

Climate, COVID-19, and the Developing Country Debt Crisis

Potential criteria for prioritising debt-for-climate swap support

A working paper by:

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Project number

220017

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Acknowledgements and Disclaimer

This working paper was drafted with support from a grant from the European Climate Foundation. The authors also wish to thank Niklas Höhne and Mats Marquardt for their thoughts and input. Further the paper has benefited from the review and insights of Sophie Fuchs and David Ryfisch from Germanwatch as well as Lauren Sidner and Michael Westphal from the World Resources Institute. The views and assumptions expressed in this report represent the views of the authors alone.

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Summary

The ongoing COVID-19 pandemic and the associated economic crisis are contributing to what the IMF has warned may become an emerging market debt crisis. While many industrialised countries have been able to mobilise sizeable stimulus packages, many emerging markets and developing countries will struggle to follow suit. Debt levels in many developing countries have outpaced economic growth, and the ongoing pandemic is pushing tens of millions back into extreme poverty undoing years of progress. Despite discussions about promoting “green recoveries” and to helping to “build back better”, climate action is often a victim of a constrained economic environment. The situation has led to growing calls to tie debt relief to climate through “debt-for-climate” swaps (multilateral, bilateral, or with private investors) or a climate-informed reallocation of Special Drawing Rights at the IMF.

Such proposals may be attractive for both debtors and creditors. For fiscally constrained debtors they can represent an option to support both budgetary relief and help fund climate mitigation and adaptation action – something that is attractive not only to environment ministries, but also to finance and other line ministries. For creditors, who face significant debt write downs anyway, they may represent an option to help developing countries recover and promote climate friendly development at the same time.

Climate-for-debt swaps are however not a general panacea. Countries struggling with high debt levels will need help to address the immediate impact of the pandemic and measures for general macroeconomic stabilisation first, meaning that such debt-for-climate efforts must come “on top”. Further, to have impact, they must be significantly scaled up and broader in scope from the current examples of debt-for-nature swaps that have already set a precedent for such action.

To inform this ongoing discussion, we propose several potential broad criteria and proxy indicators as a starting point to identify a short list of countries where such debt swaps could be piloted, potentially with lessons learned to be expanded to a growing number of countries. As an initial long list, we consider heavily indebted poor countries, least developed countries, or countries that qualify for debt relief mechanisms such as the G20’s Debt Service Suspension Initiative.

We further consider four main criteria and proxy indicators to identify potential priority countries for a debt-for-climate swaps initiative, both from the creditor and debtor perspective: Economic indicators that reflect the need for debt relief; Emissions and fossil fuel indicators reflect potential for emissions reductions; Climate action indicators that are likely to indicate interest, willingness, and potential country ownership; and Governance indicators that indicate capacity to use the gained fiscal flexibility effectively.

We find that although a large short-list of countries could be considered for debt-for-climate swaps based on their macroeconomic situation and fossil fuel indicators; a much smaller number of countries also have established climate ambition and good governance. The criteria and proxies suggest that out of the possible candidates several SIDS – namely Dominica, Granada, Samoa, St. Vincent and the Grenadines, as well as Tonga – may be especially promising candidates for interest for debt-for-climate swaps. Although the criteria do not reflect climate vulnerability, these countries are also among the most vulnerable, face significant challenges in addressing climate change, and need additional financial resources to implement resiliency and mitigation measures. The non-SIDS countries of Bhutan and Rwanda may also represent especially good candidates.

There are however several limitations and trade-offs related to this exercise. The development status of these countries is associated with relatively low emissions, so although a debt-for-climate swap may have significant impact for these countries’ emissions and resiliency, in global terms, it may be a comparatively smaller impact on global emissions. Expanding a debt swap effort to include larger emerging countries may have the potential to have a larger impact on global emissions. Further, the data gathering exercise was conducted primarily in late 2020 is only a snapshot of a highly dynamic situation. Since then, the economic situation of many countries has worsened, and some institutions such as the IMF warn of larger capital shifts when interest rates rise in the US and or Europe as a potential taper tantrum like that of 2013. Lastly, an examination of countries according to good governance criteria, suggests that a large number of countries face significant challenges in the efficient and transparent use of funds underlying the need for climate diplomacy, outreach and engagement, accountability, and institution building in addressing the triple COVID-19, economic and climate crisis.

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Abbreviations

CPI	Corruption Perception Index
DSSI	Debt Service Suspension Initiative
EPI	Environmental Performance Index
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IMF	International Monetary Fund
LDCs	Least Developed Countries
LTS	Long-Term Strategy
MDRI	Multilateral Debt Relief Initiative
NDCs	Nationally Determined Contributions
SDR	Special Drawing Rights
SIDS	Small Island Developing States
WGI	Worldwide Governance Indicators

1 Introduction and background

The ongoing COVID-19 pandemic, and associated restrictions on mobility and commerce have thrown much of the world into economic crisis. While many developed countries have been able to borrow large sums in order to finance economic stimulus programs in response, most developing countries do not have the same fiscal flexibility leading to what the IMF has called “the great divergence” (Georgieva, 2021). Many developing countries already faced a number of economic challenges before the outbreak of the pandemic ranging from high and growing debt to GDP ratios, inflation, to dependencies on volatile commodity markets, and foreign tourism. With COVID-19, developing countries struggle even more to access affordable finance, at a time when fiscal stimulus measures are more important than ever. It was estimated that low- and middle-income countries paid around 130 billion USD to service their debt in 2020 (Stiglitz *et al.*, 2020).

Median public debt in developing countries reached 51% (share of GDP) in 2019, up from 35% in 2012. Public debt held by private investors in particular increased significantly, reaching 17.5%, up from 5% in 2010 (United Nations Department of Economic and Social Affairs, 2020). Consequently, debt service payments make up an increasing part of public spending which can account for 25% or more of public revenue for low-income and least developed countries with international bond issuance (United Nations Department of Economic and Social Affairs, 2020). In 2019, 64 countries spent more on debt service payments than they did on health (Christian Aid *et al.*, 2020). Now, rising finance costs in 2021 are similarly likely to hold back recoveries (Wheatly, 2021), let alone “green recovery” measures and broader climate action.

To limit global warming to 1.5°C, rapid and far reaching transitions are needed in energy, land, infrastructure, and industrial systems (IPCC, 2018b). Achieving both climate and broader sustainable development targets in line with the Paris Agreement will require investments of around 5 to 7 trillion USD per year (UNEP FI, 2018). As budgetary pressure increases, there is a tangible risk that debt servicing will undermine developing countries’ ability to finance climate and sustainable development. In response to the economic wake of the COVID-19 pandemic in early 2020, the G20 Finance Ministers asked the International Monetary Fund to explore additional tools that could serve its members’ needs as the crisis evolves, drawing on relevant experiences from previous crises (G20 Finance Ministers and Central Bank Governors, 2020).

A number of countries derive significant revenues from extraction and export of fossil fuels, and rely on this income to service debt (Akhtar *et al.*, 2020). Although oil prices crashed in early 2020, they are now recovering, and some developing countries are looking to exploit large new oil and gas discoveries as a potential revenue source. If countries implement their fossil fuel production plans by 2030, the Paris Agreement targets would become out of reach (McGlade and Ekins, 2015; SEI, IISD, ODI, Climate Analytics, CICERO and UN Environment, 2019). It is therefore important that countries find alternative revenue sources, avoid further investments in potential stranded assets, and for fossil fuels to be kept in the ground.

Debt-for-climate swaps can be loosely defined as transactions where debt is forgiven or restructured in exchange for a commitment by the debtor (for example a developing country) to use the increased fiscal flexibility for mitigation or adaptation measures. Although not a complete debt and development panacea, debt-for-climate swaps may represent an important tool in a broader portfolio of measures to address both economic and climate challenges at the same time. On the one hand, they allow debtors to reduce servicing costs, and on the other hand they can free fiscal resources for climate action and improving climate resilience (Steele and Patel, 2020). They can also be of interest to creditors who are considering writing off portions of debt because of inability to pay to help contribute to international climate goals. Such instruments have not yet had a significant impact on debt and climate protection

efforts, largely because of their limited scale and scope in the past. They may however have an important role to play going forward given the scale of investment needs for sustainable development, debt levels, and the necessity to “build back better”.

In this policy memo, we discuss the role of debt-for-climate swaps in helping to achieve more sustainable debt levels while contributing to ambitious climate policy objectives. We first provide a brief review of major debt relief instruments and how climate-for-debt swaps fit into the picture. We then look at some of their key benefits, implementation challenges as well as options to address these challenges. In particular, we consider and analyse a number of indicators that could be used to determine countries’ initial eligibility for future debt-for-climate swaps.

2 Mechanisms for debt relief

Unsustainable external debt levels are not only a recent phenomenon. Notably, in the late 1970s and 1980s a number of different factors, including slow economic growth, two oil price shocks and inflation, also led developing countries into fiscal crises: debt levels soared as countries tried to boost economic growth through government stimulus. At the same time, jumps in interest rates prompted by tighter monetary policy in the United States and Europe led to a significant increase in debt servicing burdens in developing countries. This led to a period of increased poverty in the 1980s, sometimes referred to as the “lost decade of development” (UN DESA, 2017).

There are various ways to approach debt relief. First, **broad-based debt relief** targets countries, where the main criteria for eligibility is the level of (external) debt for example through the Heavily Indebted Poor Countries initiative (HIPC) created by the International Monetary Fund (IMF) and the World Bank in 1996 (International Monetary Fund, 2020). The HIPC aims to help reduce debt to sustainable levels with equal treatment for all creditors. While creditor participation is voluntary, the idea is for the relief haircut to be comparable for all creditors to avoid free riding (Landers, 2020). In practice, multilateral institutions have been leaders in broad based debt relief, followed by bilateral and, to a lesser extent commercial lenders. To be eligible for HIPC support, a country must demonstrate that its external debt level is unsustainable (value of debt to export above 150%, or, in certain cases, value of debt to fiscal revenues above 250%), and has to be committed to poverty reduction through policy changes and demonstrate a good track record through IMF and World Bank supported programmes. Since its inception, 36 countries have received a total of 76 billion USD in debt relief (International Monetary Fund, 2020). HIPC was complemented by the Multilateral Debt Relief Initiative (MDRI) in 2005 to contribute to the achievement of the Millennium Development Goals. Under the MDRI, countries that have completed the HIPC process were eligible for 100% cancellation of their debts held by the IMF, the World Bank, the African Development Fund and the Inter-American Development Bank (World Bank, 2020b).

In 2020, G20 Finance Ministers and the World Bank’s Development Committee have endorsed the Debt Service Suspension Initiative (DSSI), a broad based debt relief, to support countries facing the dual health and economic COVID-19 crises (World Bank, 2020a). Its objective was to resolve liquidity challenges by postponing principal and interest payments of outstanding debt. It is available for all countries that are eligible to receive assistance from the World Bank’s International Development Association (IDA), and all countries belonging to the group of Least Developed Countries as defined by the United Nations. As of March 2022, 46 countries out of a total of 73 eligible countries, participated. In return for liquidity support, countries have to commit to increased spending to fight the COVID-19 pandemic (World Bank., 2021). There are some limitations to the instrument, however, including the much larger scale of the crisis and a lack of multilateral and private sector participation (Wheatley, 2020).

Together, the external debt of DSSI eligible countries amounts to 42.7 billion USD. 41% is owed to bilateral creditors, 32% to multilaterals and 27% to private creditors (Christian Aid *et al.*, 2020). As multilateral and private creditors do not participate in the DSSI, a significant amount of debt service

payments are excluded and, in many countries, they make up the majority of external debt. In November 2020, G20 Finance Ministers also endorsed the Common Framework for Debt Treatments beyond DSSI recognising the need for solvency support, beyond liquidity support, on a case by case basis (G20 Finance Ministers and Central Bank Governors, 2020).

Second, **market-based buy backs** aim to reduce debt by securing significant discounts on the face value of sovereign bonds, and by minimising exposure to commercial debt / private creditors. If a debtor's country debt is heavily discounted on secondary markets, the same country might use buy backs to reduce its overall debt burden which may in turn lead to increased investments, both foreign and domestic (Claessens and Dell'Ariccia, 2011). Stiglitz and Rashid (J. Stiglitz and Rashid, 2020) have called for an extended use of this instrument. Market-based buy backs are common in the private sector and played a role in the last Greek debt crisis. Although, historical examples of market-based buy backs do not require the country to invest in specific projects or sectors, a new initiative could be designed to help finance a country's health and climate goals (J. Stiglitz and Rashid, 2020).

Third, **case-by-case debt restructurings** are tailored to a specific country's needs and bring together all or most creditors. Depending on the creditor base, this may however involve a lengthy and costly negotiation process. Case-by-case debt restructurings need to find a balance between a range of different considerations, including the appropriate amount of debt relief and perceptions and interests / needs of various different creditors and debtors and financial markets (credit ratings) (Buchheit *et al.*, 2018).

In addition, although not exactly debt relief, per-se, related proposals have resurfaced for the IMF to allocate **additional Special Drawing Rights (SDR)** to developing countries to help address the economic fallout from the pandemic (Gallagher, Ocampo and Volz, 2020). SDRs are a kind of international reserve asset backed by international currencies, distributed according to member's shares in the fund. Some of these proposals have started to echo previous calls for SDRs to be issued to fight climate change and build resilience (Bredenkamp and Pattillo, 2010; Ferron and Morel, 2014). This may be an especially attractive option as it may help avoid problems of commercial lending free riders in broad based multilateral or bilateral debt restructuring, and the stigma of resorting to IMF programmes.

3 The case for debt-for-climate swaps

As part of the overall debt debate - and considering the current triple crisis of COVID-19, economic shock, *and climate change* - a growing number of organisations and individuals have started to promote debt-for-climate swaps (and / or SDR allocations considering climate criteria). Such swaps would expand on the precedent of debt for nature swaps which were first developed in 1984 in the context of the Latin American debt crises with the aim to address both indebtedness and deforestation trends. Creditors agreed to cancel part of a country's foreign debt in exchange for local investment in conservation progress (Sommer, Restivo and Shandra, 2020). To be eligible, countries had to be heavily indebted, make use of other more favourable debt relief instruments and demonstrate a good governance track record (OECD, 2007).

To date, debt-for-nature swaps cancelled around 1 billion USD of foreign debt and generated around 500 USD for conservation (Sommer, Restivo and Shandra, 2020). Such swaps are mostly associated with bilateral debt (with the US playing a significant role), and, to a lesser extent, multilateral debt. Commercial debt swaps have so far accounted for less than 10% of the total. Recent evaluation of the US originated swaps, point to a good track record of reducing debt and a positive impact on forest conservation (Sommer, Restivo and Shandra, 2020).

One important argument for debt-for-climate swaps is that they represent an additional option to support climate action that can potentially speak to several different ministries in debtor countries at the same time: not only finance and environment, but also sector specific line ministries (Steele and Patel, 2020).

Highly indebted countries are often also especially vulnerable to the effects of climate change which in turn is associated with higher borrowing costs. This limits finance for adaptation and resilience, let alone mitigation (Volz *et al.*, 2020).

As developing countries continue to grapple with the ongoing COVID-19 pandemic and public budgets become further constrained, there is a risk that a number of them turn to fossil fuel extraction as a source of revenue. Therefore, from a mitigation perspective, debt-for-climate swaps could help form part of an alternative to fossil fuel exploration for developing countries. Especially considering a potential rapid drop in potential government oil and gas revenues in a global shift towards a low carbon world (Coffin, Dalman and Grant, 2021; Hook and Sanderson, 2021). Based on an initial analysis of a range of indicators to evaluate the potential use case of future debt-for-climate swaps, we find that roughly half of all analysed countries with high debt levels also have proven fossil fuel reserves and/or are operating or planning to expand build large fossil fuel infrastructure.

For creditors, debt-for-climate swaps may be an attractive means of promoting sustainable development benefits in broader debt relief efforts. For example China, the biggest provider of bilateral debt, will also host the next Biodiversity Conference (CBD COP15), and engaging in debt-for-climate or biodiversity swaps could be seen as an opportunity to deliver on the Convention's objective to increase finance for biodiversity (Steele and Patel, 2020).

3.1 Overcoming challenges

There are also various challenges associated with debt-for-climate swaps. In order to have a significant financial and climate impact, debt-for-climate swaps need to help increase fiscal flexibility beyond generic macroeconomic stabilisation – this means that they are likely best suited for countries where debt levels are high, but debt levels have not yet reached unsustainable levels (Volz *et al.*, 2020). Debt-for-climate swaps could potentially also be for countries already in debt distress, though in such a case, a broader debt relief approach is needed to stabilise the overall fiscal situation, with any climate aspects to be added “on top”.

Further, depending on how they are structured, some countries fear that debt relief, including debt-for-climate swaps may downgrade a country's credit rating which may in turn increase the cost of future debt, an issue to most types of (non-market based) debt relief or liquidity support (OECD, 2007; Christian Aid *et al.*, 2020) The main obstacles for debt-for-climate swaps in the past however were the complexity of the instrument, high transaction costs and lengthy negotiation processes which might extend to 2-4 years on average (OECD, 2007). Other risks include a possible distortion of broad based debt relief, such as HIPC, with few conditions attached (OECD, 2007). In addition, the success of debt-for-climate swaps largely hinges on the country's governance structures and political stability (OECD, 2007).

Since the first nature swaps, debt environments and thinking about economic development have changed considerably (Steele and Patel, 2020), and there is now an opportunity to design and implement a new kind of debt-for-climate swap. A new version of debt-for-climate swaps that focuses less on individual projects but at much larger programmatic or policy support for ambitious climate goals could provide economic benefits to debtor countries (Steele and Patel, 2020). For example, if (freed up) resources were channelled towards the expansion of renewables or grid flexibility, instead of being used to expand fossil fuel production or for fossil fuel subsidies. Given renewables are already cost competitive in large parts of the world, this would not only make economic sense but could also help to alleviate energy poverty and contribute to more sustainable growth (Akhtar *et al.*, 2020).

Going forward, new debt-for-climate swaps should build on previous experience with debt relief and existing debt-for-nature and debt-for-climate swaps to become an attractive instrument for creditors and debtors alike. It will be important for debt-for-climate swaps would need to be proportional in scale to the size of the debtor country's needs and come in addition to pure economic stabilization. Further, while

erstwhile efforts often focus on specific projects on a relatively smaller scale, future debt-for climate swaps have could be widened to encompass programmatic / policy support – potentially on a sectoral level (Steele and Patel, 2020). Against this background, in the next section, we propose a number of possible criteria to identify countries where promoters of debt for climate swaps may consider concentrating their efforts and apply these indicators for an indicative list of possible candidate countries.

4 Defining eligibility indicators for debt-for-climate swaps

For an initial long list of countries that might be considered for debt-for-climate swaps, we started with a long list of countries that are participating or are qualified for participation in some form of debt relief mechanism. First, we consider countries that are DSSI eligible since these countries have high levels of external debt. The eligibility of DSSI countries is based upon the participation in the International Development Association (IDA), which assists the world's poorest countries in fighting poverty by providing zero to low-interest loans and grants (World Bank, 2020g). Furthermore, all Least Developed Countries (LDCs) are potentially eligible. However, Eritrea and Sudan are currently not included in the list as they are inactive (IDA) borrowing countries. Therefore, there are currently 73 DSSI eligible countries, namely 72 active IDA borrowing countries and Angola (World Bank, 2020c). In line with the debt-for-nature swaps, we are additionally considering countries that are participating in or are eligible for the HIPC initiative (World Bank, 2020e). This adds three more countries to our long list: Bolivia, Eritrea, and Sudan. These countries are particularly vulnerable to economic and environmental shocks and climate change. At the same time, they need to spend high amounts of finance on climate change mitigation and adaptation (Warland and Michaelowa, 2015). For a list of LDCs, HIPCs and DSSI countries see Table 1 in the annex.

A number of broad criteria have been proposed as indicators of what countries may be best suited to support through a debt-for-climate swap. These include a country's current economic situation, especially its level of indebtedness, structural reform efforts, a democratically elected government and commitment to human rights as well as environmental issues (Sommer, Restivo and Shandra, 2020). Building on these criteria, we propose several proxies to identify potential countries to engage with in a new generation of debt-for-climate swaps. First, economic indicators that focus on debt and natural resource rents. Second, fossil fuel indicators such as proven fossil fuel reserves and current and planned fossil fuel infrastructure and which may therefore provide an indication where debt-for-climate swaps might contribute most to climate change mitigation and avoid stranded assets. Third, indicators looking at the levels of countries' climate ambition. They can provide insights on whether a country intends to implement the Paris Agreement goals and might thus benefit from (additional) financial support to reach those targets. Fourth, governance indicators such as rule of law, corruption, and regulatory quality - as a proxy for the likelihood that the gained fiscal flexibility from debt swaps is actually used towards predetermined goals.

4.1 Economic indicators

Economic factors can be used as first filter to further narrow down the number of eligible debtor countries for debt-for-climate swaps. These include a country's indebtedness and its debt carrying capacity.

A country is considered as highly indebted if its external debt to export ratio exceeds 150% (Warland and Michaelowa, 2015). This threshold is also applied to identify the eligibility of countries to participate in the HIPC initiative, among others (World Bank, 2020f). To evaluate a country's debt carrying capacity, the Debt Sustainability Analysis (DSA) provides useful insights into countries' risk of debt distress. The analysis is based upon the joint World Bank-IMF Debt Sustainability Framework (DSF) for Low-Income Countries which assesses both the sustainability of total public debt and total external debt. The DSF also provides an analysis of countries' projected debt burden over the next ten years and their vulnerability to economic and / or policy shocks. For the present assessment of eligibility for debt-for-

climate swaps, we selected the component ‘risk of external debt distress’ (see World Bank, 2020d). Accordingly, debt-for-climate swaps may be particularly interesting for countries whose risk of external debt distress is ratified as ‘high’ or ‘in distress’. However, as mentioned above, debt-for-climate swaps might be more useful in cases where debt levels are high but not yet classified as ‘unsustainable’, since this might affect their ability to use freed up resources for climate change mitigation measures.

Table 2 in the annex presents the results of an assessment that applies the above-mentioned criteria to the long list of potentially eligible countries. Countries are classified as eligible if their external debt to export ratio exceeds 150%, or their risk of external debt distress is ratified as “high” or “in distress”. According to these criteria, most of the potential candidates qualify for debt-for-climate swaps.

4.2 Emissions and fossil fuel indicators

In addition to economic indicators, it may be useful to also take a range of fossil fuel aspects into account. In order to effectively mitigate climate change and reach the targets set out in the Paris Agreement, global CO₂ emissions must reach net zero by mid-century (IPCC, 2018a). Therefore, countries with high emissions could be considered particularly important candidates for debt-for-climate swaps. We therefore include countries’ annual greenhouse gas emissions per capita in our analysis (PRIMAP, 2019).

Moreover, debt-for-climate swaps could be useful in cases where countries might otherwise seek to service their debt via the exploitation of their fossil fuel reserves. Engaging in a debt swap could make up part of a larger package of measures to avoid further exploitation of fossil fuel resources and / or construction of fossil fuel infrastructure which might eventually lead to stranded assets and thus further compromise a country’s capacity to service debt. Consequently, the following indicators could provide important insights into a country’s current status of fossil fuels and fossil fuel infrastructure, respectively: 1) proven reserves of oil, natural gas, and coal per capita 2) gas pipeline capacity and project status per capita (operating, in development) 3) oil pipeline capacity and project status per capita (operating, in development) 4) capacity of LNG terminals and project status (operating, in development) 5) coal plants capacity and project status per capita (announced, pre-permit, permitted, operating) 6) electricity emission factor (Ritchie and Roser, 2017; Global Energy Monitor, 2020; Global Gas & Oil Network, 2020; Takahashi and Louhisuo, 2020).

We propose emissions and fossil fuel criteria as potential criteria for consideration. Potential proxy indicators could be 1) a country’s emissions exceed 2t per capita, or 2) the country has any proven reserves, 3) planned and / or operating infrastructure, or 4) a country’s electricity emission factor is above 0.5.

A majority of countries from the long list would be eligible based on fossil fuel related data. This is not surprising, since the long list includes many countries with significant natural resources endowments and / or major producers of fossil fuels, such as Mongolia or the Republic of Congo. However, also other countries are noteworthy as they have either a high electricity emission factor, such as Bhutan reaching a factor of nearly 0.9, or have high emissions such as Bolivia with over 9 tCO_{2e} per capita. For a comprehensive overview of countries’ qualifications, see Table 3 in the annex.

4.3 Climate ambition indicators

Similar to the consideration of environmental issues in debt-for-nature swaps and in line with the literature, a number of climate policies and targets could be considered to candidate debt-for-climate partner countries. They provide an indication of countries’ ambition to make progress on their climate targets as well as a potential signal that that a country is likely to be particularly interested and willing to engage in a debt-for-climate swap initiative, take on ownership of the agreed measures, and sustain efforts in the longer term.

Against this background, countries that have adopted or are in the process of adopting a net-zero emission target and/ or have formulated a Long-Term Strategy (LTS) to reduce emissions could qualify for debt-for-climate swaps. Furthermore, the participation in the Climate Ambition Alliance, which brings together state and non-state actors in order to work towards achieving net-zero CO₂ emissions by 2050, could be used as an indicator to measure a country's climate ambition (UNFCCC, 2020).

Whereas the vast majority of countries on the long list is participating in the Climate Ambition Alliance and has submitted a Nationally Determined Contribution (NDC), so far, only Fiji, the Marshall Islands and Benin have submitted an LTS (UNFCCC, 2021).

In addition, further potential proxy of may be the Ecosystem Vitality indicator, which is part of the Environmental Performance Index (EPI). The EPI is developed by the Universities of Yale and Columbia and commissioned by the World Economic Forum. It ranks countries on environmental health and ecosystems vitality (Yale Center for Environmental Law & Policy, 2020). The ecosystem vitality indicator measures how well governments protect and enhance ecosystems and provided services. This indicator is composed of seven issue categories: Biodiversity and habitat, ecosystem services, fisheries, climate change, pollution emissions, agriculture, and water resources (Yale Center for Environmental Law & Policy, 2020). Therefore, this indicator provides useful insights into how well governments are handling environmental challenges as well as climate change mitigation and adaptation. While not strictly climate mitigation related and therefore also not included in the direct assessment, the EPI could constitute an additional factor with regard to further co-benefits of debt-for-climate swaps.

Table 4 in the annex presents the results of the assessment of climate aspects. Particularly high potential countries for debt-for-climate swaps may be those that: 1) they have formulated and submitted an LTS, 2) a net-zero target is achieved, there is a proposed legislation, or the target is in a policy document, and 3) the country is participating in the Climate Ambition Alliance. Looking at these criteria, many of the countries from the long list could be eligible for debt-for-climate swaps. Notably, in addition to Fiji, the Marshall Islands, and Benin a fourth country to highlight is Bhutan which has already achieved its net-zero target.

4.4 Good governance indicators

Good governance indicators can help ensure that funds are spent transparently, efficiently, and for towards agreed objectives. Consequently, it may be useful to consider a country's track record of good governance for the implementation of debt-for-climate swaps. The following may be relevant as proxies for indicators of good governance:

First, the Corruption Perceptions Index (CPI) ranks countries based on the perception of corruption in the country's public sector. The score ranges from 0-100, with 100 indicating no corruption. We propose to use a threshold score of at least 30 as an assessment for prioritization, roughly corresponding to a percentile of 26% in terms of the score.

In addition, the World Bank's Worldwide Governance Indicators (WGI) provide a more holistic picture of a country's governance track record. WGI scores range from -2.5 to 2.5, positive scores indicating a higher quality of governance. First, the Rule of Law indicator measures the perceptions of the extent to which agents have confidence in and abide by the rules. Second, the Political Stability and Absence of Violence / Terrorism indicator reflects upon the perceptions of the likelihood of political instability and/ or politically motivated violence. Thirdly, the Regulatory Quality indicator measures the perceptions of the ability of the government to formulate and implement sound policies as well as regulations that promote private sector development. Finally, the Government Effectiveness indicator captures perceptions on the quality of public and civil services, policy formulation and implementation and government's commitment to them (World Bank, 2020h).

Table 5 in the annex presents the results of our assessment of governance indicators for the country sample. Countries could be considered eligible for debt-for-climate swaps if they score above 30 on the CPI and over -0.6 on the selected WGI. As a result, only 16 countries of the sample would be qualified for debt-for-climate swaps according to our assessment of the governance quality. Particularly Rwanda, St. Lucia and St. Vincent and the Grenadines score well across all examined governance indicators. A vast majority of our country sample shows poor governance, especially across the WGI, which may negatively impact the success of a debt-for-climate-swap.

5 Findings, conclusions, and limitations

According to how potential countries align with our proposed criteria and proxy indicators, we find that although a large short-list of countries could be considered for debt-for-climate swaps based on their macroeconomic situation (Table 2), fossil fuel indicators (Table 3); and some indication of climate ambition (Table 4), a smaller number perform well with regard to governance (Table 5).

From the long-list, our application of the proposed criteria suggest that several Small Island Developing States (SIDS) stand out as particularly promising – namely Dominica, Grenada, Samoa, St. Vincent and the Grenadines, as well as Tonga – may be especially promising candidates for debt-for-climate swaps. This is largely related to their high level of climate ambition and relatively high debt levels, which constrains their ability to fund climate change adaptation and mitigation measures. Furthermore, a large number of SIDS have emissions of over 2t per capita (see Table 3), since they are heavily dependent on fossil fuel imports (IRENA, 2020). Several SIDS, especially within the Caribbean, do not qualify for other debt-relief mechanisms such as the HIPC or DSSI, but are severely affected by increasing external debt burdens, climate change impacts, and the ongoing pandemic (United Nations, 2020). Finally, several SIDS, such as St. Lucia or St. Vincent and the Grenadines, score relatively well across the governance indicators (see Table 5), which could support the successful implementation of swaps. Notably, the non-island countries of Bhutan and Rwanda may also represent especially good candidates considering all criteria.

This exercise has several limitations and points to several trade-offs. The development status of these countries is often associated with relatively low emissions compared to richer middle-income countries. Therefore, although a debt-for-climate swap may have significant impact for these countries' emissions and resiliency, in global terms, it may have a comparatively smaller impact on global emissions. To have a larger global emissions impact, the criteria may need to be adjusted.

Further, the data gathering exercise was conducted primarily in late 2020 is only a snapshot of a highly dynamic situation. Since then, the economic situation of many countries has worsened, and some institutions such as the IMF warn of a larger capital shifts when interests rates rise in the US and or Europe as a potential taper tantrum similar to that of 2013 (Giles, 2021). The need for support to avert a crisis requires continued monitoring.

Lastly, our analysis suggests various challenges. The relatively smaller group countries scoring well on some climate ambition proxy indicators (LTS and a set net-zero target) suggests that promoters of debt for climate swaps may encounter a lack of interest and ownership in a number of countries when it comes to engaging in a debt for climate swaps – an impediment to long term impact and durability of the measures. Similarly, the governance criteria and proxies point to challenges with debtors' institutions and their ability to implement the terms of a potential debt-for-climate swap, depending on its complexity. In each case, renewed efforts towards climate diplomacy, outreach and engagement, transparency, accountability and institution-building have a particularly important ongoing role to play in addressing the triple COVID-19, economic and climate crisis.

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Annex

Table 1: Long list of countries

	LDC	DSSI	HIPC
<i>Indicator</i>	<i>Qualification</i>	<i>Participation</i>	<i>Participation</i>
<i>Year</i>	2020	2020	
Afghanistan	Yes	Yes	Yes
Angola	Yes	Yes	No
Bangladesh	Yes	No	No
Benin	Yes	No	Yes
Bhutan	Yes	No	No
Bolivia	No	No	Yes
Burkina Faso	Yes	Yes	Yes
Burundi	Yes	Yes	Yes
Cabo Verde	No	Yes	No
Cambodia	Yes	No	No
Cameroon	No	Yes	Yes
Central African Republic	Yes	Yes	Yes
Chad	Yes	Yes	Yes
Comoros	Yes	Yes	Yes
Cote d'Ivoire	No	Yes	Yes
Democratic Republic of Congo	Yes	Yes	Yes
Djibouti	Yes	Yes	No
Dominica	No	Yes	No
Eritrea	Yes	No	Yes
Ethiopia	Yes	Yes	Yes
Fiji	No	Yes	No
Ghana	No	No	Yes
Grenada	No	Yes	No
Guinea	Yes	Yes	Yes
Guinea-Bissau	Yes	No	Yes
Guyana	No	No	Yes
Haiti	Yes	No	Yes
Honduras	No	No	Yes
Kenya	No	No	No
Kiribati	Yes	No	No
Kosovo	No	No	No
Kyrgyz Republic	No	Yes	No
Lao PDR	Yes	No	No
Lesotho	Yes	Yes	No
Liberia	Yes	No	Yes
Madagascar	Yes	Yes	Yes
Malawi	Yes	Yes	Yes
Maldives	No	Yes	No
Mali	Yes	Yes	Yes
Marshall Islands	No	No	No
Mauritania	Yes	Yes	Yes
Micronesia	No	No	No
Moldova	No	No	No
Mongolia	No	No	No
Mozambique	Yes	Yes	Yes
Myanmar	Yes	Yes	No
Nepal	Yes	Yes	No
Nicaragua	No	No	Yes
Niger	Yes	Yes	Yes
Nigeria	No	No	No
Pakistan	No	Yes	No
Papua New Guinea	No	Yes	No
Republic of Congo	No	Yes	Yes
Rwanda	Yes	No	Yes
Samoa	No	Yes	No
Sao Tome and Principe	Yes	Yes	Yes
Senegal	Yes	Yes	Yes
Sierra Leone	Yes	Yes	Yes
Solomon Islands	Yes	No	No
Somalia	Yes	No	Yes
South Sudan	Yes	No	No
St. Lucia	No	Yes	No
St. Vincent and the Grenadines	No	No	No
Sudan	Yes	No	Yes
Tajikistan	No	Yes	No
Tanzania	Yes	Yes	Yes
The Gambia	Yes	Yes	Yes
Timor-Leste	Yes	No	No
Togo	Yes	Yes	Yes
Tonga	No	Yes	No
Tuvalu	Yes	No	No
Uganda	Yes	Yes	Yes
Uzbekistan	No	No	No
Vanuatu	Yes	No	No
Yemen	Yes	Yes	No
Zambia	Yes	Yes	Yes

Table 2: Economic indicators

	Qualification based on economic factors	External debt stocks	Risk of external debt distress
Indicator	Either external debt stocks above 150% OR high / in distress	External debt stocks (% of exports of goods, services and primary income)	Debt Sustainability Analysis ratings
Year	2020	2018	2020
Afghanistan	Yes		High
Bhutan	Yes	313.1	Moderate
Burundi	Yes		High
Cabo Verde	Yes	173.6	High
Cameroon	Yes		High
Central African Republic	Yes		High
Chad	Yes		High
Djibouti	Yes		High
Dominica	Yes	161.8	High
Ethiopia	Yes		High
Ghana	Yes		High
Grenada	Yes	97.4	In distress
Haiti	Yes	119.7	High
Kenya	Yes	256.1	High
Kiribati	Yes		High
Kyrgyz Republic	Yes	307.3	Moderate
Lao PDR	Yes	245.4	High
Maldives	Yes	63.0	High
Marshall Islands	Yes		High
Mauritania	Yes		High
Micronesia	Yes		High
Moldova	Yes	164.7	Low
Mongolia	Yes	370.1	...
Mozambique	Yes	244.3	In distress
Nicaragua	Yes	207.4	Moderate
Pakistan	Yes	295.3	...
Papua New Guinea	Yes	166.5	High
Republic of Congo	Yes		In distress
Rwanda	Yes	262.6	Moderate
Samoa	Yes	137.2	High
Sao Tome and Principe	Yes	242.9	In distress
Sierra Leone	Yes		High
Somalia	Yes		In distress
South Sudan	Yes		In distress
St. Vincent and the Grenadines	Yes	101.6	High
Sudan	Yes	421.6	...
Tajikistan	Yes	224.6	High
The Gambia	Yes		High
Tonga	Yes	122.5	High
Tuvalu	Yes		High
Uganda	Yes	218.2	Low
Zambia	Yes	191.0	High
Angola	No	130.4	...
Bangladesh	No	117.7	Low
Benin	No	133.8	Moderate
Bolivia	No	126.2	...
Burkina Faso	No		Moderate
Cambodia	No	80.7	Low
Comoros	No		Moderate
Cote d'Ivoire	No		Moderate
Democratic Republic of Congo	No	30.9	Moderate
Eritrea	No		...
Fiji	No	31.3	...
Guinea	No	61.6	Moderate
Guinea-Bissau	No		Moderate
Guyana	No		Moderate
Honduras	No	130.2	Low
Kosovo	No		...
Lesotho	No	53.8	Moderate
Liberia	No		Moderate
Madagascar	No	84.5	Moderate
Malawi	No		Moderate
Mali	No		Moderate
Myanmar	No	87.3	Low
Nepal	No		Low
Niger	No		Moderate
Nigeria	No	67.2	...
Senegal	No		Moderate
Solomon Islands	No	53.8	Moderate
St. Lucia	No	49.1	...
Tanzania	No		Low
Timor-Leste	No	15.7	Low
Togo	No		Moderate
Uzbekistan	No	101.8	Low
Vanuatu	No		Moderate
Yemen	No		...

Table 4: Climate ambition indicators

	Qualification based on climate ambition/ targets and ecosystem vitality	LTS	Net Zero Targets	Climate ambition alliance	EPI - Ecosystem Vitality
Indicator	<i>Existence of LTS OR Net Zero Target (Achieved, in policy document, proposed legislation) OR participation in Climate ambition alliance</i>	Yes/No	Existence and form	Participation	0-100 (high)
Year	2020		2020	2020	2020
Afghanistan	Yes	no	Target Under Discussion	Yes	29.2
Angola	Yes	no	Target Under Discussion	Yes	35.9
Bangladesh	Yes	no	Target Under Discussion	Yes	33.5
Benin	Yes	yes	Target Under Discussion	Yes	36.4
Bhutan	Yes	no	Achieved	Yes	45.7
Burkina Faso	Yes	no	Target Under Discussion	Yes	50.9
Burundi	Yes	no	Target Under Discussion	Yes	30.5
Cabo Verde	Yes	no	Target Under Discussion	Yes	34.5
Cambodia	Yes	no	Target Under Discussion	Yes	35.6
Central African Republic	Yes	no	Target Under Discussion	Yes	53.5
Chad	Yes	no	Target Under Discussion	Yes	34.6
Comoros	Yes	no	Target Under Discussion	Yes	35.3
Democratic Republic of Congo	Yes	no	Target Under Discussion	Yes	45.7
Djibouti	Yes	no	Target Under Discussion	Yes	33.4
Dominica	Yes	no	Target Under Discussion	Yes	43.1
Eritrea	Yes	no	Target Under Discussion	Yes	40.4
Ethiopia	Yes	no	Target Under Discussion	Yes	40.6
Fiji	Yes	yes	Proposed Legislation	Yes	34.2
Grenada	Yes	no	Target Under Discussion	Yes	40.9
Guinea	Yes	no	Target Under Discussion	Yes	31.5
Guinea-Bissau	Yes	no	Target Under Discussion	Yes	38.4
Guyana	Yes	no	Target Under Discussion	Yes	37.5
Haiti	Yes	no	Target Under Discussion	Yes	30.5
Kiribati	Yes	no	Target Under Discussion	Yes	47.5
Lao PDR	Yes	no	Target Under Discussion	Yes	39.9
Lesotho	Yes	no	Target Under Discussion	Yes	38.8
Liberia	Yes	no	Target Under Discussion	Yes	23.6
Madagascar	Yes	no	Target Under Discussion	Yes	29.4
Malawi	Yes	no	Target Under Discussion	Yes	46.2
Maldives	Yes	no	Target Under Discussion	Yes	27.4
Mali	Yes	no	Target Under Discussion	Yes	36
Marshall Islands	Yes	yes	In Policy Document	Yes	29.6
Mauritania	Yes	no	Target Under Discussion	Yes	32.8
Micronesia	Yes	no	Target Under Discussion	Yes	34.5
Mozambique	Yes	no	Target Under Discussion	Yes	37.8
Myanmar	Yes	no	Target Under Discussion	Yes	25.4
Nepal	Yes	no	Target Under Discussion	Yes	40.5
Nicaragua	Yes	no	Target Under Discussion	Yes	38.6
Niger	Yes	no	Target Under Discussion	Yes	39.9
Pakistan	Yes	no	Target Under Discussion	Yes	45.3
Papua New Guinea	Yes	no	Target Under Discussion	Yes	35.1
Rwanda	Yes	no	Target Under Discussion	Yes	40
Samoa	Yes	no	Target Under Discussion	Yes	33.9
Sao Tome and Principe	Yes	no	Target Under Discussion	Yes	43.6
Senegal	Yes	no	Target Under Discussion	Yes	37.6
Sierra Leone	Yes	no	Target Under Discussion	Yes	30.2
Solomon Islands	Yes	no	Target Under Discussion	Yes	30.9
Somalia	Yes	no	Target Under Discussion	Yes	n/a
South Sudan	Yes	no	Target Under Discussion	Yes	n/a
St. Lucia	Yes	no	Target Under Discussion	Yes	40
St. Vincent and the Grenadines	Yes	no	Target Under Discussion	Yes	51.3
Sudan	Yes	no	Target Under Discussion	Yes	44.1
Tanzania	Yes	no	Target Under Discussion	Yes	33.5
The Gambia	Yes	no	Target Under Discussion	Yes	32.1
Timor-Leste	Yes	no	Target Under Discussion	Yes	39.5
Togo	Yes	no	Target Under Discussion	Yes	38.2
Tonga	Yes	no	Target Under Discussion	Yes	46
Tuvalu	Yes	no	Target Under Discussion	Yes	n/a
Uganda	Yes	no	Target Under Discussion	Yes	42.2
Vanuatu	Yes	no	Target Under Discussion	Yes	30.4
Yemen	Yes	no	Target Under Discussion	Yes	n/a
Zambia	Yes	no	Target Under Discussion	Yes	43.9
Bolivia	No	no	No	No	49.8
Cameroon	No	no	No	No	46.9
Cote d'Ivoire	No	no	No	No	30.1
Ghana	No	no	No	No	32.6
Honduras	No	no	No	No	40.7
Kenya	No	no	No	No	40.6
Kosovo	No	no	No	No	n/a
Kyrgyz Republic	No	no	No	No	43.8
Moldova	No	no	No	No	43.6
Mongolia	No	no	No	No	35.3
Nigeria	No	no	No	No	42.4
Republic of Congo	No	no	No	No	39.2
Tajikistan	No	no	No	No	49.9
Uzbekistan	No	no	No	No	54.1

Table 5: Governance indicators

	Qualification based on governance	Corruption perception index (CPI)	Rule of Law	Political Stability	Government Effectiveness	Regulatory Quality
Indicator	CPI above 30 AND other governance indicators above -0.6	Score on a scale from 100 - 0 (high)	Score on a scale between -2,5 (weak) and 2,5 (strong)	Score on a scale between -2,5 and 2,5	Score on a scale between -2,5 and 2,5	Score on a scale between -2,5
Year	2020	2019	2019	2019	2019	2019
Bhutan	Yes	68	0.59	1.09	0.31	-0.33
Cabo Verde	Yes	58	0.52	0.88	0.29	-0.22
Dominica	Yes	55	0.69	1.07	-0.26	0.10
Fiji	Yes	n/a	-0.03	0.87	0.20	-0.22
Ghana	Yes	41	0.05	0.10	-0.21	-0.11
Grenada	Yes	53	0.18	0.96	-0.14	-0.31
Kosovo	Yes	36	-0.39	-0.39	-0.35	-0.35
Moldova	Yes	32	-0.37	-0.38	0.38	0.00
Mongolia	Yes	35	-0.27	0.64	-0.19	-0.01
Rwanda	Yes	53	0.08	0.12	0.19	0.08
Samoa	Yes	n/a	1.08	1.12	0.44	-0.22
Senegal	Yes	45	-0.19	0.06	-0.06	-0.11
St. Lucia	Yes	55	0.57	0.93	0.23	0.23
St. Vincent and the Grenadines	Yes	59	0.45	0.96	0.23	0.21
Tonga	Yes	n/a	0.46	1.12	0.16	-0.33
Vanuatu	Yes	46	0.18	1.08	-0.55	-0.25
Afghanistan	No	16	-1.71	-2.65	-1.46	-1.12
Angola	No	26	-1.05	-0.31	-1.12	-0.89
Bangladesh	No	26	-0.64	-0.92	-0.74	-0.93
Benin	No	41	-0.66	-0.35	-0.44	-0.38
Bolivia	No	31	-1.12	-0.62	-0.70	-0.99
Burkina Faso	No	40	-0.43	-1.19	-0.76	-0.38
Burundi	No	19	-1.43	-1.65	-1.33	-0.95
Cambodia	No	20	-0.94	-0.08	-0.58	-0.57
Cameroon	No	25	-1.12	-1.56	-0.81	-0.83
Central African Republic	No	25	-1.73	-2.18	-1.75	-1.87
Chad	No	20	-1.28	-1.34	-1.57	-1.12
Comoros	No	25	-1.09	-0.15	-1.67	-1.12
Cote d'Ivoire	No	35	-0.57	-0.96	-0.48	-0.24
Democratic Republic of Congo	No	18	-1.79	-1.81	-1.63	-1.51
Djibouti	No	30	-0.91	-0.34	-0.71	-0.77
Eritrea	No	23	-1.60	-0.72	-1.76	-2.27
Ethiopia	No	37	-0.47	-1.28	-0.63	-0.89
Guinea	No	29	-1.21	-0.83	-0.78	-0.77
Guinea-Bissau	No	18	-1.26	-0.56	-1.51	-1.23
Guyana	No	40	-0.43	-0.24	-0.39	-0.62
Haiti	No	18	-0.97	-0.78	-2.02	-1.26
Honduras	No	26	-1.01	-0.53	-0.61	-0.49
Kenya	No	28	-0.45	-1.12	-0.38	-0.28
Kiribati	No	n/a	0.74	1.20	-0.24	-0.62
Kyrgyz Republic	No	30	-0.89	-0.41	-0.68	-0.35
Lao PDR	No	29	-0.94	-0.53	-0.78	-0.71
Lesotho	No	40	-0.38	-0.35	-0.83	-0.54
Liberia	No	28	-1.00	-0.23	-1.38	-0.98
Madagascar	No	24	-1.01	-0.25	-1.14	-0.78
Malawi	No	31	-0.33	-0.27	-0.75	-0.70
Maldives	No	29	-0.41	0.01	-0.19	-0.48
Mali	No	29	-0.83	-2.15	-1.06	-0.57
Marshall Islands	No	n/a	-0.03	0.86	-1.47	-1.12
Mauritania	No	28	-0.58	-0.54	-0.50	-0.76
Micronesia	No	n/a	0.02	1.00	-0.19	-0.96
Mozambique	No	26	-1.02	-0.75	-0.82	-0.72
Myanmar	No	29	-1.06	-1.26	-1.15	-0.76
Nepal	No	34	-0.54	-0.47	-1.05	-0.70
Nicaragua	No	22	-1.18	-1.03	-0.77	-0.69
Niger	No	32	-0.53	-1.40	-0.80	-0.67
Nigeria	No	26	-0.90	-1.93	-1.09	-0.86
Pakistan	No	32	-0.67	-2.25	-0.68	-0.64
Papua New Guinea	No	28	-0.80	-0.83	-0.81	-0.54
Republic of Congo	No	19	-1.15	-0.89	-1.39	-1.30
Sao Tome and Principe	No	46	-0.68	0.52	-0.63	-0.91
Sierra Leone	No	33	-0.77	-0.10	-1.13	-0.88
Solomon Islands	No	42	-0.14	0.50	-1.00	-0.88
Somalia	No	9	-2.35	-2.38	-2.24	-2.20
South Sudan	No	12	-1.97	-2.56	-2.45	-2.05
Sudan	No	16	-1.14	-1.67	-1.62	-1.67
Tajikistan	No	25	-1.23	-0.58	-1.05	-1.01
Tanzania	No	37	-0.58	-0.36	-0.88	-0.64
The Gambia	No	37	-0.37	0.11	-0.63	-0.66
Timor-Leste	No	38	-1.11	0.24	-0.88	-0.78
Togo	No	29	-0.59	-0.81	-0.92	-0.68
Tuvalu	No	n/a	-0.48	1.20	-0.65	-0.56
Uganda	No	28	-0.31	-0.65	-0.59	-0.37
Uzbekistan	No	25	-1.05	-0.27	-0.51	-0.99
Yemen	No	15	-1.77	-2.77	-2.28	-1.66
Zambia	No	34	-0.46	-0.10	-0.68	-0.55



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