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Towards a political compromise on the contributor base question within the NCQG

1. Introduction

The New Collective Quantified Goal (NCQG) on climate finance is a critical element of global efforts to address climate change, intended to replace the current USD 100 billion annual commitment from developed countries that is set to expire in 2025. As the world faces increasing climate challenges, there is mounting pressure to significantly scale up financial resources to support mitigation and adaptation efforts in countries of the Global South[1], as well as address rising loss and damage. This new goal is seen as pivotal to ensuring that vulnerable countries can cope with the growing impacts of climate change and that global commitments align with the urgency of the climate crisis.

However, a heated debate has emerged around the issue of who should contribute to this new climate finance target, particularly in terms of the provision of public funds from national governments as well as publicly mobilised private finance. Traditionally, the burden of climate finance has fallen on the developed countries listed in Annex II of the United Nations Framework Convention on Climate Change (UNFCCC), reflecting those countries' historical responsibility for greenhouse gas emissions. Those countries are also referred to as traditional contributors.

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1 The concepts 'Global South' and 'developing countries' are used in this publication almost synonymously. The authors' preference is the term Global South. However, the UNFCCC language uses the concepts of developing and developed countries. Both expressions are therefore used in the text.

But with rapid economic growth in several developing countries and shifts in global economic power, some argue for an expanded contributor base that also includes wealthier developing countries. This debate touches on broader issues of equity and the principle of 'common but differentiated responsibilities and respective capabilities'. The outcome of this debate will significantly influence the design and effectiveness of the NCQG and will have an impact on how the world will collectively respond to the escalating climate emergency.

2. Purpose of the paper

Most of the recent publications on the question of who should contribute to the NCQG have a rather technical focus on concrete methodologies for determining the contributor base.[2] They propose using calculations based on two main criteria: capability to pay (usually measured on the basis of total/per capita income) and responsibility for climate change (usually measured on the basis of total/per capita cumulative territorial emissions). It is undisputed that these two criteria play an important role in the debate. Yet, there is a range of considerations (such as the differentiation between subsistence and luxury emission, differing climate vulnerabilities, development needs, costs of capital or debt distress levels) that show the limitations of using income and cumulative territorial emissions as the sole indicators to determine capability and responsibility, respectively. This suggests that further criteria need to be taken into account.

It is likely that the COP29 decision on the NCQG will not make reference to a concrete methodology to define the contributor base and will be a political compromise containing rather general wording.[3] All methodologies for determining the contributor base have certain shortcomings, as they are merely attempts to translate a complex reality into a technical approach that can be applied equally to all countries. Further considerations beyond income and cumulative territorial emissions that better reflect capability and responsibility might not be easy to incorporate into technical approaches to quantitatively determine the contributor base. Yet, such additional considerations are still relevant and could influence the political debates and contentions during the negotiations.

By reflecting on further considerations for a just approach, this paper aims to contribute towards finding a political compromise on how to reflect the contributor base within the NCQG decision at COP29.

This paper will not make technical suggestions on how to calculate the contributor base. It will rather focus on the strengths and weaknesses of different existing methodologies and suggestions from Parties. Further, it will provide corresponding conclusions that UNFCCC negotiators and political decision-makers need to take into account in the process of finding a compromise on the contributor base question within the NCQG decision.

The findings in this paper are based on a desktop review of (i) existing approaches and methodologies to define the contributor base, (ii) other existing literature on defining the capability and responsibility of countries to contribute to international climate finance, and (iii) respective official UNFCCC documents.

3. What does widening the contributor base mean within the NCQG negotiations?

Several developed countries highlight that it is one of their priorities to expand or widen the contributor base. What exactly such countries mean by this, and what a specific outcome could look like, tends to remain undefined. Yet it is clear that the contributor base issue is intrinsically linked to the NCQG negotiations and the respective decision at COP29. Some actors' main objectives and the reasoning behind their requests to widen the contributor base are not fully evident. The obvious answer would be an increase in overall international climate finance flows, but the debate also seem to be influenced by geopolitical, principle-based concerns and domestic motivations. The fact that there is no commonly agreed definition for international climate finance adds additional complexity to the contributor base question.

2 See e.g. ODI (2024) A fair share of climate finance. The collective aspects of the New Collective Quantified Goal.
3 Even though the substantive framework for a draft negotiating text on the NCQG provides the option to list countries with financial obligations in an annex to the decision text based on three optional criteria.

Suggestions from Parties to extend the contributor base

The EU requests only very generally that Parties with high emissions and economic capabilities should join the effort to reach the collective goal. The US does not provide any further definition than stating that those with the capacity to support others must also be accountable for delivering climate finance. Switzerland, Canada and Australia, however, do provide more concrete suggestions on who should contribute to a target for climate action in developing countries. Switzerland's suggestion is that the top ten current emitters should contribute to international climate finance if their gross national income (GNI) per capita, adjusted by purchasing power parity (PPP), is above a certain threshold.[4] Canada makes a similar suggestion that also focuses on the top ten emitters based on cumulative CO_2 emissions and suggests that all countries with a GNI per capita above USD 52,000 (PPP) should contribute independently of their emissions.[5] Australia, conversely, only focuses on criteria related to capability, suggesting that in addition to developed country Parties, other Parties with high GNI and high foreign direct investment flows should also contribute – excluding low-income countries with a risk of external debt distress; countries classified as Small Island and Developing States (SIDS) and least developed countries (LDCs) with Human Development Index (HDI) values of less than 0.9; and those in fragile or conflict-affected situations.[6]

There seems to be general agreement that we need a significant increase in local, national, and transnational climate finance flows. Within the UNFCCC negotiations, historically, there has been a particular emphasis on public resources provided by traditional contributors to developing countries, but also on publicly mobilised private climate finance flows. South–South cooperation between emerging economies and other countries of the Global South will also play a central role in meeting the 1.5°C target and in dealing with climate impacts. Such cooperation and increased domestic climate finance from countries in the Global South will be increasingly essential for the pathway to a low-emission and climate-resilient world. Yet, regarding the contributor base question in the context of the NCQG, the focus seems to primarily be on climate finance flows provided to developing countries, as the above-mentioned suggestions from Switzerland and Canada show.

However, this chapter will look at a range of different elements and respective potential outcomes for all types of climate finance flows that can be interpreted as a broadening of the contributor base. This includes aspects to be potentially reflected in UNFCCC decision text as well as announcements or commitments from individual countries.

Transparency of North–South versus South–South climate finance flows

Article 9.1 of the Paris Agreement specifies that 'developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.'[7] Additionally, Article 9.7 of the Paris Agreement specifies that 'developed country Parties shall provide transparent and consistent information on support to developing country Parties provided [as referred to in the above-mentioned article 9.1] and mobilized through public interventions [as referred to in article 9.3 of the Paris Agreement].' By contrast, other Parties have no formal obligations and are only encouraged to provide transparent and consistent information. Thus, for North–South climate finance flows, there is a certain level of transparency regarding who contributes how much.

For South–South climate finance flows, such transparency is lacking, as according to Article 9.2 of the Paris Agreement, 'other Parties [than developed country Parties] are encouraged to provide or continue to provide such [financial] support voluntarily.'[8] In fact, several developing countries and emerging economies do already provide international climate finance through South–South cooperation – including bilateral climate finance flows, contributions to climate finance flows from multilateral, regional, and national development banks, and voluntary contributions to multila teral climate funds or other South-led initiatives. Yet, this provision of South–South climate finance resources is not transparent, as developing countries are not required to report on their climate finance flows according to the transparency framework of the Paris Agreement. Thus, the concept of 'widening' or 'expanding' the contributor base might not be adequate when referring to the totality of transnationally available funds, as the contributor base is evolving, with several developing

4 UNFCCC. Written inputs received from Parties to inform the preparation of an updated input paper ahead of the third meeting under the ad hoc work programme.
5 Ibid.
6 Ibid.
7 UNFCCC, 2016. Paris Agreement
8 Ibid.

countries voluntarily providing international climate finance. Academia and think tanks have collected information that shows that non-traditional donors do already provide large amounts of climate finance that is not covered by UNFCCC official reporting.[9] Such information also includes an overview of part of China's climate-related finance to the Global South.[10]

Textbox 1: Examples of current South–South climate finance flows

Domestic and **bilateral South–South** climate finance flows:

The Development Bank of Southern Africa (DBSA) is one of the leading African development finance institutions and is wholly owned by the government of South Africa. Through its Green Fund facility, the DBSA provides domestic climate finance flows in South Africa by providing resources for a wide range of goals regarding the transition to a greener economy, including projects that reduce climate change impacts. The DBSA also provides bilateral South–South climate finance flows through its Climate Finance Facility. This facility is intended to increase climate-related investments in the Southern Africa region by addressing market constraints and playing a catalytic role with a blended finance approach. Ahead of the Paris climate summit, China announced that it would set up the China South–South Cooperation Fund and channel USD 3.1 billion through that fund for climate cooperation with the Global South. However, no timeline was attached to this announcement, and as of the end of 2022, only about 10% of this amount had been provided by the Chinese government.[11] Recent research shows that between 2013 and 2022, China provided an estimated USD 44.92 billion of climate finance to developing countries – equalling about 6.1% of the total climate finance amount from traditional contributors over the same period and putting China equal to the fifth-ranked traditional contributor for bilateral and multilateral climate finance channels between 2013 and 2018.[12]

South–South contributions to **UN climate funds**:

Countries such as Chile, Colombia, Indonesia, Mexico, Mongolia, Panama, Peru, and Vietnam have voluntarily contributed to the resource mobilisation of the Green Climate Fund. In addition, the state of Qatar has made a voluntary financial contribution to the Adaptation Fund. Yet these contributions have been of a rather symbolic nature. By contrast, the USD 100 million contribution from the United Arab Emirates to the newly set up Fund for Responding to Loss and Damage has been one of the highest so far to this fund, alongside Germany's contribution.

Other examples of multilateral **South-led initiatives**:

The OPEC Fund for International Development (OPEC Fund)'s 12 member states (Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela) fund development projects in non-member low- and middle-income countries. In its Climate Action Plan, launched in 2022, the OPEC Fund commits 40% of all new financing to climate-related investments by 2030. In early 2024, the OPEC Fund announced that it will be co-financing Colombia's Climate Action Policy and Energy Transition Program with a USD 150 million policy-based loan. To date, the OPEC Fund has committed about USD 27 billion to development projects in over 125 countries. In total terms, Saudi Arabia has pledged the highest amount (USD 1.1 billion) to the fund among its members.

9 Lowy Institute Southeast Asia Aid Map. Data.
10 E3G, 2023. Follow the money. Chinese Climate related finance to the Global South.
11 Ibid.
12 World Resources Institute, 2024. China's international climate-related finance provision and mobilization for South-South cooperation.

South–South climate finance flows will be essential to pursuing the goals of the Paris Agreement. But to reach the Paris Agreement goals, South–South climate flows need to be complementary and additional to North–South climate finance flows and should not dilute the responsibilities of traditional contributors.

A significant part of South–South climate finance flows is channelled through multilateral development banks (MDBs). Yet there is no transparency on the amount of such flows, even though the numbers should be relatively easy to assess. A group of MDBs annually publishes a Joint MDB Climate Finance Report that provides information on the overall climate finance provided through the group (including both traditional and non-traditional contributors). However, this report does not specify how much climate finance has been provided by individual contributor countries. Developed countries themselves provide information on the climate finance they have channelled through MDBs. To avoid placing an additional burden on developing countries, the MDBs, rather than the countries, could report on such numbers with the aim of increasing transparency on South–South climate finance flows. Such numbers could then be incorporated into the reporting under the UNFCCC/NCQG.

Voluntary commitments to provide transparency on South–South climate finance flows

Specifying a request for increased South–South climate finance flows might also be premature given the lack of transparency about current South–South climate finance flows. Thus, as part of a potential NCQG decision, key South–South climate finance providers could voluntarily commit to transparency regarding their voluntary South–South climate finance flows under Article 9.2 of the Paris Agreement. Article 9.7 of the Paris Agreement actually encourages them to do so. Such a voluntary commitment by countries that are in a position to make it would also avoid creating an additional burden for the whole group of developing countries, many of which do not have the capacity or resources to provide such transparency. In particular, the group of LDCs does not account for big sums in South–South climate finance flows anyway and should not be burdened by additional obligations.

Announcements of (voluntary) climate finance pledges from non-traditional contributors

A de facto expansion of the contributor base may not only be linked to a respective decision text under the NCQG but may also be reflected in announcements and commitments from non-traditional contributors on climate finance pledges. Experience has shown that it is important that such commitments are time-bound and trackable. Countries could even specify whether such climate finance pledges and commitments will be provided under Article 9.1 or voluntarily under Article 9.2 of the Paris Agreement. A commitment to pledge climate finance under Article 9.1 would indirectly also imply future obligations for such countries. However, new pledges from developing countries made under Article 9.2 would not come with any implications for future climate finance commitments. New climate finance announcements from non-traditional contributors would show political willingness and could help to make progress towards finding a compromise on the contributor base matter within the NCQG decision text.

The importance and symbolic force of voluntary announcements of pledges at COP29 should thus not be underestimated in the context of the NCQG negotiations. The impact of such announcements might be even higher if those pledges were made to UN climate funds that make resources accessible to all developing countries and are governed by both developing and developed countries. Specifically, new voluntary pledges to the Adaptation Fund (AF) would have symbolic power, as all Parties tend to agree that the AF delivers much-needed, high-quality adaptation finance in form of grants to developing countries, and it even has a slight developing country majority in its governance. In 2023, the AF significantly missed its resource mobilisation target. However, traditional contributors must first meet the AF's resource mobilisation target for 2024, and potential new voluntary contributions from non-traditional contributors must come on top of existing obligations from traditional contributors and not reduce their obligations. To ensure this, new voluntary pledges from non-traditional contributors at COP29 could be conditioned on traditional contributors reaching the AF's resource mobilisation target first.

An understanding of the donor base beyond individual countries

The debate on the contributor base tends to focus on individual countries. However, not only individual countries bear historical responsibility, but also companies. The so-called 'carbon majors', the largest fossil fuel producers (primarily large coal, oil and gas companies), stand out in particular. Although a COP decision cannot make any legally binding decisions for the carbon majors, the international community could commit to driving forward efforts to mobilise international climate finance at national level, for example by taxing the carbon majors more heavily. Such a commitment by individual countries should be reflected in the NCQG decision. There is a need to acknowledge the importance of contributing countries generating their international climate finance provisions based on the principles of capability and responsibility at domestic level. Both principles should form essential criteria for determining the contributing base within contributor countries.

Global climate finance investment target and implications for the contributor base

There is a possibility that a decision on the NCQG might also contain a commitment to a global climate finance investment target that would cover all domestic and transnational climate finance flows, including public provision of climate finance, publicly mobilised climate finance, and all kinds of private finance flows. All countries would contribute to such a target. Thus, the question becomes who would cover what share of the target, what share of the target would come from public climate finance provision, and what share is expected to come from publicly mobilised private climate finance and other private finance flows? Any agreement on a global investment target as part of an NCQG decision would imply a de facto broadening of the contributor base to all countries if the above-mentioned domestic climate finance flows would fall under such a target. Hence, a decision to introduce such a global target could be interpreted as one piece of the puzzle towards an expanded contributor base.

The importance of renewed strong commitments from traditional contributors

To reach the goals of the Paris Agreement, it is important to ensure that any potential new outcomes regarding the contributor base are complementary and additional to the climate finance flows provided by traditional contributors. Thus, a strong commitment from traditional contributors to provide a significantly increased amount of public climate finance to the Global South will be a precondition for any of the above-mentioned outcomes to expand the contributor base.

Differentiated obligations for developed and developing countries in the Paris Agreement and Annex II of the UNFCCC

There have been voices that pointed out that Annex II of the UNFCCC does not anymore reflect well current realities. This seems to be a legitimate concern, as various studies[13] have made clear that the current inventory of countries in Annex II of the Convention, which lists countries that 'are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the Convention and to help them adapt to adverse effects of climate change', is outdated. Yet it is still questionable whether a revision of Annex II needs to be a precondition to solving the contributor base matter as part of a decision on the NCQG. Interestingly, the above-mentioned Article 9.1 of the Paris Agreement refers to obligations for 'developed countries' and not Annex II of the Convention. However, the fact that there is also no internationally agreed definition of what constitutes a developed country rather adds complexity in this case. Given the fact that Article 9 of the Paris Agreement does not reference Annex II of the Convention, renegotiating Annex II as part of an NCQG decision would probably put too much at stake and jeopardise a successful NCQG agreement at COP29. Moreover, a revision of Annex II of the Convention would have implications that would go way beyond the NCQG and would also affect several other areas under the Convention. Nonetheless, a separate process could be set up to revise the categorisation of countries in Annex II of the Convention using scientific parameters and methods.

13 See publications included in Table 1.

Textbox 2: The Convention on Biological Diversity (CBD) and the provision of financial resources

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While the CBD distinguishes between developed and developing countries in its Article 20 on Financial Resources, it also states that '[O]ther Parties, including countries undergoing the process of transition to a market economy, may voluntarily assume the obligations of the developed country Parties.'[14] For this purpose, the CBD aims to establish 'a list of developed country Parties and other Parties which voluntarily assume the obligations of the developed country Parties'. This approach would allow developing countries and emerging economies to voluntarily assume climate finance obligations without implications for those countries' perceived categorisation as developed or developing countries. The CBD also states that this list should be periodically reviewed and, if necessary, amended. In addition to contributions from countries on the list, the CBD encourages contributions from other countries and sources on a voluntary basis. .

The current negotiations on the NCQG provide an important window of opportunity that might be used to initiate a COP process to revise Annex II of the Convention. Even though this would not be part of the NCQG decision under the CMA,[15] UNFCCC negotiators in Baku could agree on a potential timeline and process for reconsidering Annex II of the Convention in a respective COP decision. A revision of Annex II that goes beyond the binary categorisation of developed and developing countries (as the CBD example) could potentially indirectly incentivise an increase in South–South climate finance flows. However, this would only represent one piece of the puzzle in the contributor base debate and the implications for the NCQG would only be indirect.

Potential implications of non-traditional contributors being both providers to and recipients of a public climate finance provision target to developing countries

As it is a developing country priority, it is likely that the NCQG decision will contain a (sub-)target that specifies the amount of public climate finance that should be provided and/or mobilised to developing countries. Contributions to this target might also come from a number of non-traditional contributors, who should assume the same climate finance obligations as the Parties in Annex II of the Convention. For such a sub-target to work, it might be tricky if countries are not clearly categorised as either providers or recipients of any target for public climate finance provided to developing countries. If some countries were allowed to both contribute to and benefit from this particular target, this would bring the danger of inflating the actual climate finance amounts reported towards an agreed amount without ensuring that an increased amount of public climate finance would be provided to those countries in most need, such as LDCs and SIDS. In such a scenario, the total amount of the goal of public climate finance provided to developing countries would need to be higher to avoid inflated numbers to the detriment of particularly vulnerable countries. Alternatively, countries could only be allowed to fall into one of the two categories (donor/recipient). However, climate finance investment flows from traditional contributors to potential new non-traditional contributors should clearly still be encouraged, independently of whether those flows are counted towards a public climate finance provision sub-target for developing countries or an overall global climate finance investment target.

Climate finance flows from traditional contributors to potential new contributors would remain important in this scenario, as this would not be a case of the same money flowing in and out. Additionally, potential new contributors' climate finance provision might not happen if they were not able to continue to receive climate finance from traditional contributors. Thus, this issue only relates to the implications of accounting for climate finance flows from potential new contributors to a certain sub-target and not to de facto climate finance flows under a global investment target. The aim should be to ensure that LDCs, SIDS, and other low-income countries in particular benefit from the addition of new contributors under any future NCQG sub-target for climate finance flows to developing countries. To ensure this, the NCQG decision could also include an arrangement on benefit sharing. However, independently of how finance flows are counted under a potential sub-target, the transparency of such climate finance flows will still be key because a transparency requirement may also be an incentive for more ambitious climate finance flows.

14 Convention on Biological Diversity. Article 20, paragraph 2.
15 CMA is the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

Several traditional contributors argue that China and other emerging economies should also contribute a 'fair share' to the provision of public climate finance provided to developing countries. Yet a significant part of the traditional contributors' climate finance reported to be provided under the USD 100 billion goal is attributed to China and other emerging economies. Unfortunately, exact numbers on climate finance flows to these countries are not publicly accessible. Nonetheless, there are indications that if those climate finance flows were no longer counted towards a public climate finance provision target to developing countries, current climate finance numbers would need to be adjusted downwards. The joint report on the MDBs' climate finance shows that altogether, the MDBs provided USD 2,635 billion in climate finance to China in 2022.[16] While it is not publicly accessible how much of this amount also falls under the climate finance reported by developed countries, it is still an indication that a country's change of categorisation from recipient to donor country would cause a downward adjustment of actual climate finance flows if it could not count simultaneously as a provider and a recipient under any potential NCQG sub-target for international climate finance provided to developing countries.

Potential contributor base outcomes at COP29

In summary, the call for an expansion of the contributor base may lead to different outcomes and compromises at COP29 in Baku. Such outcomes may not only be reflected in specific decision text under the NCQG but may also imply political commitments and announcements from certain countries. The potential outcomes listed below are not mutually exclusive and will most likely not be agreed on independently of each other. On the contrary, a political compromise on the contributor base issue might need to involve a package of several outcomes for countries to agree on it. Potential outcomes include:

- A strong reconfirmation from traditional contributors that they will continue to take a leading role in providing climate finance and fulfil their climate finance obligations under the Paris Agreement.
- A commitment and/or announcement from traditional contributors who have not fulfilled their climate finance obligations in the past that they will do so in the future.
- A commitment from certain non-traditional developed countries (not in Annex II of the Convention) to assume climate finance obligations under Article 9.1 of the Paris Agreement and respective reporting obligations under Article 9.7.
- Public announcements from certain developing countries on climate finance pledges to other Global South countries (through either bilateral or multilateral initiatives) under Article 9.2 of the Paris Agreement.
- Commitments from certain developing countries to report their voluntary climate finance flows under Article 9.2 of the Paris Agreement.
- NCQG decision text that encourages MDBs to report – as part of their annual Joint MDB Climate Finance Report – on how much of their public climate finance provision can be attributed to all their individual contributors from both developed and developing countries.
- A qualitative commitment from all Parties to further strengthen domestic climate finance flows and enhance domestic resource mobilisation for climate finance based on the principles of responsibility and capability, including a commitment to hold the carbon majors responsible at a national level with the aim of generating innovative sources of climate finance.
- A qualitative commitment from all Parties of the Paris Agreement to contribute towards a global climate finance investment target.
- An NCQG decision that refers to an arrangement on benefit sharing under a public climate finance provision target to developing countries if non-traditional contributors become both providers and recipients under this target.
- [A COP decision to initiate a process to revise Annex II of the Convention – going beyond a binary country categorisation as, for example, the CBD does.]

4. Overview of existing approaches and methodologies to determine the contributor base

Given the prominence of the discussion on the contributor base in the UNFCCC climate finance negotiations, various approaches and methodologies have been elaborated by think tanks, NGOs, and academia since the start of the NCQG workstream. These have influenced the debate and provided

16 Joint MDB Group, 2022. Joint Report on Multilateral Development Banks' Climate Finance.

different angles on how to approach the topic from a technical perspective. Table 1 provides an overview of those papers. We have looked into the following papers:

- A fair share of climate finance? The collective aspects of the New Collective Quantified Goal (ODI, 2024)
- Who Should Pay? Climate Finance Fair Shares (CGD, 2023)
- Untangling the Finance Goal: An Introduction to the New Collective Quantified Goal (WRI, 2023)
- More Climate Finance from More Countries? (Pauw et. al, 2024)
- Climate Finance: Fair Shares Revisited (CGD, 2024)
- Fair shares in Loss and Damage Finance (Germanwatch, 2024)

Overview of existing approaches and methodologies to determine the contributor base

Aspect	ODI (2024)[17]	CGD (2023)[18]	WRI (2023)[19]	Pauw et al. (2024)[20]	CGD (2024)[21]	Germanwatch[22] (2024)
Focus	Developed countries' fair share in climate finance	Developed and emerging economies' contributions to climate finance	Evolving NCQG process post-2025	Identifying new non-Annex II contributors to climate finance	Revisiting fair shares with more progressive models	Fair shares in Loss and Damage finance
Scope	Focuses on Annex II (developed countries)	Includes both Annex II and non-Annex II (emerging economies)	Focuses on broader negotiation themes	Expanding provider base to non-Annex II countries	Focuses on developed countries and emerging economies	Three main cases: **1.)** only Annex II countries; **2.)** Annex II plus countries 'in range'; **3.)** all 'developed' countries
Methodology	Quantitative: composite index using GNI, CO_2 emissions, and population	Quantitative: multiple scenarios using GNI, CO_2 emissions, PPP, and different cut-off dates	Qualitative: focuses on negotiation themes (contributor base, time frame, and transparency)	Mixed methods: analyses international commitments, institutional affiliations, GNI (mean for 1990–2019, and per capita and absolute for 2019), and emissions (cumulative for 1990–2019, and per capita and absolute for 2019)	Quantitative: uses a progressively structured model for emissions and income	Quantitative: One main scenario, plus various sensitivity scenarios in the annex. Main case focuses on per capita income levels (including development need considerations) and cumulative total territorial GHG emissions since 1950.

17 Overseas Development Institute (ODI), 2024. A fair share of climate finance? The collective aspects of the New Collective Quantified Goal.
18 Center for Global Development (CGD), 2023. Who Should Pay? Climate Finance Fair Shares.
19 World Resources Institute (WRI), 2023. Untangling the Finance Goal: An Introduction to the New Collective Quantified Goal.
20 Pauw et al., 2024. More Climate Finance from More Countries.
21 Center for Global Development (CGD), 2024. Climate Finance: Fair Shares Revisited.
22 Germanwatch, 2024. Fair Shares in Loss and Damage Finance.

Contributor base	Focuses primarily on developed countries (Annex II), while also acknowledging an increasing role for Kuwait, Qatar, South Korea, and the UAE	Expands contributor base to non-traditional donors to provide 20–30% of total climate finance, with China, Mexico, Poland, Russia, Saudi Arabia, South Korea, Taiwan, and the UAE among the top 20)	Discusses potential for expanding the contributor base, no specific metrics	Seeks to expand the provider base to non-Annex II countries (e.g. Eastern European countries, Gulf States (incl. Saudi Arabia), Monaco, Russia, South Korea, and Türkiye)	More progressive formulations increase the share of existing Annex II countries. China benefits from these formulations, and some other developing countries (non-Annex II, notably Gulf states) see their fair shares rise	Annex II countries remain responsible for the overwhelming majority in L&D finance. In all cases, the United States has the highest fair share. Countries not included in Annex II with non-negligible fair shares are Russia, Saudi Arabia, South Korea, Türkiye, United Arab Emirates, Qatar, Singapore, Poland, Israel, and Kuwait.
Historical responsibility	Measures cumulative CO_2 emissions since 1990	Tests different cut-off dates for emissions (e.g. 1990, 1900) and various emission types	Discusses historical responsibility in negotiations but does not calculate	Uses CO_2 emissions (1990–2019) as a key criterion for responsibility	Focuses on cumulative greenhouse gas emissions per capita since 1979	Cumulative territorial total emissions since 1950 (yet, annex includes sensitivity cases/ scenarios for cut-off years 1850 and 1990)
Types of greenhouse gases considered	Only carbon dioxide (CO_2) emissions	Depending on scenario: only carbon dioxide (CO_2) or all greenhouse gases	Only carbon dioxide (CO_2) emissions	Only carbon dioxide (CO_2) emissions	Depending on scenario: only carbon dioxide (CO_2) or all greenhouse gases	All greenhouse gases
Territorial vs. consumption-based emissions	Territorial emissions	Territorial emissions	Territorial emissions	Territorial emissions	Territorial emissions	Territorial (yet, the annex includes a sensitivity case/ scenario for consumption-based emissions)
Sources emissions	No specification	No specification	No specification	No specification	No specification	Greenhouse gases from all sources except land use, land use change and forestry (LULUCF)
Differentiation between subsistence and luxury emissions	No	No	No	No	Not directly, but introducing some minimum level of per capita emissions below which countries would bear no responsibility	Yes, different weighting of subsistence and luxury emissions

Economic capability	Based on GNI and population	Uses GNI per capita and alternatives like PPP for wealth measures	Focuses on capacity within negotiation discussions; no specific measures	Assesses GNI per capita (1990–2019) and absolute GNI for economic capacity	Introduces a progressive model that includes per capita GNI and income thresholds	Per capita income (PPP-adjusted)
Additional consideration for capability applied	Considers social and economic conditions (e.g. debt levels or servicing costs, trade dependencies, climate vulnerabilities)	No	No	No	Introduces some minimum level of per capita income below which countries would bear no responsibility	Development need (by treating different income levels differently from each other)
Relative weighting of indicators	Each of the three metrics (GNI, emissions and population) is assigned an equal weight	Equal weight	Equal weight	Equal weight	Equal weight	Weighting of capability and responsibility: equal/average (50% : 50%)
Quantitative vs. qualitative	Entirely quantitative, formula-based	Primarily quantitative, with flexible scenarios	Primarily qualitative, focusing on negotiation processes	Mixed approach, using both quantitative data and qualitative assessments	Primarily quantitative, focusing on progressive model adjustments	Primarily quantitative with additional sensitivity cases/ scenarios
Use of scenarios	None	Multiple scenarios with alternative emissions data and economic indicators	None	Assesses willingness, responsibility, and economic capability based on multiple reviews	Three progressive model scenarios, testing thresholds and exponents for income and emissions	One central scenario and additional sensitivity scenarios in the annex
Focus on willingness to contribute	Not included	Indirectly discussed via capacity and emissions	Discusses willingness in terms of the negotiation process, but no metrics	Directly assesses willingness via past contributions to multilateral climate funds	Assesses political realism by introducing caps on contributions for large emitters like the USA	Not included

Table 1. Overview of the methodologies, scope, and focus areas of the six papers

The different studies listed in Table 1 have shown that some countries such as rich oil states and a number of emerging economies tend to exceed a certain capability and responsibility threshold to contribute to climate finance (based on a mix of indicators such as cumulative and actual GNI and emissions in total and per capita). However, the approaches used in several of these studies also show that, particularly in the case of emerging economies, their fair share amounts would currently still be comparatively low and not change the total numbers significantly – although this might change over time. These amounts are also relatively low compared to the large gap in climate finance from traditional donors such as the United States, who have been falling far short of their cumulative fair share climate finance provisions under the USD 100 billion goal. But the studies also show that rich oil states, such as the United Arab Emirates and Qatar, clearly fall into the group of countries that would have to provide their fair share of climate finance to the Global South.

5. Considerations for determining the contributor base

While there are strong arguments in favour of determining capability by GNI per capita and responsibility by total and/or per capita cumulative emissions, there is also a range of potential limitations to only considering those determinators. This chapter will look at such potential limitations and other considerations. It is important to note that the lists of considerations given in sections 5.1 and 5.2 do not claim to be exhaustive. Nor does the sequence in which items are discussed imply a prioritisation or ranking. The paper does not aim to make any statement about the weighting of the individual considerations. Rather, the considerations included exemplify the complexity of determining capability and responsibility in the context of the contributor base.

5.1 Potential limitations to capability if only determined by GNI per capita

The following considerations are examples of issues that may need to be contemplated when trying to define capability to contribute to international climate finance flows. The list demonstrates the potential limitations of solely determining capability by GNI per capita.

i) Differing climate change vulnerability

Countries with similar income levels experience great differences in their vulnerability to climate change, which poses limitations to capability if only determined by income. Vulnerability is a composite of a country's exposure, sensitivity, and adaptive capacity that measures how strongly a country is impacted by climate change.[23] Vulnerability is highly context specific and is not reflected in considerations of capability. First, extreme weather events, such as storms, floods, heavy precipitation, droughts, and heatwaves, are occurring more frequently and with more intensity in some countries than in others (exposure). Second, even when countries face similar hazards, the impacts of these hazards can differ significantly: the country that strongly depends on the affected sector (sensitivity) and has weak (social) systems in place to cope with the hazards (adaptive capacity) is more vulnerable than the country that depends less on the affected sector and has stronger (social) systems in place. Consequently, countries that are more vulnerable to climate change face higher needs for investing in adaptation measures to increase their resilience to climate change.

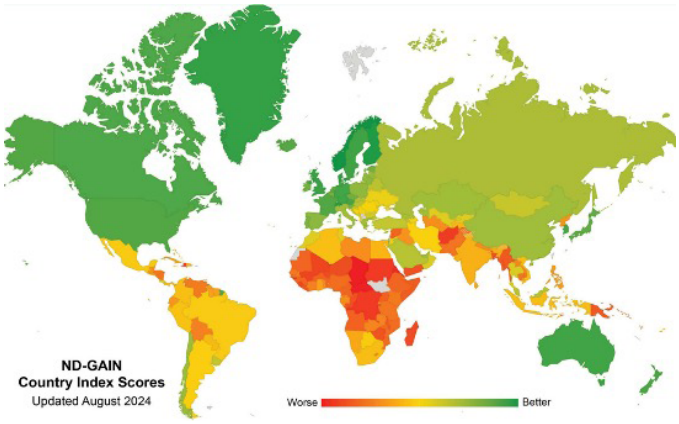

Figure 1. The ND-GAIN Country Index summarises a country's vulnerability (exposure, sensitivity, and adaptive capacity) to climate change and other global challenges in combination with its readiness (economic, governance, and social) to improve resilience. Source: University of Notre-Dame.

23 Chen Chen et al., 2024. University of Notre Dame Global Adaptation Initiative - Country Index Technical Report.

The group of SIDS presents a relevant case in point demonstrating the limitations to capability considerations in the context of vulnerability. Many SIDS have relatively high per capita incomes and fall into the lower and upper-middle-income categories (according to World Bank classifications), suggesting that these countries also have relatively high capabilities. However, SIDS are among the countries that are most vulnerable to climate change,[24, 25] which limits their capabilities compared to other countries with similar income levels because they face higher domestic investment needs for enhancing their resilience and dealing with the unavoidable losses and damages caused by climate change. The Bahamas, for example, has a GNI of USD 31,030 per capita and thus falls into the high-income category (> USD 14,005 per capita, World Bank).[26] With a GNI of USD 12,890 per capita, China falls into the upper-middle-income category (USD 4,516–14,005 per capita, World Bank).[27]
Consequently, when considering only income levels to determine capability, the Bahamas should have a higher ability to contribute to climate finance than China. However, according to the ND-GAIN Index, China has a relatively low vulnerability to climate change (ranking 33/187), while the Bahamas is significantly more vulnerable to climate change (ranking 97/187).[28]

ii) Differing challenges relating to the cost of capital

The cost of capital varies across countries, which affects their capacity to invest in climate change mitigation and adaptation,[29] and therefore poses another limitation to capability. Most wealthy industrialised countries can borrow capital from the international financial market at relatively cheap rates and are able to sustain higher debt to GDP ratios than other countries.[30] In most low and lower-middle-income countries, however, the cost of capital is higher because of higher risk premiums, making climate action more expensive than in wealthier high-income countries. [31 32] Apart from this general observation, there are also large differences with regards to borrowing costs between countries that have similar income levels, which results in significant differences in their ability to raise capital for climate action, both domestic and international.[33] For example, China and Mexico have similar per capita GNIs of USD 12,890 and USD 10,810, respectively.[34] However, a study found that the weighted average cost of capital for investments in low-carbon technologies is almost twice as high in Mexico, at 11.8%, compared to China, at 6.6%.[35]

The International Energy Agency notes that nominal financing costs can be up to seven times higher in emerging and developing economies compared to the United States and Europe. This substantial difference in the cost of capital can significantly impact a country's capability to contribute to international climate finance, even if its GNI per capita suggests it should have the capability to do so. Furthermore, climate vulnerability itself can increase borrowing costs for developing countries. A study found that climate vulnerability has already raised the average cost of debt in a sample of developing countries by 117 basis points.[36] This translates to USD 40 billion in additional interest payments over the past ten years on government debt alone for climate-vulnerable countries.

iii) Differing challenges relating to debt levels

Differences in debt levels pose another limitation to capability that is not reflected in per capita income. More than 50% of countries in the Global South are in a critical or very critical debt situation, and for 45 countries, more than 15% of government revenue flows into debt servicing,[37] which significantly limits their capability.

24 Bharadwaj et al., 2023. Sinking islands, rising debts – Urgent need for new financial compact for Small Island Developing States. International Institute for Environment and Development.
25 Brownbridge and Canagarajah, 2024. Climate Change Vulnerability, Adaptation and Public Debt Sustainability in Small Island Developing States. World Bank Group.
26 World Bank Group. World Development Indicators. 2022 data.
27 Ibid.
28 Chen Chen et al., 2024. University of Notre Dame Global Adaptation Initiative – Country Rankings.
29 Bhur et al., 2018. Climate Change and the Cost of Capital in Developing Countries. Imperial College Business School and SOAS University of London.
30 Hurley et al., 2024. Breaking the cycle of debt in Small Island Developing States. ODI.
31 Ameli et al., 2021. Higher cost of finance exacerbates a climate investment trap in developing economies. Nature Communications, Volume 12, Article number 4046.
32 IEA, 2021. The Cost of Capital in Clean Energy Transitions.
33 Bhur et al., 2018. Climate Change and the Cost of Capital in Developing Countries. Imperial College Business School and SOAS University of London.
34 World Bank Group. World Development Indicators. 2022 data.
35 Ameli et al., 2021. Higher cost of finance exacerbates a climate investment trap in developing economies. Nature Communications, Volume 12, Article number 4046.
36 Bhur et al., 2018. Climate Change and the Cost of Capital in Developing Countries. Imperial College Business School and SOAS University of London.
37 Kadirgamar, Rehbein, and Stutz, 2024. Global Sovereign Debt Monitor 2024. erlassjahr.de – Entwicklung braucht Entschuldung e. V. and Bischöfliches Hilfswerk MISEREOR e. V.

Climate change further exacerbates the debt situation of vulnerable countries and can lead to a 'climate debt trap'. [38] Middle- and high-income countries that are particularly vulnerable to climate change, such as SIDS, experience losses and damages that exceed their domestic resource availability. As a case in point, a single hurricane caused losses of 200% of GDP in Grenada in 2004[39], while Dominica was hit by two hurricanes within three years that caused losses of 90% of GDP in 2015 and losses of 226% of GDP in 2017.[40] Consequently, these countries are compelled to take on additional debt for repairing losses and damages, which further increases their overall debt burden and their government revenue flowing into debt servicing. Capability considerations that only look at income levels ignore the fact that high and upper-middle-income countries such as the SIDS, particularly Antigua and Barbuda or Grenada, are already among the most indebted states and at high risk of debt distress, which significantly limits their capability to contribute to international climate finance.

SIDS	WB income group
Antigua and Barbauda	HIC
Bahamas	HIC
Barbados	HIC
Belize	UMIC
Cabo Verde	LMIC
Comoros	LMIC
Dominica	UMIC
Dominican Republic	UMIC
Fiji	UMIC
Grenada	UMIC
Guinea-Bissau	LIC
Guyana	UMIC
Haiti	LMIC
Jamaica	UMIC
Kiribati	LMIC
Maldives	UMIC
Marshall Islands	UMIC
Mauritius	UMIC
Micronesia, Fed. State of	LMIC
Nauru	HIC
Palau	UMIC
Papua New Guinea	LMIC
Samoa	LMIC
São Tomé and Principe	LMIC
Seychelles	HIC
Solomon Islands	LMIC
St. Kitts and Nevis	HIC
St. Lucia	UMIC
St. Vincent and the Grenadines	UMIC
Surinames	UMIC
Timor-Leste	LMIC
Tonga	LMIC
Trinidad and Tobago	HIC
Tuvalu	UMIC
Vanuatu	LMIC

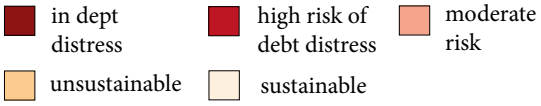

Table 2. Own figure by the authors. Date source: World Bank and IMF Debt Sustainability Analysis for LICs as of September 2023, and market acces countries.

iv) Differentiating development needs and just transition challenges

Many developing countries face urgent development needs in areas like poverty reduction, healthcare, education, and infrastructure development. Such needs vary widely from country to country. However, there exists a strong positive correlation between GNI per capita and many development indicators, such as HDI scores, life expectancy, education, access to healthcare, infrastructure quality, and technological advancement.[41] Yet the data also show that countries with relatively similar income levels, such as Samoa and Côte d'Ivoire (with a GDP per capita of USD 5,156 and USD 5,537, respectively), might still vary considerably in their HDI scores.[42] Samoa has a relatively high HDI score of 0.702, while Côte d'Ivoire's HDI score is only 0.515. While it can be generally expected that countries with higher GNI per capita levels have achieved higher development levels and consequently inherit a higher capability to contribute to international climate finance, there

38 Alayza, Laxton, and Neunuebel, 2021. Developing countries won't beat the climate crisis without tackling rising debt. World Resources Institute.
39 Bharadwaj et. al., 2023. Sinking islands, rising debts – Urgent need for new financial compact for Small Island Developing States. International Institute for Environment and Development.
40 Hurley et al., 2024. Breaking the cycle of debt in Small Island Developing States. ODI.
41 Human Development Index vs. GDP per capita, 2022.
42 Ibid.

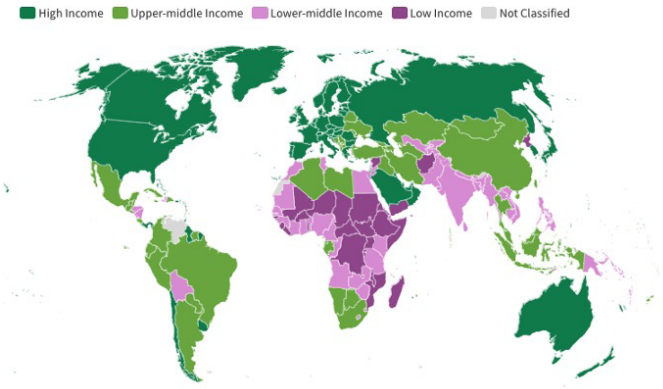

Figure 2. World Bank country classifications by income level for 2024-2025. Source World Bank Group..

The World Bank map in Figure 3 shows that many countries have reached high-income or upper-middle-income levels by 2023 and might therefore generally be capable of providing resources beyond their own development purposes. However, some of those countries with higher GNI and HDI scores are currently also prone to significant economic transitions. This includes climate-related transitions within the countries' economies, such as energy transitions towards low-carbon energy supply alternatives. Moreover, several developing countries are commodity-dependent in terms of exporting specific goods.[43] For instance, fossil-fuel-exporting countries will face increasing levels of commodity-stranding outside their sovereign control, mostly caused by third-country mitigation strategies that are driven by national climate targets and the international climate agenda. This relates to several lower-middle-income countries in Africa and Central America, while the fossil fuel exporters in the Middle Eastern region are characterised by very high GNI per capita levels that allow a domestic energy transition and international support at the same time. Also, lower production of agricultural products because of the adverse impacts of climate change can exacerbate the situation of agriculture-commodity-dependent countries, affecting both their domestic economic situations, including food security, and their exports' ability to create income. Among those developing countries that inherit a high GNI per capita but also high vulnerability for agricultural commodities are, for instance, countries in Latin America or South-East Asia.[44]

Thus, many developing countries, including those with higher GNI per capita, face the double challenge of investing in both development and climate action simultaneously. Those with specific commodity-dependency experience will experience export revenue declines in future, calling for just transitions of their economies. Those impacts strain their financial capability to assist other nations with international climate finance, which is particularly relevant for the developing countries with lower GNI per capita income levels.

v) Low reliance on international climate finance and high provision of domestic climate finance

A country's capability to provide international climate finance might also be limited if it received only a few international climate finance flows and covered a high share of its climate finance needs with the provision of domestic climate finance resources. Particularly in the case of emerging economies, continued climate and development finance support from developed countries might be an enabler for them to provide climate finance to developing countries themselves. So, if there were two emerging economies with a roughly equal GNI per capita, but one of the two countries received a relatively large amount of development assistance and international climate finance flows as a percentage of its GNI and the other one a relatively small amount, this might have an impact on their capability to contribute to international climate finance. On the other hand, it is also clear that this does not apply to LDCs and other developing countries that have a relatively low GNI per capita but receive a high amount of development assistance and international climate finance flows (as a percentage of their GNI). This consideration would only be relevant for non-traditional contributors that have a relatively high GNI per capita.

Conclusion on considerations for limitations to capability if only determined by GNI per capita

It is only the complete picture of GNI per capita and a range of other considerations that may speak to a country's capability to contribute to international climate finance. None of the above-mentioned potential limitations to assessing capability only by GNI per capita can be considered in isolation from the other listed potential limitations and a country's GNI. It is always a complex picture that is determined by various factors. If a country, despite having a relatively high GNI per capita, was affected by some of the above-listed limitations, its general capability or its fair share of contributions would need to be revised and adapted.

43 CFAS, 2022. Thinkpiece: Just Transition Finance.
44 Ibid.

5.2 Potential limitations to responsibility if only determined by total and/or per capita cumulative emissions

This section aims to shed light on a range of considerations that may need to be contemplated when trying to define responsibility to contribute to international climate finance flows, showing the limitations of only determining responsibility by total and/or per capita cumulative emissions. It is important to note that, as with section 5.1, the list of considerations below is not claimed to be exhaustive. Nor does the sequence in which the considerations are listed imply a prioritisation or ranking. The paper does not aim to make any statement about the weighting of the individual considerations listed. Rather, the considerations included exemplify the complexity of determining responsibility in the context of the contributor base.

i) Types of greenhouse gas emissions considered

When determining responsibility to contribute to international climate finance flows, it is crucial to consider all types of greenhouse gas emissions. A comprehensive approach must account for emissions from various sectors: not only electricity generation, industry, transport, waste management, and agriculture but also land use and land use change. It is equally important to consider all types of greenhouse gases—such as carbon dioxide, methane, and nitrous oxide—as each has distinct global warming potentials and sources. Land use activities, such as deforestation and land degradation, significantly contribute to global emissions and must be integrated into any assessment of responsibility. Considering the full spectrum of greenhouse gases and their diverse sources is essential to better understand countries' climate impacts and their respective historical responsibilities to climate finance contributions. This holistic approach in terms of sources of emissions and types of greenhouse gases is important to strengthen a more equitable distribution of international climate finance responsibilities. However, there is a trend among existing attempts to determine responsibility based on cumulative emissions to neglect emissions other than carbon dioxide as well as emissions from land use and land use change.[45]

ii) Territorial versus consumption-based emissions

Considering both territorial and consumption-based emissions is crucial for determining responsibility to contribute to international climate finance. Territorial emissions refer to the greenhouse gases emitted within a country's borders, while consumption-based emissions account for emissions associated with the consumption of goods and services, regardless of where they are produced. However, data on consumption-based emissions often exclude emissions from land use and land use change, which can lead to significantly underestimating an importing country's climate impact and failing to capture the full scope of its responsibilities. While the consideration of consumption-based emissions is important to determine responsibility, it is also important not to neglect the relevance of territorial emissions. There are fossil-fuel-exporting countries that gain significant economic benefits from exporting fossil fuels without reflecting the associated emissions in their consumption data. Such countries generate substantial revenue from fossil fuel production, contributing to global emissions, and thus also need to hold some responsibility. If considered individually, using either territorial or consumption-based emissions alone to assess responsibility has significant defects and limitations. An ideal approach to determine responsibility to contribute to climate finance would thus consider both territorial and consumption-based emissions together.

iii) International fossil fuel subsidies' link to responsibility

International fossil fuel subsidies, whereby one country financially supports fossil fuel projects in another, often through loans, export credits, or development aid, create a significant obstacle to global climate mitigation efforts. These subsidies help finance the extraction, refining, and distribution of coal, oil, and gas in recipient countries, perpetuating fossil fuel dependency in regions that may otherwise be transitioning toward renewable energy. By supporting fossil fuel infrastructure abroad, subsidising nations are effectively exporting emissions and locking recipient countries into carbon-intensive pathways for decades. This practice not only exacerbates global emissions but also undermines the credibility of wealthier nations' climate commitments, especially those that continue to promote fossil fuels while pledging to cut their own domestic emissions. There are strong arguments in favour of such international fossil fuel subsidies heightening

45 See, for example, Table 1

the responsibility of the respective donor countries to contribute more to international climate finance.

iv) Emissions caused by climate change (through land use change)

Emissions caused directly by climate change itself, often termed climate feedback emissions, present a growing and complex challenge. As the planet warms, natural systems can become significant sources of greenhouse gases. One key example is land use change, such as the degradation of wetlands or forests due to changing climate, which releases carbon stored in trees, soils, and peatlands. Rising temperatures and changing precipitation patterns also increase the frequency of wildfires, which emit large amounts of carbon dioxide and other pollutants into the atmosphere. Additionally, the thawing of permafrost in polar regions releases trapped methane, a potent greenhouse gas, further exacerbating global warming. These processes, driven by climate change, create a feedback loop that makes it even harder to stabilise atmospheric carbon levels. The emissions caused by climate change itself should therefore not be taken into account when determining a country's responsibility.

v) Subsistence emissions versus luxury emissions

Attempts to distinguish between 'survival emissions' – also called subsistence emissions – and 'luxury emissions' aim to better reflect social justice considerations for determining responsibility. The debate over subsistence emissions versus luxury emissions highlights a critical ethical and economic dimension of discussions of climate responsibility. Subsistence emissions refer to greenhouse gas emissions produced by essential activities related to basic energy consumption for food, shelter, and other activities that are necessary for the pursuit of subsistence.[46] Luxury emissions, on the other hand, are tied to high-consumption lifestyles that use energy for non-essential purposes like frequent air travel, large homes, or high-end consumer products. How to define what counts as 'luxury emissions' and what does not is a controversial debate. This contrast between subsistence and luxury emissions raises questions about who bears greater responsibility for the climate crisis. While poorer nations often face the worst impacts of climate change, they contribute only a small fraction of total emissions, largely for basic survival. Wealthier nations, historically responsible for a larger share of emissions, disproportionately drive climate change through activities tied to luxury and affluence. The debate calls for a fairer distribution of responsibility, whereby policies take into account not only the volume of emissions but the context in which they occur — highlighting the need for greater accountability from high-consumption economies in addressing climate change. When determining responsibility to contribute to climate finance, historical emissions may need to be adjusted to reflect the fact that the emissions of those who consume for subsistence and those who consume for luxury purposes may not have the same moral value.[47] While this debate is relevant for determining responsibility to contribute to international climate finance, this does not imply that countries do not have the general responsibility to also reduce emissions for subsistence-related activities.

vi) Geographical factors that may pose disadvantages/ advantages to emission reduction efforts

Countries with vast territory, relatively low population density, and scattered populations tend to face particular challenges in their emission reduction efforts. Box 3 elaborates such potential challenges using the example of Mongolia. For such countries, emissions from land use and land use change might lead to higher per capita territorial emissions compared to those of densely populated smaller countries. Moreover, there are countries that, because of the climatological conditions of their territory, depend on long heating or cooling seasons throughout the year because their annual average temperatures are very low or very high. Linked to the idea of survival emissions, this poses the question of whether such emissions should have the same moral value and counted equally towards a country's responsibility.

46 Net Zero. University of Oxford. Equity & Inclusion on the path to net zero.
47 Climate Action Network (CAN) International, 2022. Fair Shares – Lessons from Practice, Thoughts on Strategy.

Textbox 3: The case of Mongolia

3

Mongolia is among the highest per capita emitters worldwide, having similar consumption based on per capita emissions to the US. Yet Mongolia is also an interesting example that shows why more nuance is needed when determining responsibility. Annual average temperatures are quite low in Mongolia, and its population highly depends on heating for a long period of time over the year. Energy efficiency also tends to be relatively low. Many nomads have adopted a more sedentary lifestyle, moving only once or twice a year. This has led to overgrazing and degradation of the pastures, which is releasing CO_2 from the ecosystem and soil. Moreover, nomads usually use coal-fired cooking stoves. Mongolia is one of the most sparsely populated countries, with only 3.3 million people across a vast territory, which has a strong impact on per capita numbers. Such large distances also cause comparatively more transport emissions. Mongolia heavily depends on livestock, which is a significant source of methane emissions that come from both the animals and from pasture land. Methane is much more potent than carbon dioxide as a greenhouse gas. Moreover, climate change itself has an impact on Mongolia's emissions, as there are increased emissions from land use change because of increasing levels of desertification. Melting permafrost in northern Mongolia is also emitting methane. The case of Mongolia shows that high emissions do not always relate to high income and thereby contrasts with the development pathway of many industrialised countries. And even though Mongolia has quite a low ranking in terms of GNI per capita, it has contributed twice already to the replenishment of the Green Climate Fund.

While geographical factors may pose certain disadvantages for a country's pathway to a low-carbon economy (as mentioned above), they may also pose certain advantages to some countries. Geographical elements can make significant positive contributions to countries' emission reduction efforts.[48] Ecosystems, for example, have a direct impact on a country's capacity to store emissions and can therefore serve as natural carbon sinks. Geographical factors also have a key impact on countries' availability of renewable energy resources. While countries in areas with high solar radiation and windy territories have higher potential for wind and solar energy, it seems to be the hydroelectric power generation potential that provides the biggest advantage for a country's pathway to a low-carbon economy. Research has shown that countries with large volumes of water at high levels (for hydroelectric power) also have lower emissions.[49]

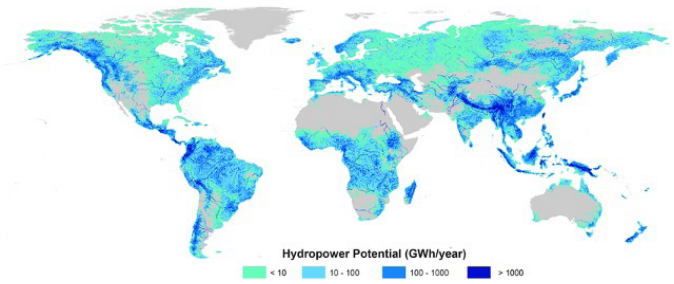

Figure 3. Global map of gross hydropower potential distribution.

Source: doi:10.1371/journal.pone.0171844.g001.

Through a combination of a range of geographical factors such as population density, climatic conditions, or hydropower potential, countries may face different advantages and disadvantages in their efforts to reduce emissions. Independently from such geographical advantages and disadvantages, all countries have a responsibility to reduce their emissions. However, such advantages and disadvantages might be an element for consideration when defining responsibility to contribute to climate finance based on emissions.

vii) Intergenerational responsibility

The consideration of cumulative historical emissions to define responsibility is closely linked to the assumption of intergenerational responsibility for emissions. Intergenerational responsibility is a moral assumption that current generations can be held responsible for the actions of preceding generations. The assumption of such moral causality is an ethical choice. Yet the issue of intergenerational responsibility is also closely linked to the question of whether one assumes an individual-centred approach or a state-centred approach.[50] A state-centred approach looks at a country as a collective political entity. However, collectives are not independent of their sets of individual members.[51] Historical, cumulative, per capita emissions reflect an attempt to combine the state-centred and individual-centred approaches. For the state-centred approach, the question of intergenerational responsibility

48 IEREK, 2023. Geography's Crucial Role in Climate Change.
49 Royal Geographical Society, 2004. Geographical Factors Impact On Carbon Dioxide Emissions. ScienceDaily, 2 March 2004.
50 Sverker C. Jagers and Göran Duus-Otterström, 2007. Historical Emissions and Climate Change Adaptation.
51 Ibid.

is unavoidable, as the political collective of a state is also likely to change over time. The question of intergenerational responsibility is thus a good example of how determining responsibility to contribute to international climate finance is closely connected to moral and ethical assumptions and questions to which there is not only one correct answer. Different moral and ethical assumptions may lead to different conclusions on a country's responsibility to contribute to climate finance.

viii) Implications of colonial history for responsibility

When considering cumulative historical emissions from a state-centred perspective, it is also important to account for emissions under colonial rule, as the colonial rulers held ultimate decision-making authority at the time. Recent investigations have shown that if emissions under colonial rule are taken into account, the shares of former colonial powers grow significantly.[52] Historical emissions for France rise by half, UK emissions nearly double, the Netherlands' emissions nearly triple, and Portugal's emissions more than triple. Conversely, emissions for former colonies such as India fall by 15%, and emissions for both Indonesia and the African continent drop by 24%.[53] Historical responsibility is ethically complex and goes beyond the accounting of emissions under colonial rule to the question of to whom such emissions should be attributed. Colonial powers also had a significant influence on development patterns, natural resource use, and landscapes in colonised territories, and the extracted natural resources from colonised territories strengthened the economic, military, and political force of colonial powers.[54] Colonial history thus influenced the pathways of both former colonial powers and formerly colonised countries, which are inseparably linked to present-day responsibility and capability considerations.

ix) Political willingness and responsibility

Considering political willingness as a factor in defining responsibility to contribute to international climate finance introduces a complex and potentially contentious dynamic into climate justice. This section will look at the concept of political willingness in terms of a country's effort to contribute to present international climate finance flows to help vulnerable nations mitigate and adapt to climate change. While it is important to recognise the proactive efforts of countries that demonstrate leadership in climate finance, making present and past political willingness a criterion for defining future responsibility could also create inequities. However, incorporating political willingness could ensure that countries with high present international climate finance contributions are recognised and rewarded in the future for those commitments. This could create a more dynamic and responsive climate finance system, in which leadership and cooperation are encouraged, potentially accelerating the flow of international climate finance. Thus, countries contributing more to international climate finance flows now—by going beyond their current fair share—could potentially be considered to have a reduced future responsibility to contribute. By making significant financial contributions and taking strong climate action today, these countries might be compensating for future obligations. This perspective could be framed as offsetting future responsibilities, particularly if their early investments help mitigate climate impacts or accelerate global decarbonisation, reducing the need for future funding. However, this raises questions about whether current 'over-contribution' by individual countries should be allowed to reduce future responsibilities, especially if climate impacts intensify or if new scientific evidence shows a need for sustained or increased financial support. While early, ambitious action is crucial, it must be balanced with the understanding that climate finance needs will likely evolve, and sustained contributions may still be required from all countries, regardless of past 'over-contributions'. Hence, while political willingness cannot replace the principles of historical responsibility and capacity to pay, political willingness could be a valuable supplementary factor that enhances global climate finance flows by encouraging more immediate and voluntary contributions to climate finance.

Conclusion on considerations for limitations to responsibility if determined by total/per capita cumulative emissions

The considerations above show that there might be different underlying reasons for countries having high emissions. This leads to the question of whether some countries' emissions might be more acceptable or legitimate than others and thus should not be counted equally towards cumulative per capita/total emissions, which would affect those countries' responsibility to contribute to climate finance. This question in no way implies that such a country has less responsibility

52 Carbon Brief, 2023. Revealed: How colonial rule radically shifts historical responsibility for climate change.
53 Ibid.
54 Ibid.

to reduce its emissions and to align with a 1.5°C pathway. However, it might be an important consideration for defining responsibility to contribute to international climate finance. Many of the considerations that may suggest limitations to responsibility as solely determined by total/per capita cumulative emissions also imply ethical and moral choices – adding even more complexity to the matter.

It is always the complete picture of GNI per capita alongside a range of other considerations that may speak to a country's capability to contribute to international climate finance. None of the above-mentioned potential limitations when assessing responsibility can be considered in isolation from the others or from a country's total and per capita cumulative emission levels. To determine responsibility, we need several pieces of the puzzle to be in place to be able to recognise the complete picture. However, if a country, despite having relatively high emission levels, is affected by several of the above-listed limitations, its general responsibility, or its fair share of contributions, would need to be revised and adapted accordingly.

The individual considerations listed in sections 4.2 and 4.3 show the complexity and near impossibility of grouping countries into binary categories (contributors/non-contributors) using methodologies that are only an attempt at simplifying a complex reality.

6. Conclusions and recommendations

- It is critical that the traditional contributors strongly reconfirm that they will continue to take a leading role in providing climate finance and to fulfil their climate finance obligations under the Paris Agreement. Traditional contributors also need to make up for their existing gaps under the USD 100 billion goal, which was not met in either 2020 or 2021, and ensure they meet the USD 100 billion goal in 2024 and 2025. **Traditional contributors rebuilding trust will be a precondition** for any compromise on the contributor base question. This may also include public commitments from traditional contributors who have not fulfilled their fair shares of climate finance contributions in the past to do so in the future and to make up for their past gaps in climate finance.
- A political compromise on the contributor base question within the NCQG might be reflected by a combination of several potential outcomes in the UNFCCC decision text, as well as announcements and public commitments from non-traditional contributors that may include:
  - the announcement of international climate finance pledges by individual non-traditional contributors (e.g. contributions to UN climate funds);
  - individual non-traditional contributors publicly committing to providing international climate finance either under Article 9.1 (financial obligations) or 9.2 (voluntary support) of the Paris Agreement
  - transparency commitments under Article 9.7 of the Paris Agreement from non-traditional donors;
  - commitments from certain developing countries to voluntarily report their voluntary climate finance flows under Article 9.2 of the Paris Agreement;
  - an agreement on a global investment target in addition to a climate finance provision target for developing countries, which would imply de facto that all countries would be contributors;
  - a qualitative commitment from all Parties to further strengthen domestic climate finance flows;
  - a commitment from Parties to driving forward efforts to mobilise international climate finance at national level by taxing the carbon majors more heavily.
- This policy brief makes clear that the dichotomy between developed and developing countries is not useful for reaching ambitious political agreements and increasing overall climate finance flows. A binary categorisation of countries into developed or developing countries may also not be adequate to address the question of whether they should be contributors or non-contributors. While it would go beyond the scope of the negotiations on the NCQG that are to be finalised at COP29, it appears that initiating a **new process that goes beyond a binary country categorisation** is needed. The approach of the Convention on Biological Diversity (CBD) might be interesting to consider in this regard. The CBD groups 'developed country Parties and other Parties which voluntarily assume the [financial] obligations of the developed country Parties' into one list. Doing so provides the opportunity to expand the contributor base without the necessity to determine

whether a certain non-traditional contributor falls within one of the two binary categories of developed or developing countries.

- The aim of any political agreement on the contributor base should be to mobilise the urgently needed and large amounts of finance required for tackling the climate crisis and to **better reflect capability and responsibility** to provide climate finance. This is needed in the context of a complex reality that has been changing over recent years and is about to further change in the coming years. Many of the former traditional developing countries have developed into economic powerhouses and experienced significant increases of wealth and have emission levels that exceed those of the so-called developed countries. A compromise on the contributor base questions needs to reflect this **changing new reality**.
- However, determining which countries have a (moral) obligation to contribute is no easy task. Methodologies to determine fair burden-sharing arrangements commonly build on the concepts of capability and responsibility. These concepts are useful for dissolving the static dichotomy between 'developed' versus 'developing' country categories that appear to be dead ends for the quest of widening the contributor base and mobilising additional climate finance. However, there are strong limitations to the way those concepts are commonly operationalised. Operationalising capability through GNI per capita and responsibility through present or cumulative total and/or per capita emissions ignores **other factors that may lead to stark differences in capability and responsibility** between countries with similar indices. For capability, these factors include a country's vulnerability, the cost of capital, its level of indebtedness, and its relation to climate change, as well as development and just transition challenges. For responsibility, this includes the types of greenhouse gas emissions considered, the distinctions between territorial and consumption-based emissions as well as between subsistence emissions and luxury emissions, the implications of colonial history on responsibility, and geographical factors. This demonstrates that such concepts, when operationalised through single indicators, fail to capture a complex reality.
- **Existing approaches and methodologies** (listed in Table 1) are a **valuable proxy** for defining the contributor base based on capability and responsibility considerations. However, these approaches have **considerable limitations** in their efforts to capture a complex reality. They, for example, tend to neglect the importance of consumption-based emissions and do often not consider emissions from land use change and forestry. Only the 'Climate Finance: Fair Shares Revisited' (CGD) report and the 'Fair Shares in Loss and Damage Finance' (Germanwatch) report distinguish to some extent between subsistence and luxury emissions whereas the other reports do not reflect such a distinction. Those two above-mentioned reports and the 'A fair share of climate finance?' (ODI) report also incorporate some additional considerations to define capability in addition to income level. Nonetheless, most of the potential limitations for defining responsibility and capability (outlined in section 5 of this publication) are not considered in the existing methodological approaches listed in Table 1.
- Existing positions on the contributor base by Parties in the UNFCCC negotiations – such as from Australia or Canada – mainly focus on capability determined by income levels and even tend to neglect the weight of responsibility considerations. Switzerland's position also introduces the idea of a threshold for cumulative per capita emissions in combination with income level considerations. Yet, none of those Party positions reflects potential shortcomings of only using income levels and cumulative total/per capita emissions. Those **Party positions thus face significant shortcomings** in their attempt to reflect capability and responsibility to contribute to international climate finance.
- Many non-traditional contributors are already providing climate finance to (other) developing countries, but these flows go largely untracked and unnoticed. **More transparency**, particularly on South–South flows, is needed. To enhance transparency, South–South climate finance flows could be reflected more strongly in the Biennial Assessment by the UNFCCC Standing Committee on Finance. Although some non-traditional contributors already report voluntarily, more Parties that are providers of climate finance, but do not yet report those flows, should be encouraged to do so. This would also require a streamlined methodology. The NCQG decision text could also encourage MDBs to report, as part of their annual Joint MDB Climate Finance Report, how much of their public climate finance provided can be attributed to all their individual contributors from

both developed and developing countries. This would not create an additional reporting burden for developing countries but would significantly increase transparency on such multilateral climate finance flows and their attribution to particular countries.

- Finding a political compromise on the contributor base for the NCQG will likely prove difficult, especially as traditionally categorised developing countries fear being perceived as developed if they formally commit to being part of the contributor base. Encouraging the **voluntary commitments** of these non-traditional contributors thus presents a feasible option.
- **Burden-sharing arrangements** for international climate finance flows to developing countries that involve greater degrees of accountability need to spell out which countries are part of the base for such a burden-sharing agreement. GNI per capita and current and historical total and per capita emissions might be used despite their limitations as an approximation to determine countries' fair shares, yet it is important to set a clear threshold for income levels and emissions to determine the base first. Only when the base has first been agreed can a burden-sharing calculation be conducted among the base. A burden-sharing arrangement would thus **only include countries that cross a certain threshold** rather than all countries. Several of the methodologies in the overview in Table 1 of this policy brief do not set such a clear threshold in advance of determining the fair shares, and thus make the a priori assumption that all countries should be part of the contributor base for a fair-share burden agreement (except for some minor exemptions). Therefore, those methodologies also determine the fair shares for countries that, if a clear threshold were to be applied, would not be part of the base of countries in a burden-sharing agreement.
- The negotiations on the NCQG could also link **arrangements on benefit sharing** of receiving climate finance. Based on assessments of vulnerability, limited capability, and responsibility, a group of 'core recipients' of climate finance could be identified. The NCQG could include a high subgoal for climate finance to be provided and mobilised for those core recipients in particular need, including LDCs, SIDS, and other lower income developing countries. In this way, equity in benefit sharing can be introduced into the NCQG.

Abbreviations

AF	Adaptation Fund
CBD	Convention on Biological Diversity
CGD	Center for Global Development
DBSA	Development Bank of Southern Africa
GNI	Gross national income
HDI	Human Development Index
LDC	Least developed countries
LULUCF	Land use, land use change and forestry
MDB	Multilateral development bank
NCQG	New collective quantified goal
ODI	Overseas Development Institute
PPP	Purchasing power parity
SIDS	Small island developing states
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute

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