Response to GSLTF Call for Proposals

Mechanisms for Enhancing and Redistributing Revenues from Solidarity Levies

1. Concept Note

The Adaptation Benefits Mechanism (ABM), developed and hosted by the African Development Bank (the Bank), is designed to enable GHG emitters to contribute towards the costs of adaptation to climate change and the SDGs. Recorded under Article 6.8 of the Paris Agreement, ABM is well-developed and ready to scale-up to enhance and redistribute revenues from solidarity levies. ABM offers two financing modalities: The *ex-post* modality generates Certified Adaptation Benefits (CABs) from already implemented grant-funded adaptation projects. Revenues from the sale of CABs will regenerate the grant for replication of the original project. The *ex-ante* modality mobilizes capital markets to invest in adaptation projects through future commitments to purchase CABs at a price that makes the project bankable. Here is a short podcast explaining ABM: ABM Climate Solutions Decoded 250801.mp3

GSLTF participants (captured entities) will discharge their solidarity levy liabilities by purchasing CABs up to the value of their levy and surrendering the certificates to GSLTF. ABM's Executive Committee and Secretariat will operate the project cycle to ensure a steady supply of CABs for immediate purchase from existing grant-funded projects and for future purchase from new adaptation projects made bankable by the promise of future revenues. The huge demand for adaptation support means there is no practical limit on the amount of funding that can be deployed via the ABM.

Using a well-tested project cycle, the ABM approves adaptation methodologies in which technology and or, project specific Adaptation Benefits are defined. Host countries issue a Letter of Approval to signify that the CABs as defined will contribute to their stated adaptation needs (e.g. linked to their NAP). Following an independent validation and verification procedure, Adaptation Benefits are Certified and issued for sale. The price and number of CABs produced is controlled such that the successful project either regenerates the original grant or generates enough funding to close the financial gap in the project (i.e. pay off outstanding debt, interest and transaction costs). CAB price will vary from project to project and by technology. CABs are non-tradeable and non-transferable because they are not fungible. This means there are no secondary transactions, and all funds spent on the CAB goes to the project developer. This makes ABM a minimum concessionality, not a profit-making instrument.

ABM is the first recorded non-market approach under Article 6.8 of the Paris Agreement (NMA Platform) and in September 2024, the Bank was awarded the Special Jury Grand Prix at the inaugural Finance Your Cities (FYC) Innovation Awards hosted by Global Fund for Cities Development, for its groundbreaking Adaptation Benefits Mechanism.

2. Operational Framework

ABM has been developed using modest grants from a number of partners[1]. It can be rapidly scaled-up from pilot to mainstream if a source of demand for CABs is secured. Championed by Uganda, six other African nations have already associated with the ABM[2]. Whilst its focus to date has been African, it is a global mechanism that can be applied at a regional, national and sub-national basis and all Parties to the UNFCCC are invited to sign up.

ABM is based on the project cycle of the Clean Development Mechanism, with steps taken to debottleneck the process and take advantage of the fact that CABs are a measure of voluntary (albeit mandated by GSLTF) contribution towards genuine adaptation needs and not a fungible credit used for offsetting or legal compliance purposes. ABM is governed by the ABM Executive Committee (EC) assisted by a Secretariat, Panels and a Roster of Experts. Terms of Reference for all bodies and procedures for the governance processes have been defined and are available at www.abmechanism.org/about.

ABM is highly transparent with the financial details of projects subject to auditing to ensure that buyers get value for money. Each project will implement an approved monitoring methodology based on a theory of change, to report outputs and outcomes that will define the Adaptation Benefits and lead to the issuance of CABs. Long-term impacts will accrue in later years. Reporting will focus on the amount of money transferred from captured entities to project developers in return for CABs, supported by project level data on contributions to SDGs, Global Goal on Adaptation metrics and other data agreed between the project developer and the buyer. Funds spent on purchasing CABs can also be reported by host and non-host Parties via the Enhanced Transparency Framework of the Paris Agreement.

The ABM EC has approved one methodology to date and aims to complete the project cycle for three new methodologies and projects and produce its first *ex-post* CABs in time for CoP 30. Whilst operating on a no-regrets basis during the pilot phase, steps required to raise ABM to international operational status are well understood, building on 25 years of carbon market experience.

The Bank developed ABM in response to calls from African countries for more support for adaptation. The pilot phase, initiated in 2019 will end in 2025 and a longer-term hosting solution is required. The Bank's long-term roles are to lend funds, mobilize capital markets and provide technical assistance which would conflict with a hosting role. ABM also needs to be made globally available whilst the Bank serves African countries. Once a source of demand for CABs is established, it is proposed that the ABM EC and Secretariat could be hosted by a suitable international organization or for example, a newly-created Swiss Foundation.

It is estimated that a fully operational ABM could be ready to offer CABs for sale at scale by July 2027, on the basis that funds for the transition could be raised by the end of 2025 (for example from the Adaptation Fund's Climate Innovation Accelerator, which offers grants up to USD 10m for regional projects). Demonstration transactions can be implemented in 2026 and the first half of 2027 whilst

[1] African Development Bank, the Climate Investment Funds, the Africa Climate Change Fund, GIZ, International Klima Initiative, Climate Change Africa, the Fund for African Private Sector Assistance and the Korean Africa Economic Commission

[2] Benin, Gambia, Guinea, Kenya, Madagascar and Nigeria

establishing a suitable host and revising existing operating procedures and standards for mainstream operations, including the conversion of an existing carbon registry to an ABM CAB register; offering technical assistance, training and awareness raising to experts and project developers globally; working with existing recipients of grants to take projects through the *ex-post* modality to make CABs immediately available; and working with development finance institutions and project developers to initiate a pipeline of *ex-ante* ABM projects.

3. Financial Considerations

Once established, ABM will be self-funding, supported through the collection of methodology approval, registration and issuance fees. Technical Assistance grants can be made available to project developers that need help with these costs. Transaction costs will be included in the project's financial model and are recoverable through the sale of CABs. The annual costs of running ABM will comprise an element of fixed costs for the hosting entity and staff (estimated at USD 5 to 10 m per annum, including a minimum number of ABM EC and Panel meetings) and variable costs linked to the level of activity including time for expert panels and additional meetings of the ABM EC. Grant funding may be mobilized donor funds in order to strengthen the potential of ABM to recycle grants given to project developers.

The *ex-post* funding mechanism will leverage grants at a ratio of 1:1 and if the project can be repeated multiple times, the mechanism will leverage donor grants multiple times. The *ex-ante* model will leverage debt and equity, as well as give project developers access to guarantees and insurance instruments. A signed Adaptation Benefit Supply Agreement (ABSA) with a creditworthy offtaker will enable developers, municipalities, communities and households (including women and youth) to access capital markets to close the financial gap and make adaptation projects bankable. In doing so, the ABM will also mobilize land, labour, indigenous technical knowledge, biodiversity and local governance structures. ABM revenues and CAB debt can be blended with other sources of domestic, public and private finance to complete the capital stack. Sustainability-linked bonds can provide cheaper debt at scale.

The ABM host's role is to make projects available to buyers of CABs. This will take place through the ABM Supermarket, linked to the ABM Registry, where *ex-post* and *ex-ante* CABs are advertised for sale. Captured entities will visit the ABM Supermarket to spend their Solidarity Levy either directly, by buying existing CABs off-the-shelf (*ex-post* model) or signing ABSAs for future delivery and payment, that will act as collateral for project developers to access the capital markets (*ex-ante* model). Concessional and commercial banks can lend, and technology providers can invest technology and equity in a registered project with an ABSA; MDBs and climate funds can arrange guarantees for other lenders and provide technical assistance.

Responsibility for financial management and disbursement of Solidarity Levies remains with the captured entities. Under the *ex-post* model, captured entities buy CABs that have already been produced using grant funds. Delivery (in the form of a redemption code) will be immediate. The buyer redeems the CABs when they wish, receives Certificate(s) from the Secretariat (cancelling the CABs to avoid double

counting) and submits those Certificates to GSLTF to discharge their liability. *Ex-ante* buyers will sign a contract to pay an agreed price on delivery of the CABs in the future. Their commitment to buy will mobilize debt and equity and in due course they will pay and receive their CABs for redemption and reporting. If the project under-delivers, the captured entities will need to source other CABs from the Supermarket.

4. Impact and Accountability Measures

Buyers will select projects based on the narrative, not price of CABs. In the global travel sector, there is a strong case to link purchases to flight destinations. The ABM EC and other donors can influence the supply of projects through technical assistance grants to develop methodologies and support the development of projects. If necessary, some weighting could be introduced such that, for example USD 1 spent in a SIDS equates to USD 1.1 of Solidarity Levy.

The top-line impact metric will be USD per annum paid to project developers in developing countries for genuine adaptation activities. Other impact metrics will build on those reported by climate funds or used by DFIs, MDBs and NDBs. Other co-benefits can be reported for information purposes, but mitigation outcomes will remain in the host country to contribute to domestic ambition.

Effectiveness will be measured by transaction costs compared to funds paid; and by the numbers of projects that successfully recycle grants or close their financial gap to achieve bankability. An effective ABM will also see other funding sources develop, both through an expansion of the scope of the GSLTF and domestic uptake (for example the EU ETS requiring all captured entities to contribute). An effective ABM will increase adaptation finance as a percentage of global climate finance towards the Paris Agreement ambition of balanced investment, and it will contribute to the Baku to Belem roadmap to USD 300bn and ultimately USD 1.3 trn by 2035.

5. Conclusion

In 2019, the ABM EC had a vision of how the fledgling mechanism could mobilize finance for adaptation. Six years later, GSLTF is poised to complete that vision. There are many features of the ABM that make it the ideal instrument to enhance and redistribute revenues from solidarity levies. Currently operating at a pilot scale, ABM is ready to step up as a credible and transparent institution that will accelerate and leverage adaptation funding. Aligning with the Paris Agreement and learning from 25 years of market-based activities, ABM delivers value for money, transparency and accountability in an equitable and efficient manner. It offers two modalities that will ensure both speed and scale of disbursement. With a secured demand for CABs, ABM is ideally positioned to transition to become the leading global instrument for channeling adaptation finance to those most in need.

The Climate Solidarity Alliance Solidarity Bonus Mechanism as vehicle for Enhancing and Redistributing Revenues

This Note was put together in response to the call for proposals for Mechanisms for Enhancing and Redistributing Revenues from Solidarity Levies by the Secretariat for the Global Solidarity Levies Taskforce (GSLTF). The proposal is that members of the GSLTF Coalition could partake in the Climate Solidarity Alliance (CSA) to provide support for ***climate change related activities*** in developing countries, in particular building resilience (adaptation) and responding to Loss and Damage (L&D) due to adverse climate impacts.

Concept Note

The CSA is envisioned as a partnership of national and sub-national actors willing to show solidarity with the poorest and most vulnerable to help them deal with climate change. A bottom-up voluntary partnership approach is chosen to enable immediate action and to sidestep the complexities of international agreements.

The main elements of the CSA are:

(i) national **Climate Solidarity Trust Funds** (CSTFs) with Loss and Damage (L&D) or Adaptation windows designed to finance responses to loss and damage from climate change and resilience building.[1] Having such dedicated domestic funding instruments has proven to be key to designing national responses to problems such as adverse climate impacts. The Fund to Respond to Loss and Damage (FRLD) and the Adaptation Fund (AF) would be ideally placed to support the establishment of and provide standards for such national trust funds. How they are to be sourced would be nationally determined, but the use of Climate Solidarity Levies (CSLs) should be encouraged;

(ii) a **Solidarity Bonus Mechanism** (SBM) under which eligible developing country CSA partners ('solidarity recipients') that contribute voluntarily to the FRLD or the AF would receive the contributed amount along with a 'solidarity bonus' from the solidarity providing CSA partners ('solidarity providers') as bilateral (North-South or South-South) SBM payments directly into the CSTF of the solidarity recipients (Fig.1 below), thus incentivising their participation. The proposed SBM could be operationalised through what might be called a CSA '**Solidarity Exchange**', that is a (web-based) platform on which solidarity recipients can advertise their intention to contribute to an eligible multilateral climate fund, and CSA solidarity providers could indicate whether they will be providing a bonus-compensation for (a share of) the advertised proposed contribution.[2]

[1] N.B. Existing national climate funds can be/become CSTFs, when they have adaptation and L&D windows.

[2] For example, assuming Fiji and Australia join the CSA, Fiji could use the Solidarity Exchange platform to advertise being willing to contribute €2m to the FRLD, and say Australia could indicate their willingness to cover half of that contribution under the SBM, i.e. they would pay €1m to the Fijian CSTF plus the applicable bonus. Fiji could then decide to contribute only the €1m covered by Australia or contribute the full €2m to the FRLD whether or not the rest is covered by a bilateral solidarity transaction.

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The operationalisation of the CSA will require the establishment and management of a Solidarity Exchange by a suitable 'CSA Administrator'. Given the extensive experience with such web-based platforms (e.g. in the context of the Pilot Auction Facility), the World Bank could easily set up a Solidarity Exchange and would hence be ideally placed to take up the role as CSA Administrator. Indeed, given their experience in helping countries to set up domestic trust funds, they could also provide support to countries to become CSA-ready (i.e. in establishing a CSTF).[3]

One of the key advantages of using domestic trust funds to receive solidarity contributions is that they, unlike direct budget contributions, can also be used to attract private sector and philanthropic contributions.

Given that the domestically funded CSTFs are first and foremost meant for domestic (adaptation and L&D) projects, it is easy to see how outside solidarity contributions would co-finance domestic projects.

The transparency of financial flows, distribution and impact assessment would be determined by the bilateral payment modalities and the set-up of the domestic CSTFs

As regards the speed of disbursement, this will be a domestic matter of the solidarity recipients

Operational Framework

It is hoped that by autumn 2025, a high-level call for expressions of interest in a CSA would be issued, possibly in the context of the UNGA/New York Climate Week.

If sufficient interest emerges, then the exact CSA rules (say regarding who should be eligible to receive CSA solidarity, how much the CSA bonus should be) would be agreed by the interested parties.

The CSA could then formally be launched toward the end of 2026, possibly at the COP.31 Presidency Summit.

Financial Considerations and Ensuring Equitable Distribution

It is expected that the CSA Administrator would cover their own costs as an in-kind solidarity contribution. One of the distinctive features of the CSA Solidarity Bonus Mechanism is that the solidarity is not only provided bilaterally between the CSA partners, but globally through the involved multilateral climate funds. The distribution of the funds is regulated by the national regulation of the bilateral solidarity providers and the rules of these multilateral funds.

As regards bilateral provisions, there could be regional collaboration. For example, Brazil or Australia, as CSA solidarity providers, could choose to focus on providing bilateral solidarity to the Caribbean (Fig.2) or the Pacific (Fig.3) CSA solidarity recipients, respectively.

[3] NB: Of the 11 developing country members of the GSLTF Coalition, over half (Kenya, Marshall Islands, Senegal, Fiji, Antigua and Barbuda, and Barbados) already have a domestic trust fund that could serve as CSTF and are thus CSA-ready.

Figure 1. The Solidarity Bonus Mechanism: Example

1. Kenya offers to make a discretionary contribution of 2 units to the eligible multilateral climate funds, provided the contribution is covered by a payback+bonus from a CSA solidarity provider.
2. France decides, in keeping with its overseas assistance policies, to cover the Kenyan offer by making a bilateral payback and bonus payments of 2+b units directly into the Kenyan national Climate change Fund and Kenya makes the proposed contribution.

N.B. Kenya's contribution will be listed in the accounts of the relevant multilateral Fund. France's payback+bonus will only be listed as bilateral payment (to avoid double-counting). Also, the size of the bonus will be agreed by the CSA partners.

Legend

Figure 2. Regional CSA Collaborations: South-South

Figure 3. Regional CSA Collaborations: North-South

Legend

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Response to call for proposals:
Mechanisms for Enhancing and Redistributing Revenues from Solidarity Levies

Proposal: The Themis Mechanism

Terminology clarification:
whereas the call uses the term "solidarity levies", this proposal uses "carbon payments" to describe the same thing: a redistribution of assets to help reduce the effects of climate change.

1. Concept Note

Themis is a proposal for an international mechanism to reduce global greenhouse gas emissions in a fair and effective way. Themis is built on four foundations:

- Our atmosphere is a shared resource, a *commons*. Fossil fuel users reap the full benefit from fuel consumption, while the CO_2 induced climate cost is spread globally. This dilution effect makes continued use rational for individuals but collectively disastrous. To prevent this, we must cooperate to guarantee positive climate results.
- The root cause of climate change is the failure to account for the true cost of emissions. By treating the atmosphere as a free resource, we encourage overexploitation. Themis corrects this *unpriced externality* by pricing greenhouse gas emissions.
- Urgency is paramount. Societal change takes time, but the incentivising mechanisms must work on a faster timescale: this year's emissions, not some time in the future.
- Effective cooperation requires a fair guiding principle. Themis upholds *equity*: that our atmospheric resources should be shared equally between all humans.

A straight forward consequence of pricing greenhouse gas emissions and equity is that above average emitting individuals should pay for using more than their fair share, and individuals emitting less than average should be paid. However, both reporting emissions and handling payments at the personal level in a world with more than 8000 million inhabitants would be highly impractical. Therefore, a practical implementation needs to be hierarchical, using nations as an intermediate level between individuals and humanity as a whole. This works well because nations already have both emission reporting procedures and infrastructure to legislate and handle payments in place. So, Themis will be a combination of a cooperative agreement between member states, and national implementations between individual nations and their citizens. Whereas the international agreement will have identical conditions for all nations (depending only on their emissions and population size), nations are free to implement the national level agreement in any way they wish, reflecting individual circumstances, culture, etc (these are considered internal affairs).

Themis is built entirely on immediate annual commitments. Adherence is verifiable by partners, enabling the building of mutual trust. Themis is governed by a single number, p, the price of emitting one ton of carbon dioxide equivalent, or CO_2e. The annual cycle has four steps:

1. each year, nations report their emissions according to UNFCCC reporting standards.

2. with complete knowledge of all nation's emissions, every nation submits their decision on whether to join Themis at the fixed predefined emissions price, p.
3. at the end of the year, each nation makes (or receives) their payment. The national excess emissions are: the difference between national per capita emissions and the overall Themis member average per capita emissions, multiplied by the size of the population. Then compute the payment value by multiplying the national excess emissions by the pre-specified price, p. Nations with above average per capita emissions will be net contributors, nations with below average per capita emissions will be paid, reflecting equity.
4. members vote on next year's price: Each nation's vote is weighed by their population size. The new price is determined as the median (the middle value) of the weighed votes. The median is chosen to avoid extreme votes having outsized effects on the outcome.

Note, that overall the Themis Mechanism is cost neutral: the sum of the contributions exactly equals the sum of the payments to be received. Also, only per capita emissions are relevant, the absolute size of a country makes no difference. Payments are made for emissions two years previously, because of reporting lag.

The Themis Mechanism creates economic pressure on *every country* to emit less. Large per capita emitters can lower their payments by emitting less, and small per capita emitters can receive larger payments by further reducing their emissions. The Themis Mechanism is deliberately as simple as possible. It is designed for efficiency, eliminating complex negotiations that would delay urgent action. Themis can coexist with other initiatives, including the Paris Agreement.

When deciding whether to join, countries can set conditions: for example, the UK may join only if Germany and France also join, or only if countries responsible for at least 50% of emissions join. Conditions will help implementing reciprocity: I will if you will. If a country which was previously a non-member wants to become a member, then payments must be made right back to the inaugural year; this is to prevent nations from postponing membership, and prevent buildup of new unpaid emissions.

Why will nations join? The main reason to join is that Themis provides a fair and effective mechanism against the effects of climate change. Since climate change is a practically universal problem, it will be in virtually every nation's self-interest to join. This is important: nations don't join because of altruism, but because they value their own nation's future prosperity. There may also be specific national co-benefits to joining: for example, below average per capita emitters will have an immediate monetary interest in joining, nations with few own fossil fuel sources will become less dependent on imports whose prices they can't control, etc.

Themis does not require universal participation to be effective; widespread adoption is sufficient. Universal membership is not necessarily a desirable property, as it gives single nations too much leverage. Therefore a coalition of the willing such as Themis, is more suitable. Members may in time seek to sanction free-riding non-members, but this is not an integral part of Themis. Themis handles embodied emissions: products which require large emissions during their manufacture will rise in price (assuming that free-riders are sanctioned), passing on the price to the end consumer. No pressures to move production to other nations result from Themis, as the emission price, p, is the same everywhere.

The price, p, will start at zero to encourage wide initial adoption and is likely to rise with time. Even when the price is too low to massively reduce emissions, the mere existence of the

mechanism and annual membership decisions and the open ballot price vote are a welcome recurring opportunities for nations to show their hand.

Implementation may face some challenges: enforcing emissions reporting standards may be difficult when payments become dependent on emission reporting. However, the possibility of cheating doesn't undermine the Themis idea (like tax-fraud doesn't lead to abandoning income tax). Fraud may result in exclusion. Themis does not resolve differing historical emissions. A different mechanism is needed for historic reparations. Insisting on coupling accounting for historical and future emissions may severely hamper our ability to act urgently. Some nations may choose not to participate for economic or ideological reasons. Nevertheless, for the majority of nations, Themis will be better than its absence.

While Themis is not a complete solution, it is a crucial step toward fair and effective global emissions reduction. Supporting Themis means taking immediate, verifiable action toward a fairer and more effective global climate strategy.

2. Operational Framework

Themis operates on an annual timeline. The annual key milestones are:

- April 14th: UNFCCC reporting deadline for annual national greenhouse gas inventories
- May 14th: Themis membership commitment deadline
- Dec 31st: contribution payment deadline
- Jan 14th: funds redistribution and vote for the coming year's price, p.

The timeline is designed to integrate with the UNFCCC reporting deadlines. All relevant information will be available to every nation one month in advance of the Themis commitment deadline. After commitment, nations will have more than six months to prepare for payments. In the unfortunate, but possible, event that net contributors don't meet their payment obligation by the deadline, they will be excluded, and two weeks delay will be made for other nations to adjust their payments, accounting for the excluded member.

The first operational year will be 2026; for this year, the price, p, will be fixed at zero. This means that on May 14th 2026, every country can join Themis, at no possible cost. Nations who chose to join will then be able to cast their vote for a price for the following year, in January 2027. There is no commitment to join the following year.

Since Themis has been designed for simplicity, governance and oversight should be simple. There are no negotiable terms whatsoever in the mechanism, only the annual price vote (for members) and statement under what conditions a nation will join are possible. In this way Themis is fully specified, on a take it or leave it basis. This structure is necessary to avoid possibly protracted negotiations, which can no-longer be afforded due to the climate emergency. The primary managerial roles will be dissemination of information about the scheme and the annual financial transactions. A small secretariat will have to be established to service these functions.

The operations of the Themis Mechanism will be fully transparent. The reporting of emissions from the UNFCCC process is already open. The decisions to commit to membership, including possible conditions will be made publicly available immediately. The payment of contributions wil be publicly acknowledged, and each nation's price vote will all be reported openly immediately.

3. Financial Considerations

The Themis Mechanism itself is cost neutral by design: the fees are exactly equal to the payments. The management of Themis should be extremely light touch, by leveraging existing mechanisms. The emissions reporting is integrated from the UNFCCC reporting rules as well as timeline. Population estimates (for the emission year) can be obtained from the United Nations Population Division.

The Themis Mechanism has huge potential for leveraging additional funding in both developing and industrialised nations. That's because it strengthens the economic incentives to reduce greenhouse gas emissions. Since Themis is based on a mechanism, rather than donations, the longer term viability of the funding paths are less uncertain, boosting investment confidence. Obviously, the future price of emissions isn't guaranteed, but the annual, transparent price vote builds trust between partners.

The financial management is limited to the annual collection of fees and payments. Disbursements are made 2 weeks after the fees are due on the last day of the year. To limit exposure to currency fluctuations, fees and payments are made using a mixture of currencies: US dollar USD, euro EUR, Chinese renminbi CNY, Japanese yen JPY, and British pound sterling GBP in equal proportions of value. To be specific, when nations vote for next year's price, they can express their price vote in any of the five currencies. The outcome of the vote will be expressed as a sum of five elements in the five denominations (representing equal value at the exchange rates on the day of the vote). All payments are made using a combination of all five currencies (whose exchange rates may have changed by the payment due dates). The small secretariat to implement Themis should be paid for separately; it is an important principle that payments are not seen as taxes, but payments for the use of a resource.

4. Impact and Accountability Measures

The Themis Mechanism will remove a negative externality by pricing carbon emissions. Since current national per capita greenhouse gas emissions are very different, and highly correlated to wealth, paying for emissions and distributing proceeds uniformly to all people via international payments will have an equalising effect. Less developed countries who have generally contributed less to causing climate change will benefit.

Metrics for evaluating effectiveness and impact are two-fold: firstly the size of the monetary transfers will be transparent; secondly, the economic pressure on greenhouse gas emission is expected to cause reductions. The size of both of these effects will depend on what emission prices nations vote for. Accurately assessing the effects of Themis will be difficult as it requires comparison to the counterfactual of events in the absence of Themis.

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CLIMATE INVESTMENT FUNDS – SUBMISSION TO THE GSLTF CALL FOR PROPOSALS

15 August, 2025

1. Concept

1.1 Description of the proposed mechanism for distributing revenues from solidarity levies

CIF Background

The Climate Investment Funds (CIF) provide a catalytic multilateral response to the climate crisis. CIF brings six major multilateral development bank (MDBs)[1] together as a system and drives them to offset the investment risks for clean technology and climate solutions in emerging markets and developing economies (EMDEs).

With $12.5B pledged, CIF is one of the largest active climate finance mechanisms globally. CIF's 362 approved projects span 82 countries, including 26 Least Developed Countries (LDCs) and 15 Small Island Developing States (SIDS).

CIF operates through two key funds, each with distinct objectives and programs under implementation:

- The Clean Technology Fund (CTF) - capitalized at $9.0 billion, provides large-scale financial resources clean technology projects in low- and middle-income countries, which support the transfer and deployment of low-carbon technologies with significant potential to reduce long term GHG emissions. The CIF Capital Market Mechanism (CCMM) - a pioneering initiative launched in 2025 – will unlock billions of dollars more in private sector capital to support CTF investments.

- The Strategic Climate Fund (SCF) - capitalized at $ 3.5 billion, provides finances innovative approaches and scales up activities targeting specific climate change challenges or sectoral responsesthematic areas such as forestry, renewable energy, nature-based solutions, and adaptation and resilience.

[1] : The African Development Bank (AfDB), the Asian Development Bank (AsDB), the European Bank for Reconstruction and Development (EBRD), the Interamerican Development Bank (IaDB), the International Finance Corporation (IFC), and the World Bank.

CIF's new program for adaptation and resilience (ARISE) under the SCF provides a particularly strong channel for the Global Solidarity Levies Task Force (GSLTF) to address its objectives.

1.2 Explanation of how the mechanism works and meets the outlined objectives.

CIF Support for Adaptation and Resilience

Since inception in 2008, CIF has actively supported climate adaptation and resilience. CIF's $1.2 billion Pilot Program for Climate Resilience (PPCR) has been particularly effective in enabling the MDBs engage in this space, while refining the CIF's country-led approach to address the needs of communities on the front lines of the climate crisis, especially the highly vulnerable LDCs and SIDS. The PPCR spanned 18 countries and two regions, exceeding expectations across nearly all performance measures, reaching over 65 million people - as confirmed by a recent independent evaluation.[2] The table below illustrates achieved results against targets as of December 31, 2024, showing achievement rates of **more than 100 percent** relative to the respective program-level targets.

PPCR Results 2024 – Cumulative vs Target

	Indicator Summary	To 2024	Target	Indicator Achievement Rate
1	Area covered by **sustainable land &water** management (Ha)	583,064	364,697	160%
2	Area **protected from flood**/sea-level rise/storm surge (Ha)	75,789	71,949	105%
3	**Embankments, drainage, sea walls** (Km)	1,154	1,153	100%
4	Beneficiaries of **adaptation financing** facilities (entities)	13,863	10,238	135%
5	**Policies, plans, strategies** (#)	844	842	100%
6	**Climate-resilient roads** constructed or rehabilitated (Km)	3,063	2,798	109%
7	**Small-scale infrastructure** (units)	16,637	14,363	116%
8	**Hydromet and climate information** (stations)	2,552	1,567	163%
9	**Knowledge products, studies, systems** (outputs)	964	828	116%
10	Persons receiving **climate-related training**	992,361	302,070	329%

[2] PPCR summary presentation & PPCR evaluation report

CIF's new **Accelerating Resilience Investments and Innovations for Sustainable Economies (ARISE) program** builds on the PPCR's experience to activate new approaches, innovations and partnerships for adaptation and resilience, and achieve impact at scale with a focus on low-income and vulnerable countries. The program addresses persistent barriers in adaptation finance, such as the fragmentation of funding, limited scalability, low private sector engagement, and high transaction costs for developing countries. It introduces a next-generation programmatic model that emphasizes systems-level transformation, long-term investment pipelines, and integration with national development priorities using CIF's unique position in the global climate finance architecture to advance:

1. Leadership through central agencies (Planning/Economic-Finance/Treasury) in developing countries;
2. Country-led, multi-stakeholder, programmatic approaches;
3. Collaboration among MDBs and other international entities, including the MCFs;
4. Community-driven, locally led adaptation and resilience work; and,
5. Strategic use of concessional finance spearhead high-risk investments, including engaging the private sector.

ARISE was designed in consultation with MDBs and other MCFs to ensure complementarity and identify systematic entry points for collaboration. This includes co-financing opportunities and shared access mechanisms to ease the burden of access to finance for vulnerable countries.

1.3 Evaluation of institutional capacity to implement and manage the mechanism.

CIF's capacity to implement and manage climate funds is well documented by independent evaluations of its multiple programs. These materials are publicly accessible at CIF's website (https://www.cif.org/evaluation-and-learning) and have reinforced CIF's standing as a leader in climate finance.

CIF's capacities are strengthened by the extensive expertise and knowledge of its MDB partners, and deployed through a unique country-led programmatic model, whose sustained success has been independently verified. The programmatic approach hinges on the principles of (i) country ownership, (ii) multi-stakeholder engagement, (iii) systems

level thinking, (iv) predictable and flexible finance and (v) cohesive MDB engagement – al supporting developing countries with technical assistance, co-financing, and coordination. CIF works closely with key central agencies (e.g. Ministries of Finance, Economic Planning and Treasury) in EMDEs and implementing MDBs to strategically deploy concessional resources, ensuring that investments align with national policies, budgets, and strategies. while also engaging other key stakeholders to ensure a coherent systems approach.

CIF also holds a well-establish position within the international climate finance architecture and regularly engages with the three other major MCFs - the Adaptation Fund (AF), the Green Climate Fund (GCF) and the Global Environment Facility (GEF). MCFs emphasize transparent communication, decision-making, and reporting mechanisms, which are essential for tracking progress and building trust among various stakeholders, thereby enhancing collaboration and effectiveness. In this context, CIF and its partners, can provide a robust and recognized channel for the revenues generated by the GSLTF and sending a powerful signal for even greater collaboration in addressing the climate crisis and delivering effective climate finance.

2. Operational Framework

2.1 Implementation timeline and key milestones.

CIF anticipates launching a global call for proposals for ARISE once sufficient funds are have been raised – ideally in 2026. CIF will maintain its standard processes for the selection of countries and deployment of resources from the GSLTF, while exercising flexibility in timing to allow for the establishment of appropriate structures between the GSLTF, the CIF and its MDB partners.

All ODA eligible countries can apply for CIF funding through a structured process, as illustrated in the figure below. Successful countries receive Investment Plan Preparation Grants to support their work.

2.2 Governance and oversight structure

Each of CIF's two funds - the CTF and the SCF - are governed by a Trust Fund Committee that oversees and decides on strategic direction, operations, policies and other activities. The CTF and SCF Trust Fund Committees also convene in a Joint Meeting to address strategic, legal, and administrative matters pertinent to CIF as a whole and of interest to both committees.

Equal numbers of representatives from contributor and recipient countries serve as decision-making members of CIF's Trust Fund Committees (full list of members can be found at **CTF** and **SCF**). Each committee is co-chaired by one representative from a contributor country and one from a recipient country. Observers from civil society, Indigenous Peoples, and the private sector also participate in CIF's Trust Fund Committees.

As CIF's implementing partners, the MDBs also participate in Trust Fund Committee discussions. Serving as the CIF's Trustee and manager of its financial assets, the World Bank is represented on the Committees to answer questions and provide guidance on

relevant matters. Additionally, Representatives from other MCFs and relevant UN agencies are invited to observe Trust Fund Committee meetings.

The SCF Trust Fund Committee's decision making around investments for the ARISE program will ensure the equitable allocation of resources across countries selected for the program, subject to the above selection process and related criteria.

2.3 Strategy for transparency, monitoring, and reporting

CIF applies a rigorous results monitoring framework and annual results data analysis across all projects, consistent with EMDE country and MDB systems, feeding into our annual program-specific results reports and performance reviews. CIF's results monitoring systems are designed with sufficient flexibility to align with or be integrated into similar country-level systems. They also align with the MDBs' "Common Approach for Measuring Climate Results" and the twin MCF initiative, and can aggregate results with MDBs' project-level monitoring and supervision systems. Furthermore, these systems evaluate the developments through the framework of the Global Goal on Adaptation, ensuring that both in-country stakeholders and implementing MDBs can track the performance of CIF-backed investments, monitor implementation progress, and report progress toward program objectives.

Additionally, CIF is part of the International Aid Transparency Initiative (IATI) to enhance the transparency of development resources. Funding information, including contributor pledges and agreements, is publicly disclosed, as access to information promotes transparency and public participation, supported by state-of-the-art policies and robust governance frameworks.

3. Financial Considerations

3.1 Estimated budget and resource requirements

CIF does not operate on a fixed replenishment cycle, instead, it conducts fundraising for its programs on an ongoing basis, notably through engagement with sovereign donors. Following the launch of the ARISE program in June 2025, CIF began active fundraising to support its implementation.

CIF aims to deploy up to $35 million per country through ARISE, and CIF's Governing Board will determine the number of countries or regions that can be supported based on the total funding envelope achieved.

In addition to sovereign "core" funding sources, CIF is also actively looking to establish a platform for consolidating other funding sources, including contributions from philanthropies, private sector and entities such as the GSLTF.

Considering the CIF's total program and project related administrative costs as at 2023, the ratio of total administrative cost to programming stood at 4.9%, which is considered efficient and indicative of CIF's commitment to maximizing the impact of its funding.

3.2 Potential for leveraging additional funding

CIF works through the MDBs to maximize capital mobilization across all of its programming and is proud of its track record of mobilizing almost $9 for every $1 concessional dollar programmed across its entire portfolio (1:8.7 co-financing ratio). This ratio is around 1:2.6 for past CIF investments in adaptation and resilience under the Pilot Program for Climate Resilience.

A key focus of the ARISE program will be to scale up finance for adaptation in developing countries by crowding in additional public and private capital. In an increasingly constrained Official Development Assistance (ODA) environment, ARISE will use concessional finance to reduce investment risk and promote the development of resilience markets including technologies and services that help economies to adapt and thrive, thereby attracting increased private capital flow for adaptation and resilience.

ARISE will use multiple financing instruments to support the development of Investment Plans and the implementation and sustainability of projects, including grants, concessional loans, equity investments, guarantees, blended finance mechanisms and other innovative financing models. The goal is to enable participating countries to unlock funding and create a robust financial ecosystem capable of supporting long-term resilience while mitigating the greatest risks to national economic and social stability.

3.3 Proposed financial management and disbursement model

Once the CIF Governing Board approves a Country investment Plan or Project, the designated funds are transferred from CIF to the identified lead implementing MDB. The MDB's established procedures and processes then take effect for engagement with the country. CIF continues to engage with national governments and relevant MDB to monitor progress, ensure compliance with safeguards, and provide additional guidance and support services in implementation.

The implementing MDBs are responsible for disbursing to projects and report back to CIF on operational progress and results. MDBs often co-invest with CIF concessional funding and occasionally with private sector capital, helping to further de-risk investments and attract additional funding.

4. Impact and Accountability Measures

4.1 Metrics for evaluating effectiveness and impact

CIF is developing a comprehensive integrated results framework for ARISE to track implementation progress and assess the results achieved over the program's lifespan. The framework will be based on CIF's Monitoring Evaluation and Learning Policy, the ARISE design document and its theory of change. It is intended to create a shared vision and blueprint for monitoring and reporting results. The development of the ARISE integrated results framework is a collaborative process with the MDBs, taking into account the results indicators used by other MCFs as well as international standards, including the Global Goals on Adaptation. The integrated results framework will outline the program's results chain—from program-level outputs, outcomes, and impacts, to CIF level impacts—based on the anticipated scope of investment under ARISE, overall program design, and the theory of change. CIF's key metrics for past programming are published online at https://www.cif.org/results-and-impact.

EQUAL RIGHT
ECONOMIC JUSTICE WITHOUT BORDERS

A Global Commons Fund to Supercharge Solidarity Levies

Summary

The Global Solidarity Levies Task Force ('Task Force') is charged with mobilising finance through internationally coordinated levies on high-impact sectors such as fossil fuels, aviation, and financial transactions. Despite extensive development of potential levy mechanisms, challenges persist around incentive alignment, sustainable revenue generation, and equitable distribution. Equal Right's proposed 'Global Commons Fund' ('the Fund'), first detailed in their report 'Climate Justice Without Borders', offers a robust mechanism that directly addresses these challenges by acting as an effective collection and investment vehicle for the Task Force's levies.

Overview of the Global Commons Fund (GCF)

The GCF would function as a multilateral collection and investment mechanism designed explicitly to manage and reinvest revenues from taxes and charges on the use of the global 'commons' - the wealth of natural and co-created resources we all share as citizens of the world. It would be established by progressive, forward-thinking countries committed to climate and economic justice, and would seek to build a critical mass of participating countries through combining international solidarity and economic incentives. The Fund departs from conventional 'tax and spend' proposals for international revenue raising by providing a self-sustaining investment vehicle that benefits both contributing and recipient nations.

Mechanisms and Functions

Collection of Levies: Acting as a centralised body, the GCF would act as a central body to collect revenue from solidarity levies introduced by participating countries, streamlining administrative processes and reducing bureaucratic overhead. Revenues would be collected domestically first, and then remitted to the fund based on a formula agreed by participating countries.

Investment in Public Goods: Revenues collected by the Fund would be strategically reinvested in public good investments across participating countries. These investments would span critical sectors such as renewable energy infrastructure, sustainable transportation, green technology startups, climate resilience projects, and ethical enterprises promoting environmental stewardship and social equity. The Fund would operate an ethical investment policy to prioritise its investments.

Generating Returns: Based on the performance of other similar sovereign wealth funds, and current market performance, we estimate the GCF could yield real annual returns

ranging between 4% and 8%, depending on the investment portfolio and market conditions. These returns provide an incentive mechanism that appeals to both net contributing and beneficiary nations, broadening political support and participation.

Direct distribution: The GCF would directly redistribute its returns to participating countries. This could be done on a per capita basis, or a negotiated framework reflecting need, level of contribution or successful delivery of international climate obligations (i.e. NDCs). One efficient mechanism might be a per capita dividend payment to each participating country, based on an equal payment to all citizens. We would advocate for this dividend to be spent on individual dividends for citizens, as an expression of their 'Equal Right' to a share of the world's wealth and resources. In practice, countries would be open to spending this money based on their own national priorities. A per capita system is favoured based on simplicity, fairness and creating incentives for large countries to join. However, an alternative system could ring-fence a share of Fund returns for payments based on social justice and equity.

Figure 1: How the Global Commons Fund works

Similar International Models

The GCF's approach is informed by successful precedents in sovereign wealth and resource revenue management funds, including:

Norway's Government Pension Fund Global: Known for its responsible investment strategy, Norway's fund has historically yielded an average annual return of approximately 6% through diverse global equity, real estate, and infrastructure investments. It is currently worth around $1.73 trillion and owns approximately 1.5% of the world's listed companies (NBIM, 2024).

Alaska Permanent Fund: Funded through oil revenue, Alaska's fund provides direct annual dividends to citizens and typically sees returns around 7% annually, demonstrating

sustainable management of the state's resource revenues. The APF is worth over $80 billion and pays an average dividend of around $1700 (APFC, 2024).

Fundo Soberano Maricá (Brazil) - Brazilian municipalities enjoy extensive royalty rights to oilfields in their territory, a fact which has allowed many coastal municipalities in particular, to pursue innovative investment and development strategies. Whilst there are numerous municipal wealth funds across Brazil, the example of Maricá stands out. Worth around $325m (SWFI, 2024), the Marica fund has been paying a 'social currency' to its poorest citizens for over a decade. The payment can only be used with businesses in the municipal boundary, and the payments now cover around 50% of the city's population, with payments worth around $50 a month. A very similar fund operates in the neighbouring city of Niteroi, and numerous Brazilian states and municipalities have established local sovereign wealth funds to sustainably steward fossil fuel revenues.

UK National Wealth Fund (NWF): A state-owned investment institution established in October 2024, evolving from the UK Infrastructure Bank. With a capitalisation of £27.8 billion, its primary objective is to mobilise private sector investment into strategic sectors, particularly clean energy and advanced manufacturing, to drive economic growth and support the UK's transition to a net-zero economy.

How the GCF Addresses Task Force Challenges

1. Aligning Incentives

The Task Force faces significant hurdles in aligning incentives, particularly with fossil fuel-producing nations wary of competitive disadvantages or reduced rent from resource extraction levies. By channelling collected revenues into strategic, revenue-generating investments, the GCF transforms these levies from perceived costs into opportunities for sustainable economic returns, smoothing any actual or perceived losses by net-contributor nations. Such a shift incentivises countries to participate, reducing resistance and fostering a broader coalition of the willing. Countries would not necessarily have to send all levy revenues to the GCF - remittances could be based on a negotiated formula, with contributor countries (such as fossil fuel exporters) retaining a substantial chunk of revenues domestically. However, they would then not benefit from any returns generated by this revenue via the fund.

2. Sustainability of Revenue

As highlighted in the Task Force's fossil fuel levy problem statement, revenue from certain levies, particularly carbon and wealth taxes, can diminish over time as emissions reduce or wealth bases erode or move. By reinvesting levy revenues into sustainable economic activities, the GCF establishes a continuous source of revenue generation that mitigates the issue of diminishing returns. Thus, the GCF creates a stable, permanent funding source, capable of contributing to long-term climate and public finance goals within participating nations.

3. Tackling Inflation Head-on

The introduction of certain levies, particularly on fossil fuels and other consumer goods, is likely to have a downstream inflationary impact on consumers. Instead of ignoring this reality, the GCF offers a mechanism to counter any inflationary losses. In the short term, through the distribution of dividends, the GCF can compensate ordinary citizens for any increased costs, maximising the political feasibility of necessary fiscal reforms. In the longer term, the GCF's investment framework can actively reduce the cost of energy and other public goods, turning private wealth into public wealth.

4. Promoting Intergenerational Equity

The GCF's investment model explicitly addresses the need for intergenerational equity. The Fund's investments, by fostering long-term sustainable economic and environmental improvements, ensure ongoing benefits beyond the initial redistribution phase. This sustained investment approach ensures future generations can benefit from current efforts, aligning strongly with principles of intergenerational justice.

Establishment and Governance

The GCF would be initiated by a coalition of progressive nations, leveraging international solidarity around climate justice. Participating countries would retain substantial oversight through governance structures designed for transparency and effectiveness. However, some form of participatory involvement of citizens and civic society, particularly regarding investment decisions of the Fund, would be necessary for equity and popular support. Such involvement could be managed through a Citizens' Assembly-style mechanism, for example.

Conclusion & Next Steps

The establishment of a Global Commons Fund presents a complementary and synergistic opportunity for the Global Solidarity Levies Task Force. Its innovative approach moves beyond simple tax redistribution to establish a permanent mechanism that enhances incentives, promotes sustainable investments, and ensures intergenerational equity. Through strategic investments in public goods and infrastructure, informed by successful international examples, the GCF has the potential to supercharge the Task Force's objectives, ultimately accelerating global efforts towards a more just, equitable, and sustainable world.

As a next step, Equal Right could work in partnership with the Task Force to model the potential returns of a GCF, based on a sample of hypothesised countries and levies. Such an exercise would demonstrate the amount each country could stand to gain from the Fund over a period of time, and the breakeven point of the Fund (the point at which it would no longer rely on levy income to sustain payments to participating nations). Such a model could then be presented to potential early adopter countries for socialisation and feedback.

A grand bargain for climate mitigation, adaptation and compensation

Prepared by Abhijit Banerjee, Esther Duflo and Michael Greenstone

J-PAL
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The content of this report was discussed in the context of an independent council convened by the COP30 President-designate, Ambassador Andre Correa do Lago to inform on some economic dimensions of COP30, including contributions to the "Baku to Belem 1.3 T" to be presented by the president designate and the president of COP30, and to the COP30 Action Agenda.

SUMMARY

Per capita carbon consumption is vastly lower in Low and Middle-Income Countries (LMICs) than in the OECD, and yet the burden of climate change falls squarely on these countries, where most of the world's poorest live. In this report, we propose a bold new vision for climate finance for developing countries and reducing global greenhouse gas (GHGs) emissions, which puts the idea of compensation for these damages at the core, and links it to the need to take climate action everywhere. The starting point of the proposal is a transparent method to assess present and future damages of OECD CO2e emissions on LMICs, based on the predicted impact of climate change on mortality. We then propose a "grand bargain" wherein developing countries who agree to introduce carbon pricing mechanisms would be eligible to receive damage compensation commensurate with these costs. The bulk of the funds would be distributed directly to citizens and communities as cash transfers, according to simple, parametric rules. We discuss avenues to raise funds for these transfers, using international solidarity levies, notably on richest people and corporations.

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EXECUTIVE SUMMARY

Per capita carbon consumption is vastly lower in Low and Middle-Income Countries (LMICs) than in the OECD, and yet the burden of climate change falls squarely on the former, where most of the world's poorest live. In fact, the group of the world's most disadvantaged both consume the least carbon per head and will experience the largest losses from climate change—including the loss of lives. Yet, the world has not yet managed to come together to raise a significant amount of money to address this problem, or to help poor countries to finance climate change mitigation, which will be essential to address future climate change. Our goal is to put forward a detailed plan that links climate compensation and climate action in a fair and actionable way.

Photo credit: Nelson Antoine, Shutterstock.com

OUR PROPOSAL RESTS ON FOUR KEY IDEAS:

1 A transparent social cost calculation to assess damages owed to poor countries by the OECD for current year-by-year emissions:

a. We set a lower bound on the social cost of carbon by using recent, careful, research that connects a ton of carbon emitted at any point in time to excess mortality from heat in the future. This mortality social cost of carbon is only a part of the damage from that ton, but the most essential. ***A conservative estimate is that the mortality social cost of carbon is just over $100 per ton***.

b. ***Assignment of mortality damages*** caused by any region emissions, and affecting any region emission: Using this social cost of carbon, we can assign a number to the damage imposed by the emissions from any given region to any other region.

c. A key pattern is that almost all the mortality damages are experienced ***outside the OECD countries***.

d. A key pattern is almost all the mortality damages are experienced ***outside the OECD countries***.

e. Under our working assumption, the OECD countries' emissions impose yearly ***$1.8 trillion in current and future mortality damages in 2024*** to non-OECD poor countries (all numbers are expressed in 2025 dollars).

f. ***Polluter pay:*** Based on the polluter pays principle, the OECD countries owe 1.9 trillion yearly in damages to poor countries outside the OECD

2 A concrete proposal to allocate loss and damage funds in participating countries: FAIR (Foreseeable, Automatic, Immediate, Regular)

a. **Pillar 1: Individual transfers**

i. Universal Basic Income (UBI). In countries most affected by climate change, a Universal Basic Income of $3.00 PPP dollar a day will be sent to all adults in the country, complemented by a universal asset transfer every 10 years, with the first transfer when the person reaches the age of 20.

ii. Weather Triggered Basic Income (WTBI). In countries where damages owned are insufficient to fund a UBI, a WTBI is provided instead. Triggered by preset specific weather conditions in each small region, automatic monthly transfers will be sent to all households in that region. This would be available in all participating eligible countries.

b. **Pillar 2: Community block grants** proportional to ex-ante damages (we set it at 10% of yearly damages, on a per capita basis). Allocates grants directly to communities, which are automatically disbursed every year, and are proportional to the expected per capita mortality social cost of carbon. These grants allow communities to undertake repair, protect households collectively, and to undertake protective investments.

c. **Pillar 3: Government insurances.** There would be a disaster insurance fund for LMICs' governments, which are the countries for which access to market finance is most limiting. The disaster insurance funds payment would be proportional to loss of lives.

Based on our computations, in 2024 all this would have cost **$737 billion**, much less than the full value of the mortality damages imposed by emissions. The difference is in many extremely poor, extremely hot African countries, mortality damages are enormous, but the FAIR proposal caps the expenditures.

Simulating the expenditures given climate change prediction, we reach a predicted total of **$1 trillion** in 2099.

3 *A "grand bargain":* A quid pro quo on carbon taxes/pricing to create a coalition of participating countries. Every eligible country (low income country outside the OECD) would in principle be able to apply for damage compensation, provided that

a. They agree to allocate it according to the FAIR proposal above.

b. They agree to put in place a carbon pricing mechanism (tax or cap and trade), graduated by income levels, following the principle of Common but differentiated responsibility.

c. This would have significant impacts on carbon emissions (our estimate is that even for small taxes of $10 a ton there could be a reduction in 100 billion tons of CO2e from countries outside the OECD).

4 *Financing based on* solidarity levies *at the international level*

a. The immediate financing needs will be well below 1.9 trillion dollars in damages, since spending proposal totals $737 billion

b. Money can be raised from various sources, including solidarity levies, and most particularly two of the taxes already implemented or in discussion in the international community: the "Pillar 2" tax of the OECD and the minimum taxation on billionaires that was introduced by Brazil in the G20. This could raise $500-$550 billion annually at first, increasing over time. Other taxes such as aviation tax or the tax on financial transactions could also be mobilized.

We see the scheme that we are proposing as addressing the main concerns in the climate conversation: the growing carbon footprint of developing countries, how to make sure that the money does not disappear on the way (most of it is being delivered directly to the victims), what is the basis for computing who pays what to whom, and where will the money come from. This proposal is a complement and brings together several initiatives that are already underway, including: the Global Solidarity Levy Task Force, the process that led to the establishment of the Loss and Damage Fund, the working group on climate coalitions, the G20 Report on taxation of billionaires, damage calculations by the Climate Impact Lab and the UN Human Climate Horizon platform, and the High Level Expert Group on Climate Finance, and the High Level Panel on the Crisis Protection Gap.

1. Introduction

Per capita carbon consumption is vastly lower in Low and Middle-Income Countries (LMICs) than in the OECD countries, and yet the burden of climate change falls squarely on the former, where most of the world's poorest live. In fact, the group of the world's most disadvantaged both consume the least carbon per head and will experience the largest losses from climate change—including the loss of lives. This is clear from Figure 1, which shows excess mortality by the year 2100 under the RCP 8.5 emission scenario. Most of the poorest countries are bright red, indicating an increase in mortality by 2100, while the OECD countries are largely blue.

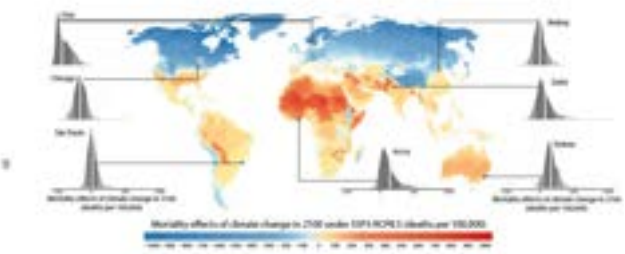

Figure 1 : Expected mortality effects of climate change in 2100 from Carleton et al., 2023.

Basic fairness would suggest that the countries whose pollution is causing climate change should compensate those that are being harmed. Yet, there has been no serious attempt to do so, not even for the world's poorest. Nor has there been a concerted effort to help them cope better with a problem that they neither chose nor caused.

A key aspect of the climate problem that is starting to come into focus, is that while countries outside the OECD are not major contributors to greenhouse gas (GHG) emissions today, they are projected to account for nearly 80% of emissions by the end of this century. This means that any plan to limit climate change must include large adjustments in these countries, compared to expected trajectories. Yet, given all the challenges they face today—including adapting to the consequences of climate change that have already occurred—, the LMICs have very little room for handling this problem.

The current plans for dealing with this inconvenient fact are based on mobilizing a variety of funds from rich countries. After significant efforts by the developing world, there is now recognition of the need for mitigation, adaptation, and loss and damages. The idea is that experts evaluate the needs in the different categories that developing countries cannot fulfill by themselves, and then developed countries make commitments to fill these gaps. COP29, in Baku, was supposed to be mainly concerned with a renewal of these commitments, first made in Copenhagen.

However, the commitments so far have been well below estimated needs (both for mitigation and adaptation), and slow to be fulfilled (even as loans, let alone grants). Even when the money was there, spending has been slow, due to the many constraints placed on the uses of the funds by donor countries. The resulting conflicts are increasingly out in the open and in the meanwhile, poor people are dying and the planet is warming. The "road from Baku to Belem", which is meant to take us from 300 billion to 1.3 trillion in climate finance for developing countries, seems checkered with road-blocks.

Given the urgent need to spur climate action in developing countries, a new vision aims to provide the right incentives to all countries (rich and poor). This is the idea of creating "climate clubs," or "coalitions of the willing" that would impose tariffs on countries who do not implement carbon pricing, at least in the products they export—the EU carbon border adjustment mechanism is one such mechanism. It has the downside of forcing energy transition on developing countries that have done little to cause the problem (the climate coalition working group recommends graduated carbon tax to ameliorate this concern and stay consistent with CBDR), but also the merit of providing incentives to every country (including the bad actors in the rich world) to act, and putting them in the driving seat of how to do it. It has a "stick", rather than a "carrot", approach which reduces the chances that the LMICs, where the great majority of projected emissions are expected to take place, will resist or evade it.

In this report, we propose a bold new vision to provide climate finance for developing countries and reduce global emissions. It has compensation for damages at the core, but links it to the need to take action everywhere, and provides incentives to do so.

- The first step is a transparent methodology for calculating how much is owed to specific developing countries in the form of damages caused by emissions in OECD countries, sidestepping the fraught calculation of "needs". The calculation generates a value for the total present and future damages due to yearly emissions from OECD countries, broken down by country. We propose that this should be the prime basis for calculating how much climate finance should flow to each developing country.
- The second step is a concrete proposal of the way in which loss and damage funds could be spent to reduce poverty and increase climate resilience of individuals, communities, and countries.
- The third step is the idea of a grand bargain for climate mitigation, adaptation, and compensation, in which developing countries become eligible for compensation for climate damages in exchange for introducing graduated carbon pricing, consistent with common but differentiated responsibilities.
- The fourth step is to put in place financing options to raise regular and consistent public funding for the scheme.

Each of these steps can be considered separately, but together, they are a coherent alternative to the current paradigms for climate financing for developing countries. Moreover, they together promise to reduce emissions from the countries that are projected to account for 80% of emissions in the next 75 years.

This proposal is a complement and brings together several initiatives that are already underway, including: the Global Solidarity Levy Task Force, the process that led to the establishment of the Loss and Damage Fund, the working group on climate coalitions, the G20 Report on taxation of billionaires, damage calculations by the Climate Impact Lab and the UN Human Climate Horizon platform, and the High Level Expert Group on Climate Finance, and the High Level Panel on the Crisis Protection Gap.

2. A transparent method to calculate climate changes damages

The core of the "polluter pays principle" is that if one produces pollution that damages someone else, then the polluter should be required to compensate the victims to make them whole. A great appeal of this idea lies in its utter simplicity and sense of fairness. Further, it was introduced by the OECD more than a half century ago (1972) and affirmed a few decades later in the Rio Declaration on Environment and Development (1992).

Here, we explain how this principle can be applied to GHG emissions in a straightforward way. The basis of this approach is to determine the monetary damages associated with each additional ton of CO2 equivalent (CO2e) emissions emitted into the atmosphere. Although the damages from these emissions take many forms, including life risk, crop losses, declines in labor productivity, etc., this proposal focuses on the mortality impacts due to higher temperature. Temperature related mortality accounts for the majority of estimated damages in LMIC, and it is relatively easy to put a number on it. Moreover, restricting the calculations to this category makes our estimate conservative, protecting it against accusations of climate alarmism. Additionally, people go to incredible lengths to avoid death so it sidesteps arguments about its legitimacy as a measure of welfare.

The specific calculation of the damages from an additional ton of CO2 emissions involves a four-step process that is outlined in the figure below. Panel A plots the release of an additional ton of CO2 emissions in the present. Its influence on CO2 concentrations is reported in Panel B; the immediate decline followed by a century-long increase has to do with the fact that the ocean first absorbs CO2 and then releases it. Panel C displays the resulting change in temperature, which makes clear that an additional ton of CO2 emitted today will influence temperatures even three centuries later. The solid lines are median estimates, while the shaded area in Panels B and C depicts the interquartile range of each year's outcome, reflecting uncertainty about the climate system.

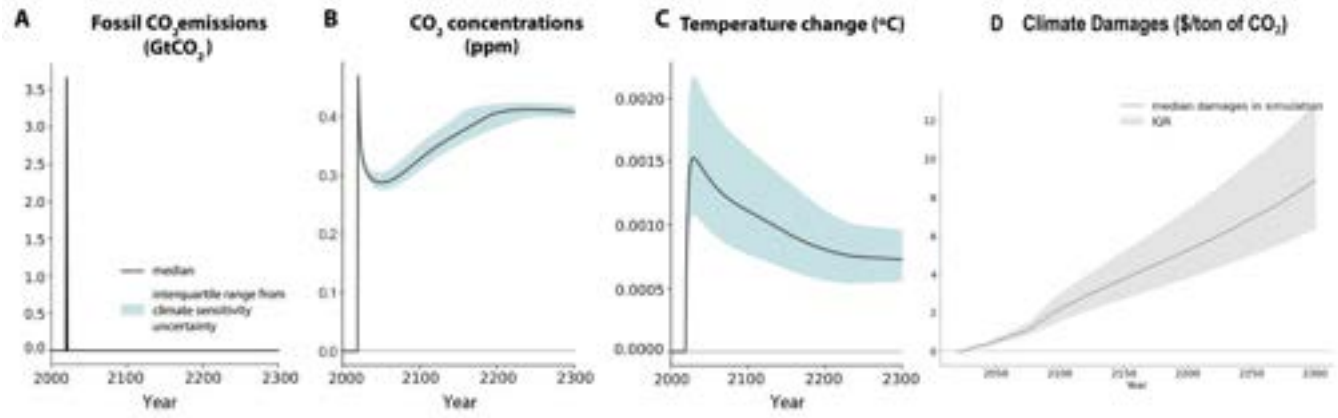

Figure 2: Change in Emissions, Concentrations, Temperatures, and Damages Due to a Marginal Emissions Pulse Today, based on Carleton et al, 2023

Panel D plots the dollar value of the mortality damages annually from a ton of CO2 emitted in the present. These dollar values are calculated by first determining the mortality impacts globally of the marginal ton for each year that the CO2 remains in the atmosphere and affects temperature (assuming a baseline climate change projection of RCP 4.5). The change in mortality is then converted into monetary terms by assigning $2 million to each life lost, wherever it occurs in the world. This valuation of life, known as the value of a statistical life (VSL), does not reflect the value that an individual could pay to save their own life, but rather what people and societies are willing to pay to avoid a modest increase in mortality risk. The VSL concept is used globally in policymaking, including in the US, EU, and Australia, especially for environmental, health, and safety regulations.

The headline number that comes out of this is that an additional ton of CO2 emitted today causes at least **$100 of present and (discounted) future mortality damages**, over the infinite future, which we refer to as the *mortality-driven partial social cost of carbon* (SCC), or mortality SCC for short (this is rounded down from $119, given the uncertainty in the estimates). This is the present value of the year by year mortality damages represented by the solid line in Panel D. Importantly, it reflects the range of projected damages in each year (depicted by the light gray area) by recognizing that people dislike uncertainty. Further, it is calculated using a standard approach to discounting the future (i.e., "Ramsey discounting") that is pegged to the average risk-free discount rate of 2% over the last several decades.

The damage calculation is based on a number of assumptions on VSL, discounting, treatment of uncertainty, population growth, etc. Table 1 reflects our preferred assumptions, but if the general idea of this proposal were to be adopted, the specific set of assumptions would be the responsibility of a governance committee.

The mortality SCC can be apportioned across countries. Table 1 reports on this disaggregation in several ways. It is evident that the damages will be concentrated outside the OECD countries: each ton of CO2 emissions is projected to cause $115 of mortality damages outside the OECD countries and just $3 in OECD countries (see Panel B, Row 1). The small effect in OECD countries is because the increase in deaths in hotter summers is nearly perfectly counterbalanced by a decline in deaths due to warmer winters. Panel C does a further disaggregation and reveals that $74, or more than 60% of the total cost, is projected to occur in Africa. This is because Africa has many countries that are relatively poor and hot today and, moreover, expected to have significant population growth in the coming decades.

Note that for many reasons, the mortality SCC is likely to be a lower bound on damages resulting from emissions: first, it takes into account only mortality, not diseases or economic losses associated with crop losses, labor supply, labor productivity, etc. Second, the mortality effect reflects additional death in a given year. However, something like the kidney damage suffered by someone who works under extreme heat only shows up some years later and therefore will not be ascribed to the year when it occurred. And third, it is missing the broader effects of climate that can cross international borders, like large-scale migration and disruptions in trade. We think this conservative approach makes the least controversial case for damages.

The remainder of Table 1 uses the mortality SCC to compute the payments that rich countries would owe poor countries under our proposed scheme, using 2022 as an example (in future versions of this note, we will calculate the evolution of damages under different predictions of the emissions' trajectory for the OECD countries, as well as changes in the mortality partial SCC). Column 2 reports total CO2e emissions for each region. Globally, there was a total of 53.3 billion tons of CO2e emissions and 15.0 billion tons came from OECD countries.

The remaining columns report the damages caused in the countries and groups of countries listed in the column headings. In the context of the proposal, the key findings are that the OECD countries' 2022 emissions are projected to cause $1.776 trillion in mortality damages and of that, $1.729 trillion (i.e. virtually all of it) will occur in non-OECD countries. Conversely, the 2022 non-OECD emissions are projected to cause just $121 billion of damages in OECD countries, despite the fact that the non-OECD emissions account for nearly 72% of global emissions. As we mentioned before, it is because OECD countries are cooler to start with, and more able to spend resources to adapt to climate change, and thus will experience very little mortality increase under climate change. Panel C allows for additional disaggregation by countries and major groupings of countries.

Table 1: Mortality Climate Changes Damages caused by current annual CO2 emissions

Climate change damages caused by current annual CO_2 emissions

	Mortality partial SCC (USD)	Emissions 2022 (Bt CO_2e)	Total damages to (billions of USD)								
			World	OECD	Non–OECD	U.S.	E.U.	China	India	Africa	Rest of the World
	(1)	(2)	(3a)	(3b)	(3c)	(3d)	(3e)	(3f)	(3g)	(3h)	(3i)
Panel A: World											
World	119	53.3	6,320	169	6,151	-54	111	126	385	3,935	1,816
Panel B: OECD vs. Non-OECD											
OECD	3	15.0	1,776	47	1,729	-15	31	36	108	1,106	510
Non-OECD	115	38.3	4,543	121	4,422	-39	80	91	277	2,829	1,305
Panel C: Major regions											
U.S.	-1	6.1	719	19	700	-6	13	14	44	448	207
E.U.	2	3.3	396	11	386	-3	7	8	24	247	114
China	2	13.4	1,589	42	1,547	-14	28	32	97	989	457
India	7	4.0	469	13	456	-4	8	9	29	292	135
Africa	74	4.7	552	15	537	-5	10	11	34	344	159
Rest of the World	34	21.9	2,595	69	2,525	-22	46	52	158	1,616	745

Notes: Data Source: Climate Impact Lab. Scenario: RCP 4.5. All monetary values are 2025 USD (rounded to whole numbers). Damages (cols 3a–3i) are expressed in billions of USD. Emissions are measured in billions of tons CO_2 equivalent and rounded to one decimal. "Rest of the World" comprises all countries other than the U.S., E.U., China, India, and the African countries.

A straightforward application of the "polluter pays principle" then say that the OECD countries would owe non-OECD LMIC countries $1.8 trillion for their 2022 emissions (for comparison, world GDP was 101 trillion US dollars). Africa's claim on this total would be $1.106 trillion. To further contextualize these numbers, Africa's GDP in 2022 was about $3 trillion, which, at once, underscores the magnitude of the projected damages there (37% of current GDP) and climate change's inherent inequities. Further, it is noteworthy that these damages are associated with just one year's emissions and that the OECD countries' 2023's emissions would cause a similar amount of damages. A further logical step is that each country is "owed" the amount of damages that is specific to them. This is taken into account in the rest of our proposal.

3. FAIR *(Foreseeable, Automatic, Immediate, Regular)*: A concrete proposal to allocate and spend loss and damages funds

A contentious aspect of climate finance is the governance of the funds and, in particular, the permitted uses of the money. Funds raised for mitigation and adaptation, both from multilateral and bilateral donors, come with numerous strings to ensure that they are spent according to the objectives of each donor, which may not be what countries prioritize. In fact, some of these rules make it impossible for many of the poorest countries to apply directly for some of the multilateral funds. As a result, the spend rates of climate funds have been surprisingly low and certainly not commensurate with the urgency of damages in LMICs or need to cut emissions globally.

The "Fund for Responding to Loss and Damages" agreed upon by COP28 was set up as an independent fund within the World Bank to help it become active and operational faster, but this means that it will inherit the rules and procedures of other international climate funds, and some of the tensions. It is essential to find a way to disburse funds more quickly, and with less overhead. At the same time, it is important to ensure that money that is meant to compensate people for the present and future losses of climate change really does that.

Our solution to this problem is to send the bulk of the funds directly to individuals in the form of cash transfers, and use the remainder to enable communities and governments to purchase parametric weather insurance.

This gives us a three pillar solution:

- Pillar 1: Individual transfers
- Pillar 2: Community insurance
- Pillar 3: Government insurance

PILLAR 1: INDIVIDUAL TRANSFERS

Today, it is possible to connect every citizen in the world, even in the poorest, most vulnerable countries, to individual financial accounts, allowing them to receive money quickly and efficiently. This will require some investment in transfer infrastructure—especially in the poorest countries—and the adoption of appropriate safeguards, but it is entirely doable. If a government is willing to participate, it is possible to organize the registration of every citizen in a direct cash transfer system. There is considerable evidence from more than a hundred studies on direct cash transfer, that people who receive such cash transfers use them well, and several studies also show that cash transfers make households more resilient, notably by facilitating adaptation at the individual level.

Those transfers would not need to be sent directly from a central international account to each household. The logistics of the transfers would vary, from country to country. Typically, they would transit through each country's social protection system, unless the country does not have the financial infrastructure in place. But the principle would remain the same: people, not countries, would be at the center, and the fund would agree on a rule about how much each person gets.

Although the details could be worked out, we propose (and provide costing for) a tiered system, to make the money go the furthest in helping people adjusting to climate change:

1. **Universal Basic Income (UBI).** When countries have enough damages to finance it (those are the poorest, hottest countries), there will be in addition a Universal Basic Income of $2.15 PPP dollar a day, sent to all adults in the country and a universal asset transfer every 10 years, with the first transfer when the person reaches the age of 20.

2. **Weather Triggered Basic Income (WTBI).** Triggered by preset specific weather conditions in each small region (predicted heat waves), automatic transfers will be sent to all households in that region. This would be available in all participating eligible countries.

PILLAR 2: COMMUNITY TRANSFERS: BLOCK GRANTS FOR COMMUNITIES THAT ARE AFFECTED BY CLIMATE CHANGE

Some climate-related disasters, such as heat-waves or floods, cannot be effectively addressed or prevented by individuals alone. The second pillar of our proposal allocates grants directly to communities, which are automatically disbursed every year, and are proportional to the expected per capita mortality social cost of carbon. These grants allow communities to undertake repair, protect households collectively, and to undertake protective investments, such as building levees, providing cool spaces in hot months, repairing damaged infrastructure, or installing air conditioning in schools.

PILLAR 3: DISASTER INSURANCE FOR GOVERNMENTS IN LOW INCOME COUNTRIES

Climate change will also increase the frequency of other weather-related events. Of the 393 disasters reported by the Emergency database EM-DAT (a database on the occurrence and impacts of over 26,000 mass disasters worldwide from 1900 to the present day compiled from various sources, including UN agencies, non-governmental organizations, reinsurance companies, research institutes, and press agencies by the Center for Research on the Epidemiology of Disasters). In 2024, 147 were the result of storms, while 142 were caused by floods.

When a disaster strikes, the government ends up being the insurer of last resort, through the provision of disaster relief. This is also true in rich countries, where government funded relief agencies, such as FEMA in the US, intervene in case of disaster, but given the lack of well-developed formal insurance markets in poor countries, government intervention is even more critical. In India, for example, where nearly 3,000 people died in floods and storms in 2024-2025, the central government alone spent 3 billion dollars (0.8% of GDP) on disaster relief.

At this time, according to a recent report by the high level panel on risk prevention, only 2% of the financing for coping with disasters is pre-arranged, through contingent loans, grants, and insurance. And only 1.4% of the pre-arranged amount reaches low income countries: for every $5,000 of the amount spent on crisis finance worldwide (76 billions), only 1 dollar goes to low income countries as pre-arranged finance.

When a poor country encounters a crisis, it launches a desperate search for funds: in its own budget by cutting other social services, by passing a begging bowl among bilateral and multilateral donors, and sometimes by borrowing. It is far from being an ideal system. First, it hobbles the country's finances, often worsening their fiscal situation and slowing down recovery. If resources were available, we would expect a growth rebound right after a disaster, as the region rebuilds. Instead, according to the IMF, LMICs that face disasters grow 1 to 2 percentage points slower after a disaster.

To address this problem, we propose a third pillar which is a disaster insurance fund for LMICs (excluding the upper middle income countries), which are the countries for which access to market finance is most limiting. The disaster insurance funds would be set up to partially cover the costs of damages experienced.

Note that neither the WTBI nor the disaster insurance for the governments are trying to tackle climate attribution. Instead, we are proposing to insure households and governments against weather shocks because they are poorly insured, and this is an effective way of spending damage money.

Costing

In Annex 1, we propose a costing for each of these three pillars. At the moment, given data availability, we calculate the cost that would have been incurred in 2021, given the actual realization of temperatures, and disasters. In a future version, we will provide a simulation for the financing needs under different climate scenarios until 2100.

Following established practice in the COP process, we consider the set of eligible countries for WTBI, and community transfers to be the "developing" countries (countries outside Annex I), while the set of eligible countries for disaster insurance are the low and lower middle income countries in this group (in the next section we discuss what countries would need to do to access the funds).

Countries are eligible for UBI if 70% of their total damages would be sufficient to cover a transfer of 2.15 dollars a day at PPP, after WBTI is financed. Covered countries are therefore the poorest, most vulnerable countries (Annex I includes a list).

Under this scenario, the total financing needs in 2025 would have been:

- $197 billion for the WTBI
- $280 billion for UBI in the most affected countries
- $186 billion for community transfers
- $55 billion for government disaster insurance in low and lower-middle income countries

This is a total of $721 billion, well below the estimated mortality damages from OECD emissions under a moderate climate change scenario ($1.8 trillion).

In the attached technical note we propose a simulation of the expected spending for these three pillars in future years given climate changes, population increases, and disaster may become more present. The overall expenditure continue to stay well below projected below damage until the end of this century at least.

4. A grand bargain: climate damages in exchange for climate mitigation

Our core proposal is to complement the current system of climate finance by a "damage money for mitigation" bargain, where damage compensation is used as a "carrot" to introduce carbon pricing.

Carbon pricing (either in the form of a carbon tax or in the form of market based emissions trading mechanisms) would serve as a signal of the willingness to take serious steps in reducing emissions. They would apply economy-wide and cover scope1 and scope 2 emissions. Following the principle of common but differentiated responsibility, the carbon price could have several tiers based on current income, for low income countries, low-middle income countries, middle income countries, high income countries. There should be coordination with CBAM or other tariff based "sticks", so that the carbon price under these schemes would satisfy CBAM requirements.

Importantly, just as in CBAM, the revenues from the carbon tax would stay within each country. Thus, the political acceptance of the tax would be easier, because by participating, poor and severely affected countries would be able to redistribute significantly more than they collect.

Every country outside Annex I would be in principle eligible for damage compensation, provided that:

1. They agree to allocate it according to the FAIR proposal above.

2. They agree to put in place a carbon tax, graduated by income levels following the principle of Common but differentiated responsibility.

Point (2) borrows from the Climate Club idea the main insight that it will be much more effective for each country to be in the driver seat of their climate transition. With strong incentives to reduce emission, LMICs can be in the driver seat of their own emissions' trajectory.

The climate grand bargain proposes a solution to climate changes based on autonomy cooperation: countries would voluntarily agree to set up a carbon tax in order to get access to significant transfers to compensate their citizens for climate damages, and help them deal with the consequences of climate change in their everyday lives. The carbon tax would not need to be the same in all countries: it could be set up to reflect income levels.

Clearly, in this scheme, nobody gets exactly what they want: developing countries want compensation for loss and damages, without counterparts. Rich countries want them to implement high carbon taxes to curb their future emissions, and would prefer not to pay anything in exchange. But with each of them giving something up to get something, we may finally be able to make progress.

The table on the next page shows the projected change in emissions under this proposal.

Table 2: Climate and Economic Impacts of Heterogeneous Carbon Prices in Low and Middle Income Countries, 2025–2050

	Business as usual	Carbon prices in 2025: \$10/t (Low), \$30/t (Lower-middle), \$50/t (Upper-middle) all rising 5% annually in real terms		
	(billion tCO_2e)	Cumulative Change in Emissions (billion tCO_2e)	Present Value of Cumulative Reduction in Climate Damages (billion \$)	Avg Annual Carbon Price Revenue (% of GDP)
	(1)	(2)	(3)	(4)
Low and Middle Income Countries By Income Group				
Low income countries	49.2	-1.4	325.4	2.9
Lower-middle income countries	224.5	-51.2	11,892.6	2.8
Upper-middle income countries	242.2	-70.6	16,335.0	5.6
Total	516.0	-123.2	28,552.9	4.0

Notes: Data sources: Larsen et al. (2025), Black et al. (2023), and World Bank (2025). The table summarizes the effects in low and middle income countries of carbon-price paths applied by income group: \$10/t in 2025 for low income countries, \$30/t in 2025 for lower-middle income countries, and \$50/t in 2025 for upper-middle income countries, each rising by 5% annually in real terms. Column (2a) shows the change in cumulative emissions relative to the Business-As-Usual scenario, in billion tCO_2e. Column (2b) reports the present value of cumulative avoided climate damages (billion 2025 USD) with a 2% annual discount rate. Column (2c) reports the average annual carbon-tax revenue as a share of GDP (%). China and Argentina are not included because they will be high-income countries in 2026.

5. Financing options: Solidarity levies

Getting serious about damage compensation and the grand bargain would require committing real flows of funds towards the damage funds, ideally to cover the emission damages of 1.7 trillions (at least it should be the notional target), and at a minimum the 700 billions that we estimate would be necessary to finance our redistribution proposal.

This money has to come from public sources, because while investing in the poorest people and getting full cooperation from the developing countries on climate mitigation has huge social return, there is no private money to be made in compensating the world's poorest for the climate damages they experience.

The simplest solution would seem to be to impose an additional carbon tax of $100 in all OECD countries, to be redistributed to poor countries. This would be symmetric to the effort required from LMIC to participate. Alternatively, each country in the OECD could be given the task of collecting taxes equal to $100 times their yearly emissions, in whatever way they see fit. However, developed countries have made it very clear that they will not sign up for any "liability" for past or present climate damages, and the COP framework puts voluntary commitments at the heart of the mechanism. This makes both of these options impractical. But the problem is that voluntary public transfers to the Loss and Damage funds have been minimal.

Our proposal to resolve this tension is thus to replace the commitment to raise a certain amount of dollars every year by a commitment to put in place regular sources of financing, and allocate them to fund damages. This money could come from general budgets, additional carbon taxes, orfrom one of the "Global Solidarity Levies" which have been studied by the Global Solidarity Task Force. Ideally, those taxes would be enforceable by a group of "willing" countries, even if some large countries do not sign up.

The Global Solidarity Levies considers a number of possible levies (such as taxes on extractive industries, shipping, aviation, rich people, tax on financial transactions), one of which (the tax on shipping) has already been the subject of a global accord and one (airplane tax) is under active discussion.

To raise sufficient funds that can indeed be redistributed in poor countries, we propose to focus on two taxes, one of which is already in place (OECD, Pillar 2, the taxation on the largest multinational corporations) and the other has been the topic of discussions at the G20 (tax on billionaires):

- OECD Pillar 2 could be reformed to remove loopholes and could be increased from 15% to 21%. According to EU-tax simulation, this would raise an additional $300 billion every year (this is assuming that the US corporations pay, which may not be the case, given recent G7 negotiations).
- A yearly tax of 2% on the wealth of the 3,000 richest billionaires would raise $200-$250 billion (according to the report for the G20). The report also outlines practical steps that could be taken to make this tax a reality.

These two sources alone would raise $500 billion a year for now, enough to fund the current spending needs. The gap between $500 billion and $1.7 trillion could be covered by exploring different funding sources (including a tax on financial transactions). There could also be commitment funds raised by solidarity levies would continue to be allocated to these needs in eternity, even after OECD countries reach levels of emissions. In future versions of the note, we will explore minimum permanent yearly commitments to cover the flow of damages owed, and how they could be funded.

6. Governance

We have sought to design a system that requires few decisions and has very little overhead. Nevertheless, a governance system will be necessary to make some critical decisions: assumptions underlying damage calculations, benefits level, parametric insurance rules, payout on the country level insurance, etc. There will also need to be a financial host for the fund and to monitor disbursement.

Climate Compensation for LMICs: A Spending Simulation

September 4, 2025

1 Introduction

This short technical note quantifies the expenditures associated with the Banerjee-Duflo-Greenstone proposal for climate compensation. Under the proposed system, any LMIC that incurs climate damages would receive compensation.

Compensation is provided at 3 levels, to:

- *Individuals*–in the form of either:
    1. a **Universal Basic Income (UBI)**, which is provided in the most affected countries. A UBI is composed of a daily transfer (hereafter, "*daily UBI*") and a large lump-sum transfer provided every 10 years (hereafter, "*Universal Asset Transfer (UAT)*"), *or*
    2. a **Weather-Triggered Basic Income (WTBI)** in months with five or more days with mean temperature over 32°C. A WTBI is funded in places where the compensation budget is insufficient to fund a UBI.
- *Communities*–who receive a yearly **community block grant** corresponding to 10% of the total per capita damages the country incurs, for each of its members
- *Governments*–who receive support through a **disaster insurance** scheme that provides payouts in the event of climate-related disasters.

The cost of funding each module is presented in Section 2. The budget available for each country is determined by the total damages it incurs from OECD countries' carbon emissions, which are estimated in Carleton et al. (2025). Any unspent budget is carried over to the following year. Section 3 outlines the assumptions used to estimate these damages and describes how we determine which modules can be implemented given budget constraints. In Section 4, we report the resulting spending on each program for the year 2024. In Section 5, we estimate the total spending that would result from implementing the proposal each year between 2020 and 2099.

The exact methodology employed to derive these results is presented in a companion technical note.

2 Compensation Costs

2.1 Universal Basic Income (UBI)

Table 1: Cost of providing a Universal Basic Income in the most affected LMICs in 2022 (constant 2025 bn USD)

Country	Population (millions)	Share of pop. reached (%)	UBI cost
Burkina Faso	22.69	41.02	4.75
Niger	23.33	36.97	4.39
Pakistan	214.06	50.08	38.59
Afghanistan	42.74	39.61	5.52
Bangladesh	169.45	55.29	46.47
Sudan	56.27	46.92	16.92
Mali	21.42	39.56	4.15
Nigeria	211.38	41.99	55.77
Chad	15.27	40.34	3.26
Somalia	11.62	40.49	4.2
Togo	7.52	47.49	1.97
Benin	12.07	43.12	2.68
Iraq	42.63	44.86	11.53
Ghana	31.32	46.79	8.25
Tanzania	61.25	40.86	11.18
Senegal	16.29	43.1	4.04
Mozambique	29.69	43.3	7.59
Malawi	21.21	39.18	4.32
Côte d'Ivoire	23.78	45.58	6.31
Central African Republic	5.43	46.21	1.7
Uganda	48.24	37.73	10.06
Guinea	12.11	42.72	2.35
Cameroon	24.4	45.7	5.54
Nepal	36.9	51.34	7.97
Sierra Leone	7.61	44.21	1.4
Syria	24.94	52.44	5.14
Zimbabwe	13.15	46.8	2.92
Liberia	6.12	44.49	0.01
Mauritania	4.42	47.34	1.09
Guinea-Bissau	1.87	44.87	0.46
Djibouti	1.07	50.35	0.45
Gambia	2.27	43.42	0.45
Total			**281.44**

Notes: Simulated costs of providing a UBI composed of a daily transfer of $3 PPP (constant 2021 USD) and a UAT worth 2 years of daily UBI once every 10 years. All costs are expressed in billions of constant 2025 USD. The share of population reached corresponds to 80% of all adults aged 18 or more. Values reported only for countries for which damages incurred are enough to fund a daily UBI.

In the countries most affected by climate change, adults receive a UBI, without targeting, composed of a daily transfer of $3 PPP for a year—calibrated to the international poverty

line—and a larger lump-sum transfer equivalent to two years' worth of daily transfers, disbursed once every ten years. We refer to this large transfer as a *Universal Asset Transfer (UAT)*.

The cost of funding a UBI is reported in Table 1, where we report numbers for the set of countries for which we can fund a UBI given the budget constraints, which we introduce in Section 3.

2.2 Parametric Insurance

Table 2: Cost of providing climate insurance to LMICs in 2022 (constant 2025 bn USD)

Country	**WTBI Recipients (millions)**	**WTBI cost**	**WTBI spending**	**Disaster insurance cost**	**Total Insurance cost**
Burkina Faso	7.93	1.22	*0*	6.95	8.17
Niger	8.62	1.79	*0*	7.75	9.54
Pakistan	94.86	12.65	*0*	4.45	17.1
Afghanistan	3.21	0.14	*0*	0.64	0.77
India	562.54	52.64	*93.41*	5.39	58.03
Bangladesh	0	0	*0*	0.44	0.44
Sudan	24.86	7.38	*0*	8.62	15.99
Mali	7.47	1.21	*0*	6.1	7.31
Nigeria	26.11	3.54	*0*	11.16	14.71
Chad	6.04	0.99	*0*	6.38	7.37
Somalia	0.67	0.15	*0*	0.06	0.21
Togo	0.44	0.05	*0*	0.07	0.12
Benin	0.61	0.08	*0*	0.11	0.19
China	0.18	0.02	*32.35*	0	0.02
Iraq	18.95	4.32	*0*	0	4.32
Ghana	1.96	0.18	*0*	0.06	0.24
Tanzania	0	0	*0*	0.03	0.03
Dem. Rep. of the Congo	0	0	*10.89*	10.77	10.77
Senegal	0.97	0.18	*0*	0.15	0.32
Mozambique	0.09	0.01	*0*	0.51	0.52
Malawi	0	0	*0*	6.94	6.94
Côte d'Ivoire	0	0	*0*	0.03	0.03
Egypt	8.69	0.86	*14.01*	0	0.86
Iran	12.05	9.0	*13.78*	0	9.0
Central African Republic	0.02	0	*0*	6.42	6.42
Uganda	0	0	*0*	6.36	6.36
Guinea	0.07	0.01	*0*	0.08	0.09
Cameroon	2.79	0.37	*0*	6.47	6.83
Nepal	2.82	0.21	*0*	0.42	0.63
Sierra Leone	0	0	*0*	0.03	0.03
Syria	5.15	0.31	*0*	0.01	0.31
Philippines	0	0	*6.29*	1.53	1.53
Zimbabwe	0	0	*0*	0.03	0.03
Myanmar	3.03	0.11	*7.08*	0	0.11

Continued on next page

Table 2: Cost of providing climate insurance to LMICs in 2022 (constant 2025 bn USD)

Country	**WTBI Recipients (millions)**	**WTBI cost**	**WTBI spending**	**Disaster insurance cost**	**Total Insurance cost**
Turkey	4.02	0.29	*6.64*	0	0.29
Mauritania	1.42	0.35	*0*	0.04	0.38
Algeria	2.43	0.29	*4.87*	0	0.29
Vietnam	0	0	*4.53*	0.17	0.17
Cambodia	1.08	0.06	*4.05*	0.08	0.14
Thailand	24.94	1.28	*3.45*	0	1.28
Uzbekistan	0	0	*3.0*	0.01	0.01
Zambia	0	0	*2.22*	0.01	0.01
Djibouti	0.54	0.18	*0*	3.98	4.17
Sri Lanka	0	0	*1.58*	0.04	0.04
Laos	0	0	*1.3*	0	0
Morocco	0.03	0	*1.09*	0	0
Gambia	0	0	*0*	0.02	0.02
Tunisia	0.17	0.01	*0.97*	0	0.02
Republic of the Congo	0	0	*0.81*	0.09	0.09
Haiti	0	0	*0.72*	0.02	0.02
Libya	0.34	0.06	*0.55*	0	0.06
Nicaragua	0	0	*0.42*	0.01	0.01
Yemen	2.2	0.39	*0.39*	0.27	0.66
Bolivia	0	0	*0*	0.15	0.15
Colombia	0.01	0	*0.03*	0	0
Australia	0.14	0.08	*0*	0	0.08
Ethiopia	0.83	0.07	*0*	0	0.07
Saudi Arabia	17.73	6.21	*0*	0	6.21
Venezuela	0.23	0.09	*0*	0	0.09
United States	8.42	2.44	*0*	0	2.44
United Arab Emirates	7.48	4.06	*0*	0	4.06
Kenya	0.13	0.01	*0*	0	0.01
Mexico	2.15	0.51	*0*	0	0.51
Total	**874.41**	**113.79**	***224.88***	**102.86**	**216.65**

Notes: Simulated costs of providing a WTBI and disaster insurance to countries that experience positive damages. All costs are expressed in billions of constant 2025 USD. The minimum cost of providing a WTBI at $4.2 PPP (constant 2021 USD) per day in hot months is indicated in the column "WTBI cost", while the actual amount spent on WTBI under the proposal is reported under "WTBI spending". "WTBI recipients" correspond to 80% of the number of adults who experience at least one hot month. The cost of disaster insurance corresponds to the mortality damages from disasters, defined as the death toll from disasters multiplied by a constant VSL of $2M. Disaster insurance is provided only for low and lower middle income countries.

Automatic transfers are sent automatically following extreme weather events. Insurance is provided at 2 levels:

1. *Individuals* in countries without a UBI receive a *Weather Triggered Basic Income (WTBI)* corresponding to the transfer of $4.2 PPP per day for 30 days in any month

with at least 5 days exceeding 32°C. This amount reflects the lower-middle-income poverty line.

2. *Governments* of low income and lower middle income countries receive insurance payouts following climate disasters, corresponding to a fixed share of the total climate damages incurred from global carbon emissions

Countries' income groups are defined using thresholds on GDP per capita. These thresholds were chosen so that the resulting income groups match the World Bank's 2025 lending groups.

To estimate the total WTBI-eligible population in 2021, we use data on daily temperatures and population across 24,378 separate regions around the world, of a size comparable to a U.S. county, obtained from Carleton et al. (2025).

For government insurance, we use data from EM-DAT to measure the total number of deaths that resulted from climate-related disasters between 2020 and 2024 in low and lower middle income countries. This number is transformed into a monetary amount using a constant Value of a Statistical Life (VSL) of $2M to approximate the payouts of the disaster insurance scheme.

EM-DAT includes all disasters worldwide in which over 100 persons were affected and more than 10 died. We focus on large droughts, floods, storms, and fires. Missing values are imputed by fitting a poisson regression of deaths on various observables, and using the resulting coefficients to predict total deaths.

The breakdown of the estimated cost of climate insurance for 2022 is presented in Table 2.

2.3 Community Block Grants

Each community receives a yearly transfer, proportional to the amount of damages incurred from OECD countries' carbon emissions, and to the population in that community. In particular, each community receives 10% of the per-capita damages experienced multiplied by its total population. The amounts of these community grants are presented in Table 4.

3 Budget Constraints

Estimating budgets—For each country, the maximum total compensation provided is determined by the mortality damages incurred from OECD carbon emissions. Damages are estimated using the data and methods presented in Carleton et al. (2025), under a moderate climate change scenario (RCP 4.5, SSP2).

Disbursing funds—In each country, a UBI is provided if funds are sufficient to cover it together with community block grants. Otherwise, a WTBI is provided, along with the

community transfer. When available resources are insufficient to fully finance both a WTBI and community transfers, the budget is allocated between them according to a fixed share until exhausted. Disaster insurance is always provided, even if doing so requires exceeding the budget. In practice, disaster insurance payouts would be financed from pooled reserves of unused funds.

In countries where a UBI is funded, any unspent budget automatically rolls over to the next year. On the other hand, in countries receiving a WTBI, any residual funds after financing the WTBI, community grants, and disaster insurance are used to increase the daily WTBI rate until fully exhausted.

4 Expenditures

Table 4 presents the total spending on each module that would have resulted from implementing the proposal in 2022. The potential cost of funding a UBI is reported, with values in bold indicating that a UBI is funded.

Note that budgets are enough to fund a either UBI or a WTBI in every country except Yemen. In this case, the budget is allocated between WTBI and community grants until exhausted. Here, we assume that 95% of the budget is allocated to the WTBI. In that case, in 2022, recipients in Yemen would be receiving a WTBI of 4.14$ PPP in Yemen, instead of 4.2$ PPP.

In total, under the rules outlined above, the total spending for 2022 would have been of 794 bn USD (expressed in constant 2025 USD). Note that disaster insurance spending is high in 2022 ($103 bn), where EM-DAT reports a large number of deaths from climate disasters. For instance, in 2025, we estimate that total spending would have been $718 bn, with $55.3 bn spending on disaster insurance (cf. Table 4).

Table 3: Simulated spending on climate compensation under the Banerjee-Duflo-Greenstone proposal in 2022 (constant 2025 bn USD)

Country	Total budget	Total spending	WTBI spending	WTBI as a share of budget (%)	Community grant spending	Disaster insurance spending	Disaster insurance as a share of budget (%)	UBI cost	UBI as a share of budget (%)
Burkina Faso	263.32	38.03	0	0	26.33	6.95	2.64	**4.75**	**1.8**
Niger	225.75	34.72	0	0	22.57	7.75	3.44	**4.39**	**1.94**
Pakistan	201.63	63.2	0	0	20.16	4.45	2.21	**38.59**	**19.14**
Afghanistan	112.94	17.45	0	0	11.29	0.64	0.56	**5.52**	**4.89**
India	109.77	109.77	93.41	85.09	10.98	5.39	4.91	296.42	270.04
Bangladesh	78.85	54.8	0	0	7.89	0.44	0.56	**46.47**	**58.94**
Sudan	70.96	32.63	0	0	7.1	8.62	12.15	**16.92**	**23.84**
Mali	69.2	17.18	0	0	6.92	6.1	8.82	**4.15**	**6.0**
Nigeria	66.79	73.62	0	0	6.68	11.16	16.71	**55.77**	**83.5**
Chad	66.07	16.25	0	0	6.61	6.38	9.65	**3.26**	**4.94**
Somalia	49.0	9.16	0	0	4.9	0.06	0.13	**4.2**	**8.57**
Togo	44.88	6.53	0	0	4.49	0.07	0.16	**1.97**	**4.4**
Benin	40.2	6.81	0	0	4.02	0.11	0.28	**2.68**	**6.67**
China	35.95	35.95	32.35	90.0	3.59	0	0	787.07	2189.43
Iraq	32.37	14.77	0	0	3.24	0	0	**11.53**	**35.62**
Ghana	32.05	11.52	0	0	3.21	0.06	0.2	**8.25**	**25.75**
Tanzania	31.03	14.31	0	0	3.1	0.03	0.08	**11.18**	**36.04**
Dem. Rep. of the Congo	24.07	24.07	10.89	45.24	2.41	10.77	44.76	39.83	165.51
Senegal	21.97	6.39	0	0	2.2	0.15	0.67	**4.04**	**18.41**
Mozambique	21.21	10.22	0	0	2.12	0.51	2.41	**7.59**	**35.76**
Malawi	17.56	13.02	0	0	1.76	6.94	39.52	**4.32**	**24.61**
Côte d'Ivoire	16.18	7.96	0	0	1.62	0.03	0.2	**6.31**	**39.0**
Egypt	15.57	15.57	14.01	90.0	1.56	0	0	18.26	117.26
Iran	15.32	15.32	13.78	90.0	1.53	0	0	117.74	768.73
Central African Republic	15.11	9.63	0	0	1.51	6.42	42.49	**1.7**	**11.24**
Uganda	15.07	17.92	0	0	1.51	6.36	42.16	**10.06**	**66.73**
Guinea	13.97	3.83	0	0	1.4	0.08	0.59	**2.35**	**16.81**
Cameroon	12.75	13.28	0	0	1.28	6.47	50.69	**5.54**	**43.4**
Nepal	12.19	9.61	0	0	1.22	0.42	3.47	**7.97**	**65.4**

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Table 3: Simulated spending on climate compensation under the Banerjee-Duflo-Greenstone proposal in 2022 (constant 2025 bn USD)

Country	**Total budget**	**Total spending**	**WTBI spending**	**WTBI as a share of budget (%)**	**Community grant spending**	**Disaster insurance spending**	**Disaster insurance as a share of budget (%)**	**UBI cost**	**UBI as a share of budget (%)**
Sierra Leone	9.39	2.37	0	0	0.94	0.03	0.32	**1.4**	**14.89**
Syria	9.36	6.08	0	0	0.94	0.01	0.05	**5.14**	**54.89**
Philippines	8.7	8.7	6.29	72.36	0.87	1.53	17.64	33.72	387.62
Zimbabwe	8.54	3.81	0	0	0.85	0.03	0.41	**2.92**	**34.26**
Myanmar	7.87	7.87	7.08	90.0	0.79	0	0	11.29	143.42
Liberia	7.49	0.76	0	0	0.75	0	0	**0.01**	**0.17**
Turkey	7.38	7.38	6.64	90.0	0.74	0	0	21.95	297.59
Mauritania	6.3	1.75	0	0	0.63	0.04	0.56	**1.09**	**17.26**
Algeria	5.41	5.41	4.87	90.0	0.54	0	0	10.21	188.83
Vietnam	5.23	5.23	4.53	86.7	0.52	0.17	3.3	28.15	538.2
Cambodia	4.58	4.58	4.05	88.3	0.46	0.08	1.7	4.93	107.62
Thailand	3.83	3.83	3.45	90.0	0.38	0	0	23.86	622.31
Uzbekistan	3.35	3.35	3.0	89.62	0.34	0.01	0.38	7.14	213.19
Guinea-Bissau	2.96	0.76	0	0	0.3	0	0	**0.46**	**15.65**
Indonesia	2.56	2.56	2.31	90.0	0.26	0	0	83.45	3257.44
Zambia	2.48	2.48	2.22	89.69	0.25	0.01	0.31	4.03	162.85
Djibouti	2.23	4.66	0	0	0.22	3.98	179.01	**0.45**	**20.14**
Sri Lanka	1.8	1.8	1.58	87.9	0.18	0.04	2.1	5.17	287.22
Laos	1.44	1.44	1.3	89.83	0.14	0	0.17	1.57	108.41
Paraguay	1.3	1.3	1.17	90.0	0.13	0	0	2.54	195.29
Kazakhstan	1.21	1.21	1.09	90.0	0.12	0	0	5.17	425.52
Morocco	1.21	1.21	1.09	90.0	0.12	0	0	12.26	1012.9
Gambia	1.14	0.58	0	0	0.11	0.02	1.33	**0.45**	**39.34**
Ukraine	1.1	1.1	0.99	90.0	0.11	0	0	12.91	1171.55
Tunisia	1.08	1.08	0.97	89.77	0.11	0	0.23	3.05	282.96
Republic of the Congo	1.0	1.0	0.81	80.65	0.1	0.09	9.35	1.42	141.39
Jordan	1.0	1.0	0.9	90.0	0.1	0	0	3.15	315.88
Serbia	0.82	0.82	0.74	90.0	0.08	0	0	4.43	537.73
Haiti	0.82	0.82	0.72	87.84	0.08	0.02	2.16	5.05	618.92

Continued on next page

Table 3: Simulated spending on climate compensation under the Banerjee-Duflo-Greenstone proposal in 2022 (constant 2025 bn USD)

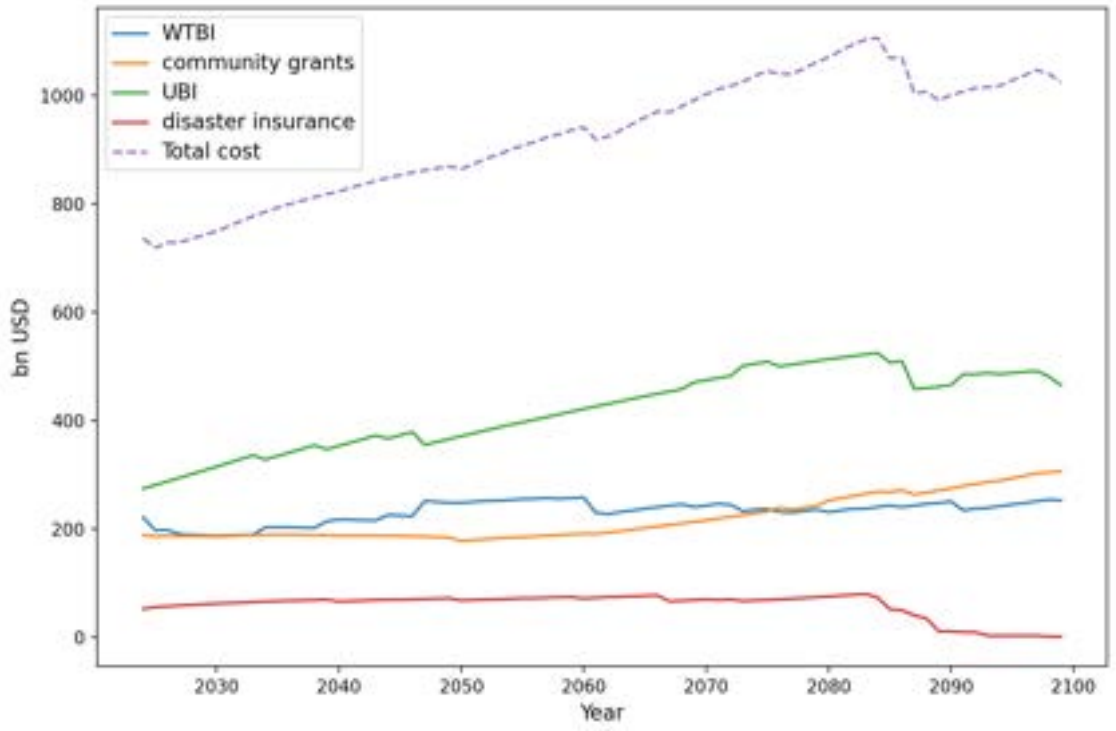
Country	**Total budget**	**Total spending**	**WTBI spending**	**WTBI as a share of budget (%)**	**Community grant spending**	**Disaster insurance spending**	**Disaster insurance as a share of budget (%)**	**UBI cost**	**UBI as a share of budget (%)**
Tajikistan	0.71	0.71	0.64	90.0	0.07	0	0	1.86	263.03
Azerbaijan	0.67	0.67	0.6	90.0	0.07	0	0	2.85	428.86
Libya	0.61	0.61	0.55	90.0	0.06	0	0	2.49	407.65
Nicaragua	0.48	0.48	0.42	87.37	0.05	0.01	2.63	1.87	391.3
Yemen	0.41	0.67	0.39	95.0	0.02	0.27	64.95	5.93	1451.11
Kyrgyzstan	0.36	0.36	0.32	90.0	0.04	0	0	1.5	421.85
Albania	0.31	0.31	0.28	90.0	0.03	0	0	1.41	459.72
Ecuador	0.25	0.25	0.23	90.0	0.03	0	0	6.72	2660.12
Georgia	0.23	0.23	0.2	90.0	0.02	0	0	1.53	677.92
North Macedonia	0.2	0.2	0.18	90.0	0.02	0	0	0.8	405.2
Papua New Guinea	0.18	0.18	0.16	90.0	0.02	0	0	5.22	2892.29
Comoros	0.17	0.17	0.15	90.0	0.02	0	0	0.32	189.83
Bosnia and Herzegovina	0.15	0.15	0.14	90.0	0.02	0	0	1.6	1037.33
Lebanon	0.13	0.13	0.12	90.0	0.01	0	0	34.6	25661.82
Armenia	0.13	0.13	0.11	90.0	0.01	0	0	1.1	868.83
Namibia	0.06	0.06	0.06	90.0	0.01	0	0	0.93	1492.14
Moldova	0.06	0.06	0.05	90.0	0.01	0	0	1.26	2188.63
Bolivia	0.05	0.16	0	0	0	0.15	303.63	3.05	6118.99
Colombia	0.04	0.04	0.03	90.0	0	0	0	17.34	46319.68
Total	**1848.46**	**794.0**	**224.88**		**184.83**	**102.86**		**281.44**	

Notes: Total budget is defined as the estimated damages reported in Carleton et al. (2025). UBI costs are bolded for countries where a UBI is funded under the proposal. Total spending corresponds to the total compensation provided to the country under the proposal.

5 Estimating the cost of the proposal from 2024 to 2099

5.1 Aggregate spending

Figure 1: Total spending by module (bn constant 2025 USD)



The spending that would result from implementing the proposal can be projected until 2099. The details of the assumptions and datasets used to obtain our estimates are presented in the companion technical note.

Figure 1 shows the total cost resulting from implementing the proposal, and breaks it down across modules. The share of the total expenditure spent on each modules is relatively stable across time (see Appendix, Figure 6). We report the breakdown of total spending for a set of years in Table 4.

If the damage fund were to collect 500 bn USD in 2025, and assuming a 5% yearly increase of the funds collected (in real terms), the resources of the fund would be enough to fund the proposal starting in 2035 (cf. Figure 7).

The number of countries where a UBI is funded varies over time (see Appendix, Figure 8). A drop in this number can be explained by a) the graduation of a country from the program after becoming a high income country, b) an increase in the population leading

Table 4: Aggregate spending by module (constant 2025 bn USD)

	2022	2025	2050	2070	2099
Total Budget	1848.5	1867.5	1834.6	2222.6	3073.7
UBI spending	281.4	280.7	371.3	474.7	464.8
WTBI spending	224.9	197.0	248.1	242.9	252.7
Community grant spending	184.8	185.9	177.6	215.5	306.2
Disaster insurance spending	102.9	55.3	67.5	69.6	0.9
Total spent	**794.0**	**718.9**	**864.5**	**1002.8**	**1024.6**

Notes: Total aggregate spending across countries from implementing the Banerjee-Duflo-Greenstone proposal for various years. The total budget corresponds to the sum of individual country budgets.

to a higher cost of the UBI. The number of country by income groups over time is shown in Figure 9.

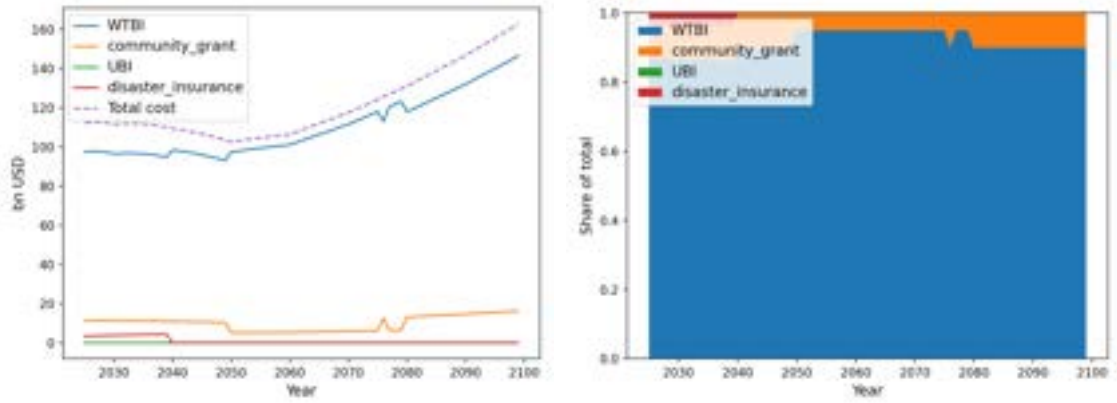
5.2 Case studies

We consider the evolution of total spending in 3 countries:

- **India**–which makes up for the largest share of total spending
- **Nepal**–which is an example of a country where we can fund a UBI in some, but not all years
- **Bangladesh**–which becomes a upper middle income in 2025, and a high-income country around 2085
- **Burkina Faso**–where damages are so high that the cost of a UBI is less than the cost of the disaster insurance

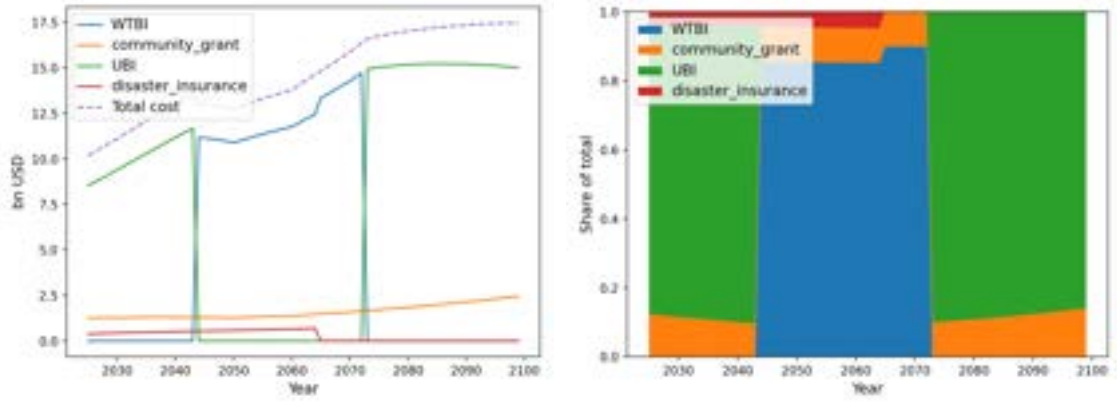
5.2.1 India

Figure 2: **India** – Total spending by module in absolute terms (left) and as a share of total spending (right)



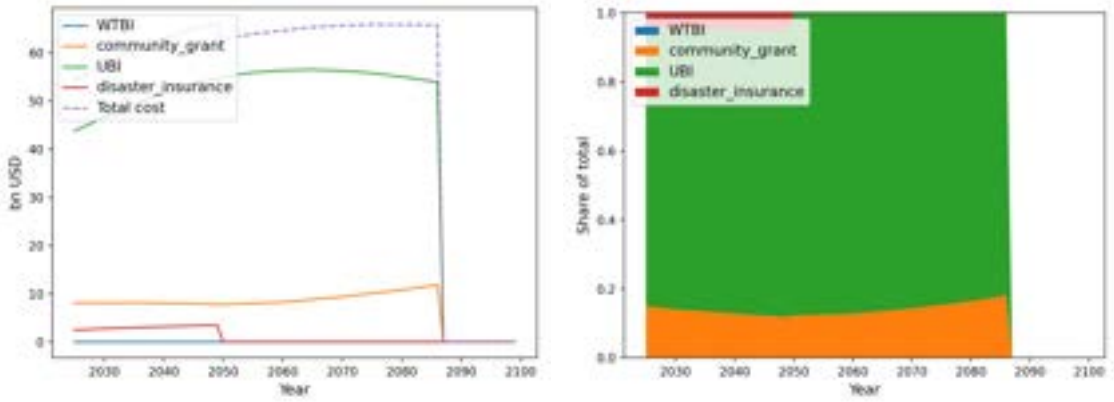
5.2.2 Nepal

Figure 3: **Nepal** – Total spending by module in absolute terms (left) and as a share of total spending (right)



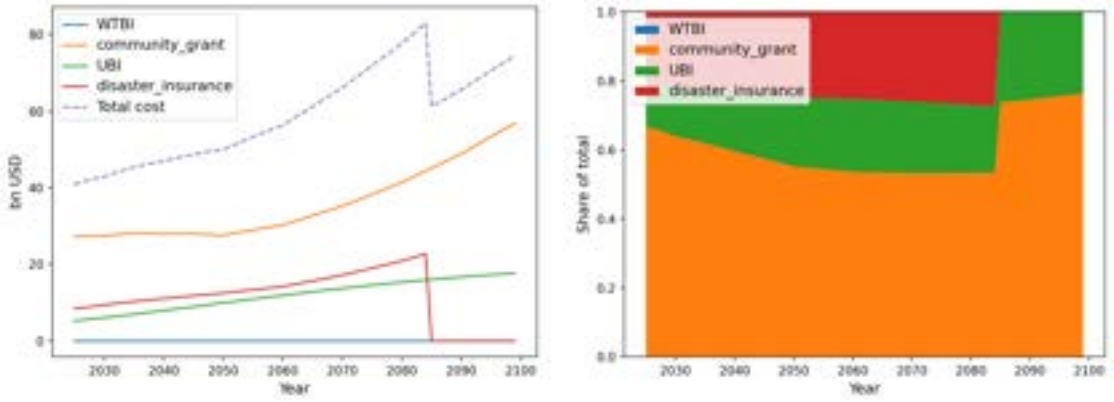
5.2.3 Bangladesh

Figure 4: **Bangladesh** – Total spending by module in absolute terms (left) and as a share of total spending (right)



5.2.4 Burkina Faso

Figure 5: **Burkina Faso** – Total spending by module in absolute terms (left) and as a share of total spending (right)



References

T. Carleton, S. Hsiang, A. Hultgren, R. Kopp, K. McCusker, I. Nath, J. Rising, and A. Rode. The local damages from global climate change. Forthcoming preprint, 2025.

A Appendix

Figure 6: Spending on each module as a share of total spending

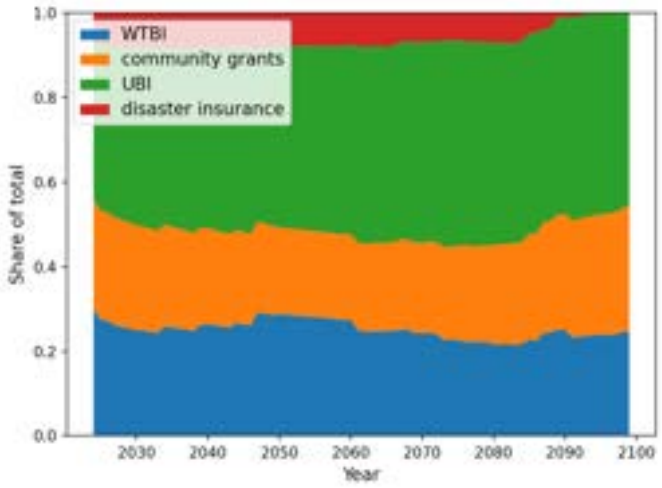


Figure 7: Total spending compared to total available funding for the proposal, assuming an initial budget of $500 bn with a 5% yearly increase (bn constant 2025 USD)

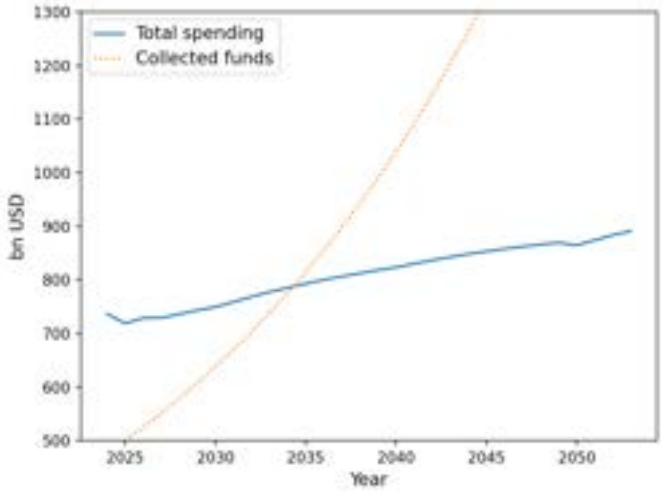


Figure 8: Number of countries where a UBI is funded

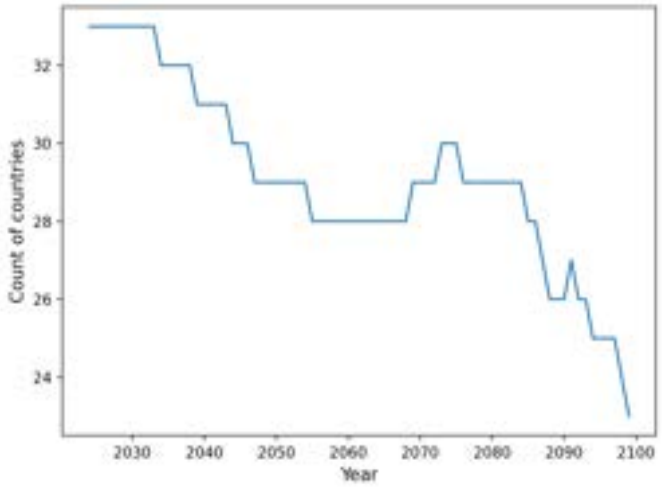
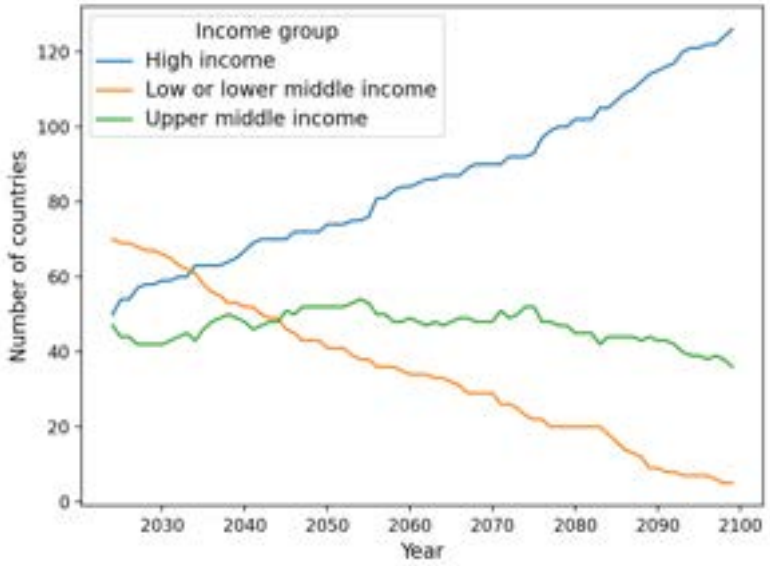


Figure 9: Number of countries by income group



Climate Compensation for LMICs: A Spending Simulation – Technical Appendix

September 5, 2025

1 Introduction

This note introduces the methodology used to simulate the spending that would result from implementing the Banerjee-Duflo-Greenstone proposal. The available data allows us to estimate spending for the period 2020-2099.

The assumptions and methods used to impute missing conversion factors used throughout the simulations are presented first. The formulas and datasets used to compute each transfer are then introduced.

All funding rules are specified in constant 2021 USD PPP, to align with the definitions of the global international poverty lines.

2 Conversion and adjustment factors

2.1 Exchange rates

The rules for allocating money from the loss and damage fund are expressed in PPP USD. Since PPP conversion factors are in local currency units (LCU) per USD, computing the actual cost of each transfer requires the conversion of LCU into USD.

Official exchange rates are obtained from the World Bank.[1] Missing values are interpolated by linear interpolation, and by linear projection for missing values at the boundaries of the range covered.

2.2 PPP conversion factors

We use *private consumption* PPP factors from the WB.[2]

PPP factors are available for every country until 2024, with the exception of Yemen (data ending in 2013) and South Sudan (data ending in 2021). We assume linear growth of the

[1] `https://data.worldbank.org/indicator/PA.NUS.FCRF`

[2] `https://data.worldbank.org/indicator/PA.NUS.PRVT.PP`

conversion factor for Yemen, and a linear growth starting in 2015 for South Sudan.[3]

We assume that the conversion factors from USD to PPP USD remain constant between 2025-2100.

3 Budgets and climate scenario

We consider the allocation of compensation to LMICs, where the maximum budget allocated to each country corresponds to the mortality damages from climate change incurred by that country from OECD emissions. The monetary value of these damages is taken from Carleton et al. (2025), using the partial mortality social cost of carbon of each country (expressed in 2019 constant USD) and multiplying it by OECD emissions. The resulting numbers capture the (time discounted) number of additional deaths from OECD carbon emissions multiplied by a constant Value of a Statistical Life (VSL) of $2M.

Any unspent budget automatically rolls over to the next year.

We restrict compensation to Low and Middle Income Countries (LMICs). High income countries are defined as having a GDP per capita above $14,150 (in 2019 USD). Upper middle income countries are defined as having a GDP per capita between $4,862 and $14,150 (in 2019 USD). These thresholds were chosen so that the resulting income groups align with the World Bank's definition of Lending Groups in 2023, even though their definition is based on GNI per capita. The only noteworthy discrepancies are:

- Costa Rica and Argentina are classified as high income, instead of upper middle income
- Iran and Namibia are classified as lower (instead of upper) middle income

We follow the World Bank classification to estimate spending before 2024, so that these discrepancies only affect our results after 2025.

Countries' income groups between 2025 and 2099 are determined using SSP GDP and population projections, which are computed the same way as in Carleton et al. (2022). We rescale GDP per capita estimated under the SSP scenario so that their 2023 levels align with observed level. That is, we use :

$$\widetilde{GDP}_y = GDP_y^{projected} \times \frac{GDP_{2023}^{observed}}{GDP_{2023}^{projected}}.$$

[3] Yemen's PPP conversion factor has grown steadily between 1990 and 2013, motivating this assumption. The PPP factor in South Sudan started increasing sharply in 2015. In Sudan, where data is available until 2022, a similar hike started in 2017 and has continued after. We assume that the increase in PPP factor also continued for South Sudan in the years after the data ends.

4 WTBI

A Weather-Triggered Basic Income (WTBI) is created, which allocates 4.2$ PPP per day per adult in months preceding a *hot months*, defined as a month with 5 or more days where the average temperature is of 32°C or above.

To estimate the cost of providing a WTBI, daily average temperature data are obtained at the level of the impact regions defined in Carleton et al. (2025). That is, we consider 24,378 regions of roughly the size of a US county. Temperatures are downloaded from the daily Berkeley Earth Surface Temperature data set (BEST). Similarly, we use the same population data as in Carleton et al. (2025), which uses the IIASA SSP population projections.

The number of adults in each region is computed following Carleton et al. (2025). Using SSP age group data, we define adults as:

- 2/5 of the population in the 15–19 group, plus
- all individuals above 20 years old.

These numbers are then downscaled at the region level following Carleton et al. (2022).

We assume that 80% of eligible recipients claim the payments.

For region r in year t the cost of implementing a WTBI is thus:

$$\text{WTBI}_{rt} = 0.8\,\text{AdultPopulation}_{rt} \times \sum_{m=1}^{12} 1\{\text{HotDays}_{\text{rmt}} \geq 5\} \times \$4.2\,\text{PPP}$$

where the subscript m describes months, and N is the total population.

Note that we are unable to consider the sequences of hot days that overlap two consecutive months, with less than 5 hot days in each month.

5 UBI

Computing the cost of a UBI is straightforward: we allocate $3 PPP per day per adult in the most affected countries. In addition, a UAT corresponding to 2 years' worth of UBI is disbursed once every ten years. Population data is again taken from the SSP data, and we assume that 80% of all adults claim the payments.

6 Community Block Grants

Community transfers are assumed to correspond to 10% of the yearly OECD-induced mortality damages incurred by a region. That is:

$$\text{CommunityGrant}_{rt} = 0.07 \times \text{OECDMortalityDamages}_{\text{rt}}$$

7 Disaster insurance

Allocation Rule–Part of the funds are used to provide governments from low or lower middle income countries with insurance payouts following climate-related disasters (droughts, floods, storms, and fires). Upper middle income countries are *not* eligible for disaster insurance.

For our exercise, we define the payouts to be the mortality damages from disasters. To approximate the monetary cost of disasters in the future, we allocate a fixed share of the mortality damages from *global* carbon emissions (taken from Carleton et al. (2025)) to disaster insurance. That is, we assume that the death burden of natural disasters is proportional to the mortality damages from extreme temperatures. We use the formula:

$$\text{DisasterInsurance}_{rt} = 0.008 \times \text{TotalMortalityDamages}_{\text{rt}}$$

Choice of coefficient–The relative mortality cost of disasters relative to the mortality damages from Carleton et al. (2022) is estimated using data from EM-DAT. We compute the total number of deaths that resulted from climate-related disasters between 2020 and 2024 in low and lower middle income countries. This number is transformed into a monetary amount using a constant Value of a Statistical Life (VSL) of $2M. Finally, it gets divided by the total mortality damages from global emissions in that period. Over that period, deaths from disasters represented 0.8% of the total mortality damages from global emissions.

Missing values–EM-DAT includes all disasters worldwide in which over 100 persons were affected and more than 10 died. EM-DAT records the total deaths from these disasters. However, a significant share of these entries are missing. To impute the total number of deaths from disasters, we estimate, for each disaster i, the Poisson model:

$$\begin{aligned}\mathbb{E}\left[\text{Total Deaths}_i \mid X_i\right] = \exp(&\beta_0 + \beta_d + \beta_{1t} \cdot \text{T}_i \times \text{PopAffected}_i + \beta_{2t} \cdot \text{T}_i \times \text{PopInjured}_i \\ &+ \beta_{3t} \cdot \text{T}_i \times \text{PopHomeless}_i + \beta_{4t} \cdot \text{T}_i \times \text{PhysicalDamages}_i \\ &+ \beta_{5t} \cdot \text{T}_i \times \text{Magnitude}_i + \delta_s + \theta_{sy})\end{aligned}$$

where d is the subtype of disaster i (e.g., tornado, tropical cyclone, coastal flood...), and $T(i)$ is a binary indicator indicating its type (drought, flood, storm, or fire). We use the notation β_{kt} for conciseness, where β_{kt} is a coefficient on the interaction between an indicator of the disaster type of i and the k-th interacted covariate. We include both subregion δ_s and subregion-year θ_{sy} fixed effects.

We obtain a pseudo-R-squared of 0.86. We impute missing values of Total Deaths by taking the fitted values of the estimated model.

Note that these estimates are biased, given that values are *not* missing at random, as more accurate reporting is available for larger disasters.

8 Budget constraints

Each year, the total transfers made to a country are limited to its mortality damages from OECD emissions, plus any leftover budget carried over from previous years (see below).

Countries receive either a WTBI or a UBI, in addition to community transfers and disaster insurance. Disaster insurance is always financed, even in years when the country's budget constraint is binding. In practice, these payouts would be covered by countries' pooled reserves of unused funds. Any unspent national budget automatically rolls over to the following year.

In our simulation, transfers are determined according to the following rules:

- A UBI is financed if available funds are sufficient to cover it together with the community transfer. Disaster insurance is financed in all cases, irrespective of the remaining budget. Any residual funds after these allocations are carried over to the following year.
- Otherwise, a WTBI is provided. Two cases are distinguished:
    1. If the budget can cover both the WTBI and community grants, then both are financed, together with disaster insurance. Disaster insurance is always provided, even if doing so requires exceeding the budget. Any residual funds after financing all three modules are used to increase the WTBI daily rate until fully exhausted.
    2. If the budget is insufficient to finance both a WTBI and community grants, 95% of available funds are allocated to WTBI and 5% to community grants. Disaster insurance is then financed on top of these allocations.

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Global Fund inputs for the Global Solidarity Levies Task Force

October 2025

Official Development Assistance (ODA) has been a fundamental source of development finance, particularly for low- and middle-income countries. Over the past two decades, this has significantly advanced global health. Amid ongoing reductions in ODA, solidarity levies can represent new and potentially large sources of development aid financing, serving as an additional tool to traditional donor aid models. Solidarity levies are innovative and complementary tools that offer a way to mobilize domestic and international resources and release pressure on already constrained domestic budgets.

Solidarity levies are not a new concept and in countries where they are already implemented, they have a demonstrated track record in mobilizing sustainable financing for development and global health. The Global Fund, as a recipient of these levies, has demonstrated their effectiveness and impact.

France pioneered this approach in 2006 with a small levy on airline tickets, primarily for global health. This Air Ticket Levy was then complemented with a Financial Transaction Tax (FTT), both used to fund development aid and primarily two innovative partnerships: Unitaid and the Global Fund. Similarly, the Republic of Korea introduced levies to support its development cooperation initiatives, showcasing how national-level innovation can align domestic fiscal tools with global solidarity. These examples highlight how well-designed levies, that are politically sustainable can generate predictable revenue to release the fiscal pressure on national budgets without affecting travel or transactions volume, effectively complementing traditional development assistance.

The Global Fund has been a recipient of France and the Republic of Korea's solidarity taxes, which have been critical in supporting national responses in countries where the Global Fund invests.

How levies have supported global health programming

As calculated by Friends of the Global Fund Europe in a recent brief[1], levies accounted for 74% of the French contribution to the Global Fund for the 2020-2022 period, 53% (3.6 billion EUR) of France's cumulative contribution to the Global Fund, and roughly 6% of all contributions received by the Global Fund since its inception. Thanks to this mechanism, France was able to confirm its leadership in global health by maintaining its historical, prominent position as the Global Fund's second largest and first European donor, despite relatively low ODA levels generated from traditional sources.

Until 2022 South Korea's contributions to the Global Fund were made possible through the Air Ticket Levy, which financed the country's Global Disease Eradication Fund. Introduced in 2007, this levy positioned South Korea as one of the few G20 countries leading international efforts to develop innovative financing mechanisms for global health and development. Over the years, South Korea has demonstrated a strong historic commitment to the Global Fund, steadily increasing its support, including through a three-fold increase at the Global Fund's Seventh Replenishment. This indirect

[1] https://friendseurope.org/2025/06/26/solidarity-levies-a-french-model-for-global-solidarity/

funding mechanism enhanced the Global Fund's resource base while contributing to South Korea's objectives for increased innovation and sustainable development finance.

Some countries have also been implementing taxes at a national level. For example, Zimbabwe funds part of its national HIV response through the AIDS Levy Tax on personal income and business profits. Introduced in 1999, the levy is collected by the Zimbabwe Revenue Authority and managed by the National AIDS Council, which allocates the funds primarily to the procurement of antiretrovirals, as well as to prevention programs, monitoring and evaluation, logistics, and enabling environments. This national funding mechanism, widely recognized as a best practice in domestic health financing, helps reduce reliance on external donors, ensures continuity of HIV services, especially during aid disruptions, and demonstrates national ownership of the HIV response. The decentralized implementation structure and multi-sector oversight have made the levy a sustainable and impactful tool in Zimbabwe's fight against AIDS.

The Global Fund, as the world's largest multilateral funder of global health grants in low- and middle-income countries, is a compelling example of how levy-generated funds can be effectively utilized, and it has demonstrated the potential of innovative financing tools to contribute meaningfully to health and development goals. Its inclusive partnership model, results-oriented, performance-based and transparent approach, ensures that resources reach the most vulnerable populations and drive measurable health outcomes.

Proceeds from solidarity levies channeled through the Global Fund have allowed for rapid and increased access to HIV, tuberculosis and malaria treatment and prevention, including through the deployment of innovations and new tools. They have helped strengthen health and community systems, expand access to integrated services, improve pandemic preparedness, and more recently, support program adaptations to address the health impacts of climate change.

Discontinuing existing taxes that currently channel funds to the Global Fund would pose significant risks to global health efforts and could reverse progress in the fight against the world's most devastating infectious diseases, exposing everyone everywhere to a resurgence of pandemics. It would also send a negative signal about the sustainability of innovative financing, potentially undermining trust in solidarity-based mechanisms at a time when global health challenges require greater collective investment and new approaches.

To alleviate the prevailing burden on an already constraint fiscal space, an effective implementation of solidarity levies, including effective tax collection could represent an even greater additional asset in support to development funding, ensuring their full potential is realized. Properly designed and enforced levy collection maximizes available resources and builds trust among participating countries and the public.

The Global Fund welcomes the work of the Global Solidarity Levies Task Force and is ready to support its mission by contributing to evidence generation, policy dialogue, and implementation partnerships that highlight its effectiveness. We support the further expansion of solidarity levies as an innovative mechanism to mobilize sustainable financing for global health and development. By mobilizing additional resources through solidarity levies, countries can help bridge critical funding shortfalls while releasing the fiscal pressure on national budgets. With extensive experience in delivering results through innovative financing, the Global Fund is prepared to support the Global Solidarity Levies Task Force in demonstrating the value, scalability, and transformative potential of solidarity levies.

Global Climate Finance Forum

Submission to the Global Solidarity Levies Task Force
Response to Call for Proposals: Mechanisms for Enhancing and Redistributing Revenues from Solidarity Levies

Submitted by the Global Climate Finance Forum (GCFF)
August 23, 2025

About the Global Climate Finance Forum (GCFF)

The Global Climate Finance Forum (GCFF) is a multi-stakeholder platform focused on accelerating climate finance for small and medium-sized enterprises (SMEs) across the Global South[1]. GCFF brings together over 40 investors, entrepreneurs, thought leaders, and policymakers to co-develop strategies that localize capital, de-risk investment, and dismantle systemic barriers preventing scalable finance for climate solutions.

The inaugural Forum, held in April 2025 in Montego Bay, Jamaica, showcased the impact of climate SMEs through viable, scalable models—from solar distribution in Africa to agroforestry hubs in Brazil—while underscoring the persistent challenges they face: high costs of capital, policy bottlenecks, and limited visibility in global finance flows.

The Forum catalyzed over 20 concrete commitments and has since established a Secretariat to drive implementation and advocate for SME-aligned reforms heading into COP30 and beyond.

1. Concept Note

Proposed Mechanism: Solidarity Levy SME Financing Instruments

We propose a set of Solidarity Levy SME Financing Instruments that channel the international portion of levy proceeds into national financial systems through locally grounded financial institutions, ensuring deep knowledge of local capital markets.

The instruments are designed as a flexible structure that can take the form of a blended vehicle or a facility model, depending on country and institutional contexts:

- **Blended Vehicle:** a pooled financing vehicle in each country, managed by a local country manager (asset manager or NGO) that coordinates capital providers and ensures scalability.

[1] The Global South is defined as low- and middle-income countries, as well as low- and middle-income and underserved communities within high-income countries.

- **Facility model:** a financing facility that channels levy proceeds directly through credit unions, cooperatives, and local banks to scale SME lending.

Key features:

- **SME focus:** All funds target SME-led climate mitigation and resilience solutions, ensuring resources directly support the businesses driving local climate action.
- **Locally led delivery:** Proceeds are distributed through local financial institutions — defined here as credit unions, cooperatives, retail/commercial banks, and other community-rooted lenders under the facility model — and through local asset managers and NGOs with proven financial expertise under the blended vehicle.
- **Leverage:** By serving as concessional and risk-sharing capital, levy proceeds strengthen local lenders to expand SME financing, provide credit enhancement, and mobilize domestic savings, while also crowding in institutional investors such as pension funds, sovereign wealth funds, and international impact investors.
- **Transparency:** Each facility and vehicle publishes allocations, leverage ratios, and impacts (jobs, resilience, emissions avoided) into a regional registry linked to the global Solidarity Levy Registry.
- **Additional incentives:** Developing countries that introduce domestic solidarity levies become eligible for step-down sustainability-linked loans or bonds, where the coupon rate decreases once the levy is operational and remains contingent on its maintenance. This links sovereign borrowing costs directly to climate policy implementation, lowering financing costs while creating measurable accountability.

This mechanism ensures levy proceeds support locally grounded climate finance ecosystems, strengthening financial institutions closest to SMEs and multiplying impact through leverage.

2. Operational Framework

Implementation Timeline & Milestones

- **COP30 (Belém, Nov 2025):** Political endorsement of principles and pilot countries announced.
- **2026:** Instruments designed in partnership with local financial institutions and NGOs with proven financial expertise; initial capitalization from aviation and fossil levies. First disbursements to SMEs through facilities (via credit unions, cooperatives, and retail/commercial banks).
- **2027:** First disbursements to SMEs through blended vehicles.
- **2028–2030:** Scaling across Global South regions and other countries; integration into the NCQG/Baku–Belém Roadmap.

Governance & Oversight

- **Steering Committee** under GSLTF with representation from contributing and beneficiary countries, civil society, and SMEs.

- **Advisory Panels** with local asset managers, pension funds, cooperatives, impact investors, credit unions, and SME representatives.
- **Independent Audit Board** reviews flows and outcomes.

Transparency & Reporting

- Quarterly publication of allocations, leverage ratios, and impact metrics.
- Beneficiary SMEs are required to disclose job creation, emissions reduced, and resilience benefits, supported by light-touch reporting.

3. Financial Considerations

- **Budget & Costs:** Overheads capped at 5–7%, with local financial intermediaries managing funds through existing systems.
- **Disbursement Models:**

  BLENDED VEHICLE:
  - **Structure:** A pooled financing vehicle established in each country to receive a portion of levy proceeds.
  - **Management & Coordination:** Led by a local country manager (a financial institution or NGO with proven financial expertise) responsible for coordination. The manager brings in other local financial institutions as capital providers, sets the tranches of the capital structure, monitors impact metrics, and controls disbursement and use of funds under equitable terms.
  - **Functions:**
    - Provides another level of coordination beyond a traditional fund, ensuring alignment between multiple capital providers.
    - Offers technical assistance (TA) to support SME due diligence, investor readiness, and pipeline development.
    - Ensures scalability, allowing the vehicle to be replicated in other countries as levy proceeds grow.
  - **Instruments:** First-loss equity/debt, off-balance sheet guarantees, in-kind contributions, concessional loans, and results-based contracts tailored to SME realities (e.g., local currency financing, step-down mechanisms).
  - **Leverage:** Levy proceeds serve as concessional or guarantee capital, attracting additional investment (pension funds, sovereign wealth funds, and international impact investors) and enabling risk-sharing across multiple capital providers.
  - **Deployment:** Proceeds are allocated through a coordinated mechanism led by the country manager, ensuring strategic allocation, pipeline development, and alignment with national SME priorities.

  FACILITY MODEL:
  - **Structure:** A financing facility that distributes levy proceeds for direct investment.
  - **Management:** Operated by local financial intermediaries — credit unions, cooperatives, retail and commercial banks — ensuring proximity to SMEs.

- **Instruments:** Guarantees, concessional credit lines, and results-based finance tailored to SME realities (e.g., revenue-backed contracts, milestone-based disbursements) to expand SME lending.
- **Leverage:** The facility enables local lenders to expand SME lending and strengthen their balance sheets, while also providing credit enhancement that allows them to attract additional deposits, domestic savings, and private investment.
- **Deployment:** Proceeds flow through existing financial intermediaries with direct reach to SMEs, ensuring context-specific allocation and rapid deployment.

- **Speed of Disbursement:** Leveraging existing local financial networks ensures **6–12 month** disbursement timelines, significantly faster than traditional multilateral climate funds.

4. Impact and Accountability Measures

Equitable Distribution

- Allocation formula: weighted by vulnerability (e.g., SIDS, LDCs), population, and mitigation potential.
- Equity safeguard: minimum allocation floor for SIDS and low-capacity countries, and a dedicated minimum allocation for SMEs to guarantee resources reach climate innovators on the ground.

Impact Metrics

- Volume of levy proceeds disbursed to finance SMEs.

- Leverage ratio of private capital mobilized.
- Jobs created, emissions avoided/reduced, resilience benefits.
- Growth in locally led lenders and asset managers.

Accountability

- Annual independent evaluation, feeding into COP Global Stocktake cycles.
- Civil society observer status in governance bodies.

5. Feedback on Draft High-Level Principles

We endorse the proposed principles on the use of revenues, and recommend:

1. **Equity as a baseline** – principles should guarantee a minimum share for LDCs, SIDS, and vulnerable middle-income countries.

2. **SME implementation** – revenues should explicitly prioritize channels that reach SME-led climate solutions, as they deliver scalable, locally grounded impact.
3. **Transparency through accessibility** – reporting systems must be SME-friendly, avoiding excessive compliance burdens.
4. **Incentive alignment** – principles should recognize that countries adopting domestic levies are eligible for step-down sustainability-linked financing.

The Solidarity Levy SME Financing Instruments offer a feasible, transparent, and equitable mechanism to redistribute levy proceeds. Whether structured as a blended vehicle or a facility model, they ensure that revenues flow through locally led financial institutions to directly finance SME-led climate mitigation and resilience solutions, while leveraging private capital at scale, strengthening locally grounded financial ecosystems, and delivering accountable outcomes.

GCFF welcomes enquiries and offers of collaboration. These can be directed to the Secretariat at info@globalclimatefinanceforum.com.

How to use the revenues from global solidarity levies?

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How to allocate resources between countries?

Even if revenues are disbursed by an agency on a project-by-project basis, their allocation between recipient countries should respect a pre-agreed allocation key. This would ensure fairness, trust, predictability, and allow countries to assess their interest in joining the coalition).

The revenues should be allocated in priority to the poorest countries. A good indicator of poverty is the poverty gap: it expresses the minimum amount that would be required to lift everyone above the poverty line. However, allocating revenues in function of the poverty gap would disincentivize countries' governments to effectively address poverty. To avoid bad incentives, it is preferable to allocate the revenues in function of a well-measured indicator correlated to the poverty gap. We propose an allocation key based on GDP per capita, according to how it predicts the poverty gap predicted in a linear regression.

More specifically, we regress the poverty gap on GDP per capita, using the logarithm of both variables, weighting each country by its population, and excluding above the world average in GDP per capita (Figure 1). We use the poverty gap at $4.20 a day (in 2021 PPP).[1] The global average poverty gap is 7% of the poverty line, which corresponds to about $860 billion per year in PPP. We use the poverty line at $4.20 (rather than $2.15 or $6.85) because it corresponds to a financing need of the same magnitude as the revenues from the levies. In other words, the redistribution operated by the levies should roughly allow to close the poverty gap at $4.20 a day, i.e. to lift above that threshold the 19% of people who live below.

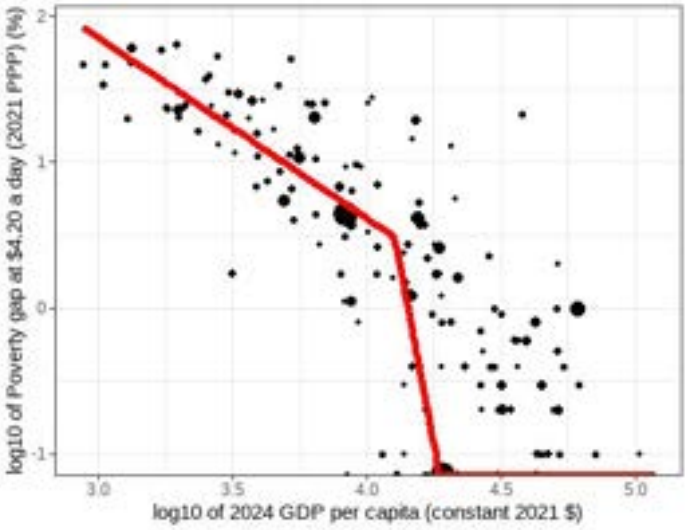

Figure 1 Poverty gap (in % of the poverty line) regressed on GDP per capita, with both variables expressed in log10. The red line represents the *statutory poverty gap* used to compute the allocation key between countries (R^2 = .58).

[1] The World Bank defines the poverty gap as "the mean shortfall in income from the poverty line (counting the nonpoor as having zero shortfall), expressed as a percentage of the poverty line'". We use the last available data from the World Bank. Our regression line is phase out between 0.7 and 1 times the world average GDP pc. The method needs to be slightly adjusted to make sure that the ranking of countries in terms of GDP pc is preserved.

Compared to our *poverty gap allocation*, an alternative, simpler allocation consists of allocating revenues in proportion to a country's distance to the world average GDP per capita: let's call it the *GDP gap allocation*. The poverty gap allocation is more generous to low-income countries: they receive 50% of revenues vs. 24% in the GDP gap allocation. In the poverty gap allocation, Sub-Saharan Africa gets 57% (DRC 11%) vs. South Asia 27% (India 17%); in the GDP gap, SSA gets 35% (DRC 4%) vs. SA 44% (India 31%).

Although the poverty gap allocation is preferable on the recipient side, a variant of the GDP gap formula can be used on the contributor side. Countries at the world average GDP per capita would not have to contribute to international transfers, and contributions would increase in proportion to the country's distance to the average GDP per capita. It could be calibrated in such a way that the U.S. would have to contribute 50% of the revenue to international transfers (this would translate into a contribution of around 36% for the EU). It is important to use a continuous indicator to avoid threshold effects (and smooth transfers as economies grow).

How to allocate resources within a country?

Given the variety of needs in low-income countries, constraining the use of revenue on one narrow sector (such as health or resilience) does not appear in the best interest of their sustainable development. Here are several possibilities of a broader use:

1. **Funding Governments**

Probably the approach preferred by governments in the Global South. In order to respect the plurality of solutions and the sovereignty of States, the coalition would leave the choice of programs to be financed to the beneficiary States, provided they are validated by a multilateral agency such as the World Bank. The agency in question would ensure that funds are traceable, and that they finance only public services, social protection and sustainable infrastructure. In the event of non-compliance with conditionalities, the money would return to in-country programs run by a (different) multilateral development agency.

2. **Financing social protection**

Social protection includes access to essential care (including maternal care), and minimum incomes for children, inactive people (unemployment, disability, sickness) and the elderly. The financing need for social protection in low-income countries is estimated at €72 billion, or 16% of their GDP (ILO, 2020) and two-thirds of their public expenditure (Gethin, 2023).

This would build national institutions, in conjunction with the social ministries of the countries, and spur a culture of transparency and trust in the State, even if the funding is international initially.

The International Labour Organisation has experience in this area (see this database and this report on social protection), this option is the most preferred by the public in high-income countries (Figure 2) and there is a coalition of around a hundred NGOs and trade unions (including the ITUC) in favour of minimum social protection. However, funding only social protection may be overly restrictive.

3. **Multilateral funds** (loss and damage, IMF, development banks)

The money could be used to recapitalize various multilateral investment funds, which could then benefit from leverage and borrow much more on the financial markets. These funds make it possible to finance infrastructure (especially large ones) at low interest rates. These funds involve the IMF (Resilience & Sustainability Trust, Poverty Reduction and Growth Trust), climate action (Loss and Damage Fund, Green Climate Fund) and multilateral development banks (MDBs, in particular the EIB and the EBRD). The UN Secretary-General and developing countries are calling for $100 billion per year in funding for

losses and damages (UNSG, 2023). The same document calls for foreign exchange rate guarantees (see Persaud, 2023) of $100 billion per year (much less in callable capital,[2] say €10 billion) as well as a recapitalization of the MDBs of $100 billion.
This option corresponds to the current agenda of international negotiations, is the least disruptive solution and is most in line with the existing balance of power between institutions. However, it finances projects that are not always closest to the basic needs of the poorest people, and it favors multinationals rather than local actors.

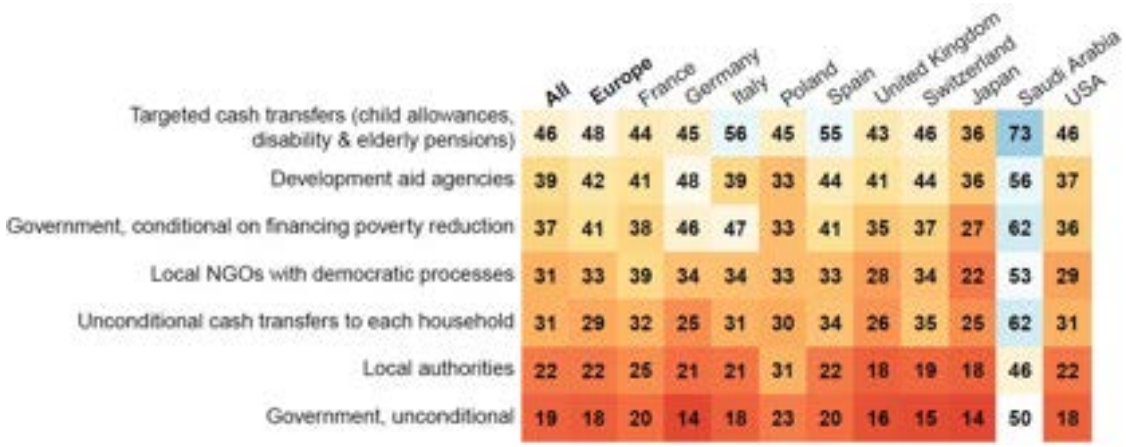

Figure 2 "Below are different ways to transfer resources to help reduce poverty in a low-income country. How do you evaluate each of these options?" Percentage of answers “The best way” or “A right way”, other options being “An acceptable way”, “A wrong way”. Representative survey over 11,000 respondents from 10 high-income countries by Adrien Fabre (yet unpublished).

4. Just Energy Transition Partnerships

Building upon Bolton & Kleinnijenhuis (2025), the revenues could finance the decarbonisation of the power sector in the Global South. The authors compute that grants covering 25% of the cost of deploying renewable power plants in the Global South (not counting opportunity cost from leaving fossil fuels in the ground) would cost around $100 billion, or 0.3% of the GDP of a coalition including all high-income countries except the U.S. They further show that the coalition would actually gain from these investments as avoided climate damages on their territory would exceed the fiscal cost. In practice, funds would be disbursed to a country as it reaches milestones in terms of decarbonisation of its power sector. The difference with existing JETPs is that there would be a large grant component.
While this option is probably the most cost-effective in terms of emissions reductions, it is not compatible with our proposed allocation key, as it focuses on MICs and would do little for poverty alleviation in LICs.

5. Foreign aid in LICs

A last possibility is to leave the choice of revenue use to collecting countries, though they should commit that their international share of the revenue should entirely benefit low-income countries. Beyond this constraint, they would be free to finance governments directly, multilateral funds, JETPs, or their national development agency.

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[2] It is not clear from the UNSG document whether the callable capital (what contributing states must set aside) would be €100 billion or whether the guaranteed sums would amount to €100 billion (in which case the callable capital would be 5 to 20 times lower, and the actual amount disbursed potentially zero, given that, even in the worst case, only a small part of the guaranteed sums would be lost due to a change in the exchange rate and would have to be paid out). Pending an expert's response on the subject, we assume the latter.

Conclusion

If international revenues are lower than €30 billion (that is one quarter of LICs' public spending), they should fund multilateral funds, e.g. half to recapitalize MDBs, one quarter for the Green Climate Fund, and one quarter as foreign exchange guarantees. Indeed, such a sum would be too little to cover social protection needs. Between €30 and €200 billion, the focus should be on financing social protection, healthcare and education in LICs (after reserving at least €15 billion for multilateral funds). Beyond €200 billion of expected international revenues, one third could be used to finance JETPs.

Humanitarian Aid Accelerator

Submission to GSLTF | Dr Dhananjayan Sriskandarajah | August 2025

"You never change things by fighting the existing reality. To change something, build a new model that will make the old model obsolete." Buckminster Fuller.

Summary

Climate-related disasters are escalating in frequency and intensity, disproportionately affecting countries in the Global South that have contributed the least to global emissions. Meanwhile, aid from the Global North to support relief is inadequate, highly intermediated and based on principles of charity not solidarity. The Global Solidarity Levies Task Force (GSLTF) can transform the international humanitarian system by allocating some revenues from global solidarity levies to a pooled, pre-positioned fund that would enable rapid, equitable, and accountable disbursement of emergency aid directly to emergency coordination mechanisms in climate-vulnerable nations. Even if small and limited to a few countries at first, such a Humanitarian Aid Accelerator reducing (working title) would show what a new solidarity-based and more efficient humanitarian system could look like.

Introduction

Almost a decade ago, I was asked by the then UN Secretary General to serve on a High-Level Panel to look at the future of Humanitarian Financing. In our final report, 'Too Important to Fail', published in 2016, we highlighted the huge shortfalls between what was required to fund humanitarian relief and what the international aid system was able to deliver. We also put forward several ideas for new forms and sources of humanitarian finance, including those raised from solidarity levies.

Unfortunately, if the gap between humanitarian need and response was big back then, today, it's bigger than ever. In 2016, there were around 125 million people in need of humanitarian assistance. Today, it is around 300 million people. Over the decade to 2021, appeal requirements almost quadrupled from US$10.5 billion to US$38.4 billion. As a result, on average UN-coordinated appeals have met only 60% of their funding requirements over the past decade. By the end of July 2025, only 17% of the estimated US$45 billion needed in humanitarian aid had been provided by donors, whose aid budgets are shrinking.

Meanwhile, the climate crisis means that extreme weather-related emergencies like floods or drought are increasing in frequency and intensity, already accounting for 90% of A recent Oxfam report estimates that humanitarian need arising from these disasters is eight times higher than it was 20 years ago, but that for every $2 needed for UN weather-related

appeals, donor countries are only providing $1. According to the UN Office for Disaster Risk Reduction, around 90% of the deaths from storms, the deadliest type of weather-related disaster, occur in lower-income countries. This means that developing countries are at the frontline of climate breakdown but have limited – and now reduced - access to the resources needed to respond and recover from the emergencies.

Finally, as CEO of Oxfam Great Britain, one of the world's oldest and largest humanitarian agencies, I saw first-hand how slow, inefficient, fragmented, and donor-driven the international system can be. Solidarity levies offer a promising revenue stream not just to correct this imbalance but help design a global humanitarian system that is fit for the future. I urge the GSLTF to consider assigning some revenue from solidarity levies to a pooled funding mechanism that would:

- Pre-position funds for rapid disbursement directly to developing countries
- Empower developing countries to lead their own emergency responses
- Ensure transparency and accountability through efficient and robust governance
- Help bring climate justice principles into humanitarian finance

Such a facility would operate as a global public good, governed by a multi-stakeholder board and designed to complement existing humanitarian mechanisms while filling critical gaps in speed, equity, and autonomy.

Proposal

The Humanitarian Aid Accelerator (HAA) (working title) would be capitalized through a portion revenues from existing and future solidarity levies, ideally those targeting to climate-damaging activities such as aviation to give an explicit and compelling link between climate breakdown and weather-related disasters.

In the first instance, the HAA would involve members of the aviation solidarity coalition that was announced in Jun 2025 but this could be expanded to other countries over time.

In the first phase, the levies could flow directly between coalition members (e.g. from France to Somalia when disaster strikes in the latter) but, over time, pooled funds might need to be hosted in an agency such as the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) (which already hosts several humanitarian pooled funds) or within another trusted multilateral institution. In such an arrangement, administrative overhead would need to be capped (e.g. at 5%) so that the vast majority of funds would go directly to frontline emergency response.

In both phases, the HAA will need an effective governing Board composed of:

- Representatives from contributing countries
- Representatives from eligible recipient countries

- Civil society and humanitarian organizations
- Independent experts in climate justice and disaster response

Countries eligible to draw from the HAA must meet two criteria:

- Classification as low- or middle-income by the World Bank
- Verification of a weather-related disaster (e.g., floods, droughts, cyclones) by an independent monitoring body (e.g. the International Disaster Database (EM-DAT)

Access will be trigger-based, not application-based, to ensure speed and reduce bureaucratic delays. Funds will be disbursed within 72 hours of verification.

The HAA will offer tiered disbursements based on severity, for example a localized disaster might have an initial ceiling of US$5 million to help provide shelter and food aid, but a national-scale disaster might involve a US$50 million payout to cover large-scale response and reconstruction. Transparency will be ensured through:

- Public dashboards tracking disbursements
- Annual audits by third-party evaluators
- Community feedback loops to assess impact and equity.

Despite calls for reform, current the humanitarian system defaults to settled patterns for the distribution of funding (e.g. UN agencies consistently receive more than half of all public humanitarian assistance). The HAA would be innovative in that funds would be distributed directly to support national emergency responses, led by government agencies working with non-state actors. Most countries have emergency response coordination mechanisms that involve government, civil society and private sector actors but these actors – including governments – usually seek funds on their own from various sources when disaster strikes. The HAA would deliver a more efficient system, and, importantly, help strengthen national disaster response systems for the long-term.

The HAA would also foster innovation around Monitoring and Evaluation in the humanitarian system. Here are some ways of supporting accountability and learning.

Metric	Indicator	Frequency
Response Time	Avg. hours to disbursement	Real-time
Equity Index	% of funds to low-income countries	Quarterly
Impact Score	Lives saved, infrastructure restored	Annual
Transparency Rating	Audit results, public reporting	Annual
Community Satisfaction	Feedback from affected populations	Post-disbursement

The HAA takes its inspiration from the linking of the 2006 French levy on ai tickets, which created a link to Unitaid and provided innovative and reliable source of funds for global health programmes. Linking global solidarity revenues to humanitarian relief would create arguably an even more compelling case, given how widespread support there is for disaster relief even amongst publics that are sceptical about overall disaster assistance. By linking levies from climate-damaging activities such as aviation to those facing the brutal consequences of climate breakdown would be ground-breaking and compelling.

The HAA will deliver measurable benefits across five domains:

- **Speed**. The HAA would reduce average humanitarian response time from weeks to hours, enabling life-saving interventions before crises escalate.
- **Equity.** It would prioritize countries with the least fiscal space and help shift power from donor-driven aid to recipient-led response.
- **Resilience.** By supporting early recovery and infrastructure repair, the HAA will help reduce the long-term economic shocks from disasters.
- **Solidarity.** The HAA would be a tangible way of showing global responsibility for climate impacts and building trust between Global North and South.
- **Innovation.** The HAA would show how solidarity levies can fund global public goods (in an area that publics are sympathetic to) and should create a replicable model for other sectors (e.g. health, education).

There would, naturally, be some risks associated with this proposal but I am confident these can be managed. For example, political resistance to levy redistribution to these causes could be mitigated through effective communication of the benefits and efficiencies of this system. Like all aid programmes, there is a risk around misuse of funds but this could be mitigated through audits, tiered disbursements, and innovation in tracking expenditure. There is also a risk of the HAA only raising relatively small funds compared to the scale of need but this would be mitigated by presenting this as a pilot.

The Humanitarian Aid Accelerator would be more than just a fund; it would be a moral and practical innovation. It would reimagine humanitarian aid as a right, not a privilege, and solidarity levies as tools for justice, not charity. By redistributing global revenues to those most affected by climate disasters, we can build a future where no country faces catastrophe alone.

I urge the GSLTF to invest in a mechanism such as the HAA to catalyse a new era of equitable, rapid, and dignified humanitarian response. I would be happy to provide more information or help think through some more design principles and implementation options.

Under2 Feedback: Principles on the Use of Revenues from Solidarity Levies

Consultation: Mechanisms for Enhancing and Redistributing Revenues from Solidarity Levies.
Submitted by: Under2 Coalition Secretariate
Date: 26th August 2025.

As members of the Under2 Coalition, subnational governments – meaning states, regions, devolved administrations, provinces – welcome the opportunity to contribute to this consultation. We believe that achieving climate and development goals demands financing mechanisms that are globally coordinated yet locally responsive. With 44% of carbon pricing instruments operating at the state and regional level[1], it is essential that subnationals are recognised as central actors in the new financial architecture that we are collectively building.

Section 1: Objectives of the use of revenues from solidarity levies (principles 1-3)

From the perspective of subnational governments, the principles should begin by articulating an overarching objective and then be grounded in sectoral priorities that reflect real-world needs.

Our core objective is to improve direct access to finance for state, regional, and other subnational governments, who are on the front lines of both climate impacts and economic transitions. Unlocking financial flows to subnational actors is essential to ensure that resources reach the communities where they are most urgently needed.

In that context, we propose the following refinements:

- The principles should recognise a broad range of underfunded sectors that urgently require concessional finance — including adaptation, loss and damage, food security, just transitions, social protection, and health — while positioning resilience as the unifying objective that links these sectors in practice.
- A narrow, single-sector focus would fail to reflect the complex, overlapping challenges we navigate in our communities. By contrast, a resilience lens offers a practical, inclusive, and outcomes-oriented framework for solidarity financing that can flexibly respond to diverse local contexts.

In addition, we express strong support for Principle 3 (alongside principle 1 and 2). The prioritisation of highly concessional, grant-based finance for the most vulnerable countries and regions is essential. It reflects both climate justice and the urgent need to address persistent equity gaps in access to climate and development finance, particularly where institutional capacity or fiscal decentralisation limits subnational ability to respond.

Section 2: Responsibilities of countries and subnationals (principles 4-5)

Subnational governments support the principle that all countries – across income levels – should be empowered to implement solidarity levies. To ensure equity, fairness, and ambition across the

[1] The World Bank Group. Pricing Dashboard. https://carbonpricingdashboard.worldbank.org/compliance/instrument-detail

coalition, this must be matched with enabling conditions, incentives, and flexibility tailored to different national and subnational contexts.

We strongly support the creation of a top-up or co-funding mechanism, modelled on successful approaches like Gavi or the UNICEF Children's Nutrition Fund. This would serve as a powerful incentive for developing countries to implement levies domestically and should be extended to include state and regional governments, where delegated powers allow. Allocations should be based on the following, in priority order:

- Vulnerability to climate change
- Development status
- Level of ambition (e.g. climate legislation, level of carbon price or coverage).

Funding for this top-up could come from a combination of sources, including a portion of the international proceeds from the levies themselves, supplemented by contributions from donor governments or multilateral institutions. This blended approach would ensure that solidarity remains the guiding principle, while leveraging other parts of the global finance system.

Subnational governments recognise the importance of attracting additional public and private investment. In many jurisdictions, predictable and earmarked levy revenues enable a co-financing model as the revenue acts as anchor capital for:

- Green bonds
- Blended finance structures
- Philanthropic co-investment

In terms of international allocation, we support a minimum floor of 50% of proceeds from advanced economies to be used internationally, as proposed in Principle 5. Emerging economies could commit at a differentiated level – such as 10–20% – while low-income countries should retain the flexibility to use all revenues domestically. The international portion should prioritise least developed countries, small island developing states, and the most vulnerable regions.

Finally, capacity building is a key priority for subnational governments, particularly in developing countries. Many Under2 coalition members require technical assistance to understand how to design and implement a solidarity levy within their fiscal, legal, and institutional frameworks. We therefore strongly support earmarking a portion of international proceeds to:

- Tax administration capacity building
- Providing technical support for state and regional government authorities.

Without this support, many willing jurisdictions may remain excluded from this effort due to policy, technical or legal barriers.

Section 3: Sovereignty of countries and subnational governments (principles 6-7)

Subnational governments recognise that to ensure revenues are effectively allocated to climate and development, any framework for solidarity levies must carefully balance fiscal sovereignty with transparency and accountability. While the principles on implementation and earmarking may appear technical on the surface, they are, in practice, highly political.

Under2 Feedback: Principles on the Use of Revenues from Solidarity Levies

Introducing new levies and deciding how revenues are earmarked touches on sensitive questions of national priority setting, institutional control, and public trust. Governments – national and subnational alike – need both flexibility and support to make these mechanisms work in their specific contexts. For this reason, we believe the Task Force should go beyond technical guidance and provide support for governments to navigate the political realities of implementation.

We offer the following reflections and recommendations:

- Fiscal sovereignty must be upheld, with countries retaining the freedom to determine the design, collection, and earmarking mechanisms that best suit their systems. This includes subnational governments where fiscal authority is decentralised.
- However, the Task Force should explicitly acknowledge the political nature of these choices and provide support that helps governments overcome barriers - such as limited public support, inter-ministerial coordination challenges, or legal constraints on earmarking.
- We encourage the development of practical tools, case studies, and peer learning platforms that help them navigate the political dimensions of levy design, including how to build domestic consensus and align budget decisions with solidarity objectives.
- Transparency is essential. All countries should commit to public reporting on revenue raised and how it is allocated (more in Section 4), with clarity about how the funds serve climate and development objectives.
- In many jurisdictions, subnational governments already manage effective climate or social funds and are well placed to channel levy revenues directly into high-impact local programs. National governments should be encouraged to design enabling frameworks that allow subnational actors to co-implement or directly manage portions of levy proceeds, especially in countries where local authorities lead on public service delivery.
- Finally, we recommend creating a platform for mutual learning among national and subnational governments on how to navigate the political, legal, and institutional complexities of implementing solidarity levies. This would be an important contribution to expanding the coalition and supporting countries at various stages of readiness.

Section 4. Accountability (principles 8-10)

Subnational governments propose the establishment of a Subnational Solidarity Finance Facility (SSFF) within an existing multilateral institution. This facility would ensure that a certain portion of solidarity levy revenues directly reach state and regional governments, not just national govts. It would:

- Provide direct access to finance for subnational actors, especially in developing countries
- Support projects that build resilience and deliver climate-development co-benefits
- Be grounded in local innovation, knowledge, and need
- Improve visibility and accountability by linking finance to results on the ground
- Show a weighted preference to subnationals who already have a solidarity levy, creating a virtuous cycle.

Under2 Feedback: Principles on the Use of Revenues from Solidarity Levies

A facility like the SSFF would fill a major gap in the current climate finance landscape, making accountability more meaningful and delivery more effective.

We support the creation of a centralised reporting platform (or 'virtual fund') as proposed in the principles. To avoid a free rider problem, the coalition needs more than voluntary aspects though. It requires a shared accountability culture that combines transparency with soft enforcement:

- A public, centralised registry should track country participation, levy implementation status, and revenue contributions and allocations.
- A light peer review mechanism, modelled on climate stocktakes or OECD peer learning, could allow countries and subnational actors to assess each other's progress.
- Countries that have implemented levies or contributed funding should receive priority access to co-financing or recognition in global climate forums, creating incentives for action.

Subnational governments are particularly concerned about the risk that solidarity levies might displace existing finance rather than add to it—especially in a period of falling aid budgets. Additionality must be clearly and tightly defined.

If funds are channelled through a multilateral organisation, the rules for fund eligibility should be assessed and monitored by a screening panel that sits under the Taskforce and has a subnational government representative on it. Any funds that don't meet set conditions should not receive allocations.

Subnational governments recognise the fairness of prioritising countries that participate in the Task Force, especially those that raise domestic levies or take early action. However, we caution against limiting eligibility strictly to coalition members. A hybrid approach could include:

- A significant majority (e.g. 80%) of proceeds earmarked for coalition participants
- A modest share (20%) made available to highly vulnerable non-members, to reflect global solidarity and incentivise new countries to join

In addition, we need to ensure the barriers to enter the Task Force are not too high.

Finally, similar to the suggested screening panel, subnational actors should not be limited to implementation roles – we should be part of the governance and accountability architecture itself. This includes participation in:

- Any future peer review or compliance mechanism
- The eligibility and oversight processes for multilateral fund recipients
- Global reporting platforms that track local-level impact and innovation

Our participation will ensure more grounded, effective delivery, and improve the political credibility of the entire framework.

State and regional governments in the Under2 Coalition stand ready to be active partners in implementing solidarity levies that are fair, transparent, and effective. The proposals set out in this consultation offer practical pathways to ensure that revenues flow directly to the actors best positioned to deliver high-impact climate and development outcomes, while strengthening solidarity and cooperation across borders.