføring av disse progressive avgiftene være et velkomment tillegg til statsbudsjettene, og kan potensielt øremerkes til tap og skade-fondet, med en prosentandel som bestemmes av hvert land selv. For de fattigste og mest sårbare landene, inkludert de minst utviklede landene (MUL), kan disse potensielle avgiftene gå til et nasjonalt tap og skade-fond i stedet for et internasjonalt tap og skade-fond.
- Beskatning for bruk av olje og gass for «vanlige» forbrukere med begrensede midler er vanskelig å innføre på en regressiv måte og kan føre til motstand og manglende folkelig oppslutning til grønne tiltak (feks protestene til «de gule vestene» i Frankrike). Beskatning av produksjon av olje og gass kom på kartet på grunn av de økte inntektene som følge av den russiske invasjonen av Ukraina. Beskatning av produksjon og levering av olje og gass er ikke nytt. Men beskatning av olje og gass, knyttet til uventet fortjeneste (windfall profits), over en tidsbegrenset periode og øremerket klimaformål, inkludert finansiering av tap og skade reducerende tiltak, er en potensiell ny inntektskilde. En slik skatt på olje- og gassproduksjon er innført i flere europeiske land samt Storbritannia, men inntektene er ikke allokert til internasjonal klimafinansiering. Men hvis land som produserer olje og gass går sammen og blir enige om en prosentandel av denne avgiften til internasjonale klimafinansieringsformål, vil det potensielt kunne sette et eksempel i jakten på nye og innovative finansieringskilder for tap og skade tiltak.

- Innføring av små avgifter for andre næringer, slik som finansnæringen, har potensial til å fremskaffe ganske betydelig finansiering, hvorav noe kan øremerkes til klimaformål, inkludert til tap og skade-fondet.



KAPITEL 3: Katastrofeobligasjoner, Gjeldsbytteavtaler, Garantier, Naturskadepool for Privat Sektor og Filantropi

Dette kapittelet identifiserer syv potensielle kilder til privat finansiering for utviklingsland som er sårbare for tap og skade forårsaket av klimaendringer. Tre av de viktigste funnene er følgende:

- Katastrofeobligasjoner, eller på engelsk «cat bonds», har betydelig potensiale som en kilde til privat finansiering av tap og skade-tiltak. For å realisere potensialet vil imidlertid utformingen av obligasjonene måtte tilpasses på følgende måte: a) de mulige utløsende hendelsene som dekkes innenfor et enkelt produkt må utvides og, hvis det er mulig, bør sakteutløste hendelser inkluderes; b) subsidier som kan dekke høyere struktureringskostnader og renter for slike obligasjoner, og; c) garantier bør gis land med lav kredittrisikovurdering for å øke investorer til slike obligasjoner.
- Innen klimafinansiering har gjeld-for-natur-bytteavtaler blitt et stadig mer populært alternativ til å gi gjeldslette til land med høy gjeld, samtidig som de oppmuntrer disse landene til å øremerke deler av den ettergitte gjeldsinntekten til miljøvern. En gjeld-for-tap-og-skade-tiltak-bytte-avtale krever få justeringer av den eksisterende malen som brukes til

gjeld-for-naturbytte. Den viktigste justeringen vil være å bli enige med låntakerlandet om et sett med tap-og-skade-kriterier for bruk av midlene til formål for hindre, minimalisere og bøte på tap og skade. Denne kapitalen kan tilføres et nasjonalt tap og skade-fond, som ligner på fondene som benyttes i gjeld for naturbytteavtaler.

- Givere og offentlig sektor tilbyr ofte garantier for å støtte investeringer som kan generere sosiale og miljømessige resultater. Dette inkluderer garantier som støtter investeringer med utslippsreduksjoner og tilpasningsresultater, men som har relativt svake risiko-avkastningsprofiler. Tap og skade-garantier som kan katalysere privat sektors finansiering må gi eksplisitt dekning i tilfelle mislighold eller verditap på grunn av ekstreme og sakteutløste tap og skade-hendelser, sammenlignet med den indirekte dekningen som garantiene tilbyr i dag. Dette kan omfatte: a) statlig støtte for å dempe høyere andel av porteføljetap på grunn av tap og skade enn på grunn av andre hendelser; b) subsidier til tap og skade-garantier sammenlignet med «standard» garantiprodukter; og c) tilby direkte støtte til aktiviteter etter tap og skade hendelser som kan hjelpe investorer og deres lokalsamfunn til å komme seg raskere fra slike hendelser.

KAPITEL 4: Forsikring

Dette kapittelet viser at det finnes flere muligheter for å styrke forsikring som en løsning for tap og skade hendelser. Forsikring er «en farge i regnbuen» av løsninger som vil være nødvendig for å håndtere tap og skade. **Forsikring som verktøy for de nye finansieringsordningene og tap og skade-fondet skal ikke undervurderes.** Under følger tre av hovedfunnene i rapporten:

- **Etablering av et effektivt forsikringssystem krever et godt strukturert juridisk og regulatorisk rammeverk.** Offentlig inngripen i forsikringsmarkeder skjer vanligvis som svar på markedssvikt, ofte etter store katastrofer. Disse inngrepene kan ha ulike former, for eksempel offentlige forsikringsordninger, offentlig-private partnerskap og regulatoriske tiltak for å stimulere etterspørselen.
- **Regionale risikopooler, som CCRIF-SPC i Karibia, ARC i Afrika og PCRIC i Stillehavet, spiller en avgjørende rolle for å hjelpe land med å effektivt håndtere og redusere tap og skade fra katastrofer.** Disse poolene, som eies av medlemslandene, tilbyr parametrisk forsikringsdekning med kortsiktig likviditet etter katastrofer og utnytter risikopooling for å gi rimeligere alternativer til risikooverføring. De gir ikke bare rask finansiering av katastroferespons, men tilbyr også rådgivningstjenester, tilgang til internasjonale markeder og integrasjon med sosiale beskyttelsessystemer.

- Det er også nye muligheter for forsikring når det gjelder å bøte på tap og skade. Forsikring, som tradisjonelt er assosiert med akutte tapshendelser, bør også utnyttes for å håndtere sakteutløste hendelser og ikke-økonomisk tap og skade. **Innovative forsikringsløsninger sikter på takle disse utfordringene:**
 - **«Forventningsforsikring»** er drevet av avanserte prognoser, tar sikte på å gi tidlige utbetalinger for forebyggende tiltak. Det kan bidra til å redusere behovet for risikooverføring og styrke beredskapen for klimarelaterte hendelser.
 - **Parametrisk forsikring** kan dekke gjeldsbetjeningsforpliktelser for klimasårbare land, og redusere den økonomiske byrden for land etter katastrofer. Det kan også kombineres med katastrofelikviditetsdekning.
 - **Forsikringsprodukter for naturkapital og økosystemer** utvikles for å dekke naturkapital og økosystemer, og hjelper til med å håndtere både sakteutløste hendelser og ikke-økonomisk tap og skade. For eksempel støtter rev-forsikring gjenoppbygging av korallrev etter orkaner.
 - **Forsikring for nye risikoer** kan gi dekning som følge av endringer i levebrød eller forretningsmodeller, og styrker resilens i fremvoksende økonomier.
 - Det pågår arbeid for å knytte forsikring til langsiktige strategier for økt motstandsdyktighet, og tilby forsikringskontrakter utover de tradisjonelle årlige fornyelsene. Disse løsningene kan oppmuntre til investeringer i motstandsdyktig infrastruktur.
 - **Livsforsikring som modell for forsikring av sakteutløste** hendelser kan fokusere på tidsrisiko i stedet for selve hendelsen. Det kan gi utbetalinger når forhåndsavtalte terskler overskrides innenfor angitte tidsrammer.

Informasjon om det offentlige webinarer er beskrevet i [Annex II](#).

Konklusjon og veien videre

Denne studien er ment som et utgangspunkt for videre diskusjon om finansieringskilder og løsninger for tap og skade. Områder for videre forskning inkluderer å vurdere det tekniske potensialet til et nytt marked for tap og skade, inkludert en ny mekanisme for privat sektorfinansiering av knyttet til tap og skade-fondet. Dette kan inkludere muligheten og potensialet til å utarbeide nordiske retningslinjer for privat sektors finansiering av tap og skade. Et annet potensielt område for videre forskning kan være å vurdere hvordan COP28 (og potensielt COP29) kan sikre at

den fremmer en oppfordring til å utvide omfanget og anvendelsen av et mangfoldig spekter av finansieringskilder. Hovedfunn og potensial for videre forskning vil bli presentert og diskutert på COP28 side-eventet i Nordisk Paviljong. Videre vil det kunne være interessant å se nærmere på hvordan det å innføre både flybilletavgifter og internasjonal flydrivstoffavgift kunne dra nytte av nordisk koordinering og samarbeid gitt de underliggende sensitivitetene og juridiske vurderingene knyttet til ICAOs retningslinjer på dette punktet.





Introduction and Context

What is Loss and Damage?

The Earth's climate is becoming increasingly more unpredictable due to climate change. As more severe and frequent disasters and increased heat and sea level rise continue, adverse effects on humans, biodiversity and the built landscape get harder to avoid. Loss and Damage (L&D) incurred due to climate change impacts is closely related to countries' past development choices and policies, including its adaptation efforts which can dramatically reduce both economic and non-economic L&D. However, even when efforts to reduce vulnerability, enhance resilience and increase adaptive capacity are successfully undertaken, these actions are increasingly becoming insufficient.

When natural or man-made systems are meeting soft or hard adaptation limits it leads to economic and non-economic L&D.^[3] In short, L&D can derive from sudden-onset and slow-onset events. The former includes forest fires, heat waves, heavy rainfall, flooding, cyclones and hurricanes. The latter includes sea level rise, ocean acidification, glacial retreat, temperature rise, desertification, biodiversity loss, land degradation and salinization. For both slow- and sudden-onset events, the losses and damages can be categorized as economic and non-economic. Economic losses can be quantifiable losses of property, assets, infrastructure, agricultural production/revenue, goods and services. Non-economic losses include impacts that are not easily quantifiable in economic terms, such as impacts/loss of life, health, biodiversity, ecosystem services, Indigenous knowledge, cultural heritage, and societal/cultural identity.

Parties differentiate between averting, minimizing and addressing L&D.^[4] Averting and minimizing focuses to a great degree on preventive and precautionary measures prior to the climate change effects, and overlaps to a great degree with adaptation measures. However, responding or addressing is often understood as

3. IPCC (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: <https://www.ipcc.ch/report/ar6/wg2/>

4. The Paris Agreement, article 8

measures taken after the climate change event(s) has happened, i.e., ex post. These measures can also be seen as overlapping with post-adaptation measures.^[5]

Sometimes, the actions to address L&D will need to be taken in the context of ongoing climate change, such as sea level rise. The distinction is therefore not clear cut.

L&D is unequally distributed, affecting the most vulnerable and least developed countries the worst, many of which have miniscule emissions and have contributed the least to climate change globally. This puts already strained developing countries' economies worse off and has led the global community to come together under the UN climate negotiations to support these developing countries financially.^[6]



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5. For an in-depth definition of L&D including 'addressing' L&D, please see: Wenger, C., et al (2023). A Gap Analysis of Financial Flows for Addressing Loss and Damage – Technical Paper. Center for Climate and Energy Solutions (C2ES). Available at: <https://www.c2es.org/wp-content/uploads/2023/06/LD-Funding-Arrangements-Gap-Analysis.pdf>
 6. Wenger, C. et al (2023). Understanding Finance for Loss and Damage Under the UNFCCC – Technical Paper. Center for Climate and Energy Solutions. Available at: https://www.c2es.org/wp-content/uploads/2023/06/Understanding-finance-for-LD_FINAL.pdf

Financial Support for L&D

The urgent need to enhance efforts to avert, minimize and address loss and damage associated with the adverse effects of climate change has been iterated by the Intergovernmental Panel on Climate Change (IPCC).

There are many stakeholders at all levels involved in activities to avert, minimize and address loss and damage. In financing these actions, there are overlaps with finance for humanitarian assistance, international development assistance, disaster risk reduction, migration and displacement, the adaptation policy cycle, biodiversity and so on. However, there are also gaps within the current funding arrangements in which loss and damage is not comprehensively addressed, as has been highlighted in the dialogue under the Transitional Committee.

The discussions on L&D have been with the Parties since the drafting of the UN Framework Convention on Climate Change (UNFCCC). The call for addressing L&D was first brought forward by the Association of Small Island States. Since then, steps have been taken to strengthen the global response to avert, minimize and address L&D, culminating in a breakthrough decision on financing for L&D at COP27 last year.^[7]

In Sharm-el Sheikh, the discussions on L&D resulted in a decision to establish new funding arrangements responding to L&D, including a fund with focus on addressing L&D for developing countries that are particularly vulnerable to the adverse effects of climate change.^[8] The funding arrangements and the fund should be operationalized at COP28 in Dubai in December 2023. A Transitional Committee has been established to put forward recommendations on how to operationalize the funding arrangements and the fund, with meetings and workshops held throughout the year. In addition, the parallel process under the Glasgow Dialogue gives the Parties and non-Party stakeholders additional space to discuss financing for L&D.

Parties have agreed that finance for addressing L&D is insufficient, and public sources of funding are falling short of what is needed. Simultaneously, the covid-19 crisis, more prolonged conflicts, as well as the ongoing invasion of Ukraine by Russia have affected global progress and stability and led to a setback in achieving the sustainable development goals, highlighting the need for increased finance. Further, risks connected with levels of unsustainable debt together with the deepening climate crisis affect the most vulnerable and poorest countries and communities disproportionately.

7. Decision -/CP.27 -/CMA.4. Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage. Available at: <https://unfccc.int/documents/624440>

8. Please note that it is not certain what the name of a fund for L&D will be. For the sake of simplicity, this paper refers to it as 'the L&D fund'.

In this context, the decision on financing for L&D necessitates a deeper dialogue on how to ensure new, additional, predictable and adequate finance for responding to and addressing L&D.

The report/study aims at assessing potential sources that can enhance finance for L&D through the funding arrangements and for the L&D fund.^[9] More information on the Project and methodology for the Report, please see [Annex I](#).

9. Please note that the name of the fund is not decided. For the sake of simplicity, the Report uses the term 'L&D fund' when referring to the fund established in the context of the funding arrangements for L&D under the UNFCCC and the Paris Agreement.



CHAPTER 1: Markets & Mechanisms

Key take aways

This paper provides a first step in analyzing sources of finance for activities that avert, minimize and address L&D (hereunder referred to as 'L&D activities') in the context of: (i) the Voluntary Carbon Market (VCM) and mitigation programs with co-benefits; (ii) cooperative approaches under the Paris Agreement's Article 6.2 and 6.4 carbon markets; (iii) the Nature Credit Market and its biodiversity credits; (iv) the Paris Agreement's Article 6.8 with its non-market approaches; (v) and potential new markets and non-market mechanisms for responding to L&D.

The paper distinguishes between sources of finance for (a) the new funding arrangements for responding to L&D and; (b) a new fund for addressing L&D.

The potential for using Paris Agreement's article 6.2 and 6.4 credits (also called ITMOS) for enhanced finance of L&D is limited. This is because any activity under these cooperative approaches will need to reduce emissions. This includes the mitigation co-benefits resulting from adaptation activities. Possible mitigation co-benefits of L&D activities are not included. In other words, the L&D activity needs to be coupled with a mitigation activity *and* defined as an adaptation co-benefit for it to be financeable. As such, these credits could be generated for a limited number of activities that avert and minimize L&D. Thus, the payments for these credits that could be used as a funding source is limited. Further, the source of income from these credits will not be 'additional' as it could otherwise have financed adaptation. Further, they will not be applicable to finance activities that address L&D.

Share of Proceeds (SOP) is a levy on transactions of carbon reduction instruments going towards financing adaptation actions. It was introduced to de-couple some of the finance of mitigation projects and re-direct it towards adaptation in those States that were not benefiting from mitigation projects and programs. Potential new sources that can be earmarked for a L&D fund include the establishment of

SOP under article 6.2 and 6.4 of the Paris Agreement as well as under the Voluntary Carbon Market (VCM). This has been done for adaptation, and the same procedures could be applicable for L&D.

SOPs under Paris Agreement's article 6.4 is limited to the Adaptation Fund (AF). The AF does not have a specific mandate to finance L&D. However, it finances activities that 'avert and minimize' L&D if it has a clear adaptation component. For AF to provide resources for 'addressing' L&D, including non-economic measures, rehabilitation and reconstruction and so on, it will be necessary to clarify and expand its mandate to include L&D activities more comprehensively. However, this solution would not lead to 'additional' finance.

In addition, Parties should consider how to create 'additional' finance for L&D. However, the potential of increasing the rate of SOP beyond the current 5% and direct it to the L&D fund is limited. This is because the level of SOPs for adaptation is already set relatively high under the Paris Agreement (more than double than under the Clean Development Mechanism), and because it is likely to be challenging to 're-open' these topics so late in the negotiations. Further, an additional SOP levy for a L&D fund could limit the viability of mitigation projects under article 6.4. Thus, if an additional SOP is to be introduced it should not lead to fewer mitigation projects being developed.

In deciding on a potential SOP for L&D the following is relevant: (i) the potential SOP for L&D should not reduce the finance for adaptation (i.e. it should be 'additional'); (ii) the potential additional SOP for L&D should not hinder the realization of mitigation projects; and (iii) the potential SOP for L&D should not reduce the incentives to develop other market or non-market mechanism for enhanced finance for L&D activities.

The Voluntary Carbon Market (VCM) has evolved to finance sustainable development benefits related to the Sustainable Development Goals (SDGs) that are independent from mitigation activities. These stand-alone SDG benefits have the potential of financing activities that avert, minimize and address L&D as long as there is an SDG rationale to support them. There are pilot projects under Verra, one of the largest providers of these benefits, which could be utilized to channel new sources of finance for projects to avert, minimize and address L&D. The VCM is unlikely to be useful for direct funding for the L&D fund, however.



Another way to increase the potential of the VCM as a source of finance for L&D that does not encroach on adaptation finance, is to create specific L&D co-benefits that are more clearly connected with benefits from L&D activities. As such, the interest in paying higher premiums for these credits could increase, leading to potentially increased financial flows for L&D activities. Further research is needed to fully understand this potential, however, there seems to be an acknowledgment that SDGs and biodiversity co-benefits are increasingly popular and demand higher prices. These new finance flows are likely to be distributed through the existing system under the VCM, which means that finance will fund L&D projects under the VCM. As such, this option is a way to enhance the sources of funding for the funding arrangements for L&D, and not the L&D fund.

In enhancing sources under existing tools in the VCM it is worth noting the following limitations: (i) the VCM is heavily focused on mitigation, and co-benefits from these credits will be distributed to those countries that host the mitigation project or program, mainly a handful of developing countries, to the detriment of the least developed countries; (ii) it has limited potential for minimizing and averting L&D as there needs to be a link with a mitigation co-benefit; (iii) these sources will not be applicable to 'address' L&D, which is the main focus of the funding arrangements and the fund for L&D.

The Nature Credit Market (NCM) is a nascent market creating credits for positive biodiversity benefits. Private sector is encouraged to purchase these credits as their core activities are closely linked to natural resources. However, for L&D the NCM market is limited to financing of positive benefits reducing biodiversity loss: (i) it covers only the aspect of L&D averting, minimizing and addressing *biodiversity/nature* loss; and (ii) it addresses only the potential positive benefits of

addressing biodiversity, such as restoration of biodiversity or soil quality or reduced loss of biodiversity, and does not aim to finance irreversible losses that have no potential positive activity connected with it.^[10]

In the carbon markets, private sector engagement in financing L&D is very limited. The main reason is that these projects, in particular for addressing L&D, as a general rule do not create a return on investment. Further, even when the benefits are quantifiable, private actors are reluctant to set a price on these benefits as they are difficult to price. To increase private sector finance of L&D, there are potential sources that can be developed independent of the VCM and the NCM.

There is limited (if not non-existent) discourse on the potential for existing and new markets and non-market mechanisms for financing activities that reduce, minimize and address L&D. There are several ways to enhance finance from private sector for L&D:

One option is to create a new market for adaptation, resilience and L&D, in the similar veins as the Nature Credit Market (NCM). The increased focus on the need for a more comprehensive response to climate change which includes supporting L&D efforts of developing countries that are particularly vulnerable could be used as a rationale for encouraging financial contributions from companies and other private sector actors. L&D credits could be established that reflect positive benefits from averting, minimizing and addressing L&D, potentially also including benefits of enhancing adaptive capacity, increasing resilience and reducing vulnerability. In establishing this market, it would be necessary to involve both public and private sector actors as well as other actors working with L&D projects to create voluntary guidelines for how to engage in this market. It could also be helpful to have a system of reporting in place which can enable these actors to clearly define their contributions (or 'claims') in their annual reports on climate risk.

The creation of credits from L&D activities would be de-coupled from mitigation activities, and differentiated from sustainable development activities and be funnelled to the most vulnerable countries with L&D projects, including the least developed countries (LDCs) and Small Island States (SIDS). The finance flowing from these credits, however, is likely to go to the funding arrangements for L&D and not be directed to the L&D fund.

Another option is to establish a private sector L&D finance mechanism as part of a L&D fund, or serving a L&D fund as a satellite mechanism with its own board. In establishing this mechanism, the fund could decide on a framework in which the conditions for private companies financing L&D could be stipulated. It could create a system of certification with information on the contributions that private companies or other entities providing finance could utilize in their company reporting on climate change risks. This mechanism would encourage finance

10. Due to the inherent nature of the VCM and the Nature Market, which is structured in a way that creates credits from the 'positive benefits' created by the activity, this seems to be the potential of the VCM in addressing L&D.

directly to the L&D fund. It would reduce the risk of fragmentation of frameworks, and would have the benefit of having 'global' reach and visibility through the international climate negotiations. Further, it would not have restrictions from market mechanisms, and could be channelled to the most vulnerable countries in line with the framework's conditions.

In the new market mechanism, the front runners could be government owned enterprises or enterprises that have a strong governance structure focused on improving their equitable footprint and comprehensively respond to climate change. National governments also play a role in encouraging, recommending or requiring companies to set goals and making contributions to L&D finance, for example through guidance documents, laws or regulations.

The board(s) could be tasked with developing a framework stipulating the criteria for how private sector finance could be undertaken and what type of information these actors could use to report on their contributions in their annual reports. It is likely that private sector actors would need a seat on the board with voting rights for this option to be viable. This could be an option for enhanced sources to be considered at COP28, including the necessary arrangements to be put in place for this to be possible.



Introduction

This part of the paper will assess the potential of the voluntary carbon market (VCM), the carbon market under Article 6 of the Paris Agreement, the Nature Credit Market (NCM), non-market approaches under article 6.8 of the Paris Agreement in providing new sources of finance for activities that avert, minimize and address L&D. It will also point towards the potential of creating a new market or new market mechanism for encouraging the private sector to finance L&D activities.

Potential Sources – Article 6 of the Paris Agreement

Introduction

The Paris Agreement offers Parties the opportunity to cooperate with one another when implementing their Nationally Determined Contributions (NDCs). Article 6 contains three approaches to international cooperation; two of which allow the use of market-based climate change mitigation mechanisms (art. 6.2 and 6.4), and one for non-market-based mechanism (art. 6.8). These cooperation mechanisms should not only make it easier to achieve existing reduction targets, but also to raise ambition in Parties' efforts for mitigation and adaptation and promote sustainable development and environmental integrity.^[11]

GUIDANCE ON USE OF THE COOPERATION MECHANISM

The Paris Agreement contains guidance for Parties when they intend to use cooperation mechanisms to achieve their NDCs:

- Participation in the cooperation mechanisms is voluntary and must be approved by the national government.
- Use of the cooperation mechanisms should allow for raising climate action ambition, thus increasing the effort in terms of climate change mitigation or adaptation.
- The cooperation mechanisms are to promote sustainable development. While the main focus is on reducing greenhouse gas emissions, other sustainability aspects shall also be addressed.
- The cooperation mechanisms shall ensure environmental integrity. This is generally understood as that the mechanisms may not be used to circumvent ambitious climate change mitigation effort in the participating countries, but no exact definition exists.
- Emission Reduction shall only be accounted for once in order to avoid double-counting which would suggest larger ERs than actually achieved.

11. PA article 6.1

THE ADAPTATION FUND

The Adaptation Fund has projects and programmes which indirectly address loss and damage. As noted above there is no guidance from UNFCCC COP to the adaptation fund to finance loss and damage. Approximately 25% of the portfolio of the AF is composed of Disaster Risk Reduction (DRR) and Early Warning System (EWS) projects, emergency preparedness and resilience. There is no specific window to finance post disaster programmes. L&D is not directly financed by the AF but there are many projects which have loss and damage elements, mainly DRR and EWS projects. The AF classifies and finances its projects by sector. The sectors are Agriculture, Coastal Zone Management, Disaster Risk Reduction, Disaster risk early warning systems, Ecosystem based Adaptation, Food Security, Forests, Multisector Projects (synergistic projects in the sectors), Rural Development, Urban Development and Water Management.^[12] The AF does not have a L&D sector. Currently the AF is not providing resources for areas such non-economic measures: e.g., active remembrance, documenting and recording traditional and local knowledge, cultural preservation, societal protection, counselling, official apologies, enabling access/safe visits to abandoned sites, recognition and repair of loss (whether or not accompanied by financial payment), construction and creation: e.g., altering the nature of the area in question, such as building artificial islands and creating a metaverse for the State in question and emergency response and post disaster activities such as, rehabilitation and reconstruction.

Furthermore, Article 6 establishes Share of Proceeds (SOP), which is a levy on transactions that is earmarked for the Adaptation Fund.

The Paris Rulebook for Article 6 was adopted at COP26 in Glasgow, which included a program of further work. This was further elaborated at COP27 in Sharm el-Sheikh. There are outstanding issues, some to be agreed at COP28 in Dubai, but these are mainly of technical nature. Despite these issues, countries are eager to commence with implementation of article 6, and many have started bilateral cooperation under article 6.2. However, many countries lack the information and institutional capacities needed to participate in these markets, which has spurred initiatives under and outside of the UNFCCC to support readiness for participation.^[13]

In the next sections, we will look at the potential for Article 6 as a source of finance for L&D activities.

12. Adaptation Fund Project Sectors - <https://www.adaptation-fund.org/projects-programmes/project-sectors/>

13. World Bank (2023). State and Trends of Carbon Pricing 2023, p. 49. Available at <https://openknowledge.worldbank.org/items/58f2a409-9bb7-4ee6-899d-be47835c838f>

Cooperative approaches (Article 6.2)

Under article 6.2, Parties can cooperate directly with one another to bilaterally and voluntarily trade with Internationally Transferred Mitigation Outcomes (ITMOS).^[14] This makes it possible for emission reduction and removal measures to be implemented in one country and the resulting emission reductions to be transferred to another and counted towards its NDC or authorized for use for other international mitigation purposes. This arrangement needs to promote sustainable development, ensure environmental integrity and transparency and be subject to robust accounting, to avoid double counting.^[15] In order to participate in article 6.2 cooperation, the Party needs to be Party to the Paris Agreement with an NDC, with arrangements in place for authorizing the use and tracking of ITMOS and with the most recent National Inventory Report. While international supervision of these cooperation activities is not foreseen, guidelines on using this cooperative approach have been developed.^[16]

ITMOS are real, verified and additional emission reductions and removals, including 'mitigation co-benefits resulting from adaptation actions and/or economic diversification plans'. For article 6.2 to include activities that avert, minimize or address L&D, therefore, it needs to overlap with part of the adaptation activity that also produces a mitigation co-benefit or is part of economic diversification (e.g. risk insurance facilities, climate risk pooling and other insurance solutions, activities that increase resilience for communities, cities, etc). The potential of producing any 'additional' sources of revenue is, however, not present as any finance for L&D nevertheless could have been construed as adaptation finance. A more in-depth analysis is provided below under article 6.4.

Despite the detailed rules still being developed, Parties have already started implementing cooperative approaches under article 6.2 through bilateral agreements. The first project to generate ITMOS under article 6.2 was announced at COP27. It was an agreement between Switzerland and UNEP with Ghana and Vanuatu as host countries. In February 2023, Thailand and Switzerland authorized Asia's first Article 6 program.^[17]

14. ITMOS are defined as emission reductions and removals, including mitigation co-benefits resulting from adaptation actions that are real, verified and additional; measured in metric tons CO₂eq or in non-GHG metrics consistent with the NDC, generated from 2021 onwards.

15. Paris Agreement, article 6.2. Double counting is avoided through a corresponding adjustment for both emissions and removals covered by their NDC (Decision 1/CP.21, para 36). This, in turn, would require that the host state has established legal clarity about the entitlement to the transferred emission reduction/mitigation outcome, to avoid that the same outcome could be transferred more than once.

16. Draft decision – /CMA.3. Matters relating to Article 6 of the PA – Guidance on cooperative approaches referred to in Article 6, para 2 of the Paris Agreement.

17. For a more comprehensive list of articles 6.2 bilateral agreements as of 1st April 2023, please see World Bank. State and Trends of Carbon Pricing 2023, op. cit., p. 47.

International trade through Article 6.4

A second option involves the use of the mechanism established in article 6.4 of the Paris Agreement to contribute to the mitigation of GHGs and support sustainable development. It is the successor of the Clean Development Mechanism (CDM) developed under the Kyoto Protocol and can be understood as the Paris Agreement's version 2.0 of this mechanism. In contrast to direct bilateral cooperation, this mechanism is governed by a supervisory body (SP) designated by the Conference of the Parties of the Paris Agreement (CMA). It functions according to common rules, modalities and procedures, many which were adopted at COP26/CMA.3 in Glasgow.^[18] The aim is to ensure that standardised procedures are followed in the design and implementation of emission reduction activities and when verifying and certifying the emission reductions (ERs) achieved.

An activity covered by the article 6.4 mechanism shall be designed to achieve mitigation of GHG emissions that is 'additional' to any that would otherwise occur.^[19] It also includes emission reductions, increase removals and mitigation co-benefits of adaptation actions and/or economic diversification plans. Further, the emission reductions shall achieve real, measurable, long-term benefits, minimize the risk of non-permanence over multiple NDC periods, address reversals in full, and avoid negative environmental and social impacts.^[20]

Further, it does not currently cover mitigation co-benefits that are not reducing emissions (i.e., stand-alone SDG, adaptation or biodiversity benefits de-coupled from mitigation benefits).

The activities covered for adaptation are limited to 'mitigation-co benefits of adaptation actions'. Thus, it is the part of the adaptation activity that produces the mitigation emission reduction that can benefit from support under article 6.4.^[21] It is not clear how these benefits will be assessed. Mitigation co-benefits of adaptation actions can derive from technology-focused interventions (such as early warning systems) ecosystem-based adaptation strategies (such as green roofs and walls, green spaces, reducing impervious surfaces, mangroves, agroforestry, inland and coastal flood protection and wetland restoration), climate proof infrastructure (such as bioswales and hard infrastructure flood defences), resilient energy installations, building design measures (such as passive ventilation) and water and wastewater activities (such as rainwater

18. Decision 3/CMA.3

19. Decision 1/CP.1, para 37 (d)

20. Decision 3/CMA.3, Annex III V A, para 31

21. Please also note that mitigation activities can lead to adaptation co-benefits such as health benefits, poverty reduction, increased biodiversity and ecosystem services such as improved air quality, water quality, reduced toxic waste and reduced inequality. See Climate Sustainability Working Group (CSWG) G20 (2022). Study on the role of mitigation- adaptation co-benefits for creating a more resilient future for all, p. 11, available at: <https://www.unicef.org/indonesia/media/17201/file/Study%20on%20The%20Role%20of%20Mitigation-Adaptation%20Co-Benefits%20For%20Creating%20A%20More%20Resilient%20Future%20For%20All.pdf>

harvesting).^[22] Mitigation co-benefits of L&D actions is not specifically included. However, article 6.4 implicitly also covers mitigation co-benefits of L&D activities that overlap with mitigation co-benefit adaptation activities. For example, many activities that minimize and avert L&D could also be defined as adaptation activities. These include early warning systems, ecosystem-based solutions such as blue-green solutions, climate proofing of infrastructure and so on. It is worth noting, however, that measures to address L&D when adaptation measures meet hard or soft limits, will not be defined as adaptation measures.^[23] However, these L&D effects are highly unlikely to have mitigation co-benefits in the first place.

In short, article 6.4 activities could implicitly cover L&D activities that also produces mitigation co-benefits and that can be defined as 'adaptation' measures. However, this type of finance will not introduce any 'additional' finance for L&D. Further, the potential of using article 6.4 for measures to *address* L&D, such as non-economic loss or relocation due to slow onset events, is limited if not non-existent, as these activities in themselves do not produce mitigation co-benefits.

A supervisory body was established at COP26 in Glasgow, with the task to establish the requirements and processes necessary to operate the mechanism, including the development and approval of methodologies for article 6.4 activities.^[24] Further information on the sustainable development safeguards, including the L&D-adaptation nexus and how to assess the mitigation co-benefits from these activities, are likely to be included in the new tools that will be developed by the end of 2023.^[25]

Finally, it is also worth noting that under the CDM most projects were distributed in China, India and Brazil, effectively crowding out the most vulnerable countries to climate change, such as SIDS and LDCs.^[26] Although Parties are more aware of the need to enhance equitable spread of projects, the It is unlikely that the uneven geographical distribution will continue at the same level for article 6.4 as Parties are more aware of the social inequity. In addition, the introduction of Share of Proceeds (SOPs) attempts to de-couple benefits for adaptation from the actual area in which the mitigation took place.

22. Boyd, D., et al. (2022). Mitigation co-benefits of climate change adaptation. A case-study analysis of eight cities. Sustainable Cities and Society, Elsevier. Available at: https://www.sciencedirect.com/science/article/pii/S2210670721008295?ref=pdf_download&fr=RR-2&rr=7f8c71281c0cb517

23. Limits to adaptation (in that specific area) could for example be seen when rivers dry up completely, or when small island states drown.

24. Decision 3/CMA.3, Annex III B. Available at: https://unfccc.int/sites/default/files/resource/cma2021_10a01E.pdf#page=25

25. Decision 3/CMA.3, para 5(c). Available at: https://unfccc.int/sites/default/files/resource/cma2021_10a01E.pdf#page=25

26. EDF (2018). The Future of the Clean Development Mechanism under a New Regime of Higher Climate Ambition, p. 10. Available at: https://www.edf.org/sites/default/files/documents/Potential_Supply_of_CDM_Credits.pdf

MORE ON ARTICLE 6.4

After approval, validation, verification, certification, and issuance of A6.4ERs, the host Party shall make a corresponding adjustment consistent with guidance on cooperative approaches referred to in article 6, paragraph 2, of the Paris Agreement for the total number of issued A6.4ERs.

A unique aspect of the mechanism is its goal of also mobilising the private sector to participate in climate change mitigation. The Paris Agreement will thus offer also private actors the opportunity to use the mechanism established under article 6.4, as long as a Party authorizes them.

As with the cooperation approach provided for under Article 6.2, the ERs achieved using the 'article 6.4 mechanism' can be transferred from the host Party to the buyer Party and counted towards the latter's NDC. The Paris Agreement also requires that the mechanism result in raised ambition and deliver an overall mitigation in global emissions, this means a net global outcome of an absolute reduction in global greenhouse gas emissions.

Non-market approaches (Article 6.8)

As a third option, article 6.8, provides for the use of non-market-based approaches (NMAs) for international cooperation that is not a mitigation outcome transaction. It was initially proposed by Bolivia as an alternative and opposed to the market-based approaches under article 6.2 and 6.4, included as a stand-alone article in the Paris Agreement to reach consensus.

A framework has been established and adopted to guide the implementation of the NMAs. ^[27] And a work program is elaborating on this. The initial focus areas under the framework include, but are not limited to (i) adaptation, resilience and sustainability; (ii) mitigation measures; and (iii) development of clean energy

27. Paris Agreement, article 6.9, and Decision 4/CMA.3 para 2.

sources. It could potentially also include just transition of the workforce, circular economy and social inclusivity.^[28] If properly designed, it has the potential to foster the acceleration of international cooperation on technology development and transfer, capacity-building and finance in both adaptation and mitigation, which are relevant contributions to NDC implementation and increased ambition.^[29]

It does not specifically mention L&D. However, the framework can be construed to also include NMAs for L&D as long as it aligns with the framework's principles. The principles are, however, centred around integrated, innovative and transformational actions that have significant potential to deliver higher mitigation and adaptation ambition, although Parties are opening up for a wider range of benefits.^[30] Further, the NMA must facilitate the implementation of NDCs of host parties and contribute to achieving the long-term temperature goal of the Paris Agreement.

Many L&D activities can be construed to be aligned with achieving higher adaptation ambition, and are often described in the NDCs. However, the aspects of L&D that do not overlap with either adaptation or mitigation are possibly falling outside of the current scope. That is not to say that activities that address L&D could potentially be included, even without adding clarifying text under article 6.8, as the activities currently listed are 'initial' focus areas, and 'not limited to' the listed activities.

It is worth noting, however, that article 6.8 is not a source of finance in itself, but rather will depend on replenishments from global climate funds, private sector investment and through the use of government grants. Its established Trust Fund for Supplementary Activities for implementing the work programme to finance activities under article 6.8, and Parties have been invited to contribute to it.^[31] As such, article 6.8 does not represent a new source of finance for L&D, but rather an additional 'avenue' for the sources to fund article 6.8 activities, which can include activities that avert, minimize and address L&D. Whether this avenue will induce the private market and increase finance (i.e. 'new and additional') for adaptation and L&D will depend on the mechanisms developed under it.

Under follows an assessment of the Adaptation Benefits Mechanism, which is one of the key initiatives under article 6.8.^[32]

28. Decision 4/CMA.3, para 6 (b).

29. Michaelowa, A. et al. (2021): Development of guidance for non-market approaches in the Paris Agreement Operationalizing Articles 6.8 and 6.9 of the Paris Agreement, German Environment Agency. Available at: https://www.researchgate.net/publication/355904524_Development_of_guidance_for_non-market_approaches_in_the_Paris_Agreement_operationalizing_Articles_68_and_69_of_the_Paris_Agreement

30. Decision 4/CMA.3. Annex I, I, para 1 (ii). Available at: https://unfccc.int/sites/default/files/resource/cma2021_10a01E.pdf#page=25

31. Decision 4/CMA.3, para 13.

32. Other initiatives for enhancing finance for adaptation that can potentially be defined as article 6.8 activities include Local Climate Adaptive Living Facility (LoCAL), and the Adaptation Notes Mechanism. For the latter, please see more information here: <https://www.climatefinancelab.org/ideas/climate-adaptation-notes/>

CASE STUDY:

THE ADAPTATION BENEFITS MECHANISM – UNDER ARTICLE 6.8

In response to requests to develop innovative mechanisms for financing adaptation, the African Development Bank developed the Adaptation Benefits Mechanism (ABM) in the 2016–2019 period with support from the Climate Investment Funds (CIF). This was done in collaboration with African countries, such as Uganda and Côte d'Ivoire, and in consultation with various stakeholders.^[33] The ABM is designed to be aligned with the Paris Agreement's article 6.8, as no international transfers are envisaged, and it aims to fulfil the requirements on non-market approaches.^[34] As such the ABM is meant for activities that contribute to the implementation of the NDCs, and are additional to the host-party's adaptation actions.

The ABM is a results-based finance mechanism for mobilizing new public and private sector finance for enhanced climate change adaptation action in developing countries in Africa.^[35] It monetizes the benefits of adaptation action through creating Certified Adaptation Benefits (CABs) that represents verified and largely quantified packages of information on progress towards resilience and climate finance for various reporting purposes, such as under the Paris Agreement, that can be tailored to the needs of the purchaser. The host country also receives the information that can be used for own reporting purposes, such as on adaptation support received or progress towards the implementation of its adaptation needs and priorities. The price of the CABs is project specific. CABs are not tradeable on the international market.

The CABs can be purchased by governments, development partners, philanthropies, consumers and corporate entities that aim to contribute to finance adaptation actions in a measurable, verified and reportable manner.^[36] The purchaser and the project developer enters into purchase agreements for the CABs. The purchase agreements for the CABs can then be used as collateral by the project developer to raise private sector debt, equity and in-kind contributions for adaptation projects that would otherwise not be financially viable.^[37] Once the adaptation benefits are realised, the project developers will receive payouts from the contracted purchasers, which can then be used to repay the loan, and/or for maintenance and expansion of the activity. Private sector entities, local governments, local NGOs or

33. African Development Bank (2023). Adaptation Benefit Mechanism (ABM): <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/adaptation-benefit-mechanism-abm>

34. African Development Bank (2023). Adaptation Benefit Mechanism (ABM): <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/adaptation-benefit-mechanism-abm>

35. African Development Bank (2023). Adaptation Benefit Mechanism (ABM): <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/adaptation-benefit-mechanism-abm>

36. African Development Bank (n.d.). COP26. African Development Bank forges ahead with new Adaptation Benefits Mechanism, <https://www.afdb.org/en/news-and-events/cop26-african-development-bank-forges-ahead-new-adaptation-benefits-mechanism-46784>

37. African Development Bank (2023). African Development Bank driving innovation to scale up climate adaptation, <https://www.afdb.org/en/news-and-events/african-development-bank-driving-innovation-scale-climate-adaptation-61646>

non-profit organizations in developing countries are all potential candidates to develop activities under the ABM. Governments, private sector, impact investors, climate funds and philanthropies with ambitions to contribute to resilience in developing countries are the potential purchasers of the CABs.

The expectation is that CABs issued by a reputable international organization and based on sound methodological and technical approach, in consultations with stakeholders and with the approval of the host country government, will guarantee the credibility of the adaptation activities and increase their attractiveness to potential investors or lenders.

In the 2019–2025 period, the ABM will test the ground for 10–25 demonstration projects in Africa. The first ABM methodology was already approved. It was developed for a green potato cooling project for a community of smallholder farmers in Kenya suffering from increasing temperatures due to climate change, due to which traditional storage practices are no longer adequate. Several other methodologies have been submitted for approval, concerning sustainable agroforestry practices for enhanced cocoa resilience for smallholder cocoa farmers in Cote d'Ivoire, mobile flood barriers for a poor community in Lagos affected by more frequent and intensive rainfall and cyclone-resilient drinking water supply for Madagascar. These projects are seeking funding for implementation, expansion, or replication through the ABM. The African Development Bank has actively engaged in mobilizing funding for developing 16 more ABM demonstration projects in, among others, Benin, Burkina Faso, Egypt, Ethiopia, Mozambique, Sao Tome & Principe, Senegal, Rwanda, Uganda. These projects respond to climate hazards such as drought, flooding, land degradation, seasonal climate variability, sea level rise and extreme events through effective measures in the areas of climate information systems, clean potable water, solar water, mobile flood barriers for buildings, resilient settlements, plastic waste collection and recycling and preservation of natural reserves. The African Development Bank has a pipeline of about 30 other proposals for ABM demonstration projects and is open to assisting ABM demonstration projects by third parties.

The African Development Bank is currently working to raise at least USD 50 million for a new African Adaptation Benefit Fund (expected to be launched at COP28), which will then kick-start the ABM. The Biden administration has also committed to support the ABM in its 2023/2024 budget, subject to approval by the Senate.^[38]

Although it is too early to predict the potential of the ABM, the following pros and cons can be considered. One of its key potentials is its role as a 'centralized system' that verifies and ensures the quality and viability of adaptation projects, which could induce trust and provide verifiable information for investors to use in their reports when claiming to contribute towards adaptation action. However, if the

38. African Development Bank (2023). African Development Bank driving innovation to scale up climate adaptation, <https://www.afdb.org/en/news-and-events/african-development-bank-driving-innovation-scale-climate-adaptation-61646>

framework is not seen as sufficiently rigorous and safe, it could lead to lack of trust in the ABM and potentially also negative press coverage and with the risk of reducing interest in financing adaptation actions, as we have recently seen was the case with certain carbon credits.

Another strength of the ABM is that it aims to provide the project developers easier access to stable finance flows (given the success of the project). Small-scale adaptation projects, private sector adaptation projects and projects targeting the most poor and vulnerable communities or fragile ecosystems often do not qualify for finance by the global climate funds, because they either deliver to the global good and do not generate any or enough revenues or because they target poor communities, which cannot invest or pay back the high loan rates of African commercial banks. The compatibility of ABM with other financial instruments such as bonds, guarantees and the UNCDF's LOCAL expands the funding options. Furthermore, its focus on Africa, the continent with the most least developed and vulnerable countries, brings much needed attention and potential finance flows to those countries that are rarely benefiting from finance through the carbon markets. It is also hoped that the ABM will pave the way for scaling up and replicating the mechanism to other regions.^[39] One of the hurdles with the ABM and other solutions to scale up adaptation efforts is the difficulty of measuring and monetizing adaptation efforts.^[40] Another potential weakness of the ABM is that, if the money needs to flow through a new fund for adaptation, this will add another layer of overheads. This overhead will increase further, if the funding for the ABM fund comes from another climate fund. However, once the mechanism works more effectively, it could be financed directly from private or other source. If the ABM is envisioned to scale up, or be replicated in other regions, it would require either a new or existing body with a global or regional coverage to take over the tasks of the interim ABM bodies.^[41] Finally, it will be important to compare the ABM with alternative methods, such as private corporations direct support to project developers, or support through other established mechanisms such as the VCM.

It is currently possible to include some L&D project types through the ABM using its results-based methodological approach to measure progress towards averting and minimising L&D. For example, if X ha of a cocoa plantation are experiencing L&D due to decreased productivity resulting from climate change, an ABM methodology can be designed to measure the impact of measures taken, and the averted or minimized L&D, measured in hectares, finance and in number of men and women.

Finally, it could be worth noting the potential for replication for L&D if the AMB

39. African Development Bank (2023). African Development Bank driving innovation to scale up climate adaptation, <https://www.afdb.org/en/news-and-events/african-development-bank-driving-innovation-scale-climate-adaptation-61646>

40. African Development Bank (2023). African Development Bank driving innovation to scale up climate adaptation, op. cit.

41. Michaelowa, Axel et al.: Development of guidance for non-market approaches in the Paris Agreement: operationalizing Articles 6.8 and 6.9 of the Paris Agreement, 2021, p. 80, available at: https://www.researchgate.net/publication/355904524_Development_of_guidance_for_non-market_approaches_in_the_Paris_Agreement_operationalizing_Articles_68_and_69_of_the_Paris_Agreement

achieves to entice private sector and others to increase their finance for adaptation action, and as such lead to 'additional' and perhaps also more predictable finance for adaptation actions. For such a mechanism to be established, it should first be compared with other potential solutions in which elements such as speed, scale, transparency, predictability, integrity, accessibility and involvement of indigenous peoples and local communities (IPLCs), amongst others, need to be taken into account.

In either case, the discussion on the ABM and potential for financing of L&D under article 6.8 could be discussed further in a workstream under the UNFCCC article 6.8 work program that also includes the Adaptation Committee and the WIM ExCom, and potentially also the Santiago Network.



Share of Proceeds under Article 6 and the VCM

In short, Share of Proceeds (SOPs) are earmarked levies from transactions of carbon reduction instruments, currently going towards financing adaptation activities through the Adaptation Fund.

It originated with the Clean Development Mechanism (CDM) under the Kyoto Protocol, which implemented SOPs to cover CDM's administrative expenses and support adaptation in developing countries that were particularly vulnerable.^[42] The SOP for adaptation was 2% of the Certified Emission Reductions (CERs) issued for a CDM activity.^[43] The finance from these SOPs went to the Adaptation Fund.^[44] This was later expanded to require SOPs from the sale of 'any units' generated, such as under those under the Joint Implementation (JI) and the International Emissions Trading (IET).^[45]

In 2018, it was decided that the Adaptation Fund would be financed by the SOP from the Paris Agreement's article 6.4 mechanism once established, and at that time it would no longer receive SOPs from the trades taking place under the Kyoto Protocol.^[46]

Art 6.4 SOPs

In 2015, Parties agreed that a SOP under article 6.4 would be used for administrative expenses and to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.^[47]

At COP26, Parties agreed that the SOP levied for adaptation shall go to the Adaptation Fund. And that the SOP comprises of three elements: first, a levy of 5% of A6.4ER at issuance; secondly, a monetary contribution related to the scale of the Article 6.4 activity or the number of A6.4ERs issued; and finally, a periodic contribution of the remaining funds received from administrative expenses.^[48]

In short, the finance from SOP for adaptation under article 6.4 shall go to the Adaptation Fund. This is a 'shall' obligation and does not leave room for constructive interpretation of other funds, such as the L&D fund. Financing of L&D by the SOP under article 6.4, therefore, is limited to the Adaptation Fund's mandate.

42. Kyoto Protocol, article 12 paragraph 8

43. Decisions 17/CP.7, paragraph 15 and 10/CP.7.

44. Decisions 17/CP.7, paragraph 15 and 10/CP.7.

45. The Doha Amendment J to article 12 paragraph 3 of the Kyoto Protocol. Available at: https://unfccc.int/files/kyoto_protocol/application/pdf/kp_doha_amendment_english.pdf

46. Decision 13/CMA.1. Available at: https://unfccc.int/sites/default/files/resource/CMA2018_03a02E.pdf?download

47. Paris Agreement article 6.6.

48. Decision 3/CMA.3, Annex VII, para 67 (a)–(c). Available at: https://unfccc.int/sites/default/files/resource/cma2021_10a01E.pdf#page=25

As the L&D fund was not under discussion during the article 6 negotiations, it is understandable that this was not an issue. There are two options for introducing SOPs under Article 6.4 for the L&D fund. The first involves sharing the finance from the article 6.4 SOP between the Adaptation Fund and the L&D fund. This option is problematic due to the existing shortfall in finance for adaptation. Any finance for L&D should not be redirected from adaptation, but rather in addition to existing sources of finance. The second option is to introduce an additional levy directed to the L&D fund. This could take the form of a percentage levy, a monetary contribution and/or a periodic contribution, as is the case with the existing article 6.4 SOP. The percentage does not necessarily have to mirror that for adaptation, as there is a general fear of overburdening the market with additional costs which could lead to fewer projects being realised. Once a SOP level has been established, it could be assessed whether it could be increased to match the current level for the adaptation levy in due time.

Whether the negotiations have come too far to introduce an additional SOP earmarked for the L&D fund will also need to be assessed. As the negotiating room for article 6 historically has not discussed L&D, this is a new issue that could take some time to introduce and familiarize between the Parties. However, given the increased focus on this, and the role of the Transitional Committee in advising on potential solutions, the timing might be just right.

Finally, clear signals from the UNFCCC/PA negotiations on a potential SOPA under article 6.4 earmarked for the L&D fund could in turn influence the discussions on a SOPA for the Voluntary Carbon Market (VCM) that is currently being discussed for adaptation.^[49]

Art 6.2 SOPs

Although the ITMOS under article 6.2 are bilateral cooperation and may not be 'monetizable' on the global market, it is nevertheless thought to be important to not create disadvantages to purchase A6.4 emission reductions compared to other cooperative approaches.^[50] Parties engaged in article 6.2 cooperative approaches are therefore 'strongly encouraged to commit to contribute resources for adaptation, in particular through the Adaptation Fund' to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.^[51]

In short, under article 6.2, Parties are not required, but 'strongly encouraged' to contribute resources for adaptation, with particular focus on the Adaptation Fund.

49. For further discussions on this, please see below.

50. Ahonen, M. et al (2022). Governance of Fragmented Compliance and Voluntary Carbon Markets Under the Paris Agreement. Politics and Governance, Vol 10, issue 1. Available at: <https://www.cogitatiopress.com/politicsandgovernance/article/view/4759>

51. Decision – /CMA.3, part VII, para 37.

The contributions do not have to go to the Adaptation Fund. As such, article 6.2 seems to open for interpretation that parties could choose to contribute resources to the L&D fund in addition, or instead. This interpretation is strengthened by the fact that certain L&D activities can be defined as 'adaptation' as well. However, as noted above, any finance for L&D should avoid being redirected from adaptation. As such, Parties could benefit from clear recommendations that additional contributions to the L&D fund is also strongly encouraged. Whether including a recommendation for L&D finance contributions is necessary, or whether the constructed ambiguity is sufficient for Parties to engage in additional finance for L&D remains to be seen. Going forward, however, the Transitional Committee could highlight this opportunity for increased finance, so that Parties are aware and encouraged to move forward with it.

SOPs from the VCM

In parallel with the discussions on SOP for adaptation under article 6 of the Paris Agreement, there have also been discussions on whether to adopt a SOP for adaptation under the Voluntary Carbon Market (VCM). The Climate Vulnerable Forum, which is an international partnership of countries highly vulnerable to climate change in the Global South, called for the adoption of SOPA as part of the Integrity Council for the Voluntary Markets' Core Carbon Principles.^[52] The proposal for a SOP for adaptation is based on the need to ensure environmental and social integrity of the carbon credit market, to support the poorest and most vulnerable countries and communities and not just in the host countries.^[53] As part of its work to increase the integrity of the VCM, the Integrity Council of the VCM (IC-VCM) published Core Carbon Principles (CCPs) and Assessment Framework, which will be used to determine when carbon credits are of 'high integrity' and as such 'CCP-Approved'.^[54] It has also created supplemental tags, also known as 'CCP attributes', to showcase additional benefits or features related to the carbon credit issued. One such attribute is a Share of Proceeds for Adaptation (SOPA), which is when the 'mitigation activity makes a voluntary contribution to the Adaptation Fund of the UNFCCC'.^[55] Other attributes could be developed at the discretion of the IC-VCM.^[56] As such, there is a potential for introducing a L&D attribute, in which the 'mitigation activity make a voluntary contribution to the L&D fund under the UNFCCC/PA'.

52. Hug, S. (2023). Voluntary Carbon Markets' Credibility in Question Over Support for Adaptation – Adopting a Share of Proceeds for Adaptation as part of the Integrity Council for the Voluntary Carbon Markets. Core Carbon Principles. Available at: <https://thecvf.org/our-voice/blog/voluntary-carbon-markets-credibility-in-question-over-support-for-adaptation/>

53. Müller, B. (2022). Safeguarding Social Integrity in the Voluntary Carbon Market. Available at: <http://blog.oxfordclimatepolicy.org/safeguarding-social-integrity-in-the-voluntary-carbon-market/>

54. IC-VCM (2023). Core Carbon Principles, Assessment Framework and Assessment Procedure. Available at: <https://icvcm.org/wp-content/uploads/2023/07/CCP-Book-R2-FINAL-26Jul23.pdf>

55. The Integrity Council for the Voluntary Carbon Market (2023). Core Carbon Principles 2023, p. 45. Available at <https://icvcm.org/wp-content/uploads/2023/07/CCP-Book-R2-FINAL-26Jul23.pdf>

56. The Integrity Council for the Voluntary Carbon Market (2023). Core Carbon Principles 2023, p. 45. Available at <https://icvcm.org/wp-content/uploads/2023/07/CCP-Book-R2-FINAL-26Jul23.pdf>

There has not been a discourse on a potential SOP going to activities that avert, minimize and address L&D, for example to the L&D fund, for the poorest and most vulnerable countries and communities.

Discussions on the SOP for adaptation, however, will take place under the IC-VCM, which 'will establish' a work programme.^[57] The work programme will assess the potential of a mandatory SOPs for adaptation for all CCP-Approved credits; the readiness of buyers to make such contribution; the appropriate destination of any revenue; and impact on market participants, among others.^[58] An assessment of the potential of a L&D SOPs could be part of this programme.^[59] Another option is to establish a stand-alone work programme under the IC-VCM for potential SOPs going to the L&D fund.

The potential guidance and/or decisions from the negotiations under the UNFCCC/Paris Agreement on a SOP for the L&D fund is likely to send strong signals and affect the discourse on this under the VCM, but also other markets such as ICAO. Although the UNFCCC/PA does not have governance over the VCM or ICAO, it could take note of existing initiatives and encourage further coordination (and potentially alignment) with the UNFCCC/PA.

It is also worth noting that the finance flows from SOPs are vulnerable to market volatility. For example, after May 2011, the Kyoto Protocol carbon market dropped, collapsing the price for CERs, which led to a deep decline in finance for the Adaptation Fund.^[60] As of June 2022, cumulative receipts into the Adaptation Fund comprised of USD 212 million from the monetization of CERs, in which USD 188 million was generated between 2009–2012, before the market crashed.^[61] Instead, voluntary contributions to the Adaptation Fund represent an increasing share, and was five times higher than the income from the monetization of CERs. Most of these donations come from grants from developed countries.^[62]

Finally, the potential for establishing an SOP for L&D should not hinder the development of other advancement in the carbon market out outside of it for financing activities that avert, minimize and address L&D, such as stand-alone L&D units.

57. It is unclear whether this has been established at the time of writing.

58. The Integrity Council for the Voluntary Carbon Market (2023). Core Carbon Principles 2023, p. 47. Available at <https://icvcm.org/wp-content/uploads/2023/07/CCP-Book-R2-FINAL-26Jul23.pdf>

59. The SOPs could for example be collected as a Share of Proceeds for Adaptation and L&D (SOPALD), and then shared between the two funds. The price for such SOP should be higher to reflect the dual nature.

60. Adaptation Fund: [Setting up an Emission Reduction Mechanism for Adaptation - Adaptation Fund \(adaptation-fund.org\)](https://www.adaptation-fund.org/setting-emission-reduction-mechanism-adaptation-fund.org). Available at <https://www.adaptation-fund.org/setting-emission-reduction-mechanism-adaptation-fund.org>

61. Please see: <https://unfccc.int/Adaptation-Fund> and <https://www.adaptation-fund.org/setting-emission-reduction-mechanism-adaptation-fund.org>

62. <https://unfccc.int/Adaptation-Fund>



REDD+ (article 5.2)

Readiness funding and results-based payments

Reducing emissions from deforestation and forest degradation (REDD+) is a framework established under the UNFCCC and fully integrated in the Paris Agreement (Art. 5.2). It provides for effective and transparent mitigation actions in the forest sector in developing countries as well as for robust measuring, reporting and independent verification, as well as for channelling finance to developing countries implementing REDD+ activities. It is an international framework with credibility and legitimacy for ensuring and increasing environmental integrity and transparency of activities in the forest sector, unmatched by any other framework for any other sector.

Forest-based mitigation options, when sustainably implemented, can deliver large-scale GHG emission reductions and enhanced removals, as well as positive co-benefits for adaptation and resilience. As such, REDD+ activities could contribute to addressing L&D in the context of increasing 'resilience of communities, livelihoods and ecosystems'.^[63]

REDD+ activities in developing countries can generate funding in the form of readiness support and results-based payments. While readiness funding supports

63. Art. 8.4 (h) Paris Agreement.

the preparation and implementation of national REDD+ strategies and forest monitoring systems, results-based payments are generated by reported and verified results. So far, REDD+ has generated payments of several billion USD, through bilateral agreements such as those by the Norwegian Climate and Forest Initiative (NICFI) or through multilateral channels, such as UN-REDD, Forest Carbon Partnership facility (FCPF), the GCF or through private sources.^[64]

Both bilateral as well as REDD+ funding schemes through multilateral entities, with the GCF in a central role, foresee financing possibilities for wider co-benefits than emissions reductions. For example, the GCF pilot programme for REDD+ results-based payments which has resulted in proceeds of USD 500 million during the period from 2018 to 2022, contained the possibility for host countries to receive a premium of 2.5% if they presented information on how the proceeds will be used in a manner that contributes to the long-term sustainability of REDD-plus activities, including non-carbon benefits.^[65]

As mentioned above several REDD+ activities within the forest sector have a high potential for co-benefits supporting L&D. Exploring this potential might open for funding possibilities through either REDD+ readiness funding or REDD+ results-based payments.

Besides these finance sources from bilateral and multilateral sources, the Paris Agreement opens new financial possibilities for REDD+ through Article 6.^[66]

Article 6.2 for REDD+

The forest sector is already included in the guidance on cooperative approaches referred to in Article 6, paragraph 2. Internationally transferred mitigation outcomes (ITMOs) are not specific or restricted to any emission sector. From the outset, "reducing emissions from deforestation" and "reducing emissions from forest degradation" are REDD+ activities that could potentially be included in bilateral arrangements under Article 6, paragraph 2. Furthermore, the inclusion of the word "removals" in the definition of ITMOs, as per decision 2/CMA.3,^[67] suggests that such arrangements can potentially cover all REDD+ activities. The notion that REDD+ has been excluded from Article 6 or that its inclusion is contingent upon further negotiations is incorrect.^[68]

64. Environmental Defense Fund Forest Trends (February 2018). Mapping Forest Finance - A Landscape of Available Sources of Finance for REDD+ and Climate Action in Forests. Available at: <https://www.edf.org/sites/default/files/documents/EDF101-REDD%2BFinance.pdf>; see also Lima REDD+ Information Hub, <https://redd.unfccc.int/info-hub.html>.

65. GCF Board, Board in decision B.18/07, para 3.4.

66. See for a discussion of this issue: Nemitz, D., et al. The Paris Agreement and the Future Relevance of the Warsaw Framework for REDD+ (WFR). Forthcoming in 2024.

67. Decision 2/CMA.3, annex, paragraph 1(b): "Internationally transferred mitigation outcomes (ITMOs) from a cooperative approach are: (...) Emission reductions and removals, including mitigation co-benefits resulting from adaptation actions and/or economic diversification plans or the means to achieve them, when internationally transferred" among others.

68. Perez, M. (2022). After COP27: The Future of REDD+ in the Paris Agreement Implementation. CCAP. Available at <https://www.ccap.org/post/after-cop27-the-future-of-redd-in-the-paris-agreement-implementation>



Article 6.4 for REDD+

The inclusion of REDD+ activities in the mechanism established under article 6.4, however, is not as direct as for Art. 6.2. While removals are foreseen as eligible activities under the mechanism, at the moment it is still an open matter and subject to negotiation the way in which these removals are to be considered, as well as the potential acceptance of activities related to "emission avoidance" and "conservation enhancement".^[69] Some actors, notably linked to private certification schemes, have indicated the expectation that REDD+ activities, at project level, should be considered under these negotiations. In any case, the background and history of the development of methodologies for the forest sector under the Clean Development Mechanism, particularly with regards to environmental integrity and permanence issues, suggest long and protracted negotiations ahead.

Regardless of these debates, the potential inclusion of forest-related activities as Article 6.4 activities, from the outset, raises issues of scale and accounting - which could be addressed, at least in part, through the use of the adopted framework for REDD+.

Voluntary markets for REDD+

It is worth noting that some developing countries are already using REDD+ in the context of voluntary markets and ESG initiatives. The Coalition of Rainforest

69. These are being considered under the mandates established by decision 3/CMA.3, paragraphs 6(c) and 7(h).

Nations (CRfN) is offering "REDD+ Results Units (RRUs)" through their REDD.plus platform, also referred to as "sovereign carbon credits" by members of the CRfN. The platform is neither endorsed by the UNFCCC, nor part of the WFR. Instead, it uses the REDD+ results as a tool to provide transparency and independent verification for corporations that want to offset their emissions voluntarily.^[70] This is an interesting development, worth following for future research, whether the use of one public international standard (for REDD+) will be able to occupy a significant portion of voluntary carbon markets, which so far have been dominated by a multitude of private carbon certification schemes.^[71] Whether voluntary markets will follow a path of integration or competition with Article 6 remains to be seen.

The Voluntary Carbon Market

Introduction/context

The Voluntary Carbon Market (VCM) provides an avenue for companies and other entities such as cities, endowments and universities to compensate or neutralize emissions not yet eliminated in their own operations and supply chains and outside of supply their chains by purchasing carbon credits, which are not intended to be surrendered in an actively regulated carbon market.^[72]

The private sector is showing increasing interest in the VCM as the number of companies and other actors with carbon neutral or net-zero commitments in line with the Paris Agreement are rapidly growing.^[73] The vast majority of companies pledging for net zero or neutrality plan to rely on some form of compensation for remaining emissions through offsetting, such as through the VCM.^[74] In 2022, the VCM channelled USD 1.3 billion in investments.^[75] Although the value of the VCM has fallen as a result of revelations of weaknesses since then, it is nevertheless estimated to reach between USD 10 billion and USD 50 billion by 2030.^[76] The

70. See <https://www.redd.plus/>. It is important to note that the redd.plus platform does not claim to issue ITMOs, only that the RRUs are "registered" under the Paris Agreement, an indirect reference to article 5.2 and the REDD+ Info Hub.

71. Neither voluntary markets nor the Coalition can claim their units are ITMOs per se. As seen above, under Article 6 guidance, the fundamental requirement for an emission reduction to be recognized as an ITMO, regardless of its source, is the authorization of the host country Party to generate a corresponding adjustment to its NDC.

72. Regulated carbon markets include the EU Emissions Trading System (EU ETS).

73. According to the Science Based Targets Initiative (SBTi), companies covering over a third of global economy market capitalization were working with SBTi to set science-based mitigation reduction targets, in which the net-zero target is the 'new compass'. See SBTi (2022). Science-Based Net-Zero – Scaling Urgent Corporate Climate Action Worldwide – the SBTi Progress Report 2021. Version 1.2. Available at: <https://sciencebasedtargets.org/resources/files/SBTiProgressReport2021.pdf>

74. Kreibich, N.; Hermwille, L. (2021). Caught in between. Credibility and feasibility of the voluntary market post 2020' Climate Policy 2021, No. 7, pp. 939-957. Available at: <https://www.tandfonline.com/doi/full/10.1080/14693062.2021.1948384>

75. South Pole (2023). The Voluntary Carbon Market 2022-2023, p. 6. Available at: <https://go.southpole.com/vcm-report-2023>

76. GEF, Nature Finance, Carbone4 (2023). Harnessing Biodiversity Credits for People and Planet. Available at: <https://www.naturefinance.net/wp-content/uploads/2023/06/HarnessingBiodiversityCreditsForPeopleAndPlanet.pdf> And Taskforce on Scaling Voluntary Carbon Markets (2021). Available at: https://www.iif.com/Portals/1/Files/TSVCM_Report.pdf

potential for the VCM is even greater if high-quality carbon removal credits are pursued, with estimated total market value of USD 1 trillion as early as 2037.^[77]

A survey of more than 500 medium and large businesses across the US and Europe found that nearly 90% consider carbon credits important to compensate for unabated emissions they are not currently able to reduce.^[78] The exact demand for credits under the VCM might be difficult to estimate at this point in time, however, as the quality and clarity on mitigation short-term targets (prior to 2030) fall below minimum criteria.^[79] However, as the focus on alignment with the Paris Agreement's goal is likely to increase, the governance and integrity of the VCMs strengthens and company reporting on climate risk becomes increasingly sophisticated, the VCMs' growth is unlikely to stall in the near term. The forecast for the VCM is significant market growth driven by voluntary demand over the next decade.^[80] The surge of interest will drive finance towards projects that are additional to government action, opening for the VCMs to channel 'significant funds' towards climate projects and programmes and play an important role in accelerating climate action.^[81]



77. BloombergNEF (2023). Long-term carbon offsets outlook 2023. Available at: <https://about.bnef.com/blog/five-need-to-knows-about-the-future-of-voluntary-carbon-offset-markets/>

78. World Bank (2023). State and Trends of Carbon Pricing 2023, op. cit., p. 39.

79. See for example Hale, T. et al (2022). Assessing the rapidly-emerging landscape of net zero targets. Climate Policy vol 22, p. 1. Available at: <https://www.tandfonline.com/doi/full/10.1080/14693062.2021.2013155> For European companies in particular, please see Machnik, D.; Sun, P.; Tänzler, D. (2020). Climate neutrality targets of European companies and the role of carbon offsetting. Adelphi, p. 24. Available at: https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Studie/GCMIII_Klimaneutral_Offsetting.pdf

80. World Bank (2023). State and Trends of Carbon Pricing 2023, op. cit., p. 39.

81. Streck, C. (2021). How voluntary carbon markets can drive climate ambition. Journal of Energy & Natural Resources Law. Available at: <https://www.tandfonline.com/doi/full/10.1080/02646811.2021.1881275>

Co-benefits under the VCM

Demand is also increasing for carbon credits with certified co-benefits to ecosystems and local economies, even if the price of these credits is higher.^[82] These social and/or environmental benefits, also often referred to as 'sustainable development benefits', range from gender equity and economic development to affordable clean energy and restoration of wildlife.^[83]

With the adoption of the revised Sustainable Development Goals (SDGs) and their corresponding targets as well as the adoption of the Paris Agreement in 2015, corporate awareness and interest in supporting the SDGs and the climate goals have increased. Today, there is a clear trend that companies want to record their positive SDG and nature impacts from their investments in carbon credit projects. For example, Verra, the largest independent crediting mechanism/carbon offset program, reported an increase from 2021 to 2022 of 589% for requests for carbon credits with SDG benefits, and an 187% increase in requests for climate and biodiversity benefits.^[84]

At the same time, the market participants have to be willing to price the additional benefit in. For example, the benefits resulting from gender equality and health from mitigation cookstove projects are quantifiable, but are difficult to prescribe a value, and corporate buyers are cautious to do that.

The following section will analyse how the VCM is currently used for financing L&D activities and assess its potential for innovative solutions enhancing finance for projects that minimize, avert and address L&D.

Co-benefits and de-coupled benefits and their relation to L&D

As noted above, there is increasing interest in ensuring that mitigation reduction credits include positive benefits for SDG and nature, so called co-benefits.

Carbon crediting programs have created third-party certification of the social and/or environmental integrity of the co-benefits from their mitigation projects. The certified co-benefits can be expressed as (i) verified claims; (ii) labels; or (iii) units/credits. A claim is a verifiable statement about a specific sustainable development benefit resulting from a project. The claim can be used by a company to express its contribution related to its mitigation and SDG goals and targets. Labels are markers that signal that the project's SDG benefits are third-party

82. World Bank (2023). State and Trends of Carbon Pricing 2023, op. cit., p. 40. Also see: Setting the Voluntary Market Standard (2021). Environmental Finance. Available at: <https://www.environmental-finance.com/content/awards/voluntary-carbon-market-rankings-2021/corporate-statements/setting-the-voluntary-market-standard.html>

83. For example, under Verra, the Blue Carbon Project Gulf of Morrosquillo 'Mangrove Life' will sequester almost one million tonnes of carbon dioxide over 30 years by conserving and sustainably managing mangrove ecosystems, while also introducing co-benefits to biodiversity and the local economy.

84. Verra (December 2022). Update on Verra Project Reviews. Available at: <https://verra.org/update-on-verra-project-reviews/>

certified. The label can be added to other units, for example verified carbon units, when listed on the registry. As such, the label will indicate that the carbon unit was created during the same time as the SDG label. Finally, units/credits are third-party verified stand-alone, standardized assets representing one or more of a project's SDG/nature benefits. These units/credits are issued after verification in the registry and can be traded or retired on the VCM.

One example of a carbon crediting program for co-benefits Verra's **Sustainable Development Verified Impact Standard (SD VISTa) Program**, which was established in 2019. The SD VISTa Program assesses and certifies the sustainable development benefits of social and environmental projects. These benefits are third-party verified, and may take the form of an SD VISTa claim, label or asset. [The *claim* is a verified statement of a project's measured benefit advancing the UN Sustainable Development Goals (SDGs). The *label* can be used to mark carbon emission reduction credits, or other social or environmental credits, that were created during the same project to demonstrate that the credit is also SD VISTa verified. The *asset* represents a quantified sustainable development benefit that has been created through an approved SD VISTa methodology, and that can be traded.]

The SD VISTa Program covers 14 sectoral scopes, including climate change adaptation, ocean and marine resources, livelihoods, infrastructure, housing, health, food, governance and education. The types of SDG benefits that can be created under SD VISTa will depend upon project activities and outcomes. If generating and asset using SD Vista, benefits are quantified and credited under asset-specific methodologies. There are currently several methodologies under the SD VISTa Program that are used to produce social and/or environmental benefits. Some of these programs are de-coupled from mitigation activities, and as such can be defined as being part of the nascent Nature Credit Market (NCM) or other voluntary credit markets (e.g., plastics).

This SD VISTa program has the potential to apply to L&D projects that promote any of the above-mentioned sectoral scopes. For example, it could apply to adaptation activities that overlap with L&D activities such as national adaptation planning and preparing for climate related events (including sea level rise), enhancing climate data collection, establishing early warning systems, post-adaptation activities (building forward better), and planned migration and relocation as part of national adaptation actions. It could also apply to L&D activities that overlap with other sustainable development goals, including but not limited to enhancing livelihoods, good health and well-being, sustainable housing and infrastructure, zero hunger and responsible consumption and production, decent work and economic growth, quality education, governance and gender equality.

The SD VISta program is relatively new, and the extent and types of projects it can cover is broad. It may have some limitations for L&D activities that cannot be defined as sustainable development using the SDGs. L&D activities such as active remembrance, documenting and recording traditional and local knowledge, cultural preservation, societal protection, or counselling would need to be strategically aligned to SDG 11 or 16, and interventions assisting people suffering from degraded health due to climate impacts could be linked to SDG 3 while addressing reductions in agriculture production yield or fisheries might support SDG2. Creating artificial islands or metaverses could also fall under SD VISta's umbrella if linked to SDGs 13 and/or 15. Finally, the SD VISta Program is developing two asset-generating methodologies covering certain L&D activities related to biodiversity restoration and coastal resilience.

Another standard by Verra is the **Climate, Community & Biodiversity Standards** (CCB), which can be used to create an independently verified marker, the CCB label. The CCB label can be used to verify that the project in question, for example an offset project for agriculture, forestry and other land uses (an AFOLU project), creates added benefits for the community and biodiversity, including through enhanced adaptation actions. This label is then added to a GHG credit listed on a registry to indicate that the verified emission reductions or removals represented by that credit were issued from a project which satisfies and is verified to the CCB Program rules.^[85] This is often referred to as 'earmarking'. Projects with these biodiversity benefits tend to be valued higher than those without these labels and can provide a 'significant source of biodiversity finance for developing countries'.^[86] It is worth noting, however, that these AFOLU projects are heavily concentrated in forest rich nations, with two-thirds of offsets coming from Indonesia, Peru, Cambodia, Brazil and the Democratic Republic of Congo.^[87]

The use of this label for financing L&D activities is limited. Further, it does not provide additional finance for L&D that would not otherwise be financed under the label 'biodiversity' or 'community' benefits.

It is also worth noting that the carbon crediting program **Gold Standard** has established a standard for the global goals reflected in the Paris Agreement and the SDGs. The standard was created to ensure that projects that reduce carbon emissions featured the highest levels of environmental integrity and also contributed to sustainable development. It offers companies the chance to purchase certified SDG impacts, hereunder 'claims'. The claims provide information on the financial contribution of specific SDGs. Gold Standard offers claims for

85. Verra (2017). Climate, Community & Biodiversity Standards – version 3.1, p. 8. Available at: https://verra.org/wp-content/uploads/CCB-Standards-v3.1_ENG.pdf

86. Bloomberg NEF (2023). Biodiversity Finance Factbook, p. 29. Available at: https://assets.bbhub.io/professional/sites/24/REPORT_Biodiversity_Finance_Factbook_master_230321.pdf

87. Bloomberg NEF (2023). Biodiversity Finance Factbook, p. 29. Available at: https://assets.bbhub.io/professional/sites/24/REPORT_Biodiversity_Finance_Factbook_master_230321.pdf

renewable energy, water, gender equality, improved health outcomes and emission reductions.^[88]

For these specific claims there is limited overlap with measures to minimize, avert and address L&D.

In summary, therefore, the use of co-benefits for financing L&D activities under existing programs is limited, and does not finance actions to address L&D. Further, potential finance will not be defined as 'additional' to already existing finance for these co-benefits. To introduce new and additional finance for L&D activities, therefore, these programs would benefit from establishing new, stand-alone L&D credits representing benefits that include positive benefits from addressing L&D.

CARBON CREDITS EXPLAINED

Carbon credits are tradable units issued by a carbon crediting program (also known as carbon offset programs, registries or standards), such as Verra's Verified Carbon Standard (VCS), Gold Standard, ART TREES' REDD+ Environmental Excellence Standard, Climate Action Reserve (CAR) and American Carbon Registry (ACR), that represents a verified reduction or removal of GHGs from the atmosphere.^[89] The crediting programs applies standards to ensure that the climate mitigation actions that generate carbon credits go beyond business-as-usual, often compared to a baseline scenario, and leads to credible and verified reductions of GHGs.^[90]

The Nature Credit Market

Concurrently with the development of co-benefits, stand-alone assets, de-coupled from mitigation activities, that represent a verified nature or biodiversity benefit have been developed.^[91] These assets are created independent of any mitigation activity, and are often referred to as nature credits. These programs can be used for activities that avert, minimize and address L&D, with a strong focus on activities relevant for biodiversity.

88. Gold Standard (2023). Certified SDG Impacts for results based finance. Available at:

<https://www.goldstandard.org/impact-quantification/certified-sdg-impacts>

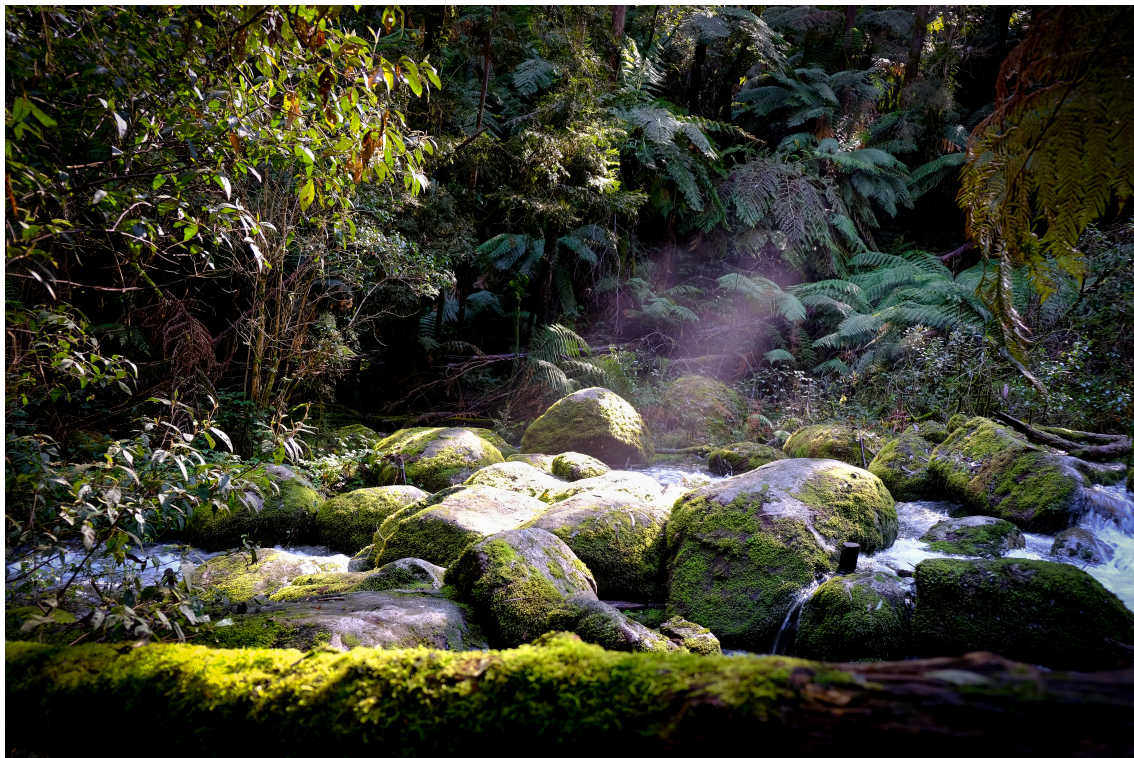
89. One carbon credit represents one metric tonne of CO₂.

90. For a definition of carbon credits, please see VCM's Code of Practice, p. 39. Available at

<https://vcminTEGRITY.org/wp-content/uploads/2023/06/VCM-Claims-Code-of-Practice.pdf>

91. Interestingly, the market for these assets has yet to be named and is often confused with the VCM as the issuer is best known for its work within the carbon market.

The development of markets for trade in nature and biodiversity credits is nascent and rapidly evolving at many different arenas, by public, private and non-profit actors. These markets mirror the voluntary carbon market, but are not for carbon reductions, but rather payments for positive contributions to biodiversity using biodiversity credits. Nature credits (often also referred to as nature market credits, nature certificates, biodiversity certificates, biodiversity credits or biocredits) can be defined as a 'quantifiable unit representing a biodiversity conservation and/or enhancement claim, which cannot be used as an offset (i.e. to claim the compensation of residual impacts on biodiversity)'.^[92]



The current surge in interest and initiatives for biodiversity credits is driven by in part by the realisation by companies on their dependence on nature and the increasing focus on reporting on nature exemplified by globally guiding documents such as the Taskforce on Nature-related Financial Disclosures (TNFD) framework and the Science-Based Targets for Nature (SBTN).^[93] It is also driven by the realization of the importance to strengthen the international and national governance systems safeguarding biodiversity and the urgent need for increased finance, as exemplified by the Kunming-Montreal Global Biodiversity Framework.^[94]

92. For the full definition, please see GEF (2023). Innovative Finance for Nature and People: Opportunities and Challenges for Biodiversity-Positive Carbon Credits and Nature Certificates, p. 5. Available at https://www.thegef.org/sites/default/files/documents/2023-03/GEF_IIED_Innovative_Finance_Nature_People_2023_03_1.pdf

93. The TNFD Framework is available at: <https://tnfd.global/> and the SBTN is available at: <https://sciencebasedtargetsnetwork.org/take-action-now/take-action-as-a-company/what-you-can-do-now/>

94. GEF, Nature Finance, Carbone4 (2023). Harnessing Biodiversity Credits for People and Planet. Available at: <https://www.naturefinance.net/wp-content/uploads/2023/06/HarnessingBiodiversityCreditsForPeopleAndPlanet.pdf>

For the latter, the use of high integrity markets for biodiversity credits has been proposed as a key solution by an array of initiatives.

Key initiatives include the Taskforce on Nature Markets;^[95] the Biodiversity Credit Alliance;^[96] the initiatives under the World Economic Forum^[97] and the World Business Council for Sustainable Development; the coalition on Forests and Climate Leaders' Partnership (FCLP);^[98] the key recommendations on scaling up biodiversity credits at the One Forest Summit in Libreville;^[99] and France and United Kingdom's collaboration to update the global roadmap on biodiversity credits.^[100] Other initiatives for creating methodologies include the Organization of Biodiversity Certificates; Plan Vivo's Nature Certificates; Global Biodiversity Standard; and Verra's Nature Framework.

Common for all of these initiatives is that they aim to understand the potential role for these credits in catalysing finance for activities conserving or enhancing nature and biodiversity, to bring together stakeholders and to develop global methodologies/principles and instruments to ensure integrity and scalability in the market.

Another key actor is the GEF, who has decided to establish a Global Biodiversity Framework Fund.^[101] GEF produced a report together with IIED on innovative finance for nature and people, which influenced the outcome on biodiversity credits from the One Forest Summit. The main take away was that '...with clear policy frameworks and signals, good governance, improved institutional capacities, and inclusive and transparent rules of engagement, biodiversity-positive carbon credits and nature certificates have the potential to markedly complement other financial mechanisms towards meeting the goals and targets of the Global Biodiversity Framework and the Paris

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95. The Taskforce on Nature Markets is an initiative of NatureFinance (previously called Finance for Biodiversity, F4B), and includes a wide community of organizations. More information available at: <https://www.naturemarkets.net/about>
96. The Biodiversity Credit Alliance is governed by a secretariat, includes experts from a wide community of organizations. It has a Task Force inclusive of methodology developers and standard setters, and a community panel to engage nature-dependent Indigenous Peoples and Local Communities. More information can be found at: <https://www.biodiversitycreditalliance.org/>
97. See for example, WEF (2022). Biodiversity Credits: Unlocking Financial Markets for Nature-Positive Outcomes – briefing paper. Available at: https://www3.weforum.org/docs/WEF_Biodiversity_Credit_Market_2022.pdf and WEF (2022). Consultation Paper on High-Level Governance and Integrity Principles for Emerging Voluntary Biodiversity Credit Markets. Available at: https://www3.weforum.org/docs/WEF_Biodiversity_Credits_Markets_Integrity_and_Governance_Principles_Consultation.pdf
98. FCLP is a coalition of 26 countries and the EU launched at COP27 in Sharm el-Sheikh, and innovative instruments, including biodiversity carbon credits, are key action areas. For more information, please see: <https://web.archive.nationalarchives.gov.uk/ukgwa/20230311221226/https://ukcop26.org/world-leaders-launch-forests-and-climate-leaders-partnership-to-accelerate-momentum-to-halt-and-reverse-forest-loss-and-land-degradation-by-2030/>
99. The summit was co-hosted by Gabon and France. More information on the biodiversity credit recommendation can be found at: Coalition for a High Environmental and Social Quality Carbon Credit Market (2023) <https://oneplanetsummit.fr/en/coalitions-82/coalition-high-environmental-and-social-quality-carbon-credit-market-255>
100. The Global Roadmap to Harness Biodiversity Credits for the Benefit of People and the Planet (2023). Available at: <https://nouveau-pacte-financier.org/img/AGlobalRoadmapForScalingUpHighIntegrityBiocredits.pdf> This outcome was part of the proposed Global Roadmap developed under the Summit for a New Financing Pact initiated by France. See Proposed roadmap to build on key milestones of the international agenda as a follow-up to the Summit on a New Global Financing Pact (2023), at <https://nouveau-pacte-financier.org/pdf/proposed-roadmap.pdf>
101. For more information on the Global Biodiversity Framework Fund, please see: <https://www.thegef.org/newsroom/press-releases/gef-council-approves-plans-game-changing-global-biodiversity-fund>

Agreement.^[102]

Further, it found that to ensure the success for the nature market it would be necessary to scale up investments, and move from pre-market phase and pilots towards a critical mass of trades. In doing so, countries were recommended to pilot and test biodiversity credits and nature certificates as part of their national strategies and plans, and utilize bilateral and multilateral support opportunities, including from multilateral development banks, GEF, GCF and others, as well as philanthropic support.^[103] It also underlined the importance of good governance, with full engagement of actors including governments, IPLCs, private sector, philanthropies, and multilateral and bilateral financing partners.^[104]

This work was further developed into a 'Global Roadmap' to harness biodiversity credits for the benefit of people and planet by the GEF, Nature Finance and Carbone4, which was introduced at the Summit for a New Global Financing Pact.^[105] The Global Roadmap is supported by an advisory panel, with the active involvement of the GEF. The advisory panel will deliver its findings and recommendations to a coalition of countries for COP28 and CBD COP16 with further opportunities towards UNFCCC COP30 (2025).

The financial potential for the nature market to create revenue streams for nature and biodiversity projects is difficult to properly ascertain. Its success will to a great extent depend upon the interest and involvement of the private sector in purchasing these credits. Strong signs of private sector engagement can be seen in relation to the UN Biodiversity COP15, where more than 1,000 businesses with revenues of USD 4.7 trillion, operating in more than 65 countries were calling for greater policy ambition and action on nature.^[106] There is little information on the potential value of the nature credit market, however, a Bloomberg estimate of the nature/biodiversity credit market which included biodiversity offsets was estimated to attract USD 6–9 billion in annual financing, and is expected to reach over USD 160 billion by 2030.^[107]

102. GEF, IIED (2023). Innovative Finance for Nature and People. Opportunities and Challenges for Biodiversity-Positive Carbon Credits and Nature Certificates, p. 8. Available at:

https://www.thegef.org/sites/default/files/documents/2023-03/GEF_IIED_Innovative_Finance_Nature_People_2023_03_1.pdf

103. GEF, IIED (2023). Innovative Finance for Nature and People. Opportunities and Challenges for Biodiversity-Positive Carbon Credits and Nature Certificates, p. 10. Available at:

https://www.thegef.org/sites/default/files/documents/2023-03/GEF_IIED_Innovative_Finance_Nature_People_2023_03_1.pdf

104. GEF, IIED (2023). Innovative Finance for Nature and People. Opportunities and Challenges for Biodiversity-Positive Carbon Credits and Nature Certificates, p. 10. Available at:

https://www.thegef.org/sites/default/files/documents/2023-03/GEF_IIED_Innovative_Finance_Nature_People_2023_03_1.pdf

105. Summit for a New Global Financing Pact. (2023). A Global Roadmap to Harness Biodiversity Credits for the Benefit of People and the Planet. Available at:

<https://nouveau-pactefinancier.org/img/AGlobalRoadmapForScalingUpHighIntegrityBiocredits.pdf>

106. Business for Nature (2021). COP15 Opening: businesses call for greater policy ambition and action on nature. Available at: <https://www.businessfornature.org/news/cop15-opening-business-call-to-action>

107. Bloomberg NEF (2023). Biodiversity Finance Factbook, p. 30. Available at:

https://assets.bbhub.io/professional/sites/24/REPORT_Biodiversity_Finance_Factbook_master_230321.pdf

BIODIVERSITY OFFSETS EXPLAINED

The nature/biodiversity credit/certificate market must be distinguished from biodiversity offsets (also sometimes referred to as 'credits'), which are 'measurable conservation outcomes that result from actions designed to compensate for significant, residual biodiversity loss from development projects'.^[108] In short, the biodiversity offsets compensate for biodiversity loss: if negative impacts on biodiversity cannot be avoided, they are compensated through restoration or protection of biodiversity in sites in the nearby area. The biodiversity 'gains' can be produced by independent operators, which are then bought by the developers that cause the biodiversity loss (if they cannot compensate for the loss themselves).^[109] The trading of these units is only allowed at local scale.^[110]

CASE STUDY:

BIODIVERSITY CREDITS – PILOTING EXAMPLE: VERRA'S PILOT PROJECT ON NATURE CREDITS AND POTENTIAL FOR L&D FINANCE

The nature market is in the very first stages of trial and error, with pilot projects being called for. One of these pilot projects has been developed under Verra's SD VISta Program, the evolving 'Nature Framework', which uses a pilot process to test key concepts with real-world projects.^[111] This initiative will help Verra to refine design decisions alongside a public consultation of the framework and biodiversity methodology. The Nature Framework seeks to drive finance to critical nature conservation and restoration activities, with the view to help with meeting the goals and targets of the Kunming-Montreal Global Biodiversity Framework (GBF).^[112] Project proponents using the Nature Framework will be able to verify the biodiversity outcomes of their projects and issue tradable 'nature credits' as standalone assets. The SD VISta nature credits are tradable on the voluntary nature market (also referred to as the voluntary biodiversity credit market). As explained above, Verra is a key global standards setter, and one of many stakeholders in the nature market.

108. For more information on biodiversity offsets, please see the OECD (2016). Biodiversity Offsets – Effective design and implementation. Available at: <https://www.oecd.org/environment/resources/Policy-Highlights-Biodiversity-Offsets-web.pdf>

109. Karsenty, A. (2022). Emmanuel Macron's 'Biodiversity Credits'. What are we talking about? Available at: <https://news.mongabay.com/2022/12/emmanuel-macrons-biodiversity-credits-what-are-we-talking-about/>

110. Karsenty, A. (2022). Emmanuel Macron's 'Biodiversity Credits'. What are we talking about? Available at: <https://news.mongabay.com/2022/12/emmanuel-macrons-biodiversity-credits-what-are-we-talking-about/>

111. Verra (2023). Call for Projects to Pilot SD VISta Nature Framework and Biodiversity Methodology. Available at: <https://verra.org/call-for-projects-to-pilot-sd-vista-nature-framework-and-biodiversity-methodology/>

112. Verra (2022). Nature Credits. Financing Nature Conservation and Restoration. Available at: https://verra.org/wp-content/uploads/Verra_NatureCredits_Overview_2022.pdf

The GBF aims to 'halt and reverse the loss of biological diversity', and to 'minimize the impact of climate change on ocean acidification and biodiversity and increase its resilience through mitigation, adaptation and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity.'^[113] More specifically, the SD VISTa nature credits would finance activities such as species conservation and restoration on land, soil and water health, or efforts to preserve and restore marine biodiversity.^[114] L&D as defined under the Paris Agreement is not specifically mentioned under the GBF, nor is it mentioned by the SD VISTa framework. However, the use of SD VISTa nature credits for activities that avert, minimize or address biodiversity related L&D can be inferred from the current scope of the Nature Framework. For example, the nature credits could finance activities that aim to re-build biodiversity in existing areas or create habitats and biodiversity in new areas.

However, these assets do not seem to cover finance for irreversible losses of biodiversity. Instead, they could be used to finance positive biodiversity outcomes linked to L&D activities.

CASE STUDY: LESSONS LEARNED FROM PAST BIODIVERSITY CREDITS

Lessons can be learnt from previous attempts to set up a market for biodiversity credits. A well known example is that of the public-private initiative Malua BioBank in Malaysia, launched in 2008. The goal of the initiative was to restore and protect rainforest in the buffer zone from palm oil plantations. Credits were created for 10 USD/certificate and represented 100 square meters of restored and protected rainforest. USD 10 million was committed between 2008–2014. Four Malaysian palm oil companies purchased certificates covering 21,500 square meters. However, the bank collapsed due to lack of regulation and safeguards, and as it was unable to create enough predictable demand to achieve financial viability.^[115]

113. The Kunming-Montreal Global Biodiversity Framework, Section F and Target 8. Available at: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>

114. Verra (2023). SD VISTa Nature Framework Pilot Projects Terms of Reference. Available at: <https://verra.org/wp-content/uploads/2023/07/SD-VISTa-Nature-Framework-Call-for-Pilots-Terms-of-reference.pdf>

115. Luc Hoffman Institute (2020). Diversifying Local Livelihoods While Sustaining Wildlife – exploring incentives for community-based conservation, p. 16. Available at: <https://www.readkong.com/page/diversifying-local-livelihoods-while-sustaining-wildlife-4002700>

Resilience assets under development

As part of the nature market is the development of resilience credits. For example, under Verra's SD VISTa Program, resilience assets can be created under the **Methodology for Coastal Resilience Benefits from Restoration and Protection of Tidal Wetlands**. The sale of the assets created will be used to drive finance to coastal resilience projects, with the view to making them more viable and likely to be developed.^[116] SD VISTa assets generated using this methodology correspond to the number of people no longer at risk of coastal flooding as a result of the activities undertaken.^[117] The proposed activities include restoration and protection of coastal wetlands, including tidal marshes and mangroves and can be expanded to other coastal habitats such as coral reefs and oyster reefs.^[118]

This coastal resilience asset will cover many L&D activities that are linked to restoring and protecting coastal wetlands and will be measured in increased resilience through avoided losses. Most of the activities are directly relevant for minimizing and averting L&D. And some activities are relevant for addressing L&D, such as restoration activities and activities creating new accommodation spaces for the coastal wetland's flora and fauna. However, these units are limited to finance positive benefits from reducing L&D connected to coastal resilience.



116. Please see Verra (2010). Methodology for Coastal Resilience Benefits from Restoration and Protection of Tidal Wetlands. Available at <https://verra.org/methodologies/methodology-for-coastal-resilience-benefits-from-restoration-and-protection-of-tidal-wetlands/>. Also see Verra's Annual Report (2021), p. 6. Available at: <https://verra.org/wp-content/uploads/2023/02/2021-Verra-Annual-Report.pdf>.

117. For the Methodology, see: <https://verra.org/methodologies/methodology-for-coastal-resilience-benefits-from-restoration-and-protection-of-tidal-wetlands/>.

118. More specifically, the project activities will include creating and restoring the hydrological conditions, improving the salinity characteristics; introducing new management practices; reseeding or replanting native plant communities, removing invasive species, reduced grazing practices; and creating accommodation space for wetlands that will be submerged by sea-level rise, among others.

New and innovative sources of finance in existing or new markets and mechanisms

In the carbon markets and beyond, private sector engagement in financing L&D is very limited. The main reason is that there is a need for coupling with mitigation activities, or that the co-benefits created are too narrow in scope. New markets are developing for financing biodiversity. Further, historically, earmarked finance from the carbon market has gone to adaptation. Another reason is that the L&D projects, in particular for addressing L&D, as a general rule do not create a return on investment. Further, even when the benefits are quantifiable, private actors are reluctant to set a price on these benefits as they are difficult to price.

To increase private sector finance of L&D, there are several potential sources that can be developed independent of the VCM and the NCM.

a) Strengthening L&D aspects in existing methodologies under the VCM

One option is to strengthen the L&D aspects of existing methodologies, for example through specifying that the SDG claims, labels or units could also cover activities that avert, minimize or address L&D as part of SDG 14 'Climate Action'. A drawback of this option is that activities financing L&D need to somehow be connected to existing methodologies, and as such needs to be linked to a mitigation activity *or* will need to be dependent on the L&D project having either an SDG benefit or a biodiversity/nature benefit. Further, it will not create any new and additional sources of finance for L&D activities, but could lead to strengthening the value given to these existing credits. A benefit of this option is that the adjustments to include L&D could be added in the updated versions of the methodologies, which takes place frequently.

b) Strengthening L&D finance through a new methodology under existing frameworks under the VCM

Another option is to create a new methodology under existing frameworks that could enhance funding for L&D and be additional to existing crediting programs under the VCM.

A first step could be to create a 'L&D framework development group', which can work towards creating a methodology with quantifiable L&D benefits.^[119] This group could consist of members from the WIM ExCom and the Santiago Network under the UNFCCC, as well as other UN bodies working on L&D projects, Verra, and

119. For example, the Nature Framework was created by the Nature Framework Development Group (NFDG), which included Verra, the International Union for Conservation of Nature (IUCN) and four other biodiversity-focused foundations and alliances.

key L&D focused foundations and alliances. These benefits from averting, minimizing and addressing L&D could be measured through an array of different ways.^[120] Due to the VCM's focus on positive 'benefits', it is not clear whether this methodology could also include financing actual and irreversible losses, for example, loss of land, loss of lives, loss of biodiversity, including loss of cultural expression and other non-economic losses such as loss of health, loss of livelihoods (i.e. when fish stock migrate). And if so, whether this should be connected to projects that aim to transform and minimize these losses in the long run.

The benefit of this option is that it innovates on market developments that are already under way (the stand-alone SDG and biodiversity/nature benefits) to also include stand-alone benefits from L&D activities. Another benefit is that it utilizes existing systems and structures under VCM's crediting programs, including its market position and good governance procedures. A benefit from the purchaser's side is that it can undertake its purchases of carbon units and L&D/resilience units from the same provider, and as such reduces time and efforts to familiarize itself with a new standard or provider.

A drawback with this option is that it could confuse the participants in the VCM, as this is a market that has historically been used for mitigation activities. However, as the market is already moving in this direction, it might not be an issue. A final consideration is what extra benefits a new methodology gives the actors when finance for L&D projects could as easily be transferred directly to the new fund established for L&D (see the solution on a new mechanism below).

c) A new market for L&D credits

Another option, is the development of stand-alone credits for activities that avert, minimize and address L&D, created under a new market specifically designed for responding to L&D. In developing the framework for creating these credits, lessons can be drawn from the VCM and the NCM. These credits could be used by corporations, private individuals, municipalities, universities and other entities to comprehensively respond to climate change, including responding to L&D.

Under this new market a new standard could be created, with customized safeguards, requirements and methodologies for L&D benefits to create units which finance L&D projects. These third-party verified L&D units could be stand-alone or could be created together with other climate resilience and adaptation

120. For example, it could be quantified by number of deaths avoided due to climate related disasters; number of people reached after a climate related disaster; number of people permanently re-located from places negatively affected by sea level rise; number of people included in projects for just transition to alternative livelihoods; number of people covered by early warning systems; increased areas (measured in hectares) with climate data collection; number of people covered by climate related insurance; number of indigenous peoples and local communities directly benefiting from the L&D activities; number of national adaptation and resilience plans which incorporates L&D aspects; etc.

units.^[121] The standard could include third-party verifiers to ensure the integrity of the credits. The claims connected with the credits can be used by the private sector to report, for example in their annual reports, on how they comprehensively respond to climate change, including by addressing L&D. Further, the credits could potentially include compensating for irreversible L&D, particularly if coupled with activities that aim to ensure positive benefits and long-term solutions that responds to L&D.

The creation of credits from L&D activities would be de-coupled from mitigation activities and differentiated from sustainable development and biodiversity activities. This is particularly relevant for activities to address L&D impact on humans, built environment and infrastructure, non-economic losses and climate-induced displacement, which are currently not covered by the VCM or the NCM. It also ensures that the financing of these credits will be decoupled from mitigation activities and be funnelled to the most vulnerable countries with L&D projects, including the least developed countries (LDCs) and Small Island States (SIDS).

A new standard differs from a new methodology under an existing program in that it is independent of any other methodologies and as such can be created without any restraints from that existing methodology. Although the standard is likely to operate independently of the VCM and the NCM, it can draw on the good practice and established systems by actors within the VCM and NCM. The standard could be created by an independent standard-setting body consisting of market actors, private sector participants and government representatives, including representatives from the governing body of the L&D fund.

It is worth considering that the finance flowing from these credits is likely to go to the funding arrangements for L&D and not be directed to the L&D fund. Another point to consider is whether the market-approach is valuable: would it be feasible to develop a secondary market for L&D credits, and when the market decides where the projects to be financed are located, could this lead to exclusion of certain vulnerable countries that perhaps do not have the necessary institutional structures in place to safeguard the projects or programs, or will the market lead to a race to the bottom, in which the projects and programs that are cheapest to finance will be the preferred option as this gives more credits. However, this latter point might not be an issue if these projects are undertaken in the least developed countries. As such, the market could be utilized to address issues of equity.

d) A new mechanism under the L&D fund for private sector financing

Another option is to develop a non-market mechanism for financing L&D. This private sector mechanism for financing L&D could be set up as part of the L&D

121. For example, if these adaptation, resilience and L&D benefits are bundled together, it could be called the Climate Risk Reduction Unit (CRRU).

fund, or as a satellite mechanism serving the fund. Either way, it could be tied to the global processes of financing L&D under the Paris Agreement. If the mechanism is part of the L&D fund, it will be essential to ensure that the constituted body of the L&D fund can accommodate for private sector engagement, preferably with one or more seats in the board to take part in the decision making relevant for these actors. If it is a satellite mechanism, it will be important to ensure that the board is sufficiently represented by Parties to the UNFCCC/PA to ensure its integrity as a global climate finance mechanism.

In establishing this mechanism, the fund could decide on a framework in which the conditions for private companies financing L&D could be stipulated. It could create a system of certification with information on the contributions that private companies or other entities providing finance could utilize in their company reporting on climate change risks.

This mechanism would encourage finance directly to the L&D fund in return for 'certificates' with information of the L&D activities financed by the contributions. To have one central mechanism with its own framework would reduce the risk of fragmentation of frameworks, and would have the benefit of having 'global' reach and visibility through the international climate negotiations. Further, the potential restrictions from market mechanisms in allocating the sources would not apply, as finance could be distributed in accordance with the framework's conditions.

In the new market mechanism, the front runners could be government owned enterprises or enterprises that have a strong governance structure focused on improving their equitable footprint and comprehensively respond to climate change. National governments also play a role in encouraging, recommending or requiring companies to set goals and making contributions to L&D finance, for example through guidance documents, laws or regulations. For the Nordic countries, encouragement of using this mechanism could take place through the Nordic Code of Best Practice for the Voluntary Use of Carbon Credits, or a new best practice code relevant for L&D could be developed.

The potential contributions from the private sector could be encouraged based on principles of solidarity and equity, with clear guidelines on expected levels of contributions for the polluting industries and sectors. Its guidelines should be included in existing reporting frameworks, such as the Task Force for Climate Related Financial Disclosures (TCFD) and international, regional and national reporting frameworks to increase transparency and comparability of information on financial L&D contributions.

The finance potential of this solution is unclear. If the potential is the same or less than the nascent nature credit and offset markets, it could contribute with USD 6–9 billion per year, moving upwards to USD 160 billion by 2030. However, if financial contribution to the mechanism becomes the 'new standard' of good practice for

companies in comprehensively responding to climate change, the finance deriving from this source could potentially unlock new finance at scale to support L&D activities.

Conclusion

In short, the above analysis has shown that the SDG and nature market has potential to finance certain activities that avert, minimize and address L&D if aligned with the SDGs or with biodiversity benefits. However, revenues created by these projects will go to the existing arrangements financing activities to avert, minimize and address L&D, and are unlikely to go to the L&D fund, at least based on how this market is currently structured. There is a need, however, to increase the focus on the potential of this market for financing L&D activities, and to include L&D needs as potential projects in the ongoing pilot projects. Parties to the UNFCCC and the PA could encourage the ongoing work under the VCM and the nature credit market and highlight the importance of developing L&D projects and enhancing funding for projects that avert, minimize and address L&D.

The SOPs for article 6.2 and 6.4 of the Paris Agreement would be politically and economically difficult to increase and earmark for the L&D fund. The SOP is already higher than what it was for the CDM, and Parties are worried about the consequences for the viability of the mitigation projects. In a worst-case scenario, potential mitigation projects would no longer be viable due to an increased SOP for L&D. It is therefore not recommended to include an additional fee on the existing SOP under article 6.2 and 6.4 unless this will not affect the viability of the mitigation projects.

The same arguments could be used for the call to include a mandatory SOP on adaptation and L&D for the VCM. However, for the VCM there are currently less stringent requirements, and it could be argued that a mandatory SOP should be introduced which then could be shared between the AF and the L&D fund. This would indeed increase the new and innovative finance for L&D. Parties could in a decision under the COP/CMA encourage the VCM to follow the guidance under the PA for article 6.4, which requires SOPs for adaptation, but could point out the need for revenues also for the L&D fund.

The AF is currently financing certain L&D activities that overlaps with adaptation. However, in order to ensure that L&D activities are financed by the AF, guidance from COP/CMA is required on the issue of L&D. This would, however, not be 'new and additional' finance, and the AF would need increased resources to tackle its widened mandate. Parties could agree to clarify the role of the AF to fund L&D in a mandate under the COP/CMA.

Finally, the encouragement of private sector finance for L&D is important to highlight. Parties could ensure that the L&D fund has the necessary board seats available for private sector representatives for them to feel comfortable with funnelling finance to the L&D fund. A new private sector mechanism to finance L&D could be established as part of the L&D fund, or as a satellite mechanism serving the L&D fund. This mechanism could be created with the view that NPS, in particular the private sector and philanthropic entities, would receive sufficient information on the effectiveness of their contributions to be able to use it for their company reporting. This could be done by the creation of a framework with criteria for contributions and corresponding 'claims' or certificates to clarify the level and depth of contributions given. As such, Parties could ensure that the L&D fund is structured in such a way that makes it possible to create a private sector L&D finance mechanism.



CHAPTER 2: Taxation & Levies

Key take aways

Although progress on GHG emission reductions in the IMO has been slow, a revised strategy on reduction of GHG emissions from international shipping was agreed in 2023 with an ambitious workplan to finalise the 'basket of measures' already in spring 2024. Several options are on the table, with varying potential for revenues for IMO. There seem to be a political agreement that the revenues will be used for investments in emission reduction innovation in the maritime sector, including on-land technology and infrastructure linked to this. Going forward, regardless of the chosen measures, IMO should be encouraged to earmark some of the proceeds to the GCF and/or the L&D fund.

Despite the ICAO's CORSIA market, emission reduction in the aviation sector is slow. The ICAO guidelines on international aviation fuel has hindered actors in using taxes and levies, with the exception of domestic flights. Initiatives to establish a levy on international aviation fuels has been initiated by the Scandinavian countries, and could be encouraged by the COP/CMA. Concurrently, there are some countries that have been establishing an air passenger duty (also known as departure tax). There is the example of France, who has added an additional levy, called the solidarity levy, to the air passenger duty, using parts of the finance from that for international development, including the UNITAID. As international aviation is currently taxed relatively lightly compared to other high-emitting industries and sectors, Parties could proceed with progressive air ticket levies that could be used for domestic and/or international financing of L&D, including for a L&D fund.

Taxation of fossil fuel production and receipt across sea is not new. However, taxation of fossil fuel for climate purposes, linked to windfall profits, over a time-limited period and earmarked for climate purposes, including financing L&D actions, is a potential new source of income. The issue is one closely connected with national sovereignty. Looking at it from the Norwegian perspective (which is a producer of oil and gas), it is unlikely to raise large amounts. But again, if more fossil fuel producing countries come together, it has the potential of setting new examples in the search for new and innovative sources of finance for L&D.

Introducing small levies for other industries, such as the financial industry, has the potential of raising quite substantial amounts of finance, some of which could be earmarked for climate purposes, including for the L&D fund.

The role of the UNFCCC/PA is not to prescribe national or regional taxes. However, the UNFCCC/PA can use its position to welcome any proceeds from these taxation and levy measures towards the GCF and/or the L&D fund, and to encourage steps towards meeting the Paris Agreement's temperature goal through putting a price on carbon (which is what these taxation systems essentially does).



IMO and the International Shipping Sector

Context

Emissions from international shipping are steadily increasing, projected to increase with 90–130% compared with 2008 emissions by 2050.^[122] The current share of shipping emissions in global anthropogenic emissions was close to 3% in 2018. Greenhouse gas emissions (GHG) of total shipping (international, domestic and fishing) was 1,076 million tons in 2018. The carbon intensity for international shipping has improved between 2012–2018, however, the improvement rate has significantly slowed since 2015.

122. IMO (2020). Fourth Greenhouse Gas Study 2020. Available at: <https://www.imo.org/en/OurWork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx>

In the early days, the focus was more on the prevention of pollution and oil spills than reducing GHG emissions from ships. The question of marine pollution from ships was a topic at the UN Conference on the Human Environment in Stockholm in 1972.^[123] One year later, the International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted at the International Maritime Organization (IMO), aimed at preventing and minimizing pollution from ships. In the decades that followed the MARPOL Convention was modified by the 1978 Protocol, the 1997 Protocol, as well as through six technical annexes.

The sixth technical annex entered into force in 2005 and centers around the prevention of air pollution from ships relevant for ozone depleting substances.^[124] This annex was further expanded with a chapter covering mandatory technical and operational energy efficiency measures aimed at reducing greenhouse gas (GHG) emission from ships, adopted in 2011.

In the run up to COP15 in Copenhagen, it was expected that the new 'post-2012' treaty would consider how emissions from international civil aviation and maritime transport should be regulated internationally.^[125] However, Parties to the UNFCCC eventually agreed on the Copenhagen Accord, which did not specify any requirements for these two industries.^[126] Fast forward to COP21 in Paris 2015, it was generally acknowledged that the IMO and ICAO was better positioned at that time to develop the necessary measures for GHG reductions in line with the Paris Agreement's temperature goal.^[127]

The focus on GHG emission reductions has been a theme in the IMO for some time, although progress has been slow. In 2003, the IMO Assembly adopted a resolution urging its Marine Environment Protection Committee (MEPC) to identify and develop the mechanism(s) needed to achieve the limitation of GHG emissions in international shipping, and to establish a roadmap.^[128] In 2009, the MEPC agreed at its 59th session that market-based-measures (MBMs) would be necessary to effectively regulate GHGs emissions from international shipping. At the same session, there was also a discussion on the use of the revenues generated by potential new MBMs to prevent air pollution from ships. MEPC noted that 'there was a general preference for the greater part of any funds generated by a market-based measure under the auspices of IMO, to be used for climate change purposes

123. UN (1972). Report of the UN Conference on the Human Environment. Available at: <https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/ConferencesMeetings/Documents/A%20CONF.48%2014%20Rev.1.pdf>

124. For more information on MARPOL and its annexes, please see: [https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)

125. IMO (2009). MEPC 59/24, p. 40. Available at: <https://www.mpa.gov.sg/docs/mpalibraries/mpa-documents-files/shipping-division/mepc-reports/mepc59-24-final-report.pdf>

126. Copenhagen Accord. Available at: <https://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>

127. Paris Agreement, article 2.1(a).

128. IMO. Resolution A.963(23). Available at: [https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/AssemblyDocuments/A.963\(23\).pdf](https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/AssemblyDocuments/A.963(23).pdf)

in developing countries through existing or new funding mechanisms under the UNFCCC or other international organizations.’^[129] The revenues from the IMO was seen as potentially financing mitigation and adaptation actions and as one source for the Green Climate Fund to ‘address the needs for climate change actions in developing countries.’^[130]

The use of revenues from international maritime transportation (and aviation) was also highlighted in the report by the Secretary General Ban Ki-moon’s high level advisory group on climate finance in 2010.^[131] The report highlighted the potential role of international taxation through a fuel levy/emission trading system for maritime bunker fuels.^[132] The estimate of finance to be used for climate purposes from international shipping was between USD 4–9 billion.^[133] It pointed at both the issue of incidence for developing countries and the issue of potential distortion of competitiveness, and that a new mechanism should not blunt abatement incentives or distort competitiveness.^[134] It concluded that further work should be taken forward by the IMO (and ICAO).^[135]

The 2023 IMO GHG Strategy

The initial IMO strategy, adopted in 2018, affirms that GHG emissions from international shipping should peak as soon as possible and fall by at least 50% by 2050 relative to 2008 levels with continuing efforts to phase them out entirely.^[136] The initial IMO strategy was not aligned with the goals of the Paris Agreement, and it was estimated by the International Council on Clean Transportation (ICCT) that the emission trajectory for maritime shipping will overshoot a 1.75°C pathway by between 65% and 150%.^[137]

In 2023, the IMO adopted a revised strategy on reduction of GHG emissions from international shipping.^[138] The strategy sets the level of ambition for carbon

129. MEPC 59/24, para 4.129. Available at: <https://www.mpa.gov.sg/docs/mpalibraries/mpa-documents-files/shipping-division/mepc-reports/mepc59-24-final-report.pdf>

130. IMO (2011). Note by the IMO to the first meeting of the Transitional Committee for the design of the GCF – Marked-Based Measures for International Shipping. Available at: https://unfccc.int/files/meetings/awg/application/pdf/imo_all_250511.pdf

131. The expert group was co-chaired by Mr. Meles Zenawi, the Prime Minister of Ethiopia and the Norwegian Prime Minister, Jens Stoltenberg, and included prominent experts such as Ms. Christine Lagarde and Mr Nicholas Stern, among others.

132. UN SG (5 November 2010). Report of the Secretary General’s High-Level Advisory Group on Climate Change Financing, p. 23. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

133. UN SG (5 November 2010). Report of the Secretary General’s High-Level Advisory Group on Climate Change Financing, p. 23. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

134. UN SG (5 November 2010). Report of the Secretary General’s High-Level Advisory Group on Climate Change Financing, p. 23. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

135. UN SG (5 November 2010). Report of the Secretary General’s High-Level Advisory Group on Climate Change Financing, p. 23. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

136. MEPC 72.

137. International Council on Clean Transportation (ICCT) (April 2018). The International Maritime Organization’s Initial Greenhouse Gas Strategy, page 5. Available at: https://theicct.org/wp-content/uploads/2021/06/IMO_GHG_StrategyFinalPolicyUpdate042318.pdf

138. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy). Available at: <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

intensity, uptake of GHG emission technologies and promotes a net-zero goal for international shipping. The net-zero goal has targets to reduce the total annual GHG emissions from international shipping by at least 20% (striving for 30%) by 2030, and at least 70% (striving for 80%) by 2040.^[139]

In achieving these reduction targets, a 'basket of measures' should be developed that include both a *technical element* for a goal based marine fuel standard regulating phased out reduction of the marine fuel's GHG intensity and an *economic element* based on a maritime GHG emissions pricing mechanism.^[140]

It is also worth noting that the revised strategy underlines the that the above measures 'should effectively promote the energy transition of shipping and provide the world fleet with a needed incentive while contributing to a level playing field and a just and equitable transition'.^[141]

Going forward, the MEPC will undertake a comprehensive impact assessment of the different mid-term measures proposed from the end of summer 2023 until finalization of report in autumn 2024. This assessment will pay particular attention to the needs of SIDS and LDCs considering their vulnerabilities due to geographic remoteness, transport dependency and costs, socio-economic progress and development and disproportionately negative impacts, amongst others.^[142]

Concurrently, the basket of measures for the 'mid-term' period 2023–2030 will be finalized spring 2024 and approved a year later. The measures will be adopted in autumn 2025 and will enter into force 16 months later (in 2027).^[143]

The Options for the Basket of Measures & Potential Finance Flows

The position papers by the Parties and NPS to the IMO for the technical and economic elements reveal that there is currently no clarity on the preferred options. There are submissions from Japan, China, the EU, Norway and the International Chamber of Shipping (ICS) currently on the table.

139. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy), para 3.4. Available at:

<https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

140. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy), para 4.5.1 and 2. Available at:

<https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

141. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy), para 4.5. Available at:

<https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

142. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy), para 4.12. Available at:

<https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

143. IMO (July 2023). Annex 1 – Resolution MEPC.377(80) 2023 IMO strategy on Reduction of GHG Emissions from Ships (IMO 2023 Strategy), para 6.2. Available at:

<https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/2023%20IMO%20Strategy%20on%20Reduction%20of%20GHG%20Emissions%20from%20Ships.pdf>

The EU proposes to establish a levy, with an explicit price on CO₂e in combination with a GHG fuel standard.^[144] The EU is flexible on the size of the levy and points out that the annual revenue is likely to be large. It notes that there have been suggestions for a levy 'well below' USD 100/ton of CO₂ as well as a levy of USD 100/ton of CO₂, the latter which would potentially generate USD 80 billion annually.^[145] The EU proposal envisions the revenues coming from the levy would go to research and development to the IMO Maritime Research Fund (IMRF); addressing possible disproportionately negative impacts; support for climate transition in LDCs and SIDS; funding the reward mechanism; and support to existing greening projects, including to the GCF.^[146] Thus, potentially, a proportion of the revenues could go to the GCF for adaptation purposes and to respond to L&D. The finance flows in this scenario going to the GCF would be much less than the proposal from Norway, but still more than China's proposal (who is currently not envisioning any finance going to the GCF).

In quite similar veins is the proposal from China, although it introduces a market element instead of having the IMO distribute the revenues. In short, the proposal introduces an International Maritime Sustainable Fuels and Fund (IMSFF) mechanism which will set a benchmark for GHG intensity of fuels/energy used on board ships.^[147] This benchmark is used to calculate individual ship's emission allowance. Units will be created for the potential excess or reduced emissions based on the benchmark. If a ship uses more, it will have to purchase units from ships that sell its oversupply, or from a Sustainable Shipping Fund (SSF) that will oversee the mechanism. The units from SSF are likely to be priced higher. Thus, the revenues going to the SSF are likely to be limited. Nevertheless, China is proposing that 50% of the revenues to the SSF goes to capacity building and negative impact mitigation in developing countries, including to the IMO GHG-Trust Fund to support maritime mitigation projects.^[148] Further, 45% of the revenues are proposed to go to research and development programmes and technology transfer for developing countries, whereas the last 5% is intended for administrative purposes. It is not clear whether China envisions that some of the revenues should also go to the GCF or any of the other climate funds, however, it has not been indicated.

Of interest for this paper is also Norway's proposal for an emission cap-and-trade system in combination with a GHG fuel standard.^[149] This proposal envisions a carbon market for the international shipping sector in which sets a cap on the total quantity of emissions allowed for ships above 5,000 GT, and eventually also 400

144. EU's proposal (12 May 2023). ISWG-GHG 15/3/2, p. 2.

145. EU's proposal (12 May 2023). ISWG-GHG 15/3/2, p. 2.

146. EU's proposal (12 May 2023). ISWG-GHG 15/3/2, p. 3.

147. China's proposal (12 May 2023). ISWG-GHG 15/3/4, p. 3.

148. China's proposal (12 May 2023). ISWG-GHG 15/3/4, pp. 6-7. Please note that the MEPC has established a voluntary multi-donor trust fund (GHG TC-Trust Fund) to provide financial support for technical cooperation and capacity development activities to implement the initial IMO strategy on reduction of GHG from ships.

149. Norway's proposal (12 October 2022). ISWG-GHG 13/4/2, p. 5.

GT. This will lead to a market price for carbon which will determine the price for the tradable emission permits (called Ship Emission Units). These units are auctioned on the market, and the subsequent trading will allow for the emission reduction costs to be taken by those with the lowest costs first.^[150] The total revenues from this mechanism will depend on what the cap will be, but are likely to be large. Norway envisions the revenues coming from the market-based system to go to the GCF to accelerate support climate action for developing countries and accelerate green fuel technology development and infrastructure capacity. The funds for the GCF for climate action could include support for adaptation and activities to respond to loss and damage.

Going forward, the potential revenues from the economic measure to be agreed under IMO could lead to quite substantial revenues (if a cap-and-trade system is agreed), or much more limited revenues (if a levy with a market mechanism is agreed). If the revenues are large, it is likely to go to already established climate funds, such as the GCF. However, even when funds are limited, a portion of the revenues could go to the GCF (as in the EU proposal). There is also the possibility that no revenues at all go to the GCF or any of the established climate funds under the UNFCCC (as seems to be the case with the China proposal). There is no mention of the L&D fund in the current proposals.



150. Norway's proposal (12 October 2022). ISWG-GHG 13/4/2, p. 5.

Potential for Financing L&D

In short, early on, there was an acknowledgement that existing or new funding mechanisms under the UNFCCC could benefit from revenues from the IMO's MBMs. The revenues were envisioned to be used to address the needs of climate action more generally, and not merely mitigation activities. Now, the political understanding of the use of the sources from these new measures seems to be focused solely on the need for re-investment in green technology and mitigation solutions on land and at sea. The potential use of the sources for climate action more widely seems to no longer be the preferred option.

However, at the same time, the revised strategy for 2023 will assess the impacts of the mid-term measures on States, with particular attention to the LDCs and SIDS. It was also agreed that these measures should contribute to a level playing field and a just and equitable transition. As such, it could be argued that addressing L&D in the most vulnerable developing countries will be an important element of ensuring a just and equitable transition. And revenues from the economic measure going to the L&D Fund could contribute to this cause.

Practically, it could be envisioned that for the revenues under the Chinese proposal, a percent (for example 10%) could be for the L&D fund. This is double of what is envisioned for the administration of SSF, the small fund under the IMO, and is therefore a relatively limited contribution to the L&D fund. Alternatively, it could be envisioned that a share of the funds deriving from auctioning of units under the cap-and-trade system is distributed to the L&D fund. In that case, the potential contribution could be more substantial.^[151]

There are pros and cons with promoting revenue streams to the L&D fund from the IMO mechanisms. First, the negotiations are under time pressure to deliver, and Parties seem to be politically united around the idea of using the revenues for investing in the maritime (and land) sector to assist with the transformation needed towards its net-zero ambition. Secondly, including potential revenues for the L&D fund in the IMO negotiations could lead to some Parties having difficulties with bringing the solution back home, as L&D is a sensitive political issue. On the other hand, the decision to operationalize the L&D fund under the UNFCCC and the Paris Agreement negotiations have shown a willingness to ensure finance for L&D. The need for new and innovative finance for the funding arrangements and the fund has been agreed, and one way to ensure stable and predictable revenues for L&D activities could be to utilize the finance mechanism under the IMO. Further, if only a percentage of the total revenues and not the total revenues are suggested

151. In a *thought experiment* where the shipping industry need 20% reduction of GHG emissions to comply with the strategy by 2030, with the 2008 year as the baseline (i.e., 1,076 million tons GHGs), and an example price of USD 100/ton GHGs, this could potentially generate around USD 21 billion. If 10% of this is directed to the L&D fund, it means that it could receive 2 billion annually from this mechanism.

for the L&D fund, this could make it more likely to be positively received by the IMO parties. Another option is that the funding is channeled to the GCF, which could then distribute it to potential resilience and L&D activities. Finally, the need to ensure a fair and equitable transition under the IMO strengthens the argument that some of the revenues could go to the GCF which finances the climate transition in developing countries, and/or to the L&D fund.

The relatively short window for the development of mid-term measures leaves limited opportunity for the Parties to the UNFCCC and the Paris Agreement to influence this process. As such, the next COP28 is potentially the only real window of opportunity to give signals to the development of these measures and to encourage the potential finance flows to be directed towards the L&D fund, or any of the other climate funds.

ICAO and the Aviation Industry

Context

In 2022, the aviation industry accounted for 2% of global CO₂ emissions, reaching almost 800 Mt CO₂, still 20% below pre-covid-19 levels.^[152] In late 2022, the International Civil Aviation Organization's (ICAO) member states adopted a non-binding long-term global aspirational goal (LTAG) to achieve net zero carbon emissions from international aviation by 2050.^[153] It aims to reduce emissions within the sector rather than by offsetting (i.e., through carbon credit purchases). Member states are expected to produce action plans within their national timeframe and capabilities.

In addition, ICAO member countries agreed on a new baseline for the global market-based Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), at 85% of the 2019 emissions level of international aviation from 2024–2035.^[154] According to IEA is the aviation industry not on track to meet its LTAG net zero target by 2050.^[155]

The aviation industry is currently not taxing its fuel. From a polluter pays principle perspective, this seems counter intuitive. Below, we will discuss the options of introducing an air passenger levy and a taxation on aviation fuel as potential sources of finance for L&D, with particular focus on the L&D fund.

152. IEA (2023). Tracking Clean Energy Progress 2023 – Assessing critical energy technologies for global clean energy transitions, Tracking Aviation. Available at: <https://www.iea.org/energy-system/transport/aviation>

153. ICAO (2022). Long term global aspirational goal (LTAG) for international aviation. Available at: <https://www.icao.int/environmental-protection/Pages/LTAG.aspx>

154. ICAO (2023). Covid-19 impacts and 2022 CORSIA periodic review. Available at: <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-and-Covid-19.aspx>

155. IEA (2023). Tracking Clean Energy Progress 2023 – Assessing critical energy technologies for global clean energy transitions, Tracking Aviation. Available at: <https://www.iea.org/energy-system/transport/aviation>

Air Passenger Duty & Potential for Financing L&D

The discourse under the UNFCCC regarding an international air passenger levy is not new. The proposal for an 'International Air Passenger Adaptation Levy (IAPAL)' was first proposed by the LDCs within the framework of the Bali Action Plan in 2008.^[156] However, the UNFCCC does not have the mandate to negotiate and adopt legally binding on aviation, and the proposal failed to materialize. In 2020, a Corporate Air Passenger Solidarity (CAPS) Programme was proposed as an alternative – led by Oxford professor Benito Müller.^[157] The CAPS Programme propagated donations in proportion to a small share (1%) of a company's corporate air travel tax earmarked for the Adaptation Fund, which operates in alignment with the achievement of the SDGs.^[158] However, this proposal did not take off. Renewed interest has been given, however, to the potential of air passenger levies in the aftermath of the establishment of the L&D fund under the UNFCCC. This time around, the focus is on the potential for introducing this at national levels. In support for the early movers, a Climate Solidarity Alliance has been discussed for those countries that decide on national tax measures with a view to increase finance for L&D.^[159] Several examples of national air passenger levies exist, and below we will look at the UK, Germany and France.

The air passenger duty was introduced in the UK in 1994. It was first envisioned a tax on aircraft fuel, however, it was found too complicated due to international agreements, and instead an air passenger duty was introduced. The air passenger duty is a levy collected by airlines on passengers who depart from UK airports. It has been revised and updated, with the most recent rules applicable from 1 April 2023.^[160] In short, it establishes four destination bands, and the flight will be categorized depending on where the final destination is. These destination bands are then divided into three rates depending on the class of travel: a reduced rate for the lowest class; a standard rate; and a higher rate for the more exclusive class (i.e., with fewer than 19 passengers). This leads to 12 different rates depending on your destination band and type of rate, ranging from £6.50 for the reduced rate domestic flights, to £91 for the reduced rates for the longest haul flights, and up to £601 for the longest haul flights with higher rate. There are several exemptions, such as: children under 2 years old without a seat and under 16 years old on the lowest class of travel are exempt. Crew members and public service flights are also exempt.^[161]

156. UNFCCC AWC-LCA (2009). Proposal by the LDCs within the framework of the Bali Action Plan. Available at: <https://unfccc.int/resource/docs/2009/awglca6/eng/misc04p01.pdf> Please also see Müller, B. (n.d.). Innovative Sources for Multilateral Climate Finance. Oxford Climate Policy. Available at: <https://oxfordclimatepolicy.org/innovative-sources-multilateral-climate-finance>

157. CAPS (2020). Aligning Air Travel with SDGs. Available at: <https://capsprogramme.org/>

158. CAPS (2020). Aligning Air Travel with SDGs. Available at: <https://capsprogramme.org/>

159. Müller, B. et al (2023). International Climate Solidarity Levies – a Manifesto on an Innovative Funding Source for the new Loss and Damage Response Fund. Available at: <http://blog.oxfordclimatepolicy.org/international-climate-solidarity-levies/> [Please note that countries such as Kenya, France, the Maldives and the UK have expressed interest in joining this alliance.]

160. UK Government (2023). Guidance – Rates for Air Passenger Duty. Available at: <https://www.gov.uk/guidance/rates-and-allowances-for-air-passenger-duty>

161. UK Government (2018). Exemptions from Air Passenger Duty. Available at: <https://www.gov.uk/guidance/exemptions-from-air-passenger-duty>

An air passenger duty, referred to as a 'departure tax', has also been implemented in Germany since 2011. It is a levy on the carriage of passengers on board an aircraft departing from a German airport.^[162] The amount due per passenger depends on the distance measured from Frankfurt am Main (Germany's largest airport) to the country of destination. There are three destination bands, with three different rates. The first band includes countries in the EU and EFTA the UK, Turkey, Russia, Morocco, Tunisia and Algeria, which is taxed EUR 13 per passenger. The second includes countries in North and Central Africa, Middle East and Central Asia, and the rate is EUR 33 per passenger. The third band is for all other destinations, and the rate is EUR 59. There are exemptions for kids below 2 years of age without a seat and the flight crew. The cost is either added on to the ticket price or incorporated into it.^[163]

The French has also implemented air passenger duty, the French civil aviation tax, much in the same veins as the UK and Germany.^[164] However, in addition, France has introduced a solidarity tax.^[165] This tax is linked with a third levy, the French Eco Tax.^[166] Both operate in the same manner as the civil aviation tax, which is decided depending on the final destination and the class of travel. The revenues from the solidarity levy are based on rates ranging from EUR 2.63 (for the short haul economy class) to EUR 63 (for the long-haul higher rate class). Part of the revenue from the solidarity tax is dedicated to the transitional work for climate within France, whereas part of the revenues is transferred to a dedicated Solidarity Fund for Development, managed by the French Development Agency, and earmarked for funding organisations working in global health such as UNITAID, combatting HIV/AIDS, malaria and tuberculosis. In 2013, the French levy had raised more than EUR 1 billion since its inception in 2006.^[167] The proceeds of the levy have also been part of France's financial contributions to the GCF.

The French were not alone in implementing an air passenger levy earmarked for development, as it was a result of the Paris International conference on the finance of development in 2005, which was signed by 30 countries and implemented in 9 countries.^[168] The tax generates around USD 200 million annually, and the revenues are used to finance UNITAID and the International Finance Facility for Immunization.^[169]

162. FCC Aviation. German Aviation Tax. Available at: <https://www.fccaviation.com/regulation/germany/aviation-tax>
 163. German Departure Tax Law (2021). (In German). Available at: <https://www.buzer.de/s1.htm?g=LuftVStAbsenkV+2021&f=1>

164. FCC Aviation. French Civil Aviation Tax. Available at: <https://www.fccaviation.com/regulation/france/civil-aviation-tax>

165. FCC Aviation. French Solidarity Tax. Available at: <https://www.fccaviation.com/regulation/france/solidarity-tax>

166. FCC Aviation. French Eco Tax. Available at: <https://www.fccaviation.com/regulation/france/eco-tax>

167. UNITAID (2013). French levy on airline tickets raises more than one billion euros for world's poor since 2006. Available at: <https://unitaid.org/news-blog/french-levy-on-airline-tickets-raises-more-than-one-billion-euros-for-worlds-poor-since-2006/#en>

168. Chancel, L. et al. (2015). Carbon and inequality: from Kyoto to Paris – Trends in the global inequality of carbon emissions (1998-2013) & prospects for an equitable adaptation fund, p. 38. Paris School of Economics. Available at: <https://www.ledevoir.com/documents/pdf/chancelpiketty2015.pdf>

169. Chancel, L. et al. (2015). Carbon and inequality: from Kyoto to Paris – Trends in the global inequality of carbon emissions (1998-2013) & prospects for an equitable adaptation fund, p. 38. Paris School of Economics. Available at: <https://www.ledevoir.com/documents/pdf/chancelpiketty2015.pdf>

The potential of a departure tax is difficult to estimate. However, if this type of levy is applied globally, it was estimated by IMF in 2006 to have the potential of raising revenues of USD 10 billion annually if a charge of USD 6 was applied.^[170]

Apart from the French solidarity levy, for the above national air passenger duties it is unclear whether the revenues are earmarked for governmental climate initiatives. To ensure stable and dependable funding for the L&D fund, the revenues from the passenger levies could be used for the L&D fund. For example, a percent (ranging from 1–100, decided by the countries themselves) could potentially be earmarked for the GCF and/or the L&D fund, or any of the other funding arrangements financing L&D activities, taking inspiration from the French solidarity levy.

A FREQUENT FLYER LEVY

In addition to, or instead of an air passenger levy, is the potential of introducing a frequent flyer levy (FFL). This progressive taxation can be introduced as a ratchet-up mechanism which makes the levy for flights increasingly costly according to the number of flights one person takes.^[171] One paper by the International Council on Clean Transportation (ICCT) states that an FFL starting at USD 9 for a person's second flight to USD 177 for their twentieth within the same year could potentially raise USD 121 billion of revenue in 2019.^[172] The ICCT estimates that a global FFL would generate 90% of the revenue from the richest 10% of the world population.^[173] As an example, the US has established a frequent flyer tax assessed on mileage awards from credit cards of 7.5% of value of miles, and this is in addition to ticket tax and departure tax, as well as an aviation fuel tax.^[174] The revenue from the aviation fuel is considered airport revenue, which is only expendable for the capital or operation costs of the airport and related systems and structures, including state aviation programs.^[175]

170. IMF (2006). Indirect Taxes on International Aviation. Available at: <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Indirect-Taxes-on-International-Aviation-18941>

171. ICCT (2022) Aviation Climate Finance Using a Global Frequent Flying Levy. Available at: <https://theicct.org/publication/global-aviation-frequent-flying-levy-sep22/>

172. ICCT (2022) Aviation Climate Finance Using a Global Frequent Flying Levy. Available at: <https://theicct.org/publication/global-aviation-frequent-flying-levy-sep22/>

173. ICCT (2022) Aviation Climate Finance Using a Global Frequent Flying Levy. Available at: <https://theicct.org/publication/global-aviation-frequent-flying-levy-sep22/>

174. US Department of Transport (2022). Current Aviation Excise Tax Structure and Rates. Available at: <https://www.faa.gov/budget/aatf/current-aviation-excise-tax-structure-and-rates>

175. US Federal Aviation Administration. Aviation Fuel Tax Action Plans and Status. Available at: https://www.faa.gov/airports/airport_compliance/aviation_fuel_tax



A Tax/Levy on Aviation Fuel & the Potential for L&D Finance

A levy on domestic fuel has been introduced in Norway. As shown in the case study, there are ongoing considerations for also taxing fuel for international aviation. However, whether this could be successfully implemented will to some extent depend on the response by other countries. The move towards utilizing taxation/levies for fossil fuel for international aviation could be strengthened by the other Nordic countries affirming this practice. The Scandinavian countries could include the wider Nordic countries such as Iceland and Finland in their discussions and move forward together in setting new climate standards in their third-party agreements. If the Nordic bloc moves together, it creates a strong signal for the rest of the global community and for ICAO to potentially revise its guiding documents. The sources of funding deriving from these new taxation measures could be used to ramp up investment and support innovation in technology in the aviation sector nationally, but also globally. As such, a percent (ranging from 1–100, decided by the countries themselves) of the finance deriving from these measures could be earmarked for the GCF and/or the L&D fund, or any of the other funding arrangements financing L&D activities.

Further research will be necessary to undertake in order to understand the scale of the revenues, and the potential for funds going to the L&D fund. However, if a levy on aviation fuel becomes the new norm, and if it becomes regular practice to earmark some of that for the L&D fund, it has the potential of providing a regular source of income for the L&D fund. The exact potential is difficult to estimate,

however, an IMF assessment from 2006 estimated that a fuel tax of USD 0.2 (i.e. 10% of the fuel price at the time) per gallon worldwide (which was around 52 billion gallons) would raise about USD 10 billion if imposed worldwide.^[176] If the same simple estimate is done with 2023 numbers, the potential revenue is around USD 20–26 billion.^[177] Further, if 10% of this revenue is allocated for the L&D fund it would lead to approximately USD 2–2.6 billion per year in new and additional finance. It is also worth noting that this is likely to increase, as the global aviation fuel market size was valued at USD 177 billion in 2021 and is projected to grow to USD 655 billion by 2029.^[178]

Additionally, a levy on private jet fuel could be introduced at a level that is higher than for commercial flights to reflect the carbon emissions per individual these flights have and the value of this use of the shared carbon budget. The EU is currently discussing this measure for intra-EU air travel.

It should also be noted that for poor countries and countries with high climate vulnerabilities in special need of finance for L&D, such as the LDCs and SIDS, and other developing countries that fall into in this category, the revenues from the fuel tax could be earmarked for their own national L&D activities.

CASE STUDY:

Large parts of the domestic flights in Norway are subject to tax on domestic fuel.^[179]

Norway is one of the few countries in the world with this type of tax.^{[180][181]} The tax is for domestic flights that are not subject to the EU ETS.^[182] The government's aviation strategy from January 2023 sets out that the tax on fuel will gradually increase until it is double in 2030 (from the 2023 rate of NOK 952 to NOK 2000 per ton).^[183] According to estimates by TØI, a scientific institution, this will lead to a

176. IMF (2006). Indirect Taxes on International Aviation. Available at:

<https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Indirect-Taxes-on-International-Aviation-18941>

177. We have estimated the number of gallons worldwide to be approximately 86 billion in 2023, and that the price fluctuates somewhere between USD 2.43-3 per gallon, based on information retrieved from IATA. Note that 1 barrel is 42 gallons, as the fuel price is often presented in USD/barrel. IATA (2023) Jet Fuel Price Monitor. Available at: <https://www.iata.org/en/publications/economics/fuel-monitor/> and IATA (2023). Industry Statistics – Fact Sheet. Available at: [iata.org/en/iata-repository/pressroom/fact-sheets/industry-statistics/](https://www.iata.org/en/iata-repository/pressroom/fact-sheets/industry-statistics/)

178. Fortune Business Insights (2022). Aviation Fuel Market Size, Share & COVID-19 Impacts Analysis, By Fuel Type, By End User and Regional Forecasts, 2022-2029. Available at: <https://www.fortunebusinessinsights.com/industry-reports/aviation-fuel-market-100427>

179. Norway. Regjeringen (2021). Luftfart og klima. (in Norwegian) Available at: <https://www.regjeringen.no/no/tema/transport-og-kommunikasjon/luftfart/tiltak-for-a-redusere-klimagassutslipp/id2076453/>

180. Norway. Regjeringen (2021). Luftfart og klima. (in Norwegian) Available at: <https://www.regjeringen.no/no/tema/transport-og-kommunikasjon/luftfart/tiltak-for-a-redusere-klimagassutslipp/id2076453/>

181. Norway (2016). ICAO State action Plan on CO2 emissions reduction activities Norway. Available at: https://www.icao.int/environmental-protection/Lists/ActionPlan/Attachments/64/Norway_StateActionPlan_5Aug16.pdf

182. Non-domestic flights within the European Economic Area (EEA) are subject to the EU ETS (i.e., the EU's carbon credit market), and the aviation industry is required to purchase carbon credits, called allowances.

183. Norway (2023). Strategy on Aviation, p. 87. Available at: https://www.regjeringen.no/contentassets/e1519da991e3439787a8c82add1004db/no/pdfs/stm20222023001000_0dddpdfs.pdf

2.6% reduction of CO₂ emissions for total domestic flights in Norway.^[184] The ticket price for domestic flights will increase with 1.8% and the passenger numbers are likely to decrease with 1.3% as a result of this measure.

However, for international flights between Norway and countries outside of the EEA, there is no carbon credit tax or requirements to offset through a CO₂ market. Norway, as a small country has aligned its air policies with the other Scandinavian countries, Denmark and Sweden, which all utilizes one standard agreement for entering into bilateral flight agreements for international flights with third party countries. This standard agreement has a clause that exempts tax on fuel for international flights.

Going forward, the Norwegian government could work together with the Scandinavian countries on revising the standard agreement so that taxes and levies are no longer exempt. The second step would then be to enter into international flight agreements with third party countries in which potential tax/levy on fuel for international flights is not exempt. This could prove difficult as exempting tax on fuel is currently not aligned with the guidelines from ICAO.^[185]

One key reason for avoiding taxes and levies is because these could have adverse economic and competitive impact in international air transport operations. Another issue with introducing tax/levy on fuel is the issue of 'tankering', where carriers fill their aircraft to total capacity when landing outside the country to avoid paying taxes, and which could increase emissions. Different national taxation schemes could also increase the complexity the commercial operators face when making fueling decisions. In the end, the potential adverse effects must be weighed against the benefits of introducing the measure. The Norwegian government views the tax/levy on fuel as one of the most important tools to reduce emissions from aviation, as it increases the price for fossil fuel, which again can lead to efficiencies/reductions in flight traffic, reduced emission per flight, investments in energy efficiency and/or new and better technology.^[186]

184. TØI (2023). Luftfartsstrategiens klimatiltak: Hvordan påvirkes billettpriser, passasjertall og CO₂ utslipp, p. 2. (in Norwegian). Available at: <https://www.toi.no/publikasjoner/luftfartsstrategiens-klimatiltak-hvordan-pavirkes-billettpriser-passasjertall-og-co2-utslipp-article38140-8.html>

185. ICAO (2000). Doc 8632 ICAO's Policies on Taxation in the Field of International Air Transport. Third edition. Available at: https://www.icao.int/publications/Documents/8632_3ed_en.pdf

186. ICAO (2000). Doc 8632 ICAO's Policies on Taxation in the Field of International Air Transport. Third edition. Available at: https://www.icao.int/publications/Documents/8632_3ed_en.pdf and Norway (2023). Strategy on Aviation, op. cit., p. 85. Available at: https://www.regjeringen.no/contentassets/e1519da991e3439787a8c82add1004db/no/pdfs/stm20222023001000_0dddpdfs.pdf

NATIONAL VARIATIONS

The Netherlands implemented tax on commercial jet fuel for domestic flights from 2005 to 2011. Due to complications in implementation and low revenue, however, it discontinued this practice in 2012. Nonetheless, it continued to tax aviation kerosene for pleasure and non-commercial business aviation.^[187]

The Fossil Fuel Industry

Levy on extraction, receipt or windfall surplus

Several NGOs have put forward a proposal for a 'Climate Damages Tax' (CDT) to finance L&D.^[188] CDT is a charge on the *extraction* of each ton of coal, barrel of oil, or cubic liter of gas, calculated at a consistent rate globally based on how much climate pollution (CO₂e) is embedded within the fossil fuel. The CDT is envisioned to go to finance L&D under the UNFCCC, most likely the L&D fund (previously it was proposed for the GCF). The proposal recommends that the CDT is introduced at a low initial rate of USD 5 per ton of CO₂e, increasing by USD 5 per ton each year until 2030 to USD 50 a ton, with the expectation that it is increased at the rate of USD 10 per ton annually after that to reach USD 250 a ton by 2050. They estimate that it will raise USD 210 billion in its first year, and on average USD 300 billion annually in the years 2021–2050.^[189] They also propose that 50% of the revenue generated from fossil fuels extracted in high income countries is contributed to the loss and damage solidarity facility, whereas low-income countries would retain all revenue generated from fossil fuels extracted in their countries, with a sliding scale between the two.^[190]

It is also worth noting the potential of establishing a compensation fund based on the precedent of the two Oil Pollution Compensation Funds (IOPC Funds). These funds were established in the late 1960s and early 1970s to cover damages from persistent oil spills by tankers at sea. It was established to resolve the jurisdictional complexities that had become apparent in the wake of major oil tanker incidents.^[191] The fund pays out for what is defined as 'pollution damage', and covers

187. Ryan, M., A. (2023). Is Aviation Fuel Taxed? If Not, Why Not? Available at: <https://simpleflying.com/aviation-fuel-taxation-guide/>

188. Stamp Out Poverty et al. (2018). The Climate Damages Tax – A Guide to What It Is And How it Works. Available at: https://www.stampoutpoverty.org/live2019/wp-content/uploads/2019/06/CDT_guide_web23.pdf

189. Stamp Out Poverty et al. (2018). The Climate Damages Tax – A Guide to What It Is And How it Works. Available at: https://www.stampoutpoverty.org/live2019/wp-content/uploads/2019/06/CDT_guide_web23.pdf

190. Stamp Out Poverty et al. (2018). The Climate Damages Tax – A Guide to What It Is And How it Works. Available at: https://www.stampoutpoverty.org/live2019/wp-content/uploads/2019/06/CDT_guide_web23.pdf

191. Balkin, R., and Yoshida, A. (2019). The 1971 IOPC Fund - The Road to Dissolution of an Intergovernmental Organization. Tulane Maritime Law Journal vol 44 no. 1, p. 1.

clean-up operations, loss of income for fishermen and hotel owners resulting from oil spill. The contributions are based on a calculation of a fixed amount per ton over a certain threshold. The levy is generally paid by public or private companies who receives the oil, given that the State is a signatory party.^[192] As such, it is a levy on the companies *receiving* the oil via sea transport.



As a general rule, the carbon markets, such as the EU ETS, is geared towards adhering to the 'polluters pay' principle, and not on the actual *extraction* or action of *receipt*. However, if the focus is not on 'damages', but rather 'solidarity', the potential for introducing new levies on production or receipt of fossil fuel that can be used for climate action is possibly greater.

One option, therefore, is that based on the recent windfalls on the fossil fuel sector due to the invasion of Ukraine by Russia, there is an argument for introducing a short-timed windfall tax based on the surplus these companies have gained. As we shall see below, this has been introduced by the EU with regards to its fossil fuel industry. The revenues from this levy is a matter of national (and regional) policies, but could (in whole or part) be earmarked for investments in adaptation, resilience and L&D action both nationally and globally.

Regional solutions

a) EUs solidarity levy for fossil fuel sector

The Russian invasion of Ukraine created an energy emergency for the EU, with soaring energy prices. In response, in autumn 2022, EU Member states agreed to

192. Balkin, R., and Yoshida, A. (2019). The 1971 IOPC Fund - The Road to Dissolution of an Intergovernmental Organization. *Tulane Maritime Law Journal* vol 44 no. 1, p. 13.

set a mandatory temporary solidarity contribution on the profits of businesses active in the crude petroleum, natural gas, coal, and refinery sectors.^[193] The solidarity contribution would be calculated on taxable profits, as determined under national tax rules in the fiscal year starting in 2022 and/or in 2023, which are above a 20% increase of the average yearly taxable profits since 2018. The proceeds from the solidarity contribution will be used to provide financial support to households and companies and to mitigate the effects of high retail electricity prices.

b) Carbon Border Adjustment Mechanism (CBAM)

The EU has introduced a Carbon Border Adjustment Mechanism to reduce the risk of 'carbon leakage'. It introduces a CO₂ price on carbon intensive goods that are entering the EU, to encourage cleaner industrial production in non-EU countries.^[194] It attempts to ensure that the carbon price on imported products is the same as for domestic products, mirroring the price to the EU ETS price that EU producers pay. A carbon price paid in a third country will be excluded.^[195] It will enter into its transitional phase on the 1 October 2023, and will apply to carbon intensive products, such as cement, iron, steel, aluminum, fertilizer, electricity and hydrogen. The funds deriving from the CBAM is urgently needed to repay debts from the Next Generation EU recovery fund's borrowing, a large debt which was necessary to take in order to recover from the Covid-19 crisis.^[196]

However, the CBAM has been challenged by NGOs, several EU trading partners and others claiming that it can be seen as a protectionist measure and that it does little to address the climate challenges from an equitable point of view.^[197] Over time, the trading partners are likely to set up their own carbon pricing mechanism to receive the finance for their national budgets instead. Until this is the case, in order to address this issue, parts of the revenues from the CBAM could be earmarked for funding arrangements responding to L&D and the L&D fund.

National responses

USA

In 2022, President Joe Biden and key political leaders from the US called for windfall taxes on excess profits in response to the sharply rising gas prices and record-breaking profits made by oil and gas companies as a result of the Russian invasion of Ukraine. The political argument was that some of the extraordinary profits due

193. European Council (2022). Council Agrees on Emergency Measures to Reduce Energy Prices. Available at: <https://www.consilium.europa.eu/en/press/press-releases/2022/09/30/council-agrees-on-emergency-measures-to-reduce-energy-prices/>

194. European Commission (2023). Carbon Border Adjustment Mechanism. Available at: https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en

195. Art 3 (23) CBAM Regulation.

196. European Parliament (2022). MEPs clear way for new sources of EU revenue. Available at: <https://www.europarl.europa.eu/news/en/press-room/20221118IPR55703/meps-clear-way-for-new-sources-of-eu-revenue>

197. UPSC (2023). Carbon Border Adjustment Mechanism (CBAM): A Flawed Approach to Climate Finance. Available at: <https://www.civildaily.com/news/cbam-climate-finance/>

to the war should be funneled back to consumers struggling due to high gas prices.^[198] It was estimated that the levy would raise USD 48.1 billion per year.^[199] However, the levy seems unlikely to be adopted before the 2024 election given that the House is under Republican control and the Senate majority is held by the Democratic party.

India and Middle Eastern Countries

Also as a response to the excess profit of the oil and gas industry, India imposed windfall taxes in July 2022 for crude oil producers and extended the levy on exports of gasoline, diesel and aviation turbine fuel. Despite a reversion of this tax in March, it was re-introduced starting 15 August this year.^[200] It is not clear what the funds from these levies will be going to, although it could be used for the purposes of national L&D actions, and, depending on the government's international policies, parts could go to funding arrangements or a fund to finance L&D actions in the most climate vulnerable least developed countries.

The focus on oil producing States in the Middle East has received increased attention given COP28 is being placed in Dubai, chaired by Sultan Al Jaber, the head of the Abu Dhabi National Oil Company. In a recent news article written by UK's former Prime Minister Gordon Brown, an argument is made for introducing an annual USD 25 billion windfall levy on oil and gas profits made by the Gulf States and Norway (more on Norway below) that could be earmarked for international climate finance, including the L&D fund.^[201] Mr. Brown does not include an assessment of the potential of the UK's oil and gas industry's windfall levy that has been introduced to be used for international climate finance, including for the L&D fund.

UK

In the UK, the government introduced a windfall tax on oil and gas profits as a response to the historic profits made by these companies. Called the 'Energy Profits Levy', it was introduced in May 2022, and in its first year, it raised GBP 2.6 billion. It established a 25% surcharge on the extraordinary profits made by extraction of oil and gas by these companies, as an addition to the existing 40% tax on profits, sun-setting end of 2025.^[202] The surcharge was later increased to 35% and extended until March 2028, in which it is expected to have raised GBP 26 billion.^[203] The wind-

198. See for example the proposal for a bill by Senator Sheldon. Available at: <https://www.whitehouse.senate.gov/imo/media/doc/Big%20Oil%20Windfall%20Profits%20Tax%20Summary%20FINAL.pdf>

199. Summary of proposal. Available at: <https://www.whitehouse.senate.gov/imo/media/doc/Big%20Oil%20Windfall%20Profits%20Tax%20Summary%20FINAL.pdf>

200. Nadig, S., (2023). India hikes windfall tax on petroleum crude starting 15 August. Offshore Technology. Available at: <https://www.offshore-technology.com/news/india-hikes-windfal-tax-on-petroleum-crude/?cf-view>

201. Gordon Brown. (2023). How do we raise trillions of dollars to fight the climate crisis? The answer is staring us in the face. The Guardian. Available at: <https://www.theguardian.com/commentisfree/2023/sep/25/we-need-trillions-of-dollars-to-fight-the-climate-crisis-this-is-my-plan-to-raise-it>

202. HM Treasury (2022). Policy Paper – Energy Profits Levy Factsheet – 26 May 2022. Available at: <https://www.gov.uk/government/publications/cost-of-living-support/energy-profits-levy-factsheet-26-may-2022>

203. HM Treasury (2023). News Story – New oil and gas tax changes set to protect energy security and British jobs. Available at: <https://www.gov.uk/government/news/new-oil-and-gas-tax-changes-set-to-protect-energy-security-and-british-jobs>

fall tax will end if the average oil and gas prices fall below a set price floor two consecutive three-month period.^[204] The profit from the levy will be used to support households with energy bills whilst providing certainty to investors to secure the long-term future. The latter (introduced as a tax relief) was included as a response to the result that these companies were cutting back on investment, putting domestic supply at risk and increasing future reliance on energy import.^[205]

Norway

Introducing a new levy for fossil fuel production for the green transition has been proposed as a solution from the Norwegian 'transitioning committee' (NO: Klimaomstillingsutvalget) in 2020.^[206] The reasoning behind this tax was to reduce the risks of stranded assets and to contribute to a swifter transition towards a low emission society. Some of the finance was thought to enable investment in low emission technology, although the use of earmarking was not proposed. However, the committee was not in agreement on whether this type of levy would be the most cost-effective way to raise revenues.^[207]

The windfall argument has also been highlighted recently in Norway. An expert committee established by the NGO Norwegian Church Aid published a report with the title 'If not Norway, who?', arguing for Norway taking a stronger leadership role in the fight against climate change.^[208] The report has several recommendations, including that the Government Pension Fund (GPF) – Global Norway could use a percent of the fund's yield annually, decided based on available surplus according to the budgetary rule (NO: handlingsregelen) concerning the usage of capital gains.^[209] The committee points out how this could raise between NOK 31–62 billion (i.e. USD 0.3–0.6 billion) per year. It further recommends that this surplus is earmarked for international climate finance. The technical and legal requirements set up for the use of surplus from the GPF are complex, and it will require further research to assess the potential and consequences of this proposal.

Financial Transaction Tax

The potential of utilising a financial transaction tax (FTT) to increase revenues for climate finance needs to be mentioned. The FTT is a transaction tax on buying and

204.BBC (2023). What is the windfall tax on oil and gas companies and how much do they pay. Available at: <https://www.bbc.com/news/business-60295177>

205.BBC (2023). What is the windfall tax on oil and gas companies and how much do they pay. Available at: <https://www.bbc.com/news/business-60295177>

206.Raskere klimaomstilling, Redusert risiko (2020). Ny politikk for Norge i en verden som når Parismålene, p. 137 (in Norwegian). Available at: <https://www.klimaomstillingsutvalget.no/wp-content/uploads/2020/09/Klimaomstillingsutvalgsrapport-2020.pdf>

207.Raskere klimaomstilling, Redusert risiko (2020). Ny politikk for Norge i en verden som når Parismålene, p. 138 (in Norwegian). Available at: <https://www.klimaomstillingsutvalget.no/wp-content/uploads/2020/09/Klimaomstillingsutvalgsrapport-2020.pdf>

208.Klimafinanseringsutvalget (2023). Hvis ikke Norge, hvem? (in Norwegian). Available at:

<https://www.kirkensnodhjelp.no/contentassets/7e3a4a5f7bf14cbea5ae29578e76a672/hvis-ikke-norge-hvem.pdf>

209.Klimafinanseringsutvalget (2023). Hvis ikke Norge, hvem?, p.10 (in Norwegian). Available at: <https://www.kirkensnodhjelp.no/contentassets/7e3a4a5f7bf14cbea5ae29578e76a672/hvis-ikke-norge-hvem.pdf>

selling a stock, bond, or other financial contracts like options and derivatives.^[210] Many countries currently have an FTT, including the US. This type of tax is regressive as it targets active investors who are concentrated in the wealthiest segments of the population.^[211] If introduced, or if increased, this type of tax could potentially increase revenues for the governments introducing them quite substantially. For example, if the US increases its tax to 0.1%, it could increase revenues by USD 777 from 2019 to 2028 according to one analysis.^[212] France has devoted half of its annual revenue of EUR 1.5 billion from the FTT to development and climate change.^[213] The EU is currently discussing whether to include a regional FTT.

The FTT could also only be applicable to transactions on high-carbon assets.^[214] The UN SG's High-Level Advisory Group on Climate Change Financing pointed out the potential for a global FTT to be a new source of finance for climate action in 2010.^[215] However, it noted that it would be more realistic to implement at national and regional levels than at the global level.^[216] Parts of this tax revenue could be, if so decided, used to increase finance for L&D funding arrangements and the L&D fund.

Tax on extreme wealth & high emitting activities

In recent years, a greater focus on inequalities within countries and the accumulation of personal wealth by a small minority has highlighted the potential for progressive wealth tax. From a climate perspective, the differences in income, wealth, lifestyles and consumption patterns are reflected in the fact that the top 1% of emitters globally had carbon footprints of over 50 tonnes of CO₂ in 2021.^[217] This is more than 1 000 times greater than those of the bottom 1% of emitters.^[218]

The linkage between wealth and carbon emissions is explored by the NGO Oxfam that argues the case of increasing taxes on the wealthiest, including through taxing windfall profits of corporations; a high tax on dividend payouts; inheritance tax; property taxes; and wealth

210. Klein, A. (2020). What is a financial transaction tax? Brookings. Available at: <https://www.brookings.edu/articles/what-is-a-financial-transaction-tax-2/>

211. Klein, A. (2020). What is a financial transaction tax? Brookings. Available at: <https://www.brookings.edu/articles/what-is-a-financial-transaction-tax-2/>

212. Congressional Budget office (2018). Impose a Tax on Financial Transactions. Available at: <https://www.cbo.gov/budget-options/54823>

213. The Climate Damages Tax (2018). A guide to what it is and how it works. Stamp Out Poverty. Available at: https://www.stampoutpoverty.org/live2019/wp-content/uploads/2019/06/CDT_guide_web23.pdf

214. 2DII (2021). How Can Financial Sector Taxes Contribute to Climate Goals – a review of policy options, p. 6. <https://2degrees-investing.org/wp-content/uploads/2021/03/Financial-Sector-Taxes-Paper.pdf>

215. UN (2010). Report of the Secretary-General's High-level Advisory Group on Climate Change Financing, p. 11. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

216. UN (2010). Report of the Secretary-General's High-level Advisory Group on Climate Change Financing, p. 11. Available at: <https://www.cbd.int/financial/interdevinno/un-climate-report.pdf>

217. IEA (2023). The World's top 1% of emitters produce over 1000 times more CO₂ than the bottom 1%. Available at: <https://www.iea.org/commentaries/the-world-s-top-1-of-emitters-produce-over-1000-times-more-co2-than-the-bottom-1>

218. IEA (2023). The World's top 1% of emitters produce over 1000 times more CO₂ than the bottom 1%. Available at: <https://www.iea.org/commentaries/the-world-s-top-1-of-emitters-produce-over-1000-times-more-co2-than-the-bottom-1>

tax.^[219] However, also many of the millionaires themselves are calling for governments to tax them: in 2022 more than 100 billionaires and millionaires signed a letter calling for higher taxes.^[220]

The issue of taxing wealth will, in the end, be a matter for each national government to decide. However, it will be important to consider the findings of the World Bank that accumulation of wealth for the few does not lead to a trickling down effect benefiting the society including the poor, and that in order to achieve the goal of poverty eradication it will be necessary to redistribute wealth in favour of the poor.^[221]

A global wealth tax is highly unrealistic to be introduced, and would potentially have been practically difficult to implement given the large variety of taxation regimes across the globe. However, the increasing focus on a global wealth tax could bring the necessary light onto global trends such as the increasing divide between the ultra-rich and the rest of society. And give renewed interest at the national level to redistribute wealth.^[222]

Nevertheless, the call for a global wealth tax has been put forward by Oxfam, who has calculated that a progressive wealth tax starting at 2% on the world's millionaires, up to 5% for the world's billionaires, would raise USD 1.7 trillion annually.^[223] It further points out that the revenue-raising potential is often higher in lower middle-income countries than in countries like the US and France because of high wealth inequality and low total tax revenues.^[224]

Also, the initiative Earth4All points out how 'decade by decade, countries have become more unequal in most regions of the world. In many places the 10% riches take over 50% of national incomes. This is a recipe for deeply dysfunctional, polarised societies.'^[225] The Earth4All initiative proposes a global wealth tax on the 10% richest until they take less than 40% of national incomes by 2030.^[226]

Another key initiative proposing a global wealth tax is the World Inequality Lab, which hosts the World Inequality Database.^[227] In its Climate Inequality Report for

219. Oxfam (2023). Survival of the Richest – How we must tax the super-rich now to fight inequality. Available at: <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621477/bp-survival-of-the-richest-160123-en.pdf>

220. Reuters (2022). Millionaires group calls for wealth tax at virtual Davos. Available at: <https://www.reuters.com/business/millionaires-group-calls-wealth-tax-virtual-davos-2022-01-19/>

221. World Bank (2019). How Much Does Reducing Inequality Matter for Global Poverty, p. 20. Available at: <https://documents1.worldbank.org/curated/en/328651559243659214/pdf/How-Much-Does-Reducing-Inequality-Matter-for-Global-Poverty.pdf>

222. This could be done by introduction of a small, gradual increase in wealth tax and ordinary income of the high earners, without weakening property rights, which is often a pre-requisite for prosperity and growth.

223. Oxfam (2023). Survival of the Richest – How we must tax the super-rich now to fight inequality, p. 41. Available at: <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621477/bp-survival-of-the-richest-160123-en.pdf>

224. Oxfam (2023). Survival of the Richest – How we must tax the super-rich now to fight inequality, p. 41. Available at: <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621477/bp-survival-of-the-richest-160123-en.pdf>

225. The initiative Earth4All is a collective of economic thinkers, scientists, and advocates, convened by The Club of Rome, the Potsdam Institute for Climate Impact Research, the Stockholm Resilience Centre and the BI Norwegian Business School. More information on the initiative and its suggestions for 'economic redesign' can be found at: <https://earth4all.life/a-major-upgrade/>

226. World Inequality Lab (2023). Available at: <https://inequalitylab.world/en/our-mission/>

227. World Inequality Lab (2023). Available at: <https://inequalitylab.world/en/our-mission/>

2023, it points out how a moderate global wealth tax for the top 0.001% richest individuals globally can yield substantial tax revenues.^[228] If a progressive tax is introduced, starting at 1.5% for those individuals with wealth between USD 100 million–USD 1 billion, ending at 3% for individuals with wealth above USD 100 billion, the annual revenues raised (even after factoring in capital depreciation and tax evasion) would be approximately USD 300 billion per year. If the wealth tax is introduced for the top 0.1% richest, this could raise USD 1.100 billion globally, and only affect around 130.000 adults being owners of this wealth.^[229]

This example brings light onto the extreme levels of wealth concentration and underscores the importance of national wealth taxation.

In designing tax measures for the wealthy that could be used for climate purposes, it could be relevant to link these taxes to high emission lifestyle choices. These activities include using private airplanes, as discussed above under the potential fuel tax, but also the use of private yachts, luxury cars and cruise ship tourism.

This type of tax could extend to all emitting cars, with higher levels for vehicles of a certain size and standard. In short, by looking at the carbon footprint for different items and activities, States can get an idea of the 'carbon costs', and create a tax scheme that reflects that in order to affect behavioural change towards more climate friendly options. In introducing taxes on carbon consumption activities for all (i.e., not just the wealthy) needs to pay particular attention to the fairness and equity perspective so as not to increase the burden on the poor and marginalized.

One example of this type of progressive tax is the vehicle ownership tax, which has been implemented in the Netherlands. Here, the car tax rate is payable once you have a vehicle registered in your name, and then it is a monthly payment to the government.^[230] The tax rate is based on the fuel type, level of emissions and the weight of the vehicle, becoming increasingly expensive as the carbon footprint increases. States could also include exemptions based on whether the household comprise of women of retirement age living alone, single parent families, long-term unemployment and so on.^[231]

Taxation linked to wealth and/or high emission lifestyle choices could increase national budgets and therefore boost the potential finance for L&D activities nationally. It would also be possible to earmark whole or parts of these taxes for the climate cause, including for L&D activities, within the country or globally towards the funding arrangements and/or fund for L&D.

228. World Inequality Lab (2023). Climate Inequality Report 2023, p. 114. Available at: <https://wid.world/wp-content/uploads/2023/01/CBV2023-ClimateInequalityReport-3.pdf>

229. World Inequality Lab (2023). Climate Inequality Report 2023, p. 113. Available at: <https://wid.world/wp-content/uploads/2023/01/CBV2023-ClimateInequalityReport-3.pdf>

230. MSP Consultancy. Motor vehicle tax in the Netherlands. Available at: <https://psmconsultancy.nl/en/motor-vehicle-tax/>

231. Owen, A., and Barrett, J. (2020). Reducing inequality resulting from UK low-carbon policy. Climate Policy. Available at: <https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1773754>

From a wealth perspective, it is also worth noting the potential of philanthropic finance for climate change, including for L&D activities, in particular from the top wealthy individuals worldwide. For further information on the potential of philanthropic finance, please see chapter 3.



Conclusion

Although specific guidance to the international aviation and maritime sector falls outside of the UNFCCC's and the Paris Agreement's remit, Parties could nevertheless use its position in the global climate negotiations to encourage and welcome practices that could reduce global emissions from international aviation and shipping and potentially also increase revenues for L&D, potentially funneled through the GCF and/or the L&D fund. In particular, it could encourage ICAO to ensure that its guidelines are in line with the Paris Agreement, including on taxation and levy measures for aviation fuel.

The Transitional Committee could also highlight the importance of expanding the sources for financing L&D by highlighting the need to enhance national taxation systems and cooperate on regional and international levels. Although tax on fossil fuel extraction is unlikely to become an international matter, it is nevertheless one potential source of income that could be used for climate finance. The same goes for the TFF on financial transactions.

As a first step, the Transitional Committee could include taxation of these sectors as a potential new source of finance in the recommendations for COP28.



CHAPTER 3: Private Sector Focus

Key take aways

This chapter identifies seven potential sources of private sector finance for developing countries vulnerable to climate change induced loss and damage (L&D). It sets out how these sources might be implemented and adapted to offer solutions which address their financial needs in the event of L&D. The seven sources are summarized below:

A catastrophe ('cat') bond is a particular type of debt instrument which permits the issuer of the bond to defer, reduce or cancel its obligation to repay the debt and /or interest due to investors where a predefined trigger event – being some form of catastrophe – occurs. As a result, when cat bonds are issued by countries (a sovereign Cat Bond), the debt that would otherwise be owing to investors can be directed toward vulnerable citizens rather than foreign creditors in the event that the catastrophe predefined in the sovereign Cat Bond occurs. Cat bonds have significant potential as a source of private finance towards L&D, i.e., an L&D Cat Bond. However, to realize this potential the design of the bonds will need to be adapted as follows: a) an expanded range of trigger events covered within a single product and, if possible, inclusion of slow onset events; b) the provision of subsidies which can cover the higher structuring costs and interest rates that these bonds attract, and; c) the provision of guarantees in favour of countries with low sovereign credit risk ratings in order to attract investors to these bonds.

A debt swap is a transaction that typically takes place when a lender and a borrower agree to renegotiate debt typically due to borrower's cash flow problems and for debt relief. Debt swaps are often used to restructure sovereign debt of highly indebted countries. In climate finance, debt for nature swaps have become an increasingly popular alternative to provide debt relief to highly indebted countries while also encouraging these countries to earmark a portion of the forgiven debt proceeds towards environmental conservation. A debt for L&D swap would require limited adjustments to the existing template used for debt for nature

swaps. The most significant adjustment would be to agree with the borrowing country on a set of L&D criteria for the deployment of the funds towards L&D uses. This capital may be deployed from a national L&D trust fund, similar to the conservation trust funds that are typically set up in debt for nature swaps.

A private sector guarantee is a risk transfer mechanism whereby a third party (a guarantor) agrees to pay to a private investor if there is a default or loss of value on an individual investment or portfolio. Guarantees are typically designed to mitigate a range of risks for investors and to help attract more risk-averse private investment capital. Additionally, guarantees are only claimed and paid out in the case of a loss and hence allow for a more optimal use of resources. Donors and the public sector often offer guarantees to support investments that can generate social and environmental outcomes. This includes climate finance, where guarantees can support investments with positive climate mitigation and adaptation outcomes but have comparatively weak risk-return profiles. L&D guarantees that can catalyze private sector finance need to provide explicit coverage and support in the event of defaults or loss in value due to extreme and slow onset L&D events, as compared with the indirect blanket coverage that guarantees currently offer. This may include: a) concessionary support to mitigate a higher proportion of portfolio losses due to L&D than due to other shocks; b) subsidized guarantee utilization fees for L&D guaranties as compared with 'standard' guarantee products; and c) offering direct support for post-L&D actions that may help investees and their communities and landscapes recover more quickly from L&D.

Risk pooling is an alternative form of risk management that takes place when individual risk holders agree to jointly support each other in the event of a negative exogenous shock. In climate finance, multi-country risk pooling (e.g., the Caribbean Catastrophe and Risk Insurance Facility) has become increasingly common among countries as an alternative to individual sovereign climate insurance solutions, which can sometimes be more costly or not available. Private sector businesses, especially small businesses in emerging markets, are also often receptive to local risk pooling to protect themselves against risks that are too expensive to insure, or for which there is no locally available insurance solution. These private sector risk pooling facilities are increasingly devoted to managing their members' own climate-related risks, including their impact on member health and incomes. The key challenge for potential private risk pooling facilities seeking to mitigate L&D extreme and slow onset events risks is scale such that its members' risks are uncorrelated. There are several potential venues for risk pooling facilities to reach necessary scale. The public sector at a national level may seek to spread risk pooling facilities across its geography, potentially by leveraging organizations under common ownership models (e.g., a network of cooperatives or business associations). Governments may also further seek to potentially roll-up those risks within its own, multi-country risk pooling facilities for additional risk diversification (such as the Livelihoods Protection Policy currently offered by the Caribbean Catastrophe

and Risk Insurance Facility)). Large businesses that are encouraging the adoption of climate adaptation practices by suppliers operating within their value chains may also support the development of risk pooling solutions among their supply chain and potentially in partnership with other larger businesses in the area.

In addition to the L&D financial products above there may be other innovative opportunities to mobilize the private sector for L&D finance. This includes the following:

- **'Frontloading'** binding and undisbursed grant commitments by issuing bonds to be purchased by retail investors that will be paid against those upcoming grants. 'Frontloading' would allow for earlier L&D investments before the climate crisis worsens and L&D funding needs increase. Frontloading requires a relatively complex financial set-up which incurs significant fixed fees payable to financial institutions and professional financial services firms, and which is only cost-efficient at scale. A L&D Fund could leverage long term and binding grant commitments from donor countries to issue its own L&D bonds but would require total binding commitments from donors to be long term commitments and significant in value.
- Offering L&D **'Results-Based Payments'** to the private sector. 'Results-based payments' is an umbrella term to describe initiatives where donors make payments upon the accomplishment of results rather than for the efforts to accomplish those results. Examples of results-based finance solutions that may be especially well suited for L&D include: a) natural climate solutions focused on agriculture, forestry, land-use and oceans; and b) sustainable infrastructure in energy, water, transport, urban, and other sectors that provide public goods to better address L&D. Importantly, L&D 'Results-Based Payments' would require donors to define measurable L&D target outcomes, have available data sources and monitoring systems to track and validate L&D outcomes, and ensure that the costs of achieving those L&D outcomes are fairly priced.
- **Credit card fees** to help capitalize a L&D Fund. Credit cards companies charge fees both to customers and merchants, including interest and late payment charges and annual fees (for the former) and processing fees between 1.5% and 3.5% (for the latter). Some credit cards in the past have earmarked a portion of those fees to fund projects that fight climate change. A L&D Fund may explore engaging these credit card companies to agree for one or several cards to allocate a portion of its fees to finance its L&D activities. This would involve having the credit card company allow a portion of its existing credit card profits to be passed on to a L&D Fund (as a CSR activity), or to increase its credit card fees to cover this additional expense, which would result in increased fees for merchants and, ultimately, for consumers.

- **Philanthropic funding** is a source of finance that historically has been focused on financing other issues such as health and education. However, climate change, including L&D, has clear potential of being a more prominent motivation for philanthropic donors, which could increase donations towards the funding arrangements and the fund for responding to L&D



Catastrophe ("cat") bonds

Overview

One solution which has been identified to enable the costs flowing from L&D to be financed by the private sector is through issuances of catastrophe or 'cat' bonds. Cat bonds are debt instruments that, until relatively recently, were typically issued by companies in the insurance industry, allowing them to receive funding from the bond in the event of the occurrence of a natural disaster or extreme climate event. The cat bond market is worth over \$40 billion.^[232]

232. Reuters (2023). Cat Bond Funds Ranked Among 2023's Top Performing Credit Funds. Available at: <https://www.reuters.com/markets/rates-bonds/cat-bond-funds-ranked-among-2023s-top-performing-credit-funds-2023-08-09>

Where a cat bond was being issued by an insurance company, it would be issued by insurance companies to investors such as hedge funds and the insurance company making periodic interest payments to those investors and ultimately repayment of the bond at the end of its term. Notably, however, the terms of the cat bond would specify that where a predefined trigger event occurred, the obligation to pay interest and/or repay the principal to investors was either deferred, reduced, or cancelled.^[233]

Within the insurance industry, these trigger events have been defined under the terms of cat bonds as actual losses experienced and thereby creating an obligation for investors to indemnify the insurance company for those pay outs made. Such trigger events can also be industry-wide losses beyond a critical point (industry loss trigger), or a weather or disaster index (parametric index trigger). As a result, the benefit to the insurance company of issuing the cat bond is that the defined catastrophe, e.g., weather reaching a particular index, is transferred to the investors in the bond.

Although cat bonds have typically been issued by countries in the insurance industry, some countries, particularly those highly exposed to climate-related risks, have started issuing sovereign cat bonds (or restructuring their existing sovereign debt into cat bonds) to ensure that when a disaster hits, resources are directed toward vulnerable citizens, not foreign creditors.^[234] Many of these sovereign cat bonds are structured based on parametric triggers and do not require significant upfront public cash disbursements by the issuer.^[235] These sovereign bonds are typically issued outside of the UN system and marketed directly to public and private bond buyers.^[236] The cat bond market is worth over \$40 billion.^[237]

Jamaica is one instance of a country that has used cat bonds in its strategy to protect against losses arising from potential, future natural disasters.^[238]

Following estimated costs of USD 1.2 billion between 2001 and 2010 from the effects of natural disasters such as hurricanes and earthquakes, the Jamaican government implemented a series of climate finance / risk measures, one of which

233. See definition in Ando, S. et al. (2022). Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets. IMF Staff Climate Note. Available at:

<https://www.elibrary.imf.org/downloadpdf/journals/066/2022/004/066.2022.issue-004-en.xml>, and brief history of the Cat bond market in <https://www.artemis.bm/library/what-is-a-catastrophe-bond/>

234. Ando, S. et al. (2022). Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets. IMF Staff Climate Note. Available at:

<https://www.elibrary.imf.org/downloadpdf/journals/066/2022/004/066.2022.issue-004-en.xml>

235. Braun, A., and Kousky, C. (2021). Catastrophe Bonds. Wharton Risk Center Primer. Available at:

<https://riskcenter.wharton.upenn.edu/wp-content/uploads/2021/07/Cat-Bond-Primer-July-2021.pdf>

236. For an updated list of Cat Bonds see: <https://www.artemis.bm/deal-directory/>

237. Reuters (2023). Cat Bond Funds Ranked Among 2023's Top Performing Credit Funds. Available at:

<https://www.reuters.com/markets/rates-bonds/cat-bond-funds-ranked-among-2023s-top-performing-credit-funds-2023-08-09>

238. World Bank (n.d.). World Bank Catastrophe Bond provides Jamaica with Financial Protection against Tropical Cyclones. Available at: <https://thedocs.worldbank.org/en/doc/43a111757d3b1ff1cabde80ee7eb0535-0340012021/original/Case-Study-Jamaica-Cat-Bond.pdf> and World Bank Blogs (2021). How the Catastrophe Bond Market Is Supporting Financial Resilience in Jamaica. Available at:

<https://blogs.worldbank.org/latinamerica/how-catastrophe-bond-market-supporting-financial-resilience-jamaica>

was to issue a USD 185 million cat bond to account for the country's tropical cyclones, the premium of which was partially paid by the US, UK and Germany. The measure was significant because it was the first time a small island state had issued a cat bond and it is regarded a useful precedent.

Limitations

As has been described above, Cat bonds have significant potential to provide funding towards L&D, i.e., an "**L&D Cat Bond**". However, there are certain characteristics of the current structure of cat bonds which limit their potential for use as L&D Cat Bonds and require addressing.^[239]

First, a key characteristic of cat bonds as currently structured is that they only insure against a small number of trigger events and cover only a small portion of the total possible loss and damage that a 'catastrophe' entails.^[240] They do not provide full coverage against possible damages, and they often come with stricter terms and conditions than traditional insurance.^[241]

Second, issuers of cat bonds also find that cat bonds are a more expensive financial product than vanilla sovereign bonds. There are two reasons for this. The first is that cat bonds are typically complicated and time consuming to structure, which increases the fees incurred when putting them in place. The second is that since a cat bond offers a bond product and an insurance product combined the interest paid by the issuer of a cat bond is higher than the interest paid for a vanilla sovereign bond.

Third, cat bond issuances are restrictive with respect to the nature of the issuer and the duration of the bond offering. Cat bond issuances are typically restricted to sovereign states which have satisfactory credit risk ratings and have relatively short bond maturities, often of between 3–4 years, but sometimes less so the bond needs to be reissued frequently.^[242] As a result, the market for cat bonds, although growing, is still relatively small and few countries have insured themselves against natural disasters.^[243]

239. International Capital Market Association (2022), ICMA publishes new climate resilient debt clauses to facilitate sovereign debt relief and financial stability. Available at: <https://www.icmagroup.org/News/news-in-brief/icma-publishes-new-climate-resilient-debt-clauses-to-facilitate-sovereign-debt-relief-and-financial-stability/>

240. DiFiore, P. et al. (2021). Catastrophe Bonds: Natural Diversification. Neuberger Berman. Available at: <https://www.nb.com/en/global/insights/white-paper-catastrophe-bonds-natural-diversification>

241. Ando, S. et al. (2022). Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets. IMF Staff Climate Note. Available at: <https://www.elibrary.imf.org/downloadpdf/journals/O66/2022/004/O66.2022.issue-004-en.xml>

242. DiFiore, P. et al. (2021). Catastrophe Bonds: Natural Diversification. Neuberger Berman. Available at: <https://www.nb.com/en/global/insights/white-paper-catastrophe-bonds-natural-diversification>

243. Ando, S. et al. (2022). Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets. IMF Staff Climate Note. Available at: <https://www.elibrary.imf.org/downloadpdf/journals/O66/2022/004/O66.2022.issue-004-en.xml>

Potential for Financing L&D

The International Capital Markets Association has proposed using climate resilient debt clauses to defer countries' debt repayments in the event of predefined, severe climate shocks or natural disasters, including slow onset events.^[244] Despite current limitations in the design of cat bonds for L&D purposes, there are several innovations which could result in an effective L&D financial product. First, the range of trigger events covered within a single product needs to be expanded. These trigger events can include a broad range of extreme climate-related risks to address L&D more comprehensively, by simultaneously covering events such as heatwaves, storms, and cyclones. These L&D Cat bonds, like non-L&D Cat bonds, will not be issued under the UN system, and instead will be marketed directly to public and private bond buyers and cannot capitalize an international L&D fund.

An expansion in the insured risks and insurance coverage, which will be required in order to cover a broad range of L&D risks, is likely to result in increased structuring costs and higher interest rates and further limit access to low-income countries. The Global Risk Financing Facility, funded by Germany and the UK and housed in the World Bank, is exploring providing financial and technical support for accessing and underwriting disaster-risk insurance.^[245] It could expand its remit by covering similar expenses in the structuring of L&D Cat Bonds. The Global Shield is also exploring offering insurance premium subsidies that can partially offset insurance costs.^[246] Given this mission, the Global Shield may also explore covering the differential interest payments of a plain vanilla sovereign bond and a L&D Cat Bond for a given issuer, which would account for the additional insurance costs.

There could also be an opportunity to address the limits in the amount of L&D funding that a cat bond is able to offer given that debt/interest payments are rarely enough to fully cover the costs of L&D event.^[247] When a trigger event for an L&D Cat Bond takes place, Global Shield (which is exploring directly subsidizing national L&D insurance schemes) may consider matching any additional funding (from reallocated debt expenses) to address L&D with its own additional complementary funding.

244. International Capital Market Association (2022). ICMA publishes new climate resilient debt clauses to facilitate sovereign debt relief and financial stability. Available at: <https://www.icmagroup.org/News/news-in-brief/icma-publishes-new-climate-resilient-debt-clauses-to-facilitate-sovereign-debt-relief-and-financial-stability/>

245. World Bank Press Release (2018). World Bank Group, Germany, and UK Launch \$145 Million Financing Facility to Support Earlier Action on Climate and Disaster Shocks. Available at: <https://www.worldbank.org/en/news/press-release/2018/10/12/world-bank-group-germany-and-uk-launch-145-million-financing-facility-to-support-earlier-action-on-climate-and-disaster-shocks>

246. World Bank Press Release (2018). World Bank Group, Germany, and UK Launch \$145 Million Financing Facility to Support Earlier Action on Climate and Disaster Shocks. Available at: <https://www.worldbank.org/en/news/press-release/2018/10/12/world-bank-group-germany-and-uk-launch-145-million-financing-facility-to-support-earlier-action-on-climate-and-disaster-shocks>

247. Ando, S. et al. (2022). Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets. IMF Staff Climate Note. Available at: <https://www.elibrary.imf.org/downloadpdf/journals/Q66/2022/004/Q66.2022.issue-004-en.xml>

Additionally, donors and any upcoming L&D funds could encourage the cat bond market to expand into countries with lower sovereign risk ratings by, for example, providing an additional partial guarantee to sovereign debt investors to guarantee the issuers interest/principal repayments.

Finally, and more technically challenging, pricing and availability of L&D Cat Bonds will depend on the quality of the underlying L&D risk forecasts and data, including projected frequency and severity, which is often lacking in emerging markets. Technically, slow onset L&D events can be built into a parametric trigger, but it will likely need increased research and could result in a significant increase the bond's price.

Debt swaps

Overview

A debt swap is a transaction that typically takes place when a lender and a borrower agree to renegotiate debt typically due to borrower's cash flow problems and for debt relief. In legal terms, it usually requires the parties to sign agreements to terminate the existing debt obligations and enter into fresh debt obligations. As part of a debt swap, a third party may decide to cover a portion of the outstanding debt or purchase it from the original lender.^[248]

Debt swaps are often used to restructure sovereign debt. In the last few years and partially due to the COVID-19 pandemic, developing countries have increased their public debt as a percentage of GDP from 41% in 2010 to nearly 66% in 2021.^[249] In addition to this, rising interest rates are increasing the costs of servicing sovereign debt payments.^[250] As of 2021, the International Monetary Fund estimates that 60% of low-income countries are either at high risk of debt distress or already experiencing it – an increase from 30% in 2015.^[251] Notably, the UNDP recently called for international debt relief for 54 developing economies to avoid a larger debt crisis.^[252] In circumstances such as these, debt swaps can provide a form of

248. For an overview of debt swaps see Marcos, M. et al. (2022). Debt-For-Climate Swaps. Analysis, Design, and Implementation. IMF Working Papers, Volume 2022 issue 162. Available at:

<https://www.elibrary.imf.org/view/journals/001/2022/162/001.2022.issue-162-en.xml> and OECD (n.d.). Debt for Environment Swaps. Available at: <https://www.oecd.org/env/outreach/debt-for-environment-swaps.htm>

249. Bank for International Settlements, 2022. Retrieved from: <https://www.bis.org/statistics/>

250. Bloomberg (2022). Historic Cascade of Defaults Is Coming for Emerging Markets. Available at: <https://www.bloomberg.com/news/articles/2022-07-07/why-developing-countries-are-facing-a-debt-default-crisis>

251. Bloomberg (2021). IMF Warns of Economic Collapse in Poor Nations Without Debt Fix. Available at: <https://www.bloomberg.com/news/articles/2021-12-02/imf-warns-of-economic-collapse-in-some-nations-without-debt-fix> IMF considers public debt to be distressed when a country is unable to fulfill its financial obligations and debt restructuring is required. For more details, see: Fournier, J. et al (2022). Governments Need Agile Fiscal Policies As Food And Fuel Prices Spike. IMF Blog. Available at: <https://www.imf.org/en/Blogs/Articles/2022/04/20/blog-fm-govs-need-agile-fiscal-policies-042022>

252. UN Development Programme (2022). UN Development Programme Calls for Debt Relief Now for 54 Countries. Available at: <https://news.un.org/en/story/2022/10/1129427>

debt relief for a country whereby its debt burden is reduced subject to the condition that the borrowing country mobilizes its domestic resources for a designated purpose with social or environmental impact.

Within climate finance, debt for nature swaps have become an increasingly popular alternative in order to provide debt relief to highly indebted countries while also encouraging these countries to earmark a portion of the forgiven debt proceeds towards environmental conservation. As the Bridgetown Initiative highlights,^[253] the majority of the world's most climate vulnerable economies are also the among the world's most debt vulnerable countries. In the UNFCCC negotiations there is also an increasing awareness that funding for L&D should take into consideration developing countries' debt levels.

As part of a debt for nature swap agreement, the borrowing country usually agrees to place in part or in full the proceeds of the forgiven debt towards the endowment of a conservation trust fund – which may then be further capitalized with additional donations from other aid agencies. In the circumstance where a conservation trust fund is established, the terms of a debt for nature swap will also specify the capital deployment criteria for the conservation trust fund. For instance, these criteria may include protected parks and sustainable landscapes, enhancing adaptive capacity, or reducing the vulnerability of rural population.^[254]

The Seychelles became the first country to successfully complete a debt-for-nature swap in 2018. The terms of the swap involved the Seychelles agreeing to protect a third of its marine and coastal area in exchange for a USD 21.6 million reduction of its sovereign debt and debt relief.^[255] The USD 21.6 million sovereign debt was mostly owed to the UK, France, Belgium, and Italy and was purchased at a discount for USD 20.2 million by the Nature Conservancy.^[256] The Nature Conservancy forgave USD 5 million of that debt (by raising the same amount in grants from its donors) and restructured the remaining USD 15.2 million as a 10-year blue bond with a discounted 3% annual interest rate (by raising an impact loan from impact investors).^[257]

Separately, the Seychelles' Conservation and Climate Adaptation Trust ("**SeyCCAT**") was created by the Government of Seychelles and The Nature Conservancy. SeyCCAT was capitalized with proceeds from the debt conversion

253. The 2022 Bridgetown Agenda, available at: <https://pmo.gov.bb/wp-content/uploads/2022/10/The-2022-Bridgetown-Initiative.pdf>

254. For examples of conditionalities used for the Debt for Nature swap in Belize, please see here: The Nature Conservancy (n.d.). Belize Blue Bond Annex A. Available at: https://www.nature.org/content/dam/tnc/nature/en/documents/Belize_Blue_Bond_Annex_A.pdf

255. The Commonwealth (2020). Case Study. Innovative Financing – Debt-for-Conservation Swap Seychelles Conservation and Climate Adaptation Trust Fund. Available at: <https://thecommonwealth.org/case-study/case-study-innovative-financing-debt-conservation-swap-seychelles-conservation-and>

256. Blended Finance Earth (n.d.). Seychelles Debt Swap. Available at: <https://www.blendedfinance.earth/sustainability-linked-debt/2020/11/16/seychelles-debt-swap>

257. The Commonwealth (2020). Case Study. Innovative Financing – Debt-for-Conservation Swap Seychelles Conservation and Climate Adaptation Trust Fund. Available at: <https://thecommonwealth.org/case-study/case-study-innovative-financing-debt-conservation-swap-seychelles-conservation-and>

and has raised additional grant funding from partner donors. Since inception, it has issued over USD 1.5 million in grants to more than 25 grantees, implementing a total of 33 projects.^[258] As a result of the debt swap and coordinated activities of the Government of Seychelles and SeyCCAT, the country has progressed from protecting 0.04% to 30% of its national waters, covering 410,000 square kilometers (158,000 square miles) of ocean – an area larger than Germany.^[259]

Challenges and Limitations

Debt swaps have been proposed as a key tool for debt relief for highly indebted nations while also increasing funding for L&D, including debt for development swaps for climate action,^[260] debt for adaptation swaps,^[261] or debt for climate swaps^[262]. However, currently these proposed swaps do not explicitly include criteria for L&D and are typically focused on mitigation and adaptation, which often limits the potential for a given country to fully address L&D.

Additionally, the funding earmarked for environmental impact is often deployed through national trust funds. This funding may be subject to political capture and requires robust verification and audit processes, which can sometimes be comparatively costly as compared with the total size of the national trust fund.

Potential Financing L&D

The innovations required for the design of debt for L&D swaps are limited and the required adjustments can be based on the existing template used for debt for nature swaps. The refinancing terms for a debt for L&D swap are similar to those of a debt for nature swap. The only difference is that the country's financing commitments (which would have originally gone to repay now forgiven debt) would be earmarked to uses that reduce potential L&D, as compared with environmental impact. The L&D criteria for the approval of fund deployment would ideally include conditions to ensure that funding is deployed to both economic and non-economic L&D. Examples of L&D criteria for fund deployment could be assisted migration and resettlement, safeguarding biodiversity, including relocation of animals or ecosystem support, and supporting the development of contingency plans to ensure the functioning of essential sectors (such as healthcare, and food

258.UNFCCC (2023). Lessons from the Seychelles. Slide 2. Available at:

https://unfccc.int/sites/default/files/resource/1_TC_Lessons%20from%20the%20Seychelles.pdf

259.BBC Future (2020). The Deal That Saved Seychelles' Troubled Waters. Available at:

<https://www.bbc.com/future/article/20200803-the-deal-that-saved-seychelles-troubled-waters>

260.Jensen, L. (2022). Avoiding 'Too Little Too Late' on International Debt Relief. UNDP Development Futures Series Working Papers. Available at: <https://www.undp.org/publications/dfs-avoiding-too-little-too-late-international-debt-relief>

261. Hebbale, C., and Urpelainen, J. (2023). Debt-for-Adaptation Swaps: A Financial Tool to Help Climate-Vulnerable Nations. Brookings Institution. Available at: <https://www.brookings.edu/articles/debt-for-adaptation-swaps-a-financial-tool-to-help-climate-vulnerable-nations>

262. Singh, D., and Widge, V (2021). Debt-for-Climate Swaps Blueprint. Climate Policy Initiative. Available at: <https://www.climatepolicyinitiative.org/wp-content/uploads/2021/05/Debt-for-Climate-Swaps-Blueprint-May-2021.pdf>

production and distribution). The positive impact of debt swaps would be maximized if the mobilization requirements of domestic resources for such environmental impact are structured to be de facto senior to debt service requirements.^[263]

The capital from the refinancing could be held within in a L&D trust fund under a similar structure to the conservation trust funds that are typically set up in debt for nature swaps and would be subject to strong governance and verification standards. In the event that the capital in the L&D trust fund is too small, stakeholders involved may consider placing that capital under the prospective L&D fund established under the UNFCCC/Paris Agreement to benefit from a larger fund's existing governance and processes, which would then be responsible for capital deployment within that country under L&D criteria.

Debt swaps can also be combined with Cat bonds. For example, in March 2023, the International Bank for Reconstruction and Development executed its largest single-country cat bond and debt swap transaction with Chile against earthquake risks, consisting of USD 350 million of cat bonds and USD 280 million of debt swaps.^[264]

Private sector guarantees

Overview

A guarantee is a risk transfer mechanism whereby a third party, a guarantor, agrees to pay to a private investor, a beneficiary, in part or in full an amount if there is a default or loss of value on an individual investment or portfolio. Guarantees may cover all or part of scheduled repayments of private sector investments against the risk of default. They may be designed to share equally a portion of the losses with an investor up to a certain amount, i.e., a partial guarantee, or to cover the first losses of an investor up to a certain amount i.e., a first loss guarantee. For example, in the event of an investment default which results in a USD 100 loss to investors, a guarantor could put in place a partial debt guarantee guaranteeing 50% of the loss (i.e., USD 50). A first loss guarantee may agree to cover 20% of the loss (e.g., the guarantee covers the first USD 20 of the loss, but the remainder is covered by investors).^[265]

263. Marcos, M. et al. (2022), Debt-For-Climate Swaps: Analysis, Design, and Implementation. IMF Working Papers, Volume 2022 issue 162. Available at: <https://www.elibrary.imf.org/view/journals/001/2022/162/001.2022.issue-162-en.xml>

264. World Bank Press Release (2023). World Bank Executes Its Largest Single-Country Catastrophe Bond and Swap Transaction to Provide Chile \$630 Million in Financing. Available at: <https://www.worldbank.org/en/news/press-release/2023/03/17/world-bank-executes-its-largest-single-country-catastrophe-bond-and-swap-transaction-to-provide-chile-630-million-in-fin>

265. Definitions and overview adapted from Bartz-Zuccala, W. et al. (2021). Making Blended Finance Work for Sustainable Development: The Role of Risk Transfer Mechanisms. OECD PF4SD Perspective Series, p 38. Available at: [https://one.oecd.org/document/DCD\(2021\)16/en/pdf](https://one.oecd.org/document/DCD(2021)16/en/pdf)

Guarantees can therefore be structured to cover different percentages of loss on a default, but they can also be structured to address different investor risks. Typically, guarantees are designed to mitigate the risk of an investment loss following a loss in value of an underlying asset, for example, when a borrower defaults on a loan. However, there are also a broad range of specialized guarantee products designed to mitigate other types of investment risks that are tailored to the investor's particular needs. For instance, political risk guarantees can be put in place to mitigate risks, such as of a government breaching its contract, the risk of expropriation or nationalization of investor assets, adverse changes in local regulation, or even of losses caused by war, revolution, or terrorism.^[266] Additionally, foreign exchange guarantees can be put in place to protect investors against losses from local currency devaluation against investor currency, typically US Dollars, Euros, or British Pounds.^[267]

As a result of the key role that guarantees play in reducing investor risk, they are frequently given for the benefit of more risk-averse investors in order to attract investment capital from these investors.^[268] Many donors and concessionary investors favor guarantees to support investments that generate social and environmental outcomes. The public sector is increasingly seeking to share the risk through guarantee products to crowd-in private sector financiers, as compared with directly providing grants or concessionary debt.^[269] The channels through which the public sector supports guarantees may include funding through donor agencies, national development financial institutions, and multilateral agencies – depending on each country's staff capacity and policy hurdles.^[270] A key bottleneck to public sector support for offer guarantees includes the fact that guarantees often do not count as Official Development Assistance ("**ODA**") unless they are deployed, that is unless there has been a default or loss in value. Due to "use it or lose it" budgetary rules common in many aid agencies, many public donors deploy grant funding to financial intermediaries, such as the World Bank Multilateral Investment Guarantee Agency^[271] or Guarantco^[272], for these intermediaries to offer guarantees on their behalf.^[273]

266. For some representative political risk guarantee products see World Bank Multilateral Investment Guarantee Agency (MIGA): <https://www.miga.org/product/>; and US Development Finance Corporation (DFC): <https://www.dfc.gov/what-we-offer/our-products/political-risk-insurance>

267. <https://www.exim.gov/solutions/loan-guarantee/foreign-currency-guarantee>

268. For a broader discussion on the benefits for using guarantees for development see Garbacz W. et al (2021). The Role of Guarantees in Blended Finance. OECD Development Co-operation Working Papers, No 97 OECD Publishing, Paris, p. 25. Available at: <https://www.oecd.org/dac/the-role-of-guarantees-in-blended-finance-730e1498-en.htm>

269. International Finance Corporation (2023). DFI Working Group on Blended Concessional Finance for Private Sector Projects Joint Report, pp. 21 and 22. Available at: <https://www.convergence.finance/resource/dfi-working-group-on-blended-concessional-finance-for-private-sector/view>

270. Convergence (2023). Best Practices for Donor Governments Engaging in Blended Finance, p. 23. Available at: <https://www.convergence.finance/resource/best-practices-for-donor-governments-engaging-in-blended-finance/view>

271. <https://www.miga.org/>

272. <https://guarantco.com/>

273. Convergence (2023). Best Practices for Donor Governments Engaging in Blended Finance, p. 23. Available at: <https://www.convergence.finance/resource/best-practices-for-donor-governments-engaging-in-blended-finance/view>

In climate finance, guarantees are also provided to support investments with positive climate mitigation and adaptation outcomes. They are commonly used to help overcome barriers for private investors such as high perceived or real risks and/or poor returns for the risk relative of climate investments to comparable investments.^[274]

The Althelia Sustainable Ocean Fund ("**SOF**") is a USD 132 million impact investment fund that provides loans, equity, and quasi equity to marine and coastal projects in emerging markets. SOF is managed by Mirova, an investment manager that specializes in sustainable investing^[275] and focuses on three key areas being, sustainable seafood, the circular economy and ocean conservation.

When SOF was being launched in 2017 and 2018, most blue economy investments had come from grant-making bodies and private philanthropic foundations. To support its fundraising, Althelia closed a USD 50 million partial debt guarantee from USAID's Development Credit Authority (now under the US Development Finance Corporation). The guarantee covers up to 50% of the principal on eligible loans that SOF extends throughout its portfolio. Thanks to the guarantee^[276] SOF was able to attract investment from risk averse investors, including AXA Investment Managers and BNP Paribas.^[277]

Challenges and Limitations

L&D constitutes a growing risk to private investors, who are also increasingly required by regulatory agencies and shareholders to report on their exposure to climate-related risks and proactively mitigate them. However, in some instances private investors may not be able to fully adapt against climate-related risks and the value of their portfolio may be impacted by climate-related L&D.

Guarantees, including those offered by the public sector, often provide broad coverage to events that may result in a default or a loss in value, such as those arising from L&D, extreme weather events such as cyclones, droughts, a heatwave, or, from slow-onset changes such as sea level rises or desertification. However, guarantees are rarely purposefully designed to help private investors address the impact of L&D on their investments and the underlying community and landscape on which their investments depend on. As a result, investors may be less willing to provide funding to investment opportunities that are embedded in communities and geographies that are highly exposed to L&D.

274. Blended Finance Taskforce (2023). Better Guarantees, Better Finance. Available at:

<https://www.blendedfinance.earth/better-guarantees-better-finance>

275. For fund profile, see Mirova (2022). Sustainable Ocean Fund Impact Report, p. 6. Available at:

https://www.mirova.com/sites/default/files/2023-07/Rapport-impact-SOF-2022-EN_bd.pdf

276. As stated by the Principal of the Sustainable Ocean Fund in the following interview: Green Finance Institute (n.d.). Sustainable Ocean Fund. Available at: <https://www.greenfinanceinstitute.co.uk/gfihive/case-studies/sustainable-ocean-fund/>

277. The Economist (2020). Financing the Ocean: Technologies of Tomorrow. Available at:

<https://ocean.economist.com/blue-finance/articles/financing-the-ocean-technologies-of-tomorrow>

The public sector may build on its experience and current channels to provide guarantees for development to support L&D guarantees. Many of these public donors seeking to provide L&D guarantees may also face a similar bottleneck in directly supporting L&D guarantees because guarantees often do not count as Official Development Assistance ("**ODA**") unless they are deployed. In this case, public donors could deploy grant funding to financial intermediaries with the mandate to support L&D guarantees, such as a L&D Fund.

Potential for Financing L&D

Typically, guarantees are drafted to provide blanket coverage in the event of a loss in value or default. However, if guarantees are to be effective tools in mitigating L&D risks, they should be drafted to state explicitly that coverage and support will be provided in the event of a default or loss in value that is due to both extreme and slow onset L&D events.

Additionally, public guarantors have been developing innovative forms of guarantees by offering concessionary terms in guarantees, which address the negative impacts of L&D events. By way of example:

- Public guarantors may offer more advantageous guaranteed percentages to mitigate portfolio losses resulting from L&D. An example of this would be where, a guarantor offers a guarantee which covers 25% or 50% in respect of general portfolio losses but provides increased coverage for example to 60% or 70% in respect of losses originating from L&D events.
- Public guarantors may also offer subsidized guarantee utilization fees for L&D guarantees. These are fees charged to an investor for benefiting from the guarantee. These reduced utilization fees may encourage investors to protect themselves against L&D events within their portfolio.
- L&D guarantees may also be drafted to support quicker rebuilding after a climate related event hits by supporting post-L&D actions that may help in recovering from L&D, even though they may not necessarily be aligned the investor's profit-seeking mission. These actions may include having the investor suspend debt payment requirements for a period, supporting debt restructuring without increased rates, offering emergency credit lines at low interest rates to ensure business continuity and mitigate supply chain disruptions, and agreeing to (partial or full) debt forgiveness to an investee affected by a L&D event.^[278]

278. Some of these actions were also adopted to mitigate the impact on the private sector in response to the COVID-19 pandemic. See: Bank for International Settlements (2021). A global database on central banks' monetary responses to Covid-19, pp. 4 and 5. Available at <https://www.bis.org/publ/work934.pdf>

These innovations in L&D guarantees would by their nature result in offers of preferential terms to investors and guarantors should therefore ensure that they mitigate the moral hazard risk that would arise. One option to mitigate this moral hazard risk would be to ensure that guarantees with preferential terms are only offered to investors once those investors have mitigated L&D risks to the extent possible by carrying out due diligence, investment structuring, and supervision processes.

Private sector risk pooling

Overview

Risk pooling is a form of risk management whereby individual risk holders agree to jointly support each other in the event of a negative exogenous shock and under the principle of solidarity. Under a risk pooling agreement, members typically agree to fund collectively a pooling facility with contributions or premiums, and to share any expenses and potential losses. Historically, risk pooling has been practiced by individuals or households living close to each other or belonging to similar professions to support each other against specific and unpredictable needs. Examples of these needs include sick-leave benefits, health insurance, life insurance and funeral costs. In many cases, risk pooling has been part of a wider set of shared services provided by organizations under shared-ownership models such as cooperatives, associations, or unions.^[279]

In climate finance, multi-country risk pooling has become increasingly common among countries as an alternative to individual sovereign climate insurance solutions, which can sometimes be more costly or not available.^[280] Under this arrangement, countries agree to set aside a common funding pool as a contingency in the face of specific climate-related shocks. The common pool is capitalized with premium payments from member countries, or by third-party donors on their behalf. This common pool is typically designed to provide a relatively quick source of liquidity for immediate local needs (e.g., water, food, emergency healthcare) and as a "first response" mechanism. They are not capitalized to fully address L&D impact due to their members' limited ability to contribute larger funding.^[281] Some notable examples from such public risk pools in emerging markets include the

279. Definition and overview adjusted from Cronk, L.; Aktipis, A. (2021). Design Principles for Risk-Pooling Systems. *Nat Hum Behav* 5, pp. 825–833. DOI: <https://doi.org/10.1038/s41562-021-01121-9>

280. Richards, J. et al. (2023). The Loss and Damage Finance Landscape. Heinrich-Böll-Stiftung, p. 59. Available at: https://us.boell.org/sites/default/files/2023-05/the_loss_and_damage_finance_landscape_hbf_idc_15052023.pdf, and Durand, A. et al. (2016). Financing Options for Loss and Damage: A Review and Roadmap. Deutsches Institut für Entwicklungspolitik, p. 6. Available at: <https://www.idos-research.de/en/discussion-paper/article/financing-options-for-loss-and-damage-a-review-and-roadmap>

281. Franczak, M. (2023). Financing Loss and Damage at Scale: Toward a Mosaic Approach. International Peace Institute, p. 14. Available at: <https://www.ipinst.org/2023/05/financing-loss-and-damage-at-scale-toward-a-mosaic-approach>

Caribbean Catastrophe and Risk Insurance Facility (CCRIF) or the Pacific Catastrophic Risk Insurance Company (PCRIC).^[282] These multi-country risk pooling facilities also operate under the principle of solidarity, rather than under Polluter Pays Principles or weighted based on individual country incomes.

In addition to country risk pooling facilities, private sector businesses, especially small businesses in emerging markets, are often receptive to local risk pooling to protect themselves against risks that are too expensive to insure, or for which there is no locally available insurance solution.^[283] These private facilities are sometimes set up with support of local public actors or by non-profits who provide start-up capital to bring together potential members, draft articles of membership, and provide initial support in the management of the risk pooling facility. Private sector risk pooling facilities are increasingly devoted to managing their members' own climate-related risks, including their impact on member health and incomes.^[284] This climate focus could be extended to avert, minimize and address L&D risks.

Challenges and Limitations

The key challenge for potential private risk pooling facilities seeking to mitigate L&D extreme and slow onset events risks is scale. Risk pooling facilities need to be designed at a scale such that its member risks are uncorrelated and help insulate risk-pooling networks from common shocks.^[285] However, both extreme and slow onset L&D events are often geographically broad, so private sector members that are physically close will tend to be all exposed to the same L&D risks.

Additionally, a further challenge relating to the use of risk pools is adverse selection risk. Adverse selection risk is where a prospective member wishes to join a pool because of their abnormally high exposure to that risk, and upon joining therefore forces every other member to contribute more. Geographically close risk pools will typically manage adverse selection challenges by carrying out due diligence on potential candidates through social networks, but as the risk pool grows, social networks become a weaker selection tool and are less useful as a method of evaluating potential new members.^[286] To mitigate adverse selection challenges, risk pooling facilities need to adopt formal application screening processes, which increases their costs.^[287]

282. Durand, A. et al. (2016). Financing Options for Loss and Damage: A Review and Roadmap. Deutsches Institut für Entwicklungspolitik, p. 6. Available at: <https://www.idos-research.de/en/discussion-paper/article/financing-options-for-loss-and-damage-a-review-and-roadmap>

283. Cronk, L.; Aktipis, A. (2021). Design Principles for Risk-Pooling Systems. *Nat Hum Behav* 5, 825–833 (2021). DOI: <https://doi.org/10.1038/s41562-021-01121-9>

284. Franczak, M. (2023). Financing Loss and Damage at Scale: Toward a Mosaic Approach. International Peace Institute, p. 14. Available at: <https://www.ipinst.org/2023/05/financing-loss-and-damage-at-scale-toward-a-mosaic-approach>

285. Cronk, L.; Aktipis, A. (2021). Design Principles for Risk-Pooling Systems. *Nat Hum Behav* 5, pp. 825–833 (2021). DOI: <https://doi.org/10.1038/s41562-021-01121-9>

286. Cronk, L.; Aktipis, A. (2021). Design Principles for Risk-Pooling Systems. *Nat Hum Behav* 5, pp. 825–833. DOI: <https://doi.org/10.1038/s41562-021-01121-9>

287. Adverse selection is a particularly pervasive issue in large health care risk pools. For more detail see American Academy of Actuaries (2009). Critical Issues in Health Reform: Risk Pooling. Available at: https://www.actuary.org/sites/default/files/pdf/health/pool_july09.pdf

Potential for Financing L&D

Private sector risk pooling may be a useful tool for the private sector as it seeks to protect itself against extreme and slow-onset L&D event risks, including hurricanes, droughts, or land degradation. In terms of their design, private risk pooling facilities are well suited to managing L&D events risks and do not require significant changes to current risk pooling structures to make them suitable for L&D risks. If the L&D risk pool is large enough in size it may cover economic and non-economic L&D. However, it is important that these pooling facilities have sufficient geographic scale such that member L&D risks are not correlated.

There are several potential avenues that might allow risk pooling facilities to reach the scale required for them to be effective:

- The public sector could seek to spread risk pooling facilities across its national geography, potentially by leveraging organizations under common ownership models (e.g., a network of cooperatives or business associations). The public sector may further seek to potentially roll-up those risks within its own multi-country risk pooling facilities for additional risk diversification. For example, private sector risk pooling facilities from a given country in the Caribbean could be rolled up into CCRIF, similar to its current Livelihood Protection Policy.^[288] A key challenge for the public sector in supporting risk pooling is often the limited experience of governments with such insurance solutions.^[289]
- Many large businesses are encouraging the adoption of climate adaptation practices by suppliers operating within their value chains.^[290] Given their close engagement with their supply chains, these same businesses may support the development of risk pooling solutions among their suppliers and in partnership with other larger businesses operating in the same area.

Multi-country private risk pooling facilities, if of sufficient scale, could potentially be aggregated within a L&D Fund in place of being managed under regional sovereign risk pools, for example, the CCRIF or by the private sector.

Given the capitalization requirements on an L&D risk pool (especially if it seeks to cover economic and non-economic L&D), donors may contribute funding during its early stages and until these pools reach a minimum capitalization size through member contributions. Third-party donors such as Global Shield, with its focus on

288. Caribbean Catastrophe Risk Insurance Facility (n.d.). Livelihood Protection Policy (LPP). Available at:

<https://www.ccrif.org/projects/crai/livelihood-protection-policy-lpp>

289. Durand, A. et al. (2016). Financing Options for Loss and Damage: A Review and Roadmap. Deutsches Institut für Entwicklungspolitik, p. 6. Available at: <https://www.idos-research.de/en/discussion-paper/article/financing-options-for-loss-and-damage-a-review-and-roadmap>

290. For example, Danone has committed to sustainable water extraction rates across its supply chain (see: <https://www.danone.com/impact/planet/protecting-water-cycles.html>) and General Mills has developed a supplier program focused on regenerative agriculture and productive ecosystems (see: <https://www.generalmills.com/how-we-make-it/healthier-planet/environmental-impact/regenerative-agriculture>)

mobilizing private capital for improved financial resilience,^[291] may be able to sponsor these facilities and provide initial capital or a backstop in case an L&D event takes place before the risk pool is fully funded. Moreover, private sector members may be able to contribute non-financially to the pool, for example, by making available their distribution network or storage facilities to other affected members.^[292] Given their size, these private L&D risk pooling facilities will likely also need to adopt stringent screening against adverse selection concerns and require members to adopt minimum adaptation practices in advance of joining the pool.



Additional Private Sector Opportunities

In addition to the potential L&D financial products this section presents additional exploratory opportunities to mobilize the private sector for L&D.

291. World Bank Press Release (2022). World Bank Group Launches Global Shield Financing Facility to Help Developing Countries Adapt to Climate Change. Available at: <https://www.worldbank.org/en/news/press-release/2022/11/14/world-bank-group-launches-global-shield-financing-facility-to-help-developing-countries-adapt-to-climate-change>

292. Pill, M. (2022). Towards a Funding Mechanism for Loss and Damage from Climate Change. *Climate Risk Management*, Volume 35, p. 6. Available at: <https://doi.org/10.1016/j.crm.2021.100391>

Frontloading

A key issue for the capitalization of L&D funds is that, although many countries and donors have pledged such funding, very few have effectively disbursed these funds. These delays in receiving L&D funding will result in increased L&D costs as the climate crisis intensifies.^[293] To avoid the challenge of increased L&D costs, “frontloading” may allow L&D donor recipients to issue a bond product that will be repaid with the upcoming cash flows of the donor.

Frontloading has been pioneered by the International Finance Facility for Immunisation (“IFFIm”), which issues vaccine bonds in partnership with Gavi, the Vaccine Alliance. In order to front-load the funding needed to pursue vaccination its initiatives, IFFIm secures legally binding grant commitments from donors. These donors mainly consist of a group of ten countries which provide grant pledges of between 15 and 23 years.^[294] The IFFIm then structures and issues bonds where a) all funding has been earmarked to cover the costs incurred in making available life-saving vaccines for children in emerging markets; and b) where payment for these bonds will originate from the binding grant commitments from donor countries.^[295] These bonds are typically structured to mature within 3–5 years.^[296] Given IFFIm’s healthy balance sheet, the bonds have secured a good credit rating,^[297] which has resulted in interest rates of between 0.375% and 1% between 2020 and 2021.^[298]

Between 2006 and 2021, the IFFIm has raised nearly USD 7.9 billion from retail and institutional private investors on the back of the future grant pledges from donor countries.^[299] It is important to note that frontloading involves a relatively complex financial set-up which incurs a significant fixed fees due to financial institutions and professional financial services firms, which is only cost-efficient at scale.

293. Gallagher, C.; Addison, S. (2022). Financing Loss and Damage: Four Key Challenges. IIED, p. 1. Available at: <https://www.iied.org/21141iied>

294. International Finance Facility for Immunisation (n.d.). The International Finance Facility for Immunisation. Vaccine Bonds. Slide 10. Available at: <https://iffim.org/sites/default/files/library/audio-visual/presentations/iffim-investor-presentation/IFFIm%20Investor%20Presentation.pdf>

295. IFFIm also enters into hedging agreements with the World Bank to mitigate any foreign exchange risk between donor currency and currency under which the vaccine bond is issued, and interest rate risks between different currencies’ deposit rates. International Finance Facility for Immunisation (2022). Resource Guide 2022, p. 24. Available at: <https://iffim.org/sites/default/files/IFFIm-Resource-Guide-2022.pdf>

296. International Finance Facility for Immunisation (n.d.). The International Finance Facility for Immunisation. Vaccine Bonds. Slide 14. Available at: <https://iffim.org/sites/default/files/library/audio-visual/presentations/iffim-investor-presentation/IFFIm%20Investor%20Presentation.pdf>

297. International Finance Facility for Immunisation (2022 and 2023). Ratings Reports. Available at: <https://iffim.org/investor-centre/ratings-reports>

298. For bonds issued between in 2022 to support COVID-19 vaccination efforts interest rates jumped to 2.75% and 4.75%. This was due to the uncertain macroeconomic situation and increased overall market risk. International Finance Facility for Immunisation (2022). Trustees’ Reports 2022, p. 39. Available at: <https://iffim.org/sites/default/files/trustees-reports/IFFIm-2022-Trustees-Report-and-Financial-Statements.pdf>

299. Franczak, M. (2023). Financing Loss and Damage at Scale: Toward a Mosaic Approach. International Peace Institute, p. 13. Available at: <https://www.ipinst.org/2023/05/financing-loss-and-damage-at-scale-toward-a-mosaic-approach>. International Finance Facility for Immunisation (2022). Resource Guide 2022, p. 18. Available at: <https://iffim.org/sites/default/files/IFFIm-Resource-Guide-2022.pdf>

Based on the vaccine bond template, a prospective L&D Fund could leverage long term and binding grant commitments from donor countries to issue its own L&D bonds. As a result, the L&D Fund would be able to access such funding earlier (at a cost) which would then reduce future potential L&D costs and deploy its capital to support economic and non-economic L&D. However, for this option to be economically feasible total binding commitments from donors to a given L&D Fund need to be significant in size and long term.

L&D Results-Based Payments for the Private Sector

Results-based payments is an umbrella term for initiatives where donors pay upon the accomplishment of results rather than for the efforts to accomplish those results. Under these grant funding models, the principal or funder sets financial or other incentives for an entity (or individual in the case of cash transfers) to deliver predefined outcomes, and rewards achievement of the results upon verification, rather than for inputs or “best efforts” in achieving the outcomes.^[300] As a result, the donor transfers implementation risk from the funder to the implementer.^[301]

In general, results-based payments are most appropriate when targeted outputs and outcomes are well defined, measurable, and plausible to accomplish. Additionally, there need to be data sources and monitoring systems to track and validate outcomes, and the costs of achieving outcomes need to be priced fairly. It is also important to design the incentive payment amount and structure to avoid overpayment or perverse incentives (e.g., reduced service quality, fraud, encouraging demand for unnecessary services, etc.). These solutions are preferable when the donor is interested in encouraging innovation in development initiatives and is comfortable giving service providers room to innovate to achieve outcomes.^[302] The recipient of such payments is often the private sector with a focus on achieving efficiencies in realizing those outcomes for increased profitability.^[303]

Results-based payments are therefore an increasingly popular alternative to the traditional direct grant model for accomplishing social and environmental outcomes, especially in sectors with measurable outcomes and demand for innovation, including education, energy, healthcare, and water, sanitation and hygiene (WASH).^[304] This sector focus has supported the rise of Results-Based Climate Financing, where payments are made for climate mitigation or adaptation

300Camp, L., and Fernandez, A. (2017). Pay for Results in Development. USAID, p.3. Available at:

https://pages.usaid.gov/sites/default/files/pay_for_performance_letter_v5_final_dec_5_2017.pdf

301.USAID (2016). Mainstreaming Results-Based Finance: Actionable Recommendations for USAID, p. 1. Available at:

https://pdf.usaid.gov/pdf_docs/PA00TK3C.pdf

302.Camp, L., and Fernandez, A. (2017). Pay for Results in Development. USAID, p. 8. Available at:

https://pages.usaid.gov/sites/default/files/pay_for_performance_letter_v5_final_dec_5_2017.pdf

303.Escalante, D., and Orrego, C. (2021). Results-Based Financing Blueprint. Climate Policy Initiative, p. 5. Available at: <https://www.climatepolicyinitiative.org/wp-content/uploads/2021/05/Results-Based-Financing-Blueprint-May-2021.pdf>

304.USAID (2016). Mainstreaming Results-Based Finance: Actionable Recommendations for USAID, p. 5. Available at: https://pdf.usaid.gov/pdf_docs/PA00TK3C.pdf

results after they have been achieved and independently verified. A commonly used Results-Based Climate Finance instrument is carbon finance, which makes payments upon the achievement of a specific climate mitigation action. Additional examples of Results-Based Climate Finance may include planting trees on degraded land, expanding access to clean energy, or making industrial and manufacturing processes more energy efficient.^[305]

Results-Based Climate Finance solutions may help finance private sector activities that address L&D economic and non-economic L&D from extreme and slow onset events, and payments may originate from a L&D Fund. Some potential results-based finance solutions that may be especially well suited for L&D include^[306] a) Natural climate solutions focused on agriculture, forestry, land-use, oceans, and other sectors that support natural capital assets to mitigate the impact of L&D events; b) Sustainable infrastructure in energy, water, transport, urban, and other sectors that provide public goods to better address L&D. Importantly, this would require that donors define measurable L&D target outcomes, available data sources and monitoring systems to track and validate L&D outcomes, and ensuring that the costs of achieving those L&D outcomes have been priced fairly.

Credit Card Fees

Credit cards companies charge fees both to customers and merchants. The main credit card fees to customers include interest and late payment charges and annual fees.^[307] Credit cards also charge fees to merchants through processing fees, which are the fees that a business must pay every time it accepts a credit card payment. Average credit card processing fees range between 1.5% and 3.5%, the most significant of which is the interchange fee (a payment made directly to the card issuer for the swiped transaction) and a payment processor fee (e.g., fee charged by the bank that completes the financial transaction).^[308] Merchants often pass a portion of the credit fees to customers.^[309]

Some credit cards have earmarked a portion of those fees to fund projects that fight climate change, such as Aspiration Zero, FutureCard Visa, Green America Rewards Platinum Visa, and Amalgamated Bank Maximum Rewards. Many banks are currently experimenting on the potential size of these earmarked fees as part of their Corporate Social Responsibility practices while also ensuring that these

305.Escalante, D., and Orrego, C. (2021). Results-Based Financing Blueprint. Climate Policy Initiative, p. 5. Available at: <https://www.climatepolicyinitiative.org/wp-content/uploads/2021/05/Results-Based-Financing-Blueprint-May-2021.pdf>

306.World Bank (2022). What You Need to Know About Results-Based Climate Finance. Available at: <https://www.worldbank.org/en/news/feature/2022/08/17/what-you-need-to-know-about-results-based-climate-finance>

307.Federal Reserve (2022). Credit Card Profitability. Available at: <https://www.federalreserve.gov/econres/notes/feds-notes/credit-card-profitability-20220909.html>

308.Forbes (2023). Credit Card Processing Fees. Available at: <https://www.forbes.com/advisor/business/credit-card-processing-fees/>

309.The Wall Street Journal (2023). Visa, Mastercard Prepare to Raise Credit Card Fees. Available at: <https://www.wsj.com/finance/visa-mastercard-prepare-to-raise-credit-card-fees-ed779be1>

cards remain commercially viable due to the need to charge higher customer/merchant fees than competitors or to accept lower profits.

It could be worth exploring the potential of engaging with these credit card companies in allocating a portion of their fees to the L&D fund, perhaps depending on the level of consumption, or the products consumed (i.e., flights, car purchases and so on). This means that credit card companies would need to allow a portion of their existing credit card profits to be passed on to a L&D Fund (as a CSR activity), or, alternatively, increase credit card fees to cover this additional expense.

Mastercard credit card fees paid in 2022 was USD 90 billion. In a scenario where between 2–10% of that is channeled to the L&D fund, that would result in USD 0.18–0.9 billion of revenues for the L&D fund per year, as an additional and stable source of income. However, if the fee increases, it would result in increased fees for merchants and, ultimately, for consumers – and perhaps making it less competitive against other credit cards in the market.



Philanthropic Funding

Another potential private funding stream for L&D is philanthropy.^[310] Philanthropic funding for L&D made headlines at COP26 when a group of philanthropists came forward with a commitment of GBP 3 million to address L&D.^[311] In addition, the Action of Churches Together Alliance ("ACT"), a coalition established in 2010 with over 150 churches and faith-based organizations working in 127 countries, has been engaging. ACT's secretariat administers a global Rapid Response Fund ("RRF"). The RRF aims to fund gaps in current funding structures, including those for addressing L&D and, in particular, those in relation to forced migration and/or displacement. ACT mobilizes more than USD 2 billion each year.^[312]

The majority of philanthropic organizations and assets are concentrated in the United States and Western Europe.^[313] Overall, reliable information on the value of these financial assets and the expenditures is limited. However, one study identifies a financial potential close to USD 1.5 trillion held by organizations within 23 countries, with foundations' expenditures exceeding USD 150 billion per year.^[314]

According to a study by UBS, philanthropy continued expansion in 2023, with wealthy individuals across the world wishing to leave a legacy. UBS expects to see more radical and well-resourced philanthropy in the coming years; however, the study also identifies that philanthropists often want that legacy to be more about challenges solved in their lifetimes (rather than giving to future, long-term projects).^[315] Generally, this seems to be an obstacle towards increased contributions to L&D.

According to one report, philanthropic giving focused on climate change grew by almost 14% from 2019 to 2020. A contribution of between USD 6–10 billion was made in 2020, with individuals being the largest source of this funding donating between 67–80% of the total amount followed by foundations, which donated between 20–33% of it.^[316] In addition to direct giving towards climate-related projects, the UBS study identified a trend among philanthropists of "adding a climate lens" to all giving, without losing the focus on their main, "traditional" subject areas like education, health or protection.^[317] However, despite

310. Please see also Cathrine Wenger. A Gap Analysis of Finance Flows for Addressing Loss and Damage Technical Paper, C2ES, June 2023, pp. 9-10. Available at: <https://www.c2es.org/wp-content/uploads/2023/06/LD-Funding-Arrangements-Gap-Analysis.pdf>

311. The group included the Children's Climate Investment Fund (CIFF), Open Society Foundation (ECF), the European Climate Foundation (ECF) and Global Greengrants Fund (GGF).

312. Please see: <https://actalliance.org/who-we-are/>.

313. The Global Philanthropy Environment Index 2022, pp. 10-22, available at: <https://www.developmentaid.org/news-stream/post/140507/global-philanthropy-environment-index-2022>

314. Harvard Kennedy School, The Hauser Institute. Global Philanthropy Report, Perspectives on the global foundation sector, 2018, pp. 16-19, available at: https://cpl.hks.harvard.edu/files/cpl/files/global_philanthropy_report_final_april_2018.pdf

315. UBS. Trends in philanthropy in 2023. Report can be downloaded at: <https://www.ubs.com/global/en/ubs-society/philanthropy/blog/2023/five-trends-for-philanthropy-in-2023.html> An analysis of philanthropic organizations that adopted a time-limited model: Rockefeller Philanthropy Advisors. Global Trends and Strategic Time Horizons in Philanthropy 2022, available at: <https://www.rockpa.org/wp-content/uploads/2022/07/Time-Horizons-2022-1.pdf>

316. ClimateWorks Global Intelligence. Funding trends 2021: Climate change mitigation philanthropy. Available at: https://www.climateworks.org/wp-content/uploads/2021/10/CWF_Funding_Trends_2021.pdf

317. UBS. Trends in philanthropy in 2023. Report can be downloaded at: <https://www.ubs.com/global/en/ubs-society/philanthropy/blog/2023/five-trends-for-philanthropy-in-2023.html>

philanthropists increasingly directing their attention and resources to climate change and L&D (whether directly or indirectly), total giving to climate change mitigation from individuals and foundations still represents less than 2% of overall global philanthropic giving;^[318] hence highlighting clear potential for current philanthropic funding streams to be directed even further towards L&D.

Despite growing effort on climate-related donations, the assets of individual philanthropists are relatively modest when compared to the financial potential that countries have, and usually do not exceed 5% of the GDP of a country.^[319] Moreover, the vast majority of financial assets (approximately 80%), when excluding the US and Australia, are currently delivered through internal programs of the foundations, and only to a lesser degree as loans, equity investments or impact investments.^[320] While not the global norm, grantmaking is central to philanthropies in a few countries, including the US, Australia, UK and South Africa. Some of the reasons for choosing to deliver through own programs include: a search for maximum impact, personal fulfilment gained by engaging directly with communities and individuals, and limited confidence in the capacity of nonprofit institutions.^[321]

For finance to flow to L&D, therefore, the philanthropic strategies and approaches should include programs for funding activities that avert, minimize and address L&D for those that rely on their own internal programs. Thus, finance for L&D will flow to 'funding arrangements' for L&D. For those philanthropic foundations that mainly utilize grants, direct grants to the L&D fund could be included as a key objective in their strategic operations, and as such these philanthropic foundations could replenish the L&D fund.

In conclusion, climate change is one of the top 7 reasons for philanthropic giving and climate change is increasingly recognized as a key issue.^[322] Climate change, including L&D, has clear potential of being a more prominent motivation for philanthropic donors, which could increase donations towards the funding arrangements and the fund for responding to L&D. However, philanthropic donations only constitute one component of the sources that could be enhanced for L&D and philanthropic donations should not be viewed as a 'silver bullet'.

318. UBS. Trends in philanthropy in 2023. Report can be downloaded at: <https://www.ubs.com/global/en/ubs-society/philanthropy/blog/2023/five-trends-for-philanthropy-in-2023.html>

319. Harvard Kennedy School, The Hauser Institute. Global Philanthropy Report, Perspectives on the global foundation sector, 2018, p. 18, available at: https://cpl.hks.harvard.edu/files/cpl/files/global_philanthropy_report_final_april_2018.pdf

320. Harvard Kennedy School, The Hauser Institute. Global Philanthropy Report, Perspectives on the global foundation sector, 2018, p. 28, available at: https://cpl.hks.harvard.edu/files/cpl/files/global_philanthropy_report_final_april_2018.pdf

321. Harvard Kennedy School, The Hauser Institute. Global Philanthropy Report, Perspectives on the global foundation sector, 2018, p. 27, available at: https://cpl.hks.harvard.edu/files/cpl/files/global_philanthropy_report_final_april_2018.pdf

322. Rockefeller Philanthropy Advisors. Global Trends and Strategic Time Horizons in Philanthropy 2022, available at: <https://www.rockpfa.org/wp-content/uploads/2022/07/Time-Horizons-2022-1.pdf>, p. 13.

Conclusion

Despite the potential for growth in private sector financing for L&D and the existence of drivers to propel its potential, the implementation of these solutions (and replication across geographies) may be slow as a result of their financial and operational complexity. More specifically, L&D cat bonds and debt-for-L&D-swaps may take significant time to structure and close due to their complexity and the number of actors involved. Further, L&D frontloading solutions may have less potential in the short term due to the need for binding and long-term grant commitments, which the L&D fund has not secured to date.

Solutions such as L&D private risk pooling facilities or L&D guarantees may be less operationally complex and hence quicker to implement and replicate. However, they may need significant effort to scale in order to meet the demand for L&D actions. Further, L&D results-based payments may be useful in helping businesses identify profitable L&D investments as well.

Additional credit card fees for L&D may also be a viable alternative to capitalize a potential L&D Fund contingent on credit card appetite for CSR donations. In comparison, the L&D Visa Collective platform, although relatively easy to implement, has not been shown to result in significant fundraising and is not recommended as a solution to mobilize private sector capital at scale.

Finally, climate change, including L&D, has clear potential of being a more prominent motivation for philanthropic donors, which could increase donations towards L&D funding for the L&D fund and the funding arrangements.



CHAPTER 4: Insurance

Key take aways

Insurance can play different roles in averting, minimizing and addressing loss and damage (L&D) caused by climate-related events. It enhances risk assessment through data analysis, incentivizes loss reduction and resilience building, provides crucial financial resources for recovery and reconstruction, and reduces volatility, enabling more productive investments for sustainable development.

Establishing an effective insurance system necessitates a well-structured legal and regulatory framework. Government intervention in insurance markets typically occurs in response to market failures, often following major disasters. These interventions can take various forms, such as public sector insurance schemes, public-private partnerships, and regulatory measures to stimulate demand. While these interventions can be crucial, they should strike a balance between promoting insurance accessibility and maintaining risk-reflective pricing. Additionally, governments may choose to partner with insurers and capital market actors to share risks, especially for public assets, infrastructures, and post-disaster contingencies, ensuring timely financial support when needed.

Regional risk pools, such as CCRIF-SPC in the Caribbean, ARC in Africa, and PCRIC in the Pacific, play a crucial role in helping countries effectively manage and mitigate losses from disasters. These pools, owned by member countries, offer parametric insurance coverage for short-term liquidity after disasters and leverage risk pooling to provide more affordable risk transfer options. They not only provide rapid funding for disaster responses but also offer advisory services, access to international markets, and integration with social protection systems.

There are also new frontiers for insurance in responding to L&D. Insurance, traditionally associated with acute loss events, should also be explored for addressing slow-onset climate risks and non-economic L&D situations. Innovative insurance solutions are emerging to tackle these challenges:

- **Anticipatory Insurance:** Anticipatory insurance, driven by advanced forecasting, aims to provide early payouts for preventive actions. It can help reduce the need for risk transfer and enhance preparedness for climate-related events.
- **Parametric Insurance for Debt-Servicing:** Parametric insurance can cover debt-servicing obligations for climate-vulnerable countries, reducing the financial burden on governments after disasters. It can also be bundled with disaster liquidity coverage.
- **Insurance for Natural Capital and Ecosystems:** Insurance products are being developed to cover natural capital and ecosystems, helping address both slow-onset processes and non-economic L&D. For example, reef insurance supports coral reef recovery after hurricanes.
- **Insurance for Emerging Risks:** Insurance can provide coverage for emerging risks resulting from shifts in livelihoods or business models, promoting resilience in evolving economic landscapes.
- **Long-Term Insurance Solutions:** Efforts are underway to link insurance to long-term resilience strategies, offering insurance contracts beyond the traditional yearly renewals. These solutions could encourage investment in resilient infrastructure.
- **Life Insurance Model for Slow-Onset Events:** Insurance for slow-onset events could focus on timing risks rather than the event itself. It could provide payouts when pre-agreed thresholds are surpassed within specified timeframes.
- **Addressing Affordability:** Affordability remains a significant challenge in insurance uptake. Premium subsidies and concessional financing are explored to make insurance more accessible, but they need careful consideration to avoid moral hazard.

These takeaways emphasize the evolving role of insurance in averting, minimizing and addressing L&D associated with climate change and the need for innovative approaches, international cooperation, and transparency in this context.

COP 28 presents a pivotal opportunity to advance new funding arrangements and the fund for responding to L&D, and the Transitional Committee (TC) could use this opportunity to highlight the potential and solutions relevant for L&D in its recommendations for COP28. Insurance-linked approaches can significantly enhance support for vulnerable communities. However, it is crucial to recognize that insurance alone cannot be the sole source of funding for L&D. Instead, it should be an integral part of a comprehensive strategy that includes various loss mitigation measures. Insurance instruments and schemes can serve as valuable tools for addressing losses and reducing overall costs associated with L&D, thus lessening the need for extensive financing.

COP 28 is expected to define key attributes for the funding arrangements and the fund, and their coordination under the UNFCCC. While specific modalities are still under debate, there is a growing consensus that these mechanisms should address both rapid and slow onset events. Part of the disbursements will follow a programmatic approach, ensuring adaptability and room for additional functions and instruments over time. These elements are intended to work harmoniously, with the funding arrangements and the fund on addressing priority gaps. Principles such as country ownership and the development of in-country processes are emerging as guiding principles. Importantly, any solutions for L&D should not exacerbate the public debt situation of vulnerable countries.

In addressing climate L&D at COP 28, decision-makers should consider several key actions:

- **Anchor Risk Transfer:** Promote risk sharing and transfer through insurance-linked solutions as a vital component of the strategy to finance L&D. These solutions uniquely address climate L&D while fostering risk understanding and preventive action.
- **Incubate Innovation:** Encourage innovation through calls for developing insurance products that address climate L&D. Foster partnerships with the private insurance sector and provide financing mechanisms for product development. Clearly defined objectives should guide these efforts, focusing on vulnerable populations' needs, affordability, and addressing specific challenges.
- **Innovate Pre-Arranged Financing:** Support investments in technical work, forecasting, impact modeling, and strengthen money-in and money-out processes to enhance pre-arranged finance and anticipatory action. Develop both public and private risk markets while promoting financial inclusion.
- **Dialogue with IFIs:** Engage in dialogue with International Financial Institutions (IFIs) to create debt-related climate insurance instruments. These IFIs, including the World Bank, play a significant role in post-disaster recovery but often rely on debt-related mechanisms. Explore insurance approaches to mitigate climate-related economic risks and offer expanded premium payments.
- **Strengthen In-Country Mechanisms:** Implement a programmatic approach at the country level to address rapid and slow onset events. This should include loss reduction strategies, public contingency planning, and transformative policies. Recognize and expand initiatives like the Global Shield and involve stakeholders in risk assessments and audits to structure risk financing options.
- **Enhance Regional Risk Pools:** Support regional risk pools by boosting risk capital and providing premium support and discounts. Encourage expansion of membership, development of new products, and non-sovereign offerings, benefiting sub-national climate risk insurance and non-sovereign actors.

- **Consider Global Pooling:** Explore options for global pooling of catastrophic climate risks, establishing a mechanism for rapid disbursement during acute disaster situations. Prioritize support based on countries' specific needs while promoting alternative risk finance and risk management.
- **Develop Mutualized Climate Risk Capacity:** Address the protection gap in vulnerable countries by creating a mutual captive insurance company, offering risk capacity for new insurance products in L&D contexts.
- **Create Transparency Systems:** Establish transparency systems to monitor and compare progress across different L&D instruments, fostering a culture of evidence and learning. Adapt existing coding frameworks and impact measurement tools to reflect actions addressing L&D, including insurance

In conclusions COP 28 represents a significant opportunity to emphasize the role of insurance and risk transfer in responding to L&D in vulnerable communities. It can establish this concept as an integral part of international cooperation for the funding arrangements and the fund. While not all details need to be finalized during COP 28, it can set the groundwork for further developments in this policy area in the coming years and thereby create momentum at national levels and among stakeholders.

Introduction

Insurance approaches are crucial in adapting to climate change and minimizing, averting and addressing L&D associated with its impacts. On national, regional and international levels, insurance is increasingly considered a policy choice designed to provide financial protection and support to those affected by climate-related events and disasters. This part of the paper will assess the potential of insurance in enhancing sources of finance and providing solutions for activities to avert, minimize and address L&D. Insurance should not be confused with being a source of finance for replenishing the L&D fund, as insurance companies generate revenue through charging premiums or reinvesting these premiums in other interest generating assets. However, insurance could be utilized by the L&D fund to manage financial resilience. Further, insurance as a tool for the new funding arrangements in responding to L&D should not be underestimated and could be further enhanced to play a more vital role in minimizing, averting and addressing L&D. This section will highlight the general development in promoting insurance as a policy option and specifically to address L&D. It will further dive into some innovations and frontiers relevant for the L&D discourse. Lastly, it provides some conclusions for decision-makers to advance the topic at COP 28 and beyond.



Current landscape of insurance for climate resilience – including as a source of funding

Risk transfer fundamentals

Insurance is a risk management tool that protects against uncertain events of losses. Risk transfer serves as a means to shift the financial burden of potential risks from an individual or entity to a third party – usually an insurance company. The risk transfer process relies on principles such as risk reflective pricing, risk pooling, and risk diversification. Risk pricing describes the ability to assess the individual risk level and differentiate the insurance costs accordingly. Risk pooling characterizes the aggregation of insureds in order to reduce the load of individual events. Risk pooling is often open to a cross-subsidization from members with higher risks and who are statistically more likely to receive a payout to those with lower risks. Lastly, risk diversification describes the practice by the insurance industry to spread loss exposures among different classes of (uncorrelated) risks, thereby optimizing the capital required to underwrite risks.^[323]

The risk transfer ecosystem consists of various actors and levels: *Policy-holders* representing an insurable interest are individuals, businesses, organizations, and in some instances governments seeking to protect themselves financially from specific risks. *Insurers* are the core entities providing insurance through underwriting, premium collection, and handling loss-adjustments. *Reinsurers*

323. Jarzabkowski, P.; Chalkias, K.; Clarke, D.; Iyehen, E.; Stadtmueller, D.; Zwick, A. (2019). Insurance for climate adaptation. Opportunities and limitations. Global Commission on Adaptation. Rotterdam. Available at <https://eprints.bbk.ac.uk/id/eprint/28797/1/insurance-for-climate-adaptation-opportunities-limitations.pdf>.

provide insurance to insurance companies, thereby diversifying risks globally and protecting insurer's financial stability. Capital market providers might also play this role and accept insured risk for a profit. *Brokers* are key market intermediaries and foster competition between insurers and between reinsurers. *Model Service Providers* provide key catastrophe models that calculate risk levels and pricings based on assumptions of hazard, exposure and vulnerability. Other *Insurtech* and specialized providers might support enhancing various aspects of the insurance process, including policy underwriting, claims processing, and customer experience. Lastly, *government agencies* oversee and regulate the insurance industry to ensure compliance with laws, protect consumers, and maintain the financial stability of insurance providers. This complex and dynamic network has a vital role in mitigating financial losses and provide greater resilience.

The risk transfer process takes place on various levels. First, micro-level insurance describes direct insurance of individuals, with insurance providers often directly interacting with possible policyholders. Second, meso-level insurance refers to insurance offers to an aggregation of individuals. This group might be an organization like a farming collective buying insurance, with possible payouts benefiting individuals indirectly. Third, macro-insurance refers to insurance to sovereign entities. Governments can use insurance payments to maintain public services or cover public disaster spending contingencies, including providing relief to vulnerable populations.

Insurance contracts can be indemnity based, with payouts acting as a compensation for actual losses suffered. Parametric insurance contracts rely on predefined triggers or indexes to determine the amount of the payout. Parametric insurance comes with the benefit of fast and transparent payouts, but basis risk might result in a discrepancy between the actual loss suffered and the parametric payout.^[324]

As an example, for the country of Kenya, one study indicates that a disaster risk insurance contract would raise social welfare compared to a fixed budget for supporting vulnerable households. Moreover, according to that study, insurance would also reduce the negative impacts of budget volatility on growth.^[325]

Another study examined how climate risk information generated through insurance activities, including parametric sovereign risk pools in Africa (ARC), can support climate adaptation. The authors investigate the potential of the insurance industry to promote the use of such information. According to the report, there is potential for collaborative efforts to enhance the utilization of climate risk information in insurance-related activities.^[326] Insurance as risk transfer is one option to manage

324. UNU-EHS, UNCDF, MCII (2023). Climate and Disaster Risk Financing and Insurance: 25 key terms you need to know. Available at <https://www.uncdf.org/article/8345/climate-and-disaster-risk-financing-and-insurance-25-key-terms-you-need-to-know>

325. Carter, M.; Sugastti, M.M.; Fava, F. & Jensen, N. (2021). Evaluating the case for national disaster risk insurance. MRR Innovation Lab Evidence Insight No. 2021-02.

326. See: Surminski, S.; Barnes, J.; Vincent, K. (2022). Can insurance catalyse government planning on climate? Emergent evidence from Sub-Saharan Africa. *World Development*, 153.

financial resilience. It needs to dovetail to other risk financing options, including savings and self-insurance. For this, financial literacy is a significant factor.

The role of insurance in averting, minimizing and addressing L&D

Several functions make insurance an attractive policy choice to avert, minimize and address L&D.^[327] Firstly, insurance leads to a better assessment of L&D. Assessing L&D is central to developing insurance approaches. Such risk assessments, if anchored in publicly collected and open-source data, along with risk assessments and open-source hazard modelling, can make significant contributions to national and regional risk management and investment decisions. As such, it could contribute to averting and minimizing L&D from climate related events. Moreover, insurance risk assessment can support data analysis, including establishing data standards, comparability, methods, and data repositories.

Secondly, insurance can reward loss reduction. While insurance is not necessarily reducing the risk, it can be a central approach to incentive loss reduction and resilience building. Risk-reflective pricing can send signals to households, enterprises, and governments to reduce the risks. It can also make insurance coverage contingent on loss-reducing measures. Thus, it could be used to encourage positive action to reduce and minimize L&D. Many loss-reducing measures are cost-effective, especially for low-impact events, but not for extreme disasters. Thus, a risk layering approach, including risk finance and insurance for tail-risk disasters, makes management of L&D more effective overall.

Thirdly, insurance provides finance in addressing L&D situations. The main function of insurance is to provide a payout in the case of an insured event. This can provide much-needed financial liquidity to cover post-disaster needs and support reconstruction efforts. Timely payouts allow households to cope with a disaster situation without selling productive assets. Additionally, they help governments avoid fiscal deficits and costly post-disaster loans. Due to its timeliness and reliability, insurance offers a significant advantage over other post-disaster financing options, such as aid, loans, and family assistance. Unlike ad hoc disaster assistance, insured clients are legally entitled to receive post-disaster compensation. Index-based contracts, which require no loss inspections for claim settlements, have the potential to provide immediate payouts following the occurrence of the triggering event.

Fourthly, insurance might reduce volatility and enhance certainty for decision-makers. L&D events have the potential to undo development gains, and volatility and disruption caused by climatic events challenge needed investments for socio-economic development. Insurance can create "a space of certainty", enabling more productive investments.

327. Warner, K.; Kreft, S.; Zissener, M.; Höppe, P.; Bals, C.; Loster, T. et al. (2012): Insurance solutions in the context of climate change-related L&D. In 97839399. Available at <http://collections.unu.edu/view/unu:1835>

Currently, the protection gap for nat-cat disasters stands at a staggering 210bn USD per year. Protection gap is defined as the difference between total economic losses from nat-cats and the insured part of these losses. While the world as a whole made progress in closing this share, there are large disparities between the global regions, with African countries, LDCs and island states suffering from underinsurance the most. In some countries there is a trend of widening protection gaps. In financial terms the last decade was the costliest both on a nominal and an inflation-adjusted basis. Basic drivers include an increased number of disasters in part due to climate change, but also growing exposures due to economic development and population growth.^[328]

Insured share of natcat losses by region – 1991-2020 (% per decade)

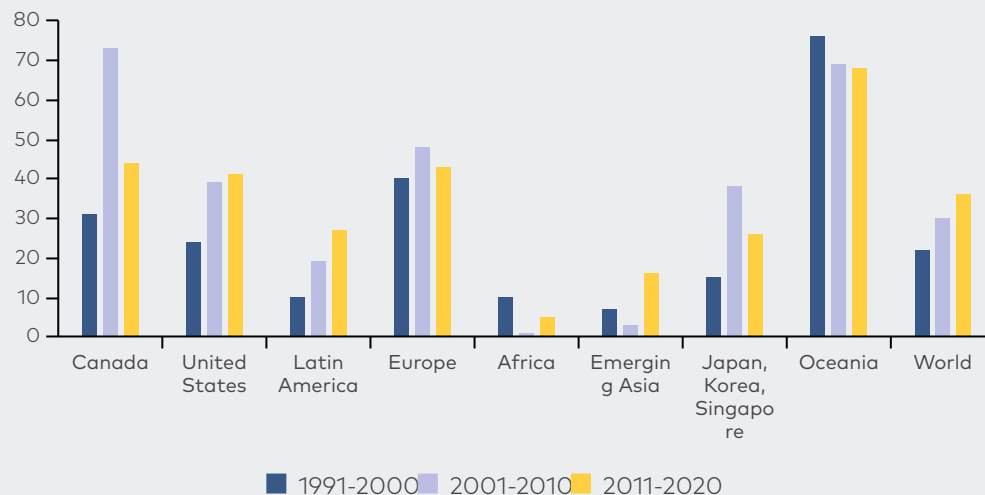


Figure 1: Insured share of natcat losses varied significantly by region (GFIA 2023, p.75)

328.Global Federation of Insurance Associations (2023): Global protection gaps and recommendations for bridging them. Available at <https://gfiainsurance.org/topics/487#>

Promoting insurance as a public policy intervention

Insurance as an instrument requires the right legal and regulatory environment. Failure to provide insurance often triggers government interventions. Generally, these interventions follow the collapse of existing insurance markets – and less to establish insurance offerings when markets do not exist. Nevertheless, the general principles are the same.

Governments might see themselves intervening in insurance markets when the insurance supply contracts after large-scale disasters. This can involve mandating public sector schemes, with risk cover guaranteed by government's budget sheets. Or public-private partnerships, in which certain tranches of risk transfer are offered by private insurers and others underpinned by public capital reserves. These public policy choices are often context-specific, based on market conditions and the wider risk governance of a country. Also, supply-side failure to offer insurance at a price for consumers to accept might hint that particular risks are becoming unsustainable and require new approaches for adaptation. In addition, policy choices must be carefully designed to involve the full risk capacities of insurance markets, yet avoid private actors only trading the 'good' risk while avoiding long-term societal transitions in risk governance and management.

Similarly, governments might strengthen the demand side to promote insurance. Interventions include the regulatory enforcement of cross-subsidization between different classes of policyholders. Also, direct premium subsidies are provided to bolster insurance demand. While the issue of underinsurance might require targeted public support, this runs counter to principles of truly risk-reflective insurance pricings. Thus, they come with potential moral hazards and need to be accompanied by risk management measures to reduce the overall load of disasters.

Lastly, governments themselves can decide to share their risk with insurers and capital market actors directly. Relevant exposures include, for example, public assets and infrastructures. This is especially true if there is a critical timing for reconstruction, and if relevant sub-national institutions do not have access to plannable post-disaster finance. Another relevant category are general post-disaster contingencies, i.e. financial liquidity that is required in a disaster situation by public sector entities to reduce the human and social costs of disasters. Another significant category is sovereign risk transfer.^[329]

The advent of regional and global risk pools

Regional risk pools offering sovereign insurance have gained significance as a crucial mechanism for countries to handle and mitigate losses following the occurrence of disasters effectively. Currently, they are most consolidated in the

329. Jarzabkowski et al. (2019). Insurance for climate adaptation: Opportunities and limitations, op. cit.

Caribbean (CCRIF-SPC - Caribbean Catastrophic Risk Insurance Facility-Segregated Portfolio Company), Africa (ARC Africa Risk Capacity), and in the Pacific (PCRIC Pacific Catastrophe Risk Insurance Company). In Southeast Asia, several countries have signed Memorandums of Understanding to interact with a specialized regional risk insurance company. Such companies represent mutual companies that form a risk pool owned by their member. They offer different parametric insurance coverages, mostly for short-term liquidity after disaster strikes. By pooling risks and placing them as a single portfolio to the international reinsurance and capital markets countries benefit from cheaper risk transfer than if single-country transactions would occur.

Generally, risk pools can provide fast, reliable funding as a quick response measure to disasters, allowing countries quick and effect responses. They can also help countries manage financial risks by transforming disaster-related financial risks into predictable insurance premiums. Furthermore, by pooling and sharing risks, countries would usually be able to secure better conditions as they would receive as single entities.

Regional risk pools also offer various co-benefits, including advisory services to governments on data repositories, risk profiles and risk models helping governments better understand their risk. Also, several regional risk pools have extended their offerings and access to the international reinsurance and capital markets to benefit their member states. This includes providing risk capacities to national-level micro-insurance solutions. Increasingly, regional risk pools also dovetail with e.g., national social protection systems or are part of innovations in the strive to provide anticipatory finance to humanitarian assistance.^[330]

Ciullo et al. (2023) suggest that internationally pooled risks – in contrast to regional risk constructions – had several benefits, as those would increase risk diversification, improve the distribution of countries' risk share within the pool, and thus increase the number of countries benefiting from risk sharing.^[331] As such, if the L&D fund is to utilize global risk pooling as a tool, this could increase risk diversification compared to regional risk pools and enhance the potential of quick payouts in the aftermath of climate-induced disasters.

330.Martinez-Diaz, L.; Sidner, L.; McClamrock, J. (2019). The Future of disaster risk pooling. Google Scholar. World Resources Institute. Washington. Available at https://scholar.google.com/scholar?cluster=10292514299593698604&hl=en&as_sdt=0,5

331. Ciullo, A., Strobl, E., Meiler, S., Martius, O., Bresch, D. (2023). Increasing countries' financial resilience through global catastrophe risk pooling. Nature Communications 14.



International agenda on climate and disaster finance, including insurance

The Paris Agreement highlights the importance of averting, minimizing and addressing loss and damage associated with both rapid and slow onset processes. One area highlighted for cooperation on action and support is risk transfer: risk insurance facilities, climate risk pooling and other insurance solutions. This is also reflected in several activities under the Warsaw International Mechanism. For instance, the 'Fiji clearinghouse' for risk transfer was mandated and operationalized as part of the climate summit 2015 and 2016.^[332] The Santiago Network aims to catalyze the technical assistance of relevant organizations. The network will undergo full operationalization at COP 28 in December 2023 and is foreseen also to channel technical assistance request on climate risk insurance. The financial entities of the convention – namely the Green Climate Fund and the Special Climate Change Fund of the Global Environmental Facilities have several projects that address the topic as well.

Outside of the convention process, several political initiatives aimed to advance the agenda on climate and disaster finance, including insurance. In 2015, the G-7 committed to enhancing access to insurance by up to 400 million people by 2020. Several financing vehicles were created available to developing countries and relevant stakeholders including the Worldbank Global Risk Financing Facility or the Asia-Pacific Climate Change Fund under the Asian Development Bank. These multi-donor trust funds received specific mandates for promoting insurance and disaster finance instruments. In 2017, the InsuResilience Global Partnership (IGP) was founded. It aims to galvanize stakeholder action on disaster finance and insurance and includes a high-level political decision mechanism. At the UN Secretary

332. Currently inoperable.

General's Climate Action Summit in 2019, a comprehensive 'Vision 2025'^[333] was launched in tandem with new partnerships and donor commitments, including between the UNDP and the Insurance Development Forum. Several off-spin debates and processes again made it to global policymaking. For instance, the G7 outcomes in 2021 and 2022 highlighted the principles for insurance premium and capital support developed by IGP.

To increase the ambition level and learn from the experiences of the IGP and associated funding institutions, the Vulnerable Twenty (V20) Group and the Group of Seven (G7) initiated the *Global Shield against Climate Risks* during COP27, which aims to enhance protection for vulnerable communities and nations and effectively contribute to addressing L&D intensified by climate change. The Global Shield builds on an in-country process assisted through assessments of protection gaps that inform the programming of dedicated financing structures. These consist of the Global Shield Financing Facility by the Worldbank (the former Global Risk Financing Facility), the Global Shield Solution Platform and the Climate Vulnerable Forum (CVF) & V20 Joint Multi-Donor Fund.

'Insurance' has already been anchored in the UNFCCC convention text in 1992 alongside finance and technology transfer^[334] as a special consideration for the commitments of countries. So far, however, a systematic agenda has yet to be developed under the UNFCCC as a response to this consideration. With the year 2023 putting the new funding arrangements responding to L&D, including a fund with focus on addressing loss damage, at the center of international attention, there is also the chance for the UNFCCC to rethink its role in the evolving agenda on insurance and climate and disaster finance at large.

Addressing L&D – new frontiers for insurance solutions?

The following section includes some markers for elements that represent new frontiers for insurance solutions in the context of addressing L&D, especially looking at the fringes of the discourse. Insurance, for example, is usually not considered a suitable source of funding for slow onset type of climate risks like sea-level or desertification as these are chronic in nature, and principles of risk diversification cannot be applied. Similarly, non-economic L&D situations have been described as a category of risk for which insurance is less-suited.^[335] Yet, there might be new cases for application also in transferring risks from slow-onset events, contribute to

333. InsuResilience Global Partnership Vision 2025 (2021). Available at https://www.insuresilience.org/wp-content/uploads/2022/10/vision2025_211022.pdf

334. "In the implementation of the commitments in this [4] Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties..."

335. Robinson, S.-A.; Khan, M.; Roberts, J. T.; Weikmans, R.; Ciplet, D. (2021). Financing L&D from slow onset events in developing countries. *Current Opinion in Environmental Sustainability* 50, pp. 138–148. DOI: 10.1016/j.cosust.2021.03.014

solutions that address slow-onset L&D or situations of non-economic losses. Also, acute loss events interact with chronic climatic stressors.

New insurance solutions in the context of addressing L&D

One area of innovation is anticipatory insurance. The innovation uses better forecasting and providing early payouts to enable swift preventive action. This way, anticipatory insurance could, for example, pay out for alternative seeds if models indicate crop failure at the beginning of the agricultural season.^[336] Potential advantages are a reduced need to transfer risks and an overall increased level of preparedness. However, it puts more onus on the state of impact modelling and the contingency plan, as timelines are extremely short to realize the early action benefit. An early forecast-based insurance pilot was the Extreme El Niño Insurance Product offered in Northern Peru in 2013. The product, offered as a form of contingent insurance for business interruption, provided payments before catastrophic flooding in Northern Peru was in full force.^[337]

Climate-vulnerable countries might not be able to collect government revenues in the face of disaster. At the same time, they need to increase their spending to manage the disaster aftermath and compensate for a reduction in private spending. Hence, they find themselves in the situation of borrowing money. For vulnerable countries, the cost of capital is already increased in part due to existing disaster and climate impact burdens and respective risks for debt default.^[338]

To tackle this, Bharadwaj et al. (2023) show how parametric insurance could provide cover for debt servicing. Based on pre-agreed triggers, the insurance payout would cover the loan repayment. The level and duration of debt servicing would need individual assessment. Also, the product could be bundled with existing sovereign disaster liquidity coverage to increase the capacities of governments in a post-disaster situation. Already today, there are examples of parametric insurance enabling successful debt conversions and debt swaps.^[339] Belize, for instance, was able to buy back sovereign debt from private investors and through a 'blue' bond finance 180mio for conservation activities. A parametric insurance cover wraps the transaction to protect the repayment against hurricane risks. Next to channeling sizeable funding to marine conservation efforts, the sovereign credit rating of the Government of Belize increased by three levels.^[340]

336. UN OCHA and ARC are collaborating on piloting the concept of anticipatory insurance in Malawi and Zambia, see Maslo, D. (2022). How anticipatory insurance can help Africa better prepare and respond to natural disasters. World Economic Forum. Available at <https://www.weforum.org/agenda/2022/11/africaanticipatory-insurance-africa-natural-disasters-response/>

337. GlobalAgRisk Inc. (1/29/2013). First-Ever "Forecast" Insurance Offered for Extreme El Niño in Peru. Lexington, Kentucky. Jerry Skees. Available at http://globalagrisk.com/Pubs/2013%20Press%20Release_First_Ever%20_Forecast%20Insurance%20Peru.pdf

338. Beirne, J.; Renzhi, N.; Volz, U. (2021). Feeling the heat. Climate risks and the cost of sovereign borrowing. International Review of Economics & Finance 76, pp. 920–936. DOI: 10.1016/j.iref.2021.06.019.

339. For a more in-depth discussion on debt swaps, please see Chapter 3.

340. The Nature Conservancy (2023). Case Study - Belize blue bonds for ocean conservation. The Nature Conservancy.

A third innovative class of insurance innovation is products covering natural capital and ecosystems, which in part addresses both slow onset processes and non-economic L&D. A concrete solution again in Belize is currently rolled out with the Mesoamerican Reef Insurance product. Based on third-party validated index data – the product funds early response activities for faster recovery of damaged coral reefs in the aftermath of hurricanes. While current trigger events are linked to hurricane intensity, they can also be related to chronic stressors, including the level of health/bleaching level coral reefs.

Another possible application for insurance in the context of addressing slow-onset impacts is to provide financial coverage for emerging risks that result from transformations to new forms of livelihoods or business models. While insurance cannot insure the success of a business idea, it can cover against e.g., excess liabilities in case of prototype applications. A related solution was conceptualized by Worldbanks 'drought adaptation insurance' linking the promotion of new drought-tolerant seeds to an insurance product, which covers either the farmers, or the agricultural loan providers against newly emerging risks from changing farming practices.

These are just a few examples of how insurance might contribute innovatively to emerging challenges in addressing L&D.

Extending short-term insurance products

Most insurance agreements primarily offer coverage for existing risks, rather than future or anticipated risks. Typically, insurance contracts are renewed or terminated on a yearly basis (Surminski et al. 2016). The challenge, however, is how insurance solutions can be directly linked to long-term resilience strategies.

Parametric insurance payouts are mostly used for short-term liquidity. In an effort to increase the long-term resilience of its risk pool members, the African Risk Capacity (ARC) is developing an 'eXtreme Climate Facility' (XTF). The XTF aims at insuring not a singular event such as the traditional ARC cover but rather an increase in the frequency of extreme events based on a parametric multi-hazard trigger. The payouts are received by a group of countries in the affected regional cluster and should be used for measures to adapt to the detected change in climate. Further services of the XTF shall include e.g., access to risk analytics and technical assistance for the development of an investment plan for climate change adaptation.^[341]

341. African Risk Capacity (2021). eXtreme Climate Facility (XCF) Summary. Index Design and Risk Modelling. Policy Brief. South Africa. Available at <https://www.arc.int/sites/default/files/2021-09/XCF-Policy-Brief-Summary.pdf>. Further: Adesiyun, T., (2020). Policy Framework - Extreme Climate Facility v.0.4. African Risk Capacity. Available at: <https://www.arc.int/extreme-climate-facility>

Innovation also takes place regarding the yearly nature of insurance contracts. Climate Insurance Linked Resilient Infrastructure Financing (CILRIF) is a long-term "known price" insurance solution that incentivizes municipalities to invest in resilient infrastructure. Under the CILRIF pilot by the United Nations Capital Development Fund (UNCDF), municipalities will be offered long-term (10+ years) insurance with both parametric (for post-disaster liquidity) and indemnity-based (for post-disaster reconstruction) components for a fixed price. When taking out insurance, the municipality becomes eligible for the CILRIF infrastructure investment facility which targets private and public investors, providing both non-concessional and concessional investment and grants. When municipal resilience is built through sustainable urban infrastructure investments, the insurance premium will be reduced according to a tiered scheme, which reduces total strain on cities' budgetary resources.^[342]

A life insurance model for slow-onset events?

The outcomes of some slow-onset processes like sea-level rise are dependent on fundamental physical and atmospheric processes and thus manifest with a degree of certainty. This certainty makes it difficult to insure the slow onset 'event' as it lacks randomness and, with that, a determinant of insurability. Nevertheless, insurance might play a useful role in facilitating long-term transition processes in response to slow-onset events, including current models in life insurance. Rather than insuring the event itself, the insurance would focus on the timing risks. This would be like term life insurance^[343], where a pay-out is done on the premature occurrence of an event manifesting itself with certainty (i.e., death). Likewise, the insurance coverage terms for slow-onset events could e.g., provide a payout once a threshold is surpassed that is deemed adaptable within a certain timeframe. This way, it would release emergency funding to facilitate additional activities that aid existing long-term adaptation and transition strategies necessary to counter slow onset processes. Such insurance products could also be developed as a parametric cover, e.g., triggering when a pre-agreed amount of sea level risk is exceeded within a specified timeframe (corresponding to likely soft and hard limits of adaptation).^[344]

342. The Global Innovation Lab for Climate Finance (2022): Climate Insurance-Linked Resilient Infrastructure Financing (CILRIF) | The Global Innovation Lab for Climate Finance. Available at

<https://www.climatefinancelab.org/ideas/climate-insurance-linked-resilient-infrastructure-financing-cilrif/>

343. The term life insurance describes the most simple form of life insurance; it provides a stated death benefit that pays the beneficiaries of the policyholder during a specified period of time.

344. Conway, S.; Young, S. (2023): Slow-onset climate hazards pose unique risks (Insurance Day). Available at <https://insuranceday.maritimeintelligence.informa.com/ID1144301/Slow-onset-climate-hazards-pose-unique-risks>



For slow-onset events, several financing modalities have been proposed. One is the establishment of sovereign wealth funds, where "governments 'save' current budgetary surpluses to cover future identified needs, which could include addressing environmental impacts"^[345] Similar to life insurance, an insurance coverage for slow onset events could include a cash value component^[346] and thereby start accruing interests on savings for future contingencies.

Addressing unaffordable insurance

Affordability stands out as a primary challenge in advancing coverage. The lack of financial resources to cover insurance premiums hinders individuals and communities from accessing crucial coverage. As a result, despite recognizing the importance of insurance, many climate-vulnerable populations struggle to afford the premiums, underscoring the need for innovative solutions and support mechanisms.

The barriers to insurance uptake in countries eligible for risk pool participation have been studied, revealing a significant obstacle – the lack of capital to cover insurance premiums. The notion of 'affordability' in this context isn't a strictly measurable concept; instead, it reflects the financial constraints and complex political priorities facing many climate-vulnerable economies, as pointed out by some authors.^[347]

345. Siegle, L. (2012). The theme of slow onset impact. The L&D in Vulnerable Country Initiative. Available at <https://germanwatch.org/sites/default/files/publication/6674.pdf>

346. Cash-value is a feature offered within permanent life insurance policies, it represents an investment-like savings account.

347. Scott, Z.; Panwar, V.; Weingärtner, L.; Wilkinson, E. (2022). The political economy of premium subsidies: searching for better impact and design. Insights for Sovereign Climate and Disaster Risk Finance and Insurance. Available at https://www.insuresilience.org/wp-content/uploads/2022/12/PEA_PremiumSubsidies_TP2-2022-12-22-14_06_52.pdf

External support has played a substantial role in increasing demand for insurance, boosting insurance uptake rates, and enhancing membership in risk pools. However, it is important to acknowledge the potential downsides of premium subsidies, including the emergence of moral hazard – where subsidized policies could encourage riskier behaviors – and behavioral shifts that might lead to less cautious practices. Additionally, there is a risk that these subsidies might create a dependency on external financial support for the insurance scheme, as highlighted by Vivideconomics in 2017.^[348]

The “moral hazard” is a subject in insurance, as insured parties may be less motivated to reduce risk as an insurance will cover their losses. Governments benefiting from insurance may neglect attention and subsequent action of disaster preparedness measures. A reduction of “moral hazard” could be an advantage of parametric and index insurance compared to traditional indemnity-based insurance, as payout is based on an index rather than single policyholders.^[349]

Concessional donor support can target micro, meso, and macro schemes. It can either be direct and on the demand side by financing a portion of the insurance premium through premium subsidies. On the supply side, donors can indirectly subsidize the insurance product by providing the capital necessary for product development, marketing and distribution or capitalizing risk carriers.^[350]

Both types of subsidies have been used in the past, but not always based on purely impact-based considerations. Donors are often limited by the kind of finance available through government decisions (loan vs. grant finance) and often prefer to provide indirect finance to insurance vehicles to increase their capital base. While at micro- and meso levels this approach is often well justified, stakeholders in risk pool-eligible countries expect direct donor support to grow and unanimously support more premium subsidies. Evidence also points to the benefit of prioritizing premium over capital support at the current moment.^[351]

While initially hesitant, donors are becoming more open to the idea of (longer-term) premium subsidies. In order to be just and efficient, allocation criteria become ever more important. The InsuResilience Global Partnership has developed a set of SMART Principles for Premium and Capital support. However, further research is needed to optimally allocate the support across countries, instruments, and means of support.^[352] Criteria that are important to donors include the proportion of vulnerable people in the population and the climate and disaster risk

348. Vivideconomics (2017): Final report. Understanding the role of publicly funded premium subsidies in disaster risk insurance in developing countries.

349. Vivideconomics (2016). Final report. Understanding the role of publicly funded premium subsidies in disaster risk insurance in developing countries. Evidence on Demand.

350. Panda, A.; Ahmed, S. J.; Seifert, V.; Kreft, S. (2021). Background Note. Further Taxonomic Considerations of Premium and Capital Support and Allocation Aspects. MCII. Available at <https://climate-insurance.org/wp-content/uploads/2020/04/SMART-principles-for-premium-support-26July-Pre-Publication-final.pdf>

351. Scott et al. (2022). The political economy of premium subsidies, op. cit.

352. Töpper, J.; Stadtmüller, D. (2022). Smart Premium and Capital Support: Enhancing Climate and Disaster Risk Finance Effectiveness Through Greater Affordability and Sustainability. Available at https://www.insuresilience.org/wp-content/uploads/2022/10/SMART-Premium-and-Capital-Support_Policy-Note-1.pdf

profile of a country, but the decision-making is opaque and often driven by political considerations.^[353]

In addition to systematic premium support, there might also be the necessity for premium relief reacting to short-term factors negating the ability to purchase appropriate insurance coverage. This could include pre-financing insurance premiums.

The concept of insurance frequently intersects with notions of “climate justice”, as it involves climate-vulnerable nations and communities having to bear the cost of insurance premiums for events they are not fully responsible for. This notion, as highlighted by the Centre for International Governance Innovation in 2016, frames premium support as a potential avenue for addressing the financial consequences of such events, akin to a form of financing for L&D.

While there is a developing discourse on the need for premium support, there are several issues to be solved. This includes, among others, transparent allocation criteria and long-term, predictable provisions. The discussions –including institutional set-up – is the most advanced for sovereign-level insurance. For instance, the African Disaster Risk Financing Programme (ADRFi) by the African Development Bank provides premium support in the context of ARC insurance offerings and has been a determining factor to upscale sovereign coverage, though its capitalization is insufficient vis-à-vis the overall need.^[354] For subnational meso and micro scheme premium support, further work is necessary.

The benefits of subsidizing insurance premiums must be compared to other solutions such as direct cash transfers. Insurance is a powerful tool to promote economic growth and reduce inequality.

Compared to cash-transfers, insurance gives greater long-term incentive for investing for poor and vulnerable households.^[355] On the other hand, the simplicity and efficiency of cash-transfers make them easier to distribute to poorer households. For example, during Covid-19, Togo designed a cash-transfer based on the vote register which could be accessed through any type of phone, and that was focused on transferring cash to women (and their families) with occupations that were hit hardest by the pandemic. The system took ten days to set up and was transparent and effective in distributing money to the households that needed it the most.^[356] Another example is the cash-transfer system that was set up in Bangladesh to pre-emptively provide cash for the most vulnerable communities

353.Scott et al. (2022): The political economy of premium subsidies, op. cit.

354.African Development Bank rolls out programme to boost climate risk financing and insurance for African countries, (2018). Available at <https://www.afdb.org/en/news-and-events/african-development-bank-rolls-out-programme-to-boost-climate-risk-financing-and-insurance-for-african-countries-18618>

355.Janzen et al. (2018). 'Can Insurance Markets Alter Poverty Dynamics and Reduce the Cost of Social Protection in Risk-Prone Regions of Developing Countries?' (25 January 2018). Available at: https://arefiles.ucdavis.edu/uploads/filer_public/93/65/936524ce-1430-455e-b7b1-e63b2d38a8ee/valuing_asset_insurance_format_test.pdf

356.The Innovation Dividend Podcast (2020). 'A Covid cash-transfer programme that gives more money to women' (16 June 2020). Available at: <https://undp-ric.medium.com/cina-lawson-a-covid-cash-transfer-programme-that-gives-more-money-to-women-in-togo-2386c5dff49>

prior to peak flooding.^[357] The timing of the anticipatory action was determined by pre-defined triggers indicating an extreme flood event and cash was distributed via phones days prior to the flood took place. If there is a lack of early-warning systems, a cash-transfer message could give valuable information that would otherwise not been given.^[358]

For activities that avert and minimize L&D, a feasible approach might be (small) payouts that enable asset protection, and to promote adaptation and investment in resilience, with particular focus on the poorest and most vulnerable communities.^[359] This could be undertaken in parallel with livestock insurance and other types of household insurance for those individuals and communities that can benefit more from insurance. Further, in addressing L&D, the establishment of cash-transfer schemes could be set up for the most vulnerable and poorest communities prior to the climate-related events, and payments could be distributed quickly to those groups that are uninsured.

Finally, there is likely a very limited economic basis for non-concessional weather-related insurance arrangement in some countries, such as the Sub-Sahara African countries, without any governmental support, as insurance premiums would be too high to be financially manageable for low-income countries. Affordability remains a central barrier for index-based insurance. With climate change progressing, disastrous weather events will be hard to insure against, which will likely increase needs for concessional financing.^[360]

357.Pople, A.; Hill, R. V.; Dercon, S.; Brunckhorst, B. (2021). Anticipatory Cash Transfers in Climate Disaster Response, p. 7. Working paper 6, Centre for Disaster Protection, London. Available at: <https://static1.squarespace.com/static/61542ee0a87a394f7bc17b3a/t/61b9bec86ba2e76d344f8b63/1639562959520/FINAL%2BAnticipatory+Cash+Transfers+in+Climate+Disaster+Response%2B%28for%2BWP%29%2BF3.pdf>

358.Pople, A.; Hill, R. V.; Dercon, S.; Brunckhorst, B. (2021). Anticipatory Cash Transfers in Climate Disaster Response, p. 8. Working paper 6, Centre for Disaster Protection, London. Available at: <https://static1.squarespace.com/static/61542ee0a87a394f7bc17b3a/t/61b9bec86ba2e76d344f8b63/1639562959520/FINAL%2BAnticipatory+Cash+Transfers+in+Climate+Disaster+Response%2B%28for%2BWP%29%2BF3.pdf>

359.For further information and reference, please see the African Risk Capacity (ARC): <https://www.arc.int/>

360.For further information: <https://www.arc.int/>

ARC'S REPLICA COVERAGE OPERATES UNDER THREE PRINCIPLES:

1. **A Plan to Build Government Capacities Over Time:** Through insurance and its in-country capacity building programme, ARC Agency provides expertise to and incentives for governments to invest in their emergency planning and response capacities.
2. **Government Ownership of Planning and Response:** In order to be eligible to take out an insurance contract, all participating governments must seek approval for their operations plans from ARC's Peer Review Mechanism (PRM).
3. **Alignment with Global Policy:** In order to ensure harmonisation with post-2015 global policy (in climate change, humanitarian financing, and disaster risk reduction), the ARC Agency Governing Board will form a high level consultative group with the heads of relevant UN and other humanitarian agencies participating in the replica coverage programme.

www.arc.int/arc-replica

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Enhanced resilience and adaptation of countries to the negative impacts of climate change, as well as disaster risk insurance cover, will reduce the vulnerability of the poor to climate change and act as a safeguard against loss of livelihoods in communities, especially for smallholder farmers. [...] ADRiFi will promote disaster response mechanisms such as sovereign parametric index-based insurance, for which payouts will be disbursed automatically and in timely manner when a pre-defined risk threshold is exceeded.

Conclusion

This chapter showed that several options exist to further the agenda on insurance addressing L&D. With that, it becomes clear that insurance is indeed 'one colour in the rainbow' of solutions that will be required to address L&D. Insurance as a tool for the new funding arrangements and the fund for L&D should not be underestimated.

Further, although insurance is a tool that has historically not been part of the solutions of the Climate Funds under the UNFCCC, this does not need to continue. As such, the role of the L&D fund in coordinating, catalysing and dissemination information on insurance could be highlighted by Parties in the negotiations at COP28. Furthermore, innovative solutions for how the funding arrangements and the fund operates could be encouraged, including how the L&D fund can take part in creating insurance tools. This could also be highlighted by Parties to influence the decision to be taken at COP28.

In advancing the insurance agenda in the context of L&D, decision makers will have to balance several expectations related to innovations, systems building for insurance and learning, evidence and accountability.

COP 28 represents a significant opportunity to emphasize the role of insurance and risk transfer in addressing L&D in vulnerable communities, and to advance the new funding arrangements responding to L&D and the L&D fund. As such, the Transitional Committee should highlight insurance as an integral part of international cooperation for the funding arrangements and the L&D fund in its recommendations for COP28. While not all details need to be finalized during COP 28, it can set the groundwork for further developments in this policy area in the coming years and thereby create momentum at national levels and among stakeholders.

More specifically, insurance-linked approaches can enhance overall effectiveness in supporting vulnerable communities. However, it is important to recognize that insurance approaches have limitations and should be advocated as part of a comprehensive package that includes other loss mitigation measures. Insurance, by itself, is not a source for L&D finance. Applying insurance instruments and creating insurance schemes can serve as tools for addressing losses or reducing overall L&D costs, thus diminishing the overall need for financing.

In advancing the insurance agenda in the context of L&D, decision makers will have to balance several expectations related to innovations, systems building for insurance and learning, evidence and accountability. The following are elements that could form part of the recommendations from the Transitional Committee:

- **Innovations:** As shown, there is a need for innovations. Providing solutions, therefore, requires central functions of incubators and accelerators that develop and bring to market new insurance products to climate vulnerable populations.
- **System building for insurance:** It is also important to address the underlying reasons for low insurance levels and underinsurance. Developing lasting systems and international cooperation to make insurance practicable and affordable in the context of L&D will require investment and support in establishing the right data environments, institution building, and support structures.
- **Learning, evidence and accountability:** In parallel to the focus on innovations and system-building, there is a strong need for research to continuously identify what works now and in the future, what has the greatest impact and economic efficiency. This agenda needs to be underpinned by a transparency and accountability framework to decide on relevant performance indicators.

Further, in responding to, including addressing, L&D, the Transitional Committee could encourage decision-makers at COP 28 to consider:

a) Anchor risk transfer in the mosaic of solutions to address L&D and encourage further action

Risk sharing and transfer through insurance-linked solutions are part of the mosaic of solutions to finance L&D. They are uniquely positioned to address L&D while encouraging a better understanding of the risks and the need for preventive action. However, this approach is not without challenges, especially in the context of climate-vulnerable countries. It will require dedicated efforts in the coming years to further develop the technical, regulatory, and financial aspects of insurance solutions in the context of L&D.

To make this work, COP 28 could incorporate this thematic approach into the funding arrangements and the fund. Additionally, it should be integrated into decisions regarding the Santiago Network, aiming to establish a global dialogue and community of practice to catalyze relevant actions. In this context, acknowledging the role of initiatives like the Global Shield is also important.



b) Create incubator & innovation calls for utilising insurance in addressing L&D

As demonstrated in this paper, there is potential for product innovation to offer new coverage addressing L&D in vulnerable communities. To stimulate the development of new product categories, it is essential to establish new partnerships, including with the private (insurance) sector. Either the fund or individual actors within the funding arrangement should provide financing mechanisms to support the costs associated with developing insurance products that cover L&D. Such a call for innovation needs to be accompanied by clearly defined objectives. These objectives may include:

- Addressing the unique needs of vulnerable populations.
- Providing affordable coverage for L&D.
- Tackling specific challenges related to slow-onset processes and non-economic L&D.

The innovation pilots could include a comprehensive implementation strategy, including a plan for market rollout. It is important to note that insurance-related inventions are rarely patented, or patents are limited to their technological aspects. Any seed funding allocated for product development should be accompanied by a rigorous evaluation and learning component to ensure broader adoption by other insurance providers. Such programs could be coordinated with existing stakeholders, including specialized international funds and initiatives.^[361]

361. This includes e.g. the InsuResilience Solution Fund (<https://insuresilience-solutions-fund.org/>), and the Global Shield Solution Platform (<https://global-shield-solutions.org/>), as well as the Insurance Development Forum (www.insdevforum.org)

c) Encourage international actors to innovate on pre-arranged financing and insurance

Pre-arranged finance and anticipatory action have the potential to increase coverage in L&D situations. For this to be effective, investments need to be made in technical work (including forecasting and impact modelling to define optimal payout moments) and the strengthening of money-in processes (including insurance, as well as other disaster risk finance options) and money-out processes (including post-disaster protocols or the establishment of social protection schemes). In addition to building up public sector systems, such investments could be accompanied by programs to develop private risk markets and promote financial inclusion.

d) Establish a dialogue with IFIs to develop debt-related climate insurance instruments

International Financial Institutions (IFIs), including the World Bank and other multilateral and regional development banks, play a crucial role in providing public resources for post-disaster recovery, including infrastructure rebuilding. However, they often rely on debt-related instruments, which can lead to reduced external finance for vulnerable countries after climate disasters. One approach is the promotion of sovereign debt clauses to provide financial relief to countries affected by economic shocks. Another evolution could involve insurance approaches that actively mitigate climate-related economic risks or offer expanded premium payments in case of climate-related L&D. The systematic promotion of such innovative solutions could be advanced through specific dialogues with the Heads of IFIs on this matter.

e) Build in-country mechanisms and coordination for a programmatic L&D funding approach

A programmatic approach at the country level to address rapid onset and slow onset events will require a strategy that includes elements of loss reduction, public contingency planning for L&D events, and transformative policies to address system-shifting chronic climate stressors. These strategies could, in part, be based on a risk-layering approach and developed in collaboration with relevant stakeholders. Currently, the Global Shield is pioneering in-country processes to define necessary support packages. Recognition and expansion of the Global Shield could be included in the COP 28 outcome, and processes could be expanded through initiatives such as the Santiago Network. These in-country processes could be informed by risk assessments and audits, which can help structure risk financing options.^[362]

362. One example is the Global Risk Modelling Alliance, which aims to promote open data and technology access to improve risk understandings (<https://grma.global/about-the-alliance/>).

f) Strengthen regional risk pools

Regional risk pools have become key actors in providing sovereign parametric insurance to a significant proportion of climate-vulnerable countries. To further strengthen regional risk pools, efforts should be made to enhance their risk capital and provide premium support and discounts.

Regional risk pools could be encouraged and supported in the following ways:

- Expanding their membership base
- Developing new products and types of coverages
- Improving existing products
- Expanding their non-sovereign offerings, including risk capacity for sub-national climate risk insurance
- Providing coverage for non-sovereign actors, as demonstrated by the ARC Replica initiative.

By making these improvements, regional risk pools can better serve their member countries and enhance their capacity to address climate-related risks.

g) Consider global pooling of catastrophic climate risks

During the discussions regarding the L&D fund, countries expressed the need for a rapid disbursement mechanism to address acute disaster situations and aid in reconstruction. Such an arrangement would effectively pool risks. The disbursement mechanism could be founded on an actuarial approach, which may involve transferring risk to international reinsurance markets, if necessary. One consideration is to provide coverage for the catastrophic layer of risks through the fund while promoting alternative risk finance and other forms of risk management for less severe events. The specific payout modalities would need to be established in accordance with the L&D fund's available funding. These systems could also be put into practice through regional risk pools where they are available.

h) Develop a captive approach to mutualize climate risks

In order to make available risk carrying capacities in particularly vulnerable developing countries, it could be considered to create a mutual captive insurance company with ownership from contributing and vulnerable countries, which can provide access to reinsurance and international capital markets and which offers risk capacity for new insurance products in the context of L&D.^[363]

363. One example is Europa Re – a Swiss reinsurer domiciled and licensed in Switzerland – shareholders include the Governments of Albania, North Macedonia and Serbia. Please see: www.europa-re.com/reinsurance

i) Create a new transparency system for action addressing L&D including insurance

A transparency system for the funding arrangements and the fund could assist with determining progress and comparisons between different instruments. A culture for evidence and learning would be helpful to upscale and to determine what works and what does not.

Existing coding frameworks like the OECD DAC marker could be adapted to reflect action on addressing L&D, including insurance. To measure global progress existing impact frameworks like the Vision 2025 of InsuResilience are a starting point also the funding arrangements and the fund.^[364] Providers of climate risk insurance receiving climate finance should disclose relevant performance indicators to judge the value for money of individual instruments including pay-out ratios for different instruments.

364. Vision 2025 of the InsuResilience Global Partnership includes 6 results areas, which are tracked by the InsuResilience Secretariat. Please see: https://www.insuresilience.org/wp-content/uploads/2022/10/vision2025_211022.pdf

CASE STUDY:

PACIFIC INSURANCE AND CLIMATE ADAPTATION PROGRAMME

The Pacific Insurance and Climate Adaptation Programme (PICAP), a collaborative effort between the United Nations Capital Development Fund (UNCDF), the United Nations University Institute for Environment and Human Security (UNU-EHS) together with the Munich Climate Insurance Initiative, and the United Nations Development Programme (UNDP), is spearheading the development of innovative climate risk insurance solutions for most vulnerable communities in the Pacific.

PICAP's insurance schemes operate on pre-defined parameters, such as precipitation levels or wind speed, which trigger payouts to policyholders when exceeded in their respective districts. Continuous monitoring through satellite and weather station data ensures timely payouts. Notably, payout amounts are higher for more severe cyclones and those closer to the policyholder's location.

During its initial two-year inception phase (2020–2022), PICAP achieved a significant milestone by introducing the first-ever parametric climate risk micro-insurance products in the Pacific region. These products were successfully launched in Fiji, Vanuatu, and Tonga, extending coverage to 1,388 farmers and fishers in its first year (2021/2022 cyclone season) and expanding to 4,799 policyholders in its second year (2022/2023 cyclone season), with 47% being women.

In February 2023, a groundbreaking payout was triggered due to heavy rainfall in Fiji, benefiting more than 559 insured farming and fishing households, with 41% being women. Further research is underway to assess the effectiveness of these payments.

Parametric climate risk insurance, like PICAP's offerings, offers a significant advantage in providing rapid payouts within days of extreme weather events, eliminating the need for lengthy damage assessments. The program's success is attributed to strong ownership and collaboration between public and private stakeholders in all participating countries.

The new climate risk insurance products are made available by national and regional insurance providers, including FijiCare, SUN, VanCare, and Tower Insurance, which joined during the program's second year after observing the success of similar offerings in the region.

On the public side, the Reserve Bank of Fiji, for instance, committed to piloting the new insurance products under its regulatory sandbox, fostering a favourable

regulatory environment for climate disaster risk financing and insurance solutions. Additionally, the Government of Fiji waived the VAT on these products, enhancing affordability, particularly for low-income groups.

Leveraging digital solutions further reduced insurance premiums. A new digital platform streamlined the enrolment process for insurance and aggregator partners, such as cooperatives. This, coupled with existing digital payment channels like mobile money for payouts, enhanced efficiency and reduced costs, ultimately leading to lower premiums for policyholders. Innovative distribution methods and bulk sign-ups through aggregators, including cooperatives, enabled smallholder farmers to overcome liquidity constraints related to paying full insurance premiums before the cyclone season.

Recognizing the need for more direct support to the most vulnerable people, PICAP, in collaboration with the Government of Fiji, introduced a specialized parametric climate-risk insurance product designed for social welfare beneficiaries. This initiative aims to gradually protect the entire population covered by the national social protection system using a macro-to-micro insurance mechanism. The product provides coverage against extreme wind events like cyclones. The government utilizes international budgetary support and international assistance including from the World Food Programme to purchase this insurance for social welfare beneficiaries, covering their premiums. While the insurance contracts remain between insurance companies and individual policyholders, this setup allows for direct transfers to social welfare beneficiaries via mobile money when payouts are triggered, eliminating delays associated with traditional social protection schemes.

As PICAP enters its ongoing expansion phase (2023–2025), the program is actively working to introduce climate-risk insurance in additional Pacific Island countries, including Kiribati, Samoa, and the Solomon Islands. It also aims to refine existing insurance products and expand outreach to the most climate-vulnerable populations, including micro, small, and medium enterprises, often underserved in accessing disaster risk financing solutions. In addition, UNCDF is looking into upscaling its experience in a global programme.



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Appendices

Annex I – Project Information and Methodology for the Report

Project objectives

This project aims to deepen the knowledge and understanding of financing solutions and sources for responding to and addressing L&D, including from public, private and blended sources of finance. A key outcome includes to move the discourse forward with concrete and workable solutions, opening for greater ambition in financing L&D. It is also meant to feed into the ongoing work of the Transitional Committee and the Glasgow Dialogue.

More specifically, the project will assess the potential for using taxation and/or levies from international shipping and passenger air travel; utilizing the voluntary and non-voluntary carbon markets; potential of insurance instruments; and solutions for climate-related debt instruments and other financing solutions. The project will result in a report, which will be subject to in-depth discussion in an online seminar/workshop 14th September 2023, and the findings will be presented at COP28.

Project organisation

The project is led by Ms. Cathrine Wenger (Wenger Law), and the project team includes renowned experts in climate change, L&D finance and innovative climate solutions, hereunder Mr. Sönke Kreft, Professor Christina Voigt, Mr. Manuel Bueno and Mr. Rawleston Moore. In addition, the project has drawn extensively on a wide range of experts and stakeholders across the Global North and Global South. The project's steering group consists of Nordic national experts from Finland, Sweden, Norway, Denmark and Iceland, coordinated by Ms. Anna Gran from the NKL.

About the Nordic Council of Ministers and the Nordic Working group for Climate and Air (NKL)

The Nordic Working Group for Climate and Air (NKL) is part of the Nordic Council of Ministers (NCM). The vision of the NCM is to make the Nordic region the most sustainable and integrated region in the world by 2030. As part of the vision, the NCM aims to contribute to the positive development of international co-operation on the environment and climate, hereby to contribute to ambitious and solutions-oriented outcomes within the international climate change negotiations. The support to this project is expected to support this purpose.

Methodology

Under follows a short description of the methodology used in preparing the Report.

Research activities

Analysis of scientific and grey literature on finance for L&D, hereunder:

- Online search modules for scientific literature, such as: Westlaw, Hein Online, ScienceDirect, SpringerLink, JSTOR, Google Scholar, et al
- Library access, hereunder database searches at University of Oslo
- The IPCC's sixth synthesis report on climate change and the IPCC's sixth assessment report on adaptation and loss and damage, as a starting point for framing L&D in the context of identifying sources of finance for addressing L&D for countries that are particularly vulnerable to climate change.
- Assessment of grey literature, such as, but not limited to:
 - Information relevant under the UNFCCC COP/CMA:
 - The submissions on funding arrangements and fund for L&D
 - Documents relevant to the TC meetings and workshops
 - The web pages for funds under the financial mechanism, such as the GCF, GEF, AF, LDCF, etc.
 - The Nationally Determined Contributions (NDCs), adaptation communications and transparency reporting relevant for L&D finance
 - Web pages and reports of the World Bank, IMF and MDBs, including relevant information from the World Bank Spring Meetings
 - Documents and presentations prepared for the summit for a New Global Financing Pact, and relevant information resulting from the summit.

- Documents and presentations prepared for ICAO and IMO meetings relevant for climate change finance.
- Documents prepared for and resulting from the Ministerial Consultations by the COP Presidencies prior to COP28, if these are prior to the finalisation of the Report.
- Reports from NGOs and other non-party stakeholders

Attendance at meetings/events relevant to finance for responding to L&D, hereunder:

- Virtual attendance through web links for the TC meetings and workshops.
- Virtual attendance at seminars relevant for financing addressing L&D at the Summit for a New Global Financing Pact.
- Attendance at the SBI/SBSTA negotiations in Bonn in June
 - Mandated event/workshop on the Glasgow Dialogue (8–10 June)
 - Negotiations on Santiago Network relevant for finance of L&D
 - Negotiations on the Global Stocktake (GST) relevant for finance of L&D
- A selection of key experts was **interviewed** in the drafting phase of the Report, ensuring **inclusivity and stakeholder participation**, and a wide range of experts will be invited to contribute at the seminar/workshop. [a list of names will be included if found necessary, although these could be included in the acknowledgment of the Report instead.]
- **Webinar** discussion with experts and organizations helped with further refine the findings of the Report.

Annex II – the public webinar

In a public webinar held the 14th of September, the Project Team presented its initial key findings in the study/report. Expert presenters and panellists were included to enhance the discussion with case studies and examples from a wide range of institutions and organisations, including Association of Small Island States (AOSIS), the African Development Bank (AfDB), the World Food Programme (WFP), the Adaptation Fund (AF), University of Oxford, University of Oslo, the World Bank (WB), YOUNGO, and Indigenous Peoples representative from the Saami Council. These experts were present for the panel discussion in which the attendees were able to ask questions using the chat box.

1. Webinar Objective:

- Share initial results of L&D Financing Solutions & Sources Report commissioned by the Nordic Council of Ministers (NCM), National Ministries and recognized international experts
- Inclusive and wide-ranging participation and experts
- Initiate discussion over key findings and initial results
- Present opportunity to refine, solidify and mature initial results

2. Webinar Methodology:

- Presentations of initial results by the authors of the Report
- Include insights from experts and highlight case study examples
- Panel discussions

Issues that were highlighted by the participants included how to ensure the sources of finance for L&D speak to the need to ensure that finance for L&D is adequate, predictable, feasible and fair. This was brought up in relation to the development of new markets and non-market mechanisms. One panelist from the Adaptation Benefits Mechanism responded how the ABM is designed with the flexibility to be adjusted to relevant COP guidance and decision-making. All principles that are internationally agreed upon for adaptation are being respected. Their operations are demand-driven, the ABM aims to fill in the financial gap for implementing adaptation projects that do not have access to alternative finance and the most vulnerable communities and ecosystems benefit.

Another issue that was highlighted was the need for quality of finance for L&D. Another issue brought up was the limited role the private sector currently has in financing L&D and whether it will be necessary with government guidance and/or requirements to enhance private sector finance for L&D.



Affiliations

Ms **Cathrine Wenger** is the Project Team lead for the project on innovative L&D finance solutions and sources commissioned by the Nordic Council of Ministries. She is a qualified Norwegian barrister and founding partner of Wenger Law, which is a law firm specializing in international and European climate law and policy. She was Norway's lead negotiator for loss and damage and adaptation during the Paris Agreement on climate change, and has continued to work closely with Parties and non-party stakeholders. Cathrine's areas of expertise include adaptation and L&D under the Paris Agreement, international carbon markets, nature credit markets, ESG and climate risk reporting for companies, climate-focused taxation and levies, and the wider ecosystem for finance of adaptation and L&D.

Manuel Bueno is the Senior Lead for Climate Finance at Development Alternatives Incorporated (DAI). He is a climate finance senior executive and thought leader with 15 years of climate and impact investment experience in emerging markets, with a particular focus on climate adaptation and rural finance.

Ms **Christina Voigt** is an internationally acclaimed climate law professor at University of Oslo with experience with the UNFCCC negotiations as well as with advising and drafting scholarly articles on climate finance, REDD+, voluntary and non-voluntary carbon markets, including article 6 of the Paris Agreement. She is used extensively by international organisations and governments around the world and is co-chair of the Paris Agreement Implementation and Compliance Committee (PAICC).

Mr **Rawleston Moore** is a renowned expert on climate finance. He has more than a decade of experience with climate funds, such as the Green Climate Fund (GCF), Global Environment Facility (GEF), Adaptation Fund (AF), Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) as well as funding under the World Bank and MDBs. He is currently part of the Transitional

Committee's support group. Rawlestone has both in-depth and broad knowledge of climate change finance, including L&D finance, and is currently working as an independent consultant on all matters related to climate finance.

Mr **Sönke Kreft** serves as the Deputy Head for the Risk and Adaptation Department of United Nations University – Institute of Environment and Human Security. Soenke has a background in public sector policy, climate policy and global change management, and extensive experience with influencing global policy regimes and global norm setting. Soenke leads the work of Munich Climate Insurance Initiative (MCII), focused on including insurance-related expertise into international policy-making processes, as well as continuing the implementation of innovative ideas on how to make climate risk insurance work for poor and vulnerable people at risk from climate change. Soenke has field experience in creating and strengthening risk sharing and management in more than 20 countries.

About this publication

STUDY ON LOSS AND DAMAGE FINANCING SOLUTIONS & SOURCES

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TemaNord 2023:546

ISBN 978-92-893-7735-5 (PDF)

ISBN 978-92-893-7736-2 (ONLINE)

<http://dx.doi.org/10.6027/temanord2023-546>

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Published: 28/11/2023

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