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# **OVERVIEW AND ASSESSMENT OF FINANCING OPTIONS FOR FINANCING SUSTAINABLE TRANSPORT INFRASTRUCTURE AND SERVICES**

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# 1. INTRODUCTION

## Background

The Earth is heating rapidly due to human activity, primarily the release of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases. This problem is almost universally recognized, and the Paris Agreement has established a goal of keeping warming to 1.5°C. Pathways for reducing emissions in most sectors of the economy have been identified, but progress towards reducing emissions has been slow. [1] Although the lack of funds brought to bear on the problem in developing economies is not the only obstacle, increasing financing to these countries is part of the solution and there is substantial ongoing discussion on how to achieve this.

Any economic transition has impacts on workers and communities. The concept of Just Transition, which is embedded in the Paris Agreement, calls for ensuring that these workers and communities have meaningful input in developing the means of transition, that they are treated fairly, and that benefits from the transition accrue in a balanced manner. [2]

Money is a means of power, and so those bringing money to the table to finance a transition to a sustainable economy have significant power to shape the nature of the transition. There is significant concern that private financing may undermine the principles of Just Transition. Identifying ways to ensure that financing is used in a just manner, regardless of source, is crucial to ensuring good outcomes for workers and communities.

## Purpose and scope of paper

This paper considers two questions posed by the International Transport Workers' Federation. These questions are:

01. What will be the most effective climate finance mechanisms for countries to develop the fiscal space to invest in their key transport sectors and infrastructure?
02. Are there any public-private and/or blended finance mechanisms that can support effective democratic control and oversight?

The paper considers these two questions within a specific scope:

- **Fund use:** Mitigation activities in the transport industry directly. (Although electricity generation needs to be decarbonized to realize the potential of electrified transport, electric power generation and delivery is beyond the scope of this paper.) Both the costs of immobile infrastructure (e.g., rail corridors) as well as the costs of movable equipment used in transportation services (e.g., trucks and airplanes) are considered. The paper does not address financing for adaptation nor loss and damage. It is likely that climate change will require significant spending to harden or replace existing transportation infrastructure in some places.<sup>1</sup>

1. Adaptation spend is included in certain current spending figures where it cannot be separated out, but the amounts are negligible, so this does not change the conclusions drawn in this paper.

- **Transportation modes:** All powered transportation activities other than the use of privately-owned cars for the needs of the owner. This coincides with the presence of a workforce necessary to provide the transportation service.
- **Geography of fund use:** Emerging markets and developing economies (EMDEs) and least developed countries (LDCs) other than China.<sup>2</sup> Often these are treated as two separate categories, but in this paper, these will be treated as a single grouping unless otherwise specified and will be referred to as the Global South.
- **Geography of fund source:** The paper is primarily focused on funds originating in developed countries, referred to herein as the Global North, but also includes in limited contexts the capital of private parties in the Global South.

## Structure of paper

This paper is organized as follows:

The next section of this paper presents background on financing needs. Categorical uses of funds for sustainable transport, estimates of how much financing is needed, and estimates of current expenditures are identified. The third section of this paper addresses the question posed by ITF related to the effectiveness of climate finance mechanisms. The analytical approach taken requires distinguishing among different sources of financing; different forms of financing; and recent proposals for structural and process changes, which overlap significantly in the problems they identify and the mechanisms they propose as remedies. With this framework in place, the paper then examines the core mechanisms to increase financing flows themselves separately from the proposal(s) in which they have surfaced. Conclusions about the most effective mechanisms are then provided. The fourth section of the paper addresses the question posted by ITF related to effective democratic control in cases where private financing is involved. The background necessary to analyze this question relating to the fair distribution of economic value, the degree to which private finance can influence labour conditions, and the existing level of private interests in different modes of transportation is developed. From there, the paper discusses several frameworks involving at least some private finance that are currently generating interest among participants in the climate finance space. This section then offers some principles that can help ensure effective democratic control in the transition to sustainable transport. In the conclusion, the highlights of the paper are reviewed.

2. In contrast with many other EMDEs, China is deemed to be able to finance its own energy transition and is unlikely to receive significant external financing.



# 2. OVERVIEW OF FINANCING NEEDS

## Functional uses

To consider the suitability of specific financing arrangements for climate mitigation activities in the transport sector, it is helpful to identify which specific mitigation actions are needed.

Recognizing the interwoven nature of land use patterns, the geographic structure of economic value chains, and the variety of transportation modes in use, The Intergovernmental Panel on Climate Change (IPCC) has adopted a framework of “Avoid-Shift-Improve” for reducing carbon emissions associated with transport activities. Avoid means reducing (energized) vehicle travel overall, via more compact communities and other policies that minimize travel distances. Shift means changing the relative utilization of transport from high-carbon modes towards lower- or zero-carbon modes. Improve means reducing the carbon intensity of each mode of transport. [3] The second and third factors are the focus of this paper.

The IPCC provides assessments of the means for reducing CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) emissions within each of the main modes of transport.

In road transport, the primary mitigation action is replacing fossil-fuel internal combustion engine (ICE) vehicles with lower- or zero-carbon vehicles. The vehicle options that deliver the highest emissions reductions over the full lifetime of a vehicle (from raw materials through end-of-life) are battery electric vehicles (BEV), hybrid electric/ICE vehicles using biofuels, biofuel ICE vehicles, and hydrogen fuel cell vehicles. According to the

IPCC, with electricity supplied from zero-carbon sources and land-use changes compensated in the generation of biofuels, these options are all roughly similar in their reduction of CO<sub>2</sub>e emissions. For light-duty vehicles (e.g., two- and three-wheeled vehicles, cars and vans) and busses, electric and hybrid technologies are the most feasible at this time and are likely to remain so for at least some period into the future. For heavy-duty vehicles, range limitations may hinder the adoption of battery electric powertrains, and so reducing emissions from heavy-duty vehicles may involve a higher mix of biofuel and hydrogen fuel cell technologies. The adoption of electric and alternative-ICE vehicles does not require additional road infrastructure.<sup>3</sup> The primary use of funding for mitigation in road transport is the purchase of new vehicles. The infrastructure for recharging electric vehicles and delivering alternative fuels also requires funding, as discussed below.

In rail, electric trains powered by cleanly-generated electricity are by far the lowest-emitting option and are a feasible option in many parts of the world, though a lack of adequate grid coverage and capacity and an overreliance on fossil-fuel generated electricity may limit their deployment in parts of the Global South. However, ICE-powered trains have lower emissions per passenger-kilometer and freight-ton-kilometer than ICE road transit options, so even a modal shift away from cars and trucks to ICE-powered trains delivers a benefit. The primary use of funding in rail is to update (e.g., electrify), expand, or build new rail infrastructure.

3. Technology for powering electric buses and trucks via catenary wires or power lines embedded within roadways would require additional infrastructure development but did not appear to be considered in-depth in the mainstream literature collected during the literature review undertaken to develop this paper and so is not discussed here.

Public transit primarily consists of road (i.e., busses, taxis and ride hail services in cars, two- and three-wheel vehicles) and rail (light and/or heavy rail). As such, mitigation pathways in public transit are addressed by the foregoing sections and do not need to be discussed separately.<sup>4</sup>

Aviation is regarded as a hard-to-decarbonize transport mode, with very high energy usage per passenger-kilometer and freight-ton-kilometer. Although electrification of small planes for short flights may play some role, limitations on gross vehicle weight preclude significant use of battery power storage in aviation. IPCC states that significant long-term reduction in CO<sub>2</sub> emissions from aviation will most likely come from the use of biofuels and synthetic fuels. However, neither of these options is likely to scale rapidly in the near term. Many existing planes can use a mixture of regular kerosene jet fuel blended with biofuels, but a complete transition to biofuels will require new planes or the retrofitting of existing planes. Alternative fuels (e.g., hydrogen or ammonia) will also require new equipment. Although there may be some additional infrastructure costs associated with fuel storage and delivery, the major use of funding in aviation is expected to be the acquisition of new flight equipment. A modal switch from road to rail for regional travel can be a significant contributor to emissions reductions, but is considered as financing for rail, not aviation.

Like aviation, the most promising pathways to emissions reduction in shipping are projected to rely on biofuels and synthetic fuels. The major use of funding in shipping is new equipment, primarily retrofitting the power generation on ships.

## Amounts needed

Estimating the amount of funding needed to bring the transportation sector in-line with emissions reduction goals is an inexact exercise. Having even a rough estimate of the amount needed, however, is helpful in assessing the current state of play and new financing proposals.

The Climate Policy Initiative (CPI) tracks climate financing and makes projections of the amount of future financing needed to meet the Paris Agreement goals, i.e., a Net Zero by 2050 scenario.<sup>5,6</sup> CPI estimates that approximately USD 10 trillion is needed on an annual basis through 2050, with the amount needed ramping up from approximately USD 8 trillion now to a plateau above USD 10 trillion around 2030.<sup>7,8</sup> [4]. Over the coming three decades, this totals approximately USD 270 trillion. This all-in number represents total spend on mitigation and adaptation activities by all actors—governments, businesses, and households—in both developing and developed economies across all funding sources.

The Independent High-Level Expert Group on Climate Finance, launched through UN Conference of Parties process, has provided a projection that emerging markets and developing countries (excluding China) will need to spend approximately USD 2.4 trillion per year as of 2030, with the estimate that USD 1 trillion needs to be provided from external sources. [5] Allowing for adjustment due to significant inflation since this estimate appeared, this total figure of USD 2.4 trillion is roughly in-line with the CPI estimate for the Global South.<sup>9</sup>

4. Ownership of public transit is generally different from ownership of other road and freight rail, and public transit is therefore addressed separately in subsequent sections of this paper as needed. Notably, the mix of formal and informal service provision varies from place to place.
5. There is no universally accepted definition of climate finance. In this paper, climate financing should be understood to be primary capital flows, without double counting, that have direct or indirect greenhouse gas mitigation or adaptation benefits.
6. Net Zero refers to no new net greenhouse gas emissions, i.e., that any emissions are balanced by an equivalent amount of greenhouse gases removed from the atmosphere. This is primarily to be accomplished by reducing emissions.
7. The cited amount of USD 8 trillion represent a current need, not a current spend. Current spend is substantially lower. The amounts cited here correspond to the 'average scenario' presented by CPI. The range of estimates varies roughly +/- 20% from this average scenario.
8. The latest need projections from CPI were released in November 2023. [4] Earlier need projections from CPI were presented only two months prior, in September 2023 [6]. Estimates from this earlier work have increased substantially, presumably due to new data in current spend being taken into account, new scenarios and technologies included in estimates for certain sectors, and other updates to the methodology. It is also possible that substantial recent and/or projected inflation has an impact, though this is not cited specifically.

In slightly earlier work, CPI also provides a detailed breakdown of financing needs by sector at the global level and for transportation, by type of mitigation action.<sup>10</sup> However, some work is necessary to adjust those figures for the scope of this paper. First, the estimate that 37.5% of the total climate finance must be directed to the Global South is applied, with the assumption that this figure can be applied across sectors.<sup>11</sup> Second, to exclude private (household) automobile acquisition, 30% of vehicle purchases are assumed to relate to commercial or public use.<sup>12</sup> Combining these scale factors yields an estimate for total annual spend in Global South to 2050 in Table 1.

The figures above should be considered at best a rough estimate. However, a more detailed estimate does not appear to be available.<sup>13</sup> (N.B. The earlier detailed breakdown from which the numbers above are derived corresponds to a substantially lower estimate of total costs—an all-in spend by 2050 of \$7.3 trillion per year compared with the more recent estimate of >\$10 trillion per year by 2050—although it is not clear that the numbers can simply be scaled proportionally).<sup>14</sup> [6]

To simplify further, these amounts can be thought of as consisting of two broad categories of significant expenditures that are relatively similar in size: (1) equipment used in road transport (both passenger and freight), aviation, and shipping; and (2) infrastructure and equipment in rail and urban transport. The first totals USD 220 billion per year and combines the lines in Table 1 corresponding to battery electric vehicles and energy efficiency. (Energy efficiency corresponds to updating the road, aviation, and shipping fleet for more carbon-efficient fuels,

**Table 1: Estimated annual spend on climate financing for transport in the Global South needed through 2050 by functional use**

Finance Use	Amount (USD billion)
Battery electric vehicles	120
Rail and urban transport	290
Energy efficiency	100
Vehicle charging infrastructure	40
<b>Total</b>	<b>550</b>

whether by retrofitting or new vehicle purchase). The second amounts to USD 290 billion per year as stated directly in the table.

## Current levels

Current spending on climate mitigation in the transport sector in the Global South is nowhere near these levels. According to data from CPI, a total of USD 1.4 trillion was spent on all climate mitigation and adaptation across the globe in 2022. However, only approximately USD 210 billion was spent the Global South.<sup>15</sup> [4] Globally, only USD 409 billion, or 29% of all spending was on transportation. If this sectoral allocation is consistent across both developed countries and the Global South, this implies that only USD 61 billion was spent on transportation in the Global South during 2022. Moreover, this figure includes private road transport (which is primarily household automobiles), which represented almost ¾th of climate finance spending on transport during 2022

9. CPI provides a breakout of total spending needed for mitigation by region through 2030 in its Decade of Data: 2011-2020 report [38]. Estimating amounts from the midpoint of the needs range indicated in Figure A1 for the regions in which most developing and least-developed economies are located yields a total spend of USD 1.3 trillion, or 37.5% of total mitigation spending. This is a decade average and so should be expected to be lower than the IHLEG figure, which is a 2030 estimate. The 37.5% is a cross-sector figure.

10. Released in September 2023, only two months prior to its most recent estimates.

11. See footnote above discussing Decade of Data: 2011-2020 report [38].

12. This is a rough estimate based on annual new vehicle registrations in Europe during 2022 from the European Automobile Manufacturers' Association; distribution of vehicle types in the Global South may vary.

13. CPI does not have a combined regional/sector breakdown in its model (private communication).

14. The ratio between the two could be as much as 48%, which is derived from the ratio of the terminal (2050) spend in the two estimates. The significant increase likely corresponds not only to inflation but also to the incorporation of new data related to current spending in the latest analysis. The earlier estimates of spend on an annual basis through 2050—across the whole world—are: battery electric vehicles, USD 1.1 trillion; rail & urban transport, USD 770 billion; energy efficiency, USD 279 billion; and electric vehicle charging infrastructure, USD 104 billion.



globally. Carrying this reduction through as well, the conclusion is that approximately USD 15 billion was spent on transportation climate mitigation activities in the Global South that are within the scope of this paper during 2022.<sup>16</sup> This represents just 2.7% of the amount needed per year during the coming three decades.<sup>17,18</sup>

It is also clear that there is essentially no private finance flowing from developed countries for transportation mitigation projects in the Global South. Slightly older data available in more detail shows that the total amount of international private finance for climate mitigation in transport during 2019 & 2020 (annual average) was just USD 2 billion. Nearly two-thirds of this amount was in

the form corporate equity financing of projects and so would include trans-border financing within multi-nationals in the Global North, which is likely represents most of this amount.<sup>19</sup>

It is possible that some financing flows of interest to ITF may be omitted from this estimate. For instance, the development of ICE-powered road public transit such as bus rapid transit, which as modal shift away from private cars may reduce total carbon emissions, would not be counted as climate finance by the sources used in this paper. However, on the scale of the amount that needs to be spent to reach the Paris Agreement goals, this is likely a very minimal expenditure.

15. The breakdowns presented by CPI in published literature do not allow a total for all EMDEs and LDCs ex-China to be extracted. A total for all EMDEs including China (USD 680 billion) is presented, but this is likely dominated by China's own domestic spending. Therefore, this paper estimates the ex-China amount by summing regional totals for regions containing most of EMDEs and LDCs ex-China. This is the figure of USD 210 billion presented above. This excludes the region defined by CPI as "East Asia and Pacific" which includes both developed countries (e.g., Japan and Korea) as well as some sizable EMDEs (e.g., Indonesia, Philippines, Thailand, and Vietnam). Therefore, the figure cited is likely a modest understatement and could be adjusted upward modestly, but data to justify any particular adjustment is not available for the sources analyzed during the development of this paper.
16. The statistic that  $\frac{3}{4}$  of climate finance spending on transport globally in 2022 was directed to private road transport may not carry over to Global South, where adoption of electric vehicles is lower than in the Global North. If the proportion of spending on private transport is lower, that would mean the total spend on activities that are the focus of this paper would be higher than USD 15 billion. However, data at this level of detail does not appear to be available.
17. According to slightly older but more detailed data, the annual average public finance spent on transport mitigation internationally across the globe during 2019 & 2020 was approximately USD 21 billion. [15] This includes international financing of projects in wealthy countries. The majority of this funding, however, was provided by bilateral and multilateral development banks, so it is likely that much of this was indeed spent on projects in the Global South. Therefore, the estimate of USD 15 billion seems reasonable.
18. The figures of USD 15 billion and 2.7% of the amount needed should be considered as rough estimates as they rely on assumptions as indicated in the text. These estimates which could be refined if and when more detailed data becomes available. It is possible that a more refined analysis could push these numbers higher or lower.
19. As a check on whether the slightly older data can still be relied upon for a rough estimate of more recent expenditures, a comparison with proxies presented consistently across a longer period can be used. In 2019/2020, an average of USD 78.5 billion flowed from OECD to non-OECD countries for climate finance. In 2021/2022, an average of 93.5 billion flowed from OECD to non-OECD countries. This represents only a modest increase, and so the observation that there is currently almost no private climate finance for transportation mitigation activities flowing from developed countries to the Global South seems likely to remain true.

# 3. EFFECTIVE CLIMATE FINANCE MECHANISMS

To address the first question posed in the Introduction, it is helpful to distinguish among sources of financing, forms of financing, proposals for structural reforms and process improvement, and mechanisms to increase financing flows.

## Sources of financing

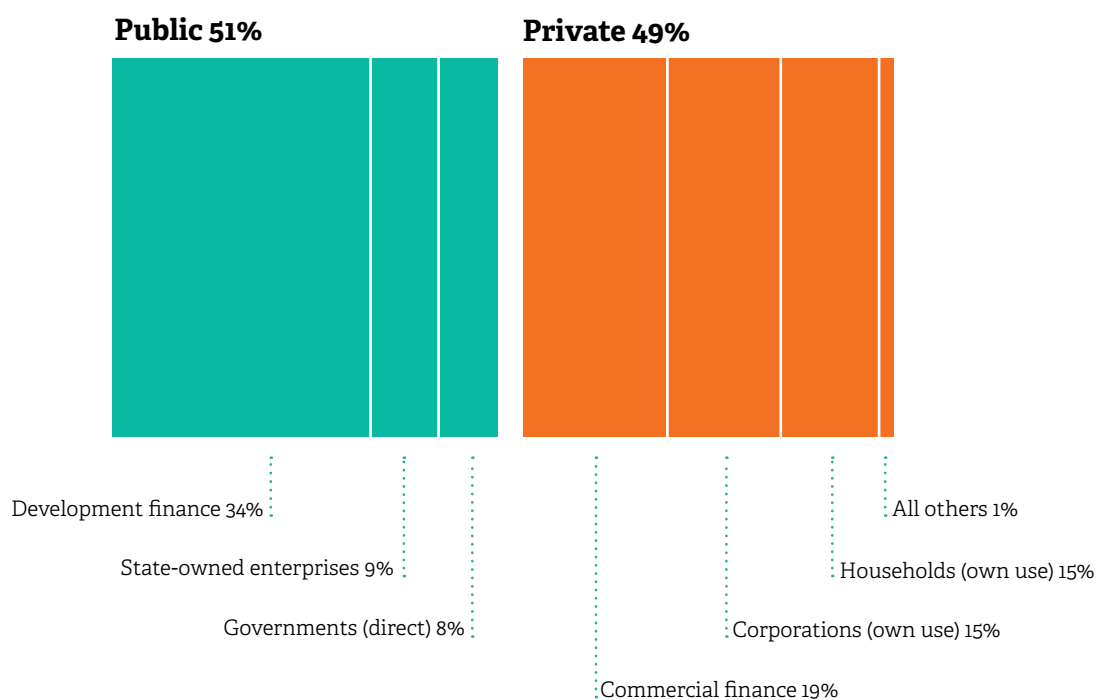
Sources of financing can be broken down into the two major categories of public and private. Within these, however, there are further subdivisions that are relevant for the purposes of this paper.

An overview of the sources is shown in Figure 1 below.

On the public side, these sources are primarily (1) governments themselves; (2) state-owned enterprises; and (3) development finance institutions (DFIs), which are primarily development banks, whether multilateral or nationally owned. In 2022, DFIs contributed 66.7% of all public finance. Among international financing from DFIs, MDBs are the largest source, and 59% of all MDB funding went to the Global South in 2021/2022.<sup>20</sup>

On the private side, these sources are (1) commercial financial institutions such as banks; (2) corporations investing in their own businesses; (3) households investing in assets for their own

Figure 1



20. The citation that MDBs are the largest source international climate finance comes from the earlier (2021) version of the Global Landscape of Climate Finance, and is not repeated in the 2023 version, but the difference over the next largest source type in the 2021 report (a factor of 5) suggests this likely remains the case currently.



use; and (4) other investors such as institutions, pension funds, philanthropic organization, private equity and other private capital funds.<sup>21</sup> The first three categories all contributed approximately one-third of all private finance, with other investors at approximately 2%.

In the aggregate, for climate mitigation in general across the global, public and private finance sources have provided roughly equally contributions over the past six years. In the United States and Europe, private finance dominates, but this is less true in the Global South, and in particular in LDCs public financing represents a dominant share of financing. [4]

The interests and motivations among the different sources of financing vary widely. Some sources of financing may be oriented towards domestic funding whereas others may be more or even exclusively oriented towards international funding. Furthermore, they may exert differing degrees of design and operational control over the projects to which they are contributing funding. (The degree of control also depends significantly on the form of financing, as discussed below.)

The vast majority of climate finance flows are domestic (USD 1.0 trillion out of USD 1.2 trillion per year over 2021/2022). International flows were USD 203 billion, of which approximately USD 110 billion were to the Global South. Of total international flows, 74% originated from public sources.

## Forms of financing

For the purposes of analyzing climate finance in the Global South, it is necessary to go beyond a simple breakdown of equity and debt components. First off, debt itself can be seen

as primarily taking two forms, market-rate and concessional. Concessional lending can also take several forms. This can include loans made at below-market rates and/or coupled with guarantees of various sorts. Given the complicated structure of some transactions, debt may also be distinguished as being senior or subordinated and subordinated debt can be seen as a form of concessional lending. In addition, direct grants can be seen as a form of financing. Grants can directly fund the development of climate mitigation projects, but they can also be used to provide technical assistance in the form of planning, project design, ongoing consultation, or other means of promoting the successful completion of a project.

## Structural and process proposals

Over the past several years, there have been several high-profile proposals and initiatives seeking to increase climate financing to the Global South. Among these are:

- The Finance for Climate Action Report of the Independent High-Level Expert Group on Climate Finance [5];
- The Bridgetown Initiative, convened by the Prime Minister of Barbados [7] [8];
- The Independent Review of the MDB's Capital Adequacy Frameworks, prepared for the G20 finance ministers [9];
- The Innovative IFI Operating Model for the 21st Century, emerging from the dialogue efforts of the San Giorgio Group [10];
- The Summit on a New Global Financing Pact, convened by the French government [11].

21. This categorization follows that of CPI per its Global Landscape of Climate Finance 2023, but omits some small categories identified in that source. Additionally, households include family offices, but this is not expected to represent a substantial share of climate finance related to household spending on assets for their own use.

Because each of these proposals or initiatives includes multiple mechanisms that may deliver increased climate finance, and because these mechanisms overlap among the various proposals, it is preferable to focus the assessments on these mechanisms directly.

## **Mechanisms to increase financing flows**

From a review of the proposals listed above, several mechanisms to increase climate financing to the Global South emerge. Among these are:

- Increasing market-rate lending
- Increasing concessional lending
- Increasing private investment
- Increasing government grants
- Increasing technical assistance
- Focusing on country and sector platforms rather than projects
- Developing dedicated revenue streams to fund climate mitigation projects

These are not exclusive. A financing package may include one or more of these components. Efforts in one area may complement or reinforce efforts in another (e.g., grants “mobilizing private finance”). And there is more than one way to accomplish each of these aims. However, each of these are discussed in turn with a view towards answering the first question posed in the Introduction, namely “how effective can this mechanism be?” Note that some of the high-profile themes, such as the increased use of the International Monetary Fund’s (IMF) Special Drawing Rights (SDRs) or reform of MDBs can be seen as tactics in pursuit of these mechanisms and will be addressed as such.

It is worthwhile to note that central bank financing does not play a significant role in the proposals cited above and therefore is not a subject central to the review in this paper. Central banks have, however, acted to address other global crises in the past, from ensuring low interest rates in the United States during

World War II to extensive quantitative easing and emergency lending programs in response to the corona pandemic. In light of the existential threat of climate change, central bank financing should perhaps be a bigger part of the ongoing discussion. There is some difference in the position of major central banks on this topic, with the European Central Bank more keen on action and the United States Federal Reserve less so. [12]

## **Increasing market-rate lending**

Market-rate debt from all sources represents a significant share of climate mitigation financing in the Global South. With Global South sovereign debt yields into the double digits and debt service costs three times greater in Global South national budgets than in developed countries, the use of market-rate debt contributes significantly to these countries’ rising burdens. [13] [14] It is beyond the scope of this paper to attempt to assess how much more market-rate debt Global South countries can take on. Combining the observation that that numerous Global South countries are already in distress or at risk of distress due to their debt burdens and the fact that climate mitigation in these countries is nowhere near the level it needs to be, it is clear even without such a quantitative analysis that market-rate debt is likely to be less effective than other options, and so is not considered further here.

Many of the structural proposals cited above call for increased lending from development banks. In this context, it is important to note that the majority of lending from development banks is market-rate debt. [15] In light of this fact, in assessing those proposals it is important to pay attention to the degree to which additional lending would be market-rate or concessional.

## **Increasing concessional lending**

Concessional lending was a mere 11% of all climate finance during 2021/2022. Even in the least developed countries, i.e., those least likely



to be able to take on market-rate lending, only 28% of all climate financing came in the form of concessional loans.<sup>22</sup> [4]

On the basis of debt service considerations alone, it would clearly be easier for Global South countries to take on concessional loans than market-rate loans. If the amount of concessional financing available can be increased, this should be a more effective mechanism to increase financing for sustainable transportation development.

Concessional lending can come from several sources, but currently comes primarily from multilateral and national development banks.

Several of the proposals cited above call for increasing lending from MDBs. A set of steps for accomplishing this is articulated in the Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks, and many of these same ideas have been repeated elsewhere by others. [9] This review made 17 specific recommendations, which are too numerous to recount one-by-one in this paper. In summary, the key conclusion is that MDBs are unnecessarily conservative in their lending decisions. These recommendations call for increasing the risk tolerance of the banks by allowing for more lending on the basis of their existing capital as well as increasing the amount of callable capital and guarantees to the bank provided by the shareholder governments.<sup>23</sup> In theory, this may expose shareholder governments to more risk and therefore may not be universally palatable. But to the extent that shareholders can come to agreement on these points, additional lending would be possible at either market or concessional rates. Estimates of the amount of financing permitted by these adjustments currently stands at USD 200 billion over 10 years, or an average of USD 20 billion per year, but could ultimately be higher. [16] Unfortunately, this is only a modest increase over MDB's current

climate finance (USD 93 billion in 2021/2022).

Notably, the recommendations in this report represent a multiple-prong approach to working within the amount of regular paid-in capital already committed to the MDBs by their shareholders, rather than calling for shareholders to provide additional paid-in capital. Actual paid-in capital is a relatively low compared with callable capital. At the World Bank Group's International Bank for Reconstruction and Development, for example, paid-in capital is USD 7.5 billion compared to USD 52.6 billion in callable capital. Even a modest increase in paid-in capital can enable significantly more lending. It is estimated that an increase in capital of USD 32 billion would allow increased lending of USD 100 billion per year. Such a commitment would be a relatively small amount in the context of the Global North shareholders' financial capacity and has been called for by the mainstream Brookings Institution and the Independent High-Level Expert Group on Climate Finance. [17] [5] Providing more paid-in capital is certainly more straightforward than implementing many of the recommendations of the Independent Review.

The Bridgetown Initiative has also called for increasing concessional lending. One mechanism that has drawn interest is their proposal to use International Monetary Fund's (IMF) Special Drawing Rights (SDRs) as capital to enable additional lending. In the initial Bridgetown proposal, the concept was to establish a new Global Climate Mitigation Trust to be funded with up to USD 500 billion in SDRs, which would be used to attract an additional USD 3–4 trillion in private financing. In contrast to other IMF trusts, loans would be made to projects rather than governments, so that additional debt would not appear on country balance sheets. [7] [18] This mechanism seems to have disappeared from the most recent Bridgetown proposal (titled Bridgetown 2.0). [8] In the latest iteration, the call is to re-channel USD 100 billion in SDRs to

22. A figure for the proportion of concessional finance to the EMDEs specifically is not available in the sources examined but can be deduced to be less than 28% based on other figures provided. Note that 42% of financing provided to LDCs is in the form of grants.

23. Callable capital means amounts that are committed by shareholders to be provided to the banks if the banks call on that capital, but which is not already provided to the banks.

two existing IMF trusts, which would provide concessional loans to countries. It is not clear how much additional concessional lending this would equate to on an annual basis, as this would depend upon how much other capital can be leveraged and how quickly debts can be repaid so that the original capital can be recycled.

The concept of using SDRs to increase concessional lending has the support of Nobel-prize winning economist Joseph Stiglitz, who has proposed allocating the proceeds from USD 300 billion in SDRs per year to the Global South.<sup>24</sup> [19] This proposal far exceeds the scale of the Bridgetown Initiative proposals, and would make a significant dent in the financing needed in the Global South. Notably, the total amount of SDRs currently allotted is USD 935 billion, and thus this proposal might fundamentally alter the position of SDRs in the international finance system. [20]

## Increasing private investment

There is significant private investable capital in the world. The total market capitalization of all publicly traded stocks and the total outstanding principal in global bond markets each exceed USD 100 trillion on their own, and substantial investable capital exists in non-traded equity and debt instruments. [21] [22] This outstrips the total amount of current annual climate finance by a factor of more than 200:1. The Glasgow Financial Alliance for Net Zero has stated that more than USD 130 trillion in private capital is committed to “transforming the economy for net zero.” [23]

These amounts are substantially greater than what is available from current public resources. As a rough estimate, consider that the aggregate gross domestic product of all countries together is approximately USD 100 trillion [24]. Applying the median OECD country general government revenues as a percent

of GDP, which is approximately 40%, implies that that total government resources across all use categories is approximately USD 40 trillion per year. [25]. Financing the full climate finance needs of USD 10 trillion per year from purely public sources would require a sea-change in the political will of wealthy countries. Seen in this light, it is no wonder that many are calling for increasing private climate financing.

The call for private finance is now new. But private finance has not yet delivered for the Global South. By and large, private climate is a purely domestic: 91% of all private climate finance was domestic, with the lion's share in the Global North, and most of the international private climate finance stays in the Global North. In 2021/2022, the annual private climate finance flowing to the Global South was only USD 15 billion, or just 28% of total international climate finance. [4]

As mentioned above, different private financing sources have varying interests. Within the scope of this paper, we can consider two categories: corporations financing the development of their own activities and commercial financial institutions seeking earnings on loans. For each of these, we can consider those based in the Global North and those in the Global South. The pairing of these categories and geographies yields four distinct private sources to consider.<sup>25</sup>

With regard to corporations in the Global North investing (via equity) in the Global South—either in services that are currently in the public domain or by displacing incumbent local private operators—the following section describes why this is not desirable and therefore it is not considered here.

With regard to commercial financial institutions in the Global North investing in the Global South, we can consider either fully private transactions or those paired with private or philanthropic money, i.e., blended finance.

24. This specific deployment of SDRs—whether directly allocated to these countries or channeled through loans from the IMF or other institutions—is not clear.

25. Philanthropy is another private source but is, and will likely remain, relatively small.



The World Economic Forum and the Organization for Economic Cooperation and Development define blended finance as “the strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets.” [26] A more specific definition, and one that is more closely aligned with the purposes of this paper and with available reporting on amounts of blended finance spending, comes from Convergence, a network of investors. This definition is “the use of catalytic capital from public or philanthropic sources to increase private sector investment in developing countries to realize the Sustainable Development Goals (SDGs).” [27] Note that the figures for private climate financing provided above encompass both blended finance and private-only finance arrangements, and so are larger than figures cited here relating to blended finance specifically.

The key element of blended-finance proponents’ proposals is that public finance is used to “de-risk” private financing. This means that the risks of the private capital are lowered, enabling higher aggregate returns, while the public sector takes on more risk, effectively subsidizing the private sector’s gain. A more extensive description of blended finance mechanisms is provided in the following section, which deals with the impact of private interests on sustainable transition. This section is limited to assessing the effectiveness of blended finance for delivering funding based on its track record.

Convergence reports a significant recent downward trend in both the number of blended finance deals for climate, which reached a peak in 2021, and the total value of climate financing arranged through such deals, which reached a peak in 2018. The peak value of climate financing deals was USD 13.7 billion in 2018. In 2022 USD 5.0 billion was recorded, and in 2023 (through October), just USD 2.1 billion was recorded. Of the amount of blended finance devoted to finance in 2021, 75% was at market rate and the fraction that came from private sources was just 32%.

Clearly, blended financing is currently delivering

very little. That is not to say that public or philanthropic funding cannot in some cases leverage significant private funding. But the current approach, and its mix of financing sources and forms involved, are not working.

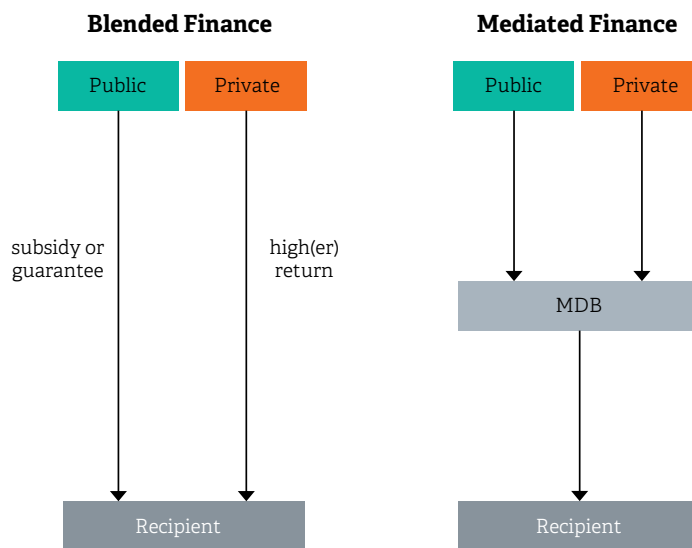
If the de-risked mechanisms of blended finance aren’t working, it seems unlikely that full-risk lending from Global North financial institutions would work. Therefore, we can judge that private finance from Global North financial institutions is not a promising possibility.

With regard to either corporations or commercial institutions in the Global South investing domestically, it is reasonable to imagine that amounts dedicated to climate finance could increase. The additional barriers that Global North finance providers see—elevated risk compared with financing in their own countries—should not exist. However, the pool of available capital is lower than in the Global North. Moreover, to the extent that materials or equipment needed for a transition to sustainable transportation are purchased on global markets at global prices, their relative affordability in the Global South may present problems. This could be mitigated to some degree by grants from public sources that offset this cost differential, as discussed more in the following section. An additional element that may promote investment by Global South financial institutions would be the institution of allocative credit requirements, wherein governmental incentives and/or mandates would result in the flow of additional domestic financing to climate goals. [28]

Two additional observations regarding private finance are worthwhile to make.

First, the definitions of blended finance and the tracking of blended finance described above, and the calls for MDBs to use public money to “mobilize” more private capital, are somewhat limited in scope. As described more fully below, government subsidies have played a large role in spurring purchase of electric vehicle by private parties, but are not captured in these concepts,

**Figure 2**



although they are quite relevant and have likely resulted in substantial private capital investment.

Second, the largest source of private funding made available for climate financing covered by the scope of this paper does not seem to be acknowledged in the literature reviewed as private funding. This is funding channeled via development banks, as indicated in the schematic shown in Figure 2. Although development banks are labeled as public sources in this paper and in climate finance discussions generally, the public shareholders' capital is only a fraction of their assets. The largest portion comes from bonds issued by the MDBs, a significant portion of which are held by private investors.

It may be more valuable to focus efforts on these proven pathways for pulling more private financing into climate mitigation projects than arranging financial transactions with a direct private debt component.



## **Increasing government grants**

Grant funds can be helpful in promoting sustainable transport in several ways. One significant way in which government grants have been used is to subsidize the purchase of low- or zero-carbon vehicles, which are in general more expensive than ICE vehicles. Grants can also provide initial funding for the planning and development of projects in the form of technical assistance as well as in defraying the costs of putting financing transactions together.

In 2021/2022, governments provided a total of USD 30 billion in grants for mitigation across all sectors of the economy. Of this, the lion's share, or USD 26 billion, was in the form of domestic subsidies for the transport sector. This means that very little was government grant funding was made available internationally for transport.

Subsidies for the purchase of battery-electric vehicles has been shown to be very effective across a range of settings. While representing only a modest component of total spend on such vehicles, they have been deemed to be responsible for driving 50% of demand for such vehicles. [29] Therefore, it is reasonable to expect that increasing government grants for the acquisition of low-carbon vehicles in the Global South can be effective. Assessing the extent to which Global South governments can provide this funding is beyond the scope of this paper, but it is certainly true that Global South governments have fewer resources available to work with than Global North governments. Channeling Global North government grants to transport operators in the Global South may be a very cost-effective manner of promoting a transition to zero- or low-carbon fleets.

In the circumstance that such public funds are subsidizing a private commercial transport operator in replacing fossil fuel ICE equipment

with low-carbon equipment that it otherwise would not replace, or would not replace with low-carbon equipment, such subsidies can be regarded as leveraging private finance.

## **Increasing technical assistance**

One of the themes that recurs across several of the proposals cited above is the lack of “shovel-ready” projects for climate mitigation overall. The costs of the conceptual development of such projects and arranging the financial transactions themselves are cited as barriers. This perception may be driven in part by the complexity of energy transition projects. The development of rail and some public transit projects can also be complex.<sup>26</sup> Proposals have been made that MDBs support this work directly and that public or philanthropic grant money be used to support this work. As a standalone item, this will not address the funding gap, but to the extent that funds are available but not being deployed because of these obstacles, increasing this type of technical assistance should be helpful. Such processes are best if they draw on workers' expertise. This can be secured by establishing tri-partite consultation models involving governments, workers, and the private sector.

## **Focusing on country and sector platforms rather than projects**

Much financing for climate mitigation to date has been arranged on a project-by-project basis. This has been criticized as resulting in excessive overhead costs. This has also been criticized because it does not necessarily lead to a coherent sector- or country-wide transition to lower CO<sub>2</sub>e emissions. As a result, although the concept is not new, attention to country platforms has increased recently. The increased interest has come from the G20 Eminent Persons Group and announcement

26. On the other hand, simple acquisition of zero- or low-carbon vehicles in road transport is likely not so complex.

of several Just Energy Transition Partnerships (JETPs) with significant finance commitments. [30] [10]

Simply put, a country platform is a government-led partnership that brings together multiple stakeholders to engage in long-term planning that can generate a coherent set of linked or complementary projects. Included among these stakeholders are the parties that can deliver financing over the long term, including developed country governments, development banks, and private financing sources.

It is certainly reasonable to expect that a successful country platform might result in a faster and smoother transition, reduce overhead costs relative to a project-by-project approach, and strengthen relationships among stakeholders. This is not to say that such an outcome is guaranteed, nor that the underlying interests of all stakeholders will be addressed to their satisfaction.

As it regards enabling additional financing flows, country platforms seem to have promise. The issue of the impact of private financing in such projects, in particular as it relates to balancing of stakeholder interests, is addressed in the following section.

## **Developing dedicated revenue streams funneled to the Global South**

Carbon taxes and emissions trading schemes are additional mechanisms by which revenue can be raised and targeted to climate finance.

There are approximately 30 carbon markets operating around the world, which collectively raised approximately USD 65 billion in 2022. [31] The most developed markets, which have the broadest scope and the highest unit pricing and therefore dominate revenue collection, are

in the Global North. The largest of these is the European Emissions Trading System (ETS), which raised USD 41 billion in 2022. Of this amount, 76% was used for climate and energy purposes. [32] These markets are generally expanding in scope with steadily increasing unit pricing for emissions allowances. As such, revenue should continue to increase until emissions are reduced to a sufficient degree that demand at auction decreases significantly. There is a carbon trading market written into the Paris Agreement (Section 6.4), which is being developed but is not yet implemented, and which should be accretive to the existing arrangements.

At the same time, there were approximately 45 carbon taxes in force around the world, which collectively raised approximately USD 30 billion in 2022. Until recently, revenues from carbon taxes have exceeded those from trading systems, but trading system revenues surpassed that from taxes in 2021 are expected to continue to grow.

In the case of taxes specific to transportation, this paper considers two possibilities, a maritime tax and an aviation tax. The International Maritime Organization and maritime stakeholders are in active discussions about raising carbon revenue from shipping operations, with the key options being various form of a carbon tax or an emissions trading system. Total revenues raised are estimated to be USD 40 – 60 billion per year. The bulk of revenues would likely be used within the maritime system for climate mitigation purposes. [33] In aviation, development of possible carbon taxes has not proceeded as far. However, rough estimates of potential revenue, or at least an upper bound to such revenue, can be developed. Total airline emissions were approximately 1 gigaton CO<sub>2</sub> prior to the pandemic. At a ballpark carbon price of USD 100 per ton, in line with the price levels regarded as necessary to reduce carbon emissions across the economy generally, an amount of USD 100 billion could be raised per year from such a tax applied globally. However, this is not likely in the near



term. First, that level of pricing has only been achieved in four instances to date, and even if taxes were applied in certain jurisdictions, they would likely be implemented at a lower level initially. With annual revenues of approximately USD 800 billion per year, this would imply a 12.5% increase in ticket costs. In contrast to maritime shipping, in which sales are business-to-business and in which marginal price increases may not be highly visible to end consumers, air travel is purchased primarily by end consumers who would see this price increase directly. Such an increase may therefore be difficult for elected leaders to enact. [34]

A key question is how the funds from new taxes or trading systems would be used and whether any substantial amount of funds could be made available for climate mitigation in the Global South. The bulk of carbon emissions overall, and from these targeted transportation modes, corresponds to the Global North, and it is likely that the majority of such revenues would remain there. However, it is possible that agreements could be reached that would channel some of these revenues directly or indirectly to mitigation projects in the Global South. Although taxes and trading systems do raise revenue, there are concerns that their impact on actual emissions reduction does not measure up to their goals. [35] In any case, it seems likely that the amounts that could be channeled to the Global South will remain only a piece of the puzzle and their utility in achieving sustainability is not fully clear.

## Summary of assessments

The foregoing analysis provides the following key takeaways:

- Increasing market-rate lending has limited upside potential. Concessional lending has more upside, if commitments for capitalizing the loans and financing the concessional elements can be found in the Global North.

- Directly invested private financing from the Global North has simply not materialized on any significant scale. Without significant changes in the approach to leveraging this finance, this is unlikely to change. Moreover, discussions about increased mobilization of Global North private capital are focused on direct financing arrangements, ignoring the fact that a significant amount of private capital is already intermediated by development banks.
- Private financing from financial institutions or corporations in the Global South could potentially deliver significant financing but may require subsidies in the form of grants to make these investments attractive.

On the basis of these assessments, the following positions could be adopted to promote a rapid increase financing available to the Global South for a transition to sustainable transportation:

- The primary existing channel for channeling private Global North money to the Global South, namely via bonds issued by development banks, the proceeds of which are then provided in the form of loans, should be favored over direct financing from the Global North private sector to the Global South. Therefore, efforts to enable development banks to increase their financing should be undertaken, leading with the simplest option, direct capital increases from shareholder countries in the Global North.
- Participants in the financing system should not waste precious time trying to insulate private investors in the Global North from risks associated with direct financing of projects in the Global South in order to create opportunities for higher return. This has not worked out so far on any meaningful scale, and there is no good reason to make the efforts to arrange more complicated multi-party transactions with additional de-risking strategies when there are proven mechanisms

available that already provide modest return to the private investors.

- In contrast, encouraging domestic financing from the Global South private sector is worthwhile. Unlocking this funding by making sustainable technologies cost competitive with fossil fuel incumbents, for example by providing grants to cover the difference, should be promoted. This funding could come in the form of direct grants, export subsidies, or other mechanisms.

An unavoidable question related to all these points is whether Global North governments are willing to put up the additional financing—whether in the form of capital allocations to MDBs, financing concessional components of loans, or providing grants—to realize these gains. The proposals reviewed in this paper are generally constructed within the bounds of a fixed money supply and fixed government budgets. Historically the greatest crises have been addressed outside that framework, with muscular Keynesian approaches taken to tackle the Great Depression, the recovery from World War II, the global financial crisis, and the corona pandemic. That the mainstream discussion about climate finance does not at this time include serious consideration of expansive fiscal and monetary policy steered toward climate needs is concerning. Without increased commitment of Global North governments in one form or another, it's not clear that any of the mechanisms discussed above can work on scale.

There is, of course, a moral dimension to consider in assessing these proposals. Climate change is a problem created by the Global North. Whether market-rate or concessional lending is used, or if Global South capital is needed to finance sustainable transport instead of other needs, or if Global North capital finances—and then owns—sustainable transport in the Global South, all result in the Global South paying the price for a problem it didn't create. The role of Global North government funding—how much is available and how it is deployed—is critical to addressing this dimension.

# 4. PRIVATE FINANCE AND DEMOCRATIC CONTROL

## Effective democratic control

The concern behind the second question posed in the Introduction arises from experiences wherein the introduction of private capital into sectors of the economy that have previously been the domain of the public sector has led to job losses, deterioration in working conditions and quality of services, or other disruptions in communities. In the case of transport, examples have been detailed elsewhere by ITF. [36] In the context of international finance, extraction of economic value from the Global South (i.e., economic colonialism), is an additional concern.

Recognizing the significant gap between the amounts needed to finance a transition to sustainable transport and the amounts the public sector has been willing or able to devote thus far, alongside significant and growing calls for bringing more private capital to the table, it is worthwhile to consider under what conditions the (potentially) negative impact of private capital can be avoided or mitigated. To that end, ITF has formulated the concept of effective democratic control, which is identified not merely as the presence of formal public control of (partially) privately financed projects, but more importantly by the outcomes achieved through that public control. The two key outcomes of effective democratic control are that (1) economic value is fairly shared; and (2) fundamental labour standards, including principles of social dialogue and just transition, are ensured and decent working conditions prevail.

## Fair share of economic value

To address the first outcome defined by the ITF, it is necessary to come to an understanding regarding the term fair, i.e., what a fair share of the economic value created would be. Considering the two limiting cases of risk-free and full-risk investments is helpful.

First consider what is termed risk-free investment, i.e., bonds issued by the governments of developed countries. There is a well-established market for such debt with significant demand from private sector investors. With this in mind, consider the situation in which a private sector investor makes a loan to finance the development of a rail line in a recipient country in the Global South with a yield similar to that of the risk-free rate, and a developed country public sector entity guarantees that loan. In this situation, there can certainly be a transfer of economic value from the recipient country to the private sector investor, but it is the least transfer possible outside of explicitly concessional arrangements.<sup>27</sup> There is also a potential shift in economic value possible between the developed country and the developing country, but the flow of economic value can only be from the developed country to the developing country in this instance. In the context of modern capital markets, it would be difficult to term this situation as unfair to the recipient country. (It is noted that financing delivered through development banks is roughly analogous to this situation, albeit with the extra layer of the development bank as an intermediary.)

27. The recipient country would pay interest at the risk-free rate and return the principal at the end of the loan term. Depending upon the rate paid and the amount of interim inflation, the economic value transferred from the recipient country to the investor could be either positive or negative.



Now consider full-risk investment by the private sector. There is, in theory, a market-rate cost of capital for investments that depends upon the nature of the project (including geography) and the form of financing provided, whether debt (market-level interest rates) or equity (market-rate cost of equity). If a market is functioning well, the difference between these market rates and the risk-free rate corresponds roughly to the additional risk of default or failure by the recipient. Over multiple projects, the amount of value returned to investors is, on average, marginally above amounts returned in the risk-free scenario above. This is an idealized sketch of how capital markets work, and it is possible that investors may indeed generally receive greater returns. That said, as demonstrated above, there is essentially no private investment from developed economies into the Global South for low-carbon transportation modes, so it is not necessary to be

concerned with extraction of excess economic value by the private sector through the means of full-risk financing at this time. There may be private investment in the future, but it is unlikely that there will be a rapid shift from having no such financing at all to a significant degree of such financing. It is therefore more relevant to consider other mechanisms involving private financing instead.

The concerns about unfair distribution of economic value correspond to financing positioned in the space between these two limiting cases. It is indeed possible that risk-mitigation schemes could result in even higher returns to private investors than full-risk investment. This is, however, precisely the space in which ongoing climate finance discussions relating to private finance are focused, and therefore it deserves attention.<sup>28</sup>

**Table 2: Private finance forms and level of influence on labour**

Form	Nature of private influence
Direct private ownership and operation (i.e., partial or full equity) on open market (e.g., road freight)	Anything within (enforced) legal and regulatory bounds. Private influence increases with share of equity.
Private operation of services under concession from public authority (e.g., metro rail concession)	Anything within (enforced) bounds of agreement with responsible public authority, which may be influenced by private interests at the time of project inception or during the lifetime of a project.
Full-risk direct private debt to a public operator	Private influence may be exerted prior to origination of finance, e.g., as a condition of loan. Additionally, ownership may transfer to private hands in case of default.
De-risked direct private debt to a public operator	Similar to full-risk direct private debt, but lower risk levels and the presence of other (N.B. public sector) actors in the financing may reduce the level of private influence prior to origination. De-risking mechanism may mean the assets are less likely to be transferred to private owners in case of default or may lower the risk of default itself.
Indirect private debt (i.e., intermediated by a public entity such as a development finance institution)	Indirect but historically substantial influence, e.g., influence on policies of intermediating entity.

28. It might be possible to perform an analysis of (the relatively small set of) such investments and determine what rates of return private investors have received, but this is well beyond the scope of this paper.

## Potential influence of private finance on labour

It is worthwhile at the outset to distinguish between the presence of private financing and the impact of private financing: private financing is not private ownership, and it does not imply a specific degree of private sector influence. Different forms of private financing can be associated with different levels of private influence. The following list presents a hierarchy of private financing forms from the highest level of private influence to the lowest, with a description of the nature of control:

### Private finance in transportation in privatized transport modes

Privatization of public transit has been a longstanding concern among labour unions and transit advocates because of associated job losses and deterioration in working conditions and quality of service. The same issue has been a concern of labour unions regarding energy transition as well. [37]

It is important to recognize that the threat from new private financing is not the same across all transportation modes. The threat is much higher in public transport than it is in shipping, aviation, and road freight services. First, in these subsectors, essentially all services are currently provided by private operators using privately owned ships, planes, trucks and vans. Second, whereas the development of new public transit or electricity generation and distribution infrastructure involves a small number of large projects, the acquisition of new equipment in shipping, aviation, and road freight services may involve many relatively small expenditures, each corresponding to one new (or retrofitted) ship, plane, truck or van. Therefore, fleet renewal does not require the commitment of large sums up-front, which often coincides with the type of systematic restructuring that can lead to wholesale displacement of workers. Rather, it

can be spread out in the form of incremental equipment acquisition over multiple years. Third, the people operating cars, buses, trucks, trains, and airplanes can generally do so regardless of power source. If retraining is needed, it should be relatively modest in most cases and therefore the acquisition of new equipment does not per se implicate the same types of threats to workers or communities as a public-to-private transition of infrastructure or large service providers might.

As would be the case for any other fleet renewal in the private sector, private financing is a natural source for the private operators to acquire new zero- or lower-carbon equipment. It is worthwhile to note, however, that the costs associated with acquisition of zero- or low-carbon equipment are likely to be higher than fleet renewal using fossil-fuel equipment even into the medium-term. As such, there may be a need for subsidies or lower-cost financing to achieve a transition in these modes of transport in the Global South. Note that these subsectors implicate roughly one-third of the total amount shown in Table 1 above.

More than half of the spending needed to finance a sustainable transition in transport, however, is related to the rail and urban transport subsectors. In these subsectors, private financing may be more concerning, and the following sections of the paper are therefore relevant to those subsectors.

### Assessment of selected mechanisms, processes, and structures involving private finance

With the general observations above about private finance in mind, specific examples can be assessed.

**Blended finance.** Convergence identifies four common forms of blended finance. [27] In each, private capital and development funding are

distinguished, with development funding coming from either public or philanthropic sources. These are:

- Private capital is senior equity or debt, development funding is first-loss capital.
- Private capital is regular debt or equity, development funding provides a guarantee or insurance on below-market terms.
- Private capital is regular debt or equity, development funding provides technical assistance.
- Private capital is regular debt or equity, development funding covers transaction design or preparation.

In all cases, the development funding is intended to be a de-risking mechanism that makes participation more attractive to private capital. In the first two forms cited above, the de-risking mechanisms are explicitly financial in nature. Such mechanisms may position the arrangement between the risk-free and full-risk scenarios discussed above. As such, careful consideration of the terms in each specific case would be necessary to determine the likelihood that the project results in a fair share of economic value. In the last two forms, the de-risking mechanism is not explicitly financial. The private investor is not explicitly protected by these mechanisms, but the development funding is used to (attempt to) make the project or the transaction more likely to succeed, and to do so without additional up-front or ongoing cost to the private investors.

To the extent that blended finance arrangements involve an equity portion, there is risk of both unfair distribution of economic value and of harmful private influence on labour. Such arrangements fall into Categories 1 and 2 in Table 2.

Blended finance arrangements that involve only private debt but not equity may fall into Categories 3 or 4 in Table 2, depending upon their structure. They therefore represent an improvement relative to blended finance involving equity, but the degree of private influence on labour and the sharing of economic value will vary depending upon the precise structure of the transaction and terms agreed to

by the recipient. Although it would be possible, in theory, to design a blended finance transaction that achieves the same level of protection of effective democratic control as public finance mechanisms, there is a heightened risk for all blended finance mechanisms. Therefore, any proposed projects utilizing blended finance should be reviewed carefully. With regards to the transfer of economic value away from the Global South, such an arrangement would fall between the risk-free and full-risk scenarios and so any proposed transactions should be reviewed carefully.

**Public-Private Partnerships.** Public-private partnership (PPP) is an umbrella term that encompasses many arrangements for the delivery of public services or infrastructure by a private party. In general, a public sector entity sets the terms of a project, floats a tender, and makes an award to a private party to undertake specific activities over specific time period. These activities are often some combination of building and operating infrastructure or operating services, with the ownership of any infrastructure remaining in public hands. These services are often operated on a fee basis with the general public as a customer base and therefore seen as a concession arrangement. Some consider simple service contracts as public-private partnerships as well. A PPP does not necessarily involve sustainable development or climate finance, as it could relate to building and operating a hospital, toll road or prison.

In the context of this paper, PPPs would mainly relate to operating public transit or rail systems on a concessionary basis, or possibly building and operating such systems. These are examples of private operation of a public service and therefore fall into Category 2 of Table 2, and therefore have significant risk to labour unless sufficient protections are built into the contractor with the private operator.

**Just Energy Transition Partnerships (JETPs).** The emergence of the first JETP (South Africa) at COP26, followed by announcements of (potential) JETPs in several other countries, has led to significant interest and a high profile. As implied by the name, JETPs aim to finance a transition to



sustainable energy, not a transition to sustainable transport. The general concept is equally applicable to transportation as well as energy, and so an examination of what has occurred in the JETPs thus far is worthwhile.

As explained in the previous section of this paper, in theory a JETP is a country platform which brings together various stakeholders to develop a comprehensive plan—and financing—for a transition to sustainable energy. JETPs do not necessarily bring any new financing mechanisms to the table, but they have the potential to put national governments in the lead, give workers and communities meaningful input, and form enduring partnerships with external finance providers including private funders.

In some circles the JETP in South Africa has been heavily criticized. Criticisms include (1) that the plans developed would not supply enough generation capacity in a country that already suffers from energy poverty; (2) that the restructuring of the energy market by separating generation from transmission is not actually necessary to achieve a transition to sustainable energy; and (3) that it does not do enough to preserve jobs of current workers in the energy generation sector.

The first point is not directly relevant to the topic of this paper and so will not be addressed here.

Regarding the second point, an analogy to transportation exists in public transit and especially in rail. Some countries have transitioned from monopoly public rail (whereby the government both owns the rail networks and provides services) to a restructured system in which infrastructure ownership and service provision are separated and a competitive market for service provision has been established. This can likely be credited to the neoliberal perspective of the governments adopting these changes and the influence of private operators seeking to make profit in a newly created market. This is not a necessary outcome of a sustainable transition, either in energy systems or transportation, and

the existence of a country platform for effecting a transition (such as a JETP) should not in and of itself be blamed for such an outcome. Rather, the interests of private finance active in the system should be assessed according to the table above and addressed directly on that basis.

On the last point, the threat to jobs of the current workforce is likely not so stark in transportation as it may be in energy generation. First, the prime geography for energy generation may be different between fossil fuels generation plants and renewable facilities, the geography of transport doesn't change much, if at all, with a sustainable transition. People and goods travel between the same places regardless of how their transportation is powered, so there need not be any geographic dislocation for the workforce. Therefore, the risk to dislocation on the basis of geography is less. Second, the people operating cars, buses, trucks, trains, and airplanes can generally do so regardless of power source. If retraining is needed, it should be relatively modest in most cases. Third, in the case of a modal shift from cars to mass transit, additional jobs may be created.

The holistic approach taken by JETPs can be advantageous relative to ad hoc project development, as the embedding of Just Transition principles at a high level may create a systematic means for input from workers and affected communities. Of course, the outcome can only be as good as the process allows it to be, and so it is important that any JETP-like processes in transportation have meaningful processes for the input of workers and their representative bodies. In countries where progressive governments are in power, adoption and/or acceleration of JETP-like processes may be helpful in order to cast the mold for longer-term transitions in transport.

## Principles

Based on the foregoing, several principles that can help ensure effective democratic control of projects for the transition to sustainable transport emerge.

With regard to transportation modes that are currently the domain of the public sector:

01. It should not be assumed that a restructuring of service provision, or the creation of markets for service delivery, are necessary for a transition to sustainable transport. Rather, the starting point should be identifying ways for incumbent public providers to make a transition to sustainable transport. Where there is restructuring, the starting point with regard to the incumbent workforce should be substantially stronger than the Transfer of Undertakings/Protection of Employment processes commonly applied.
02. Private financing is best if it is intermediated by public entities, e.g., by MDBs, so that private influence remains indirect and transfer of economic value is not unfair.
03. In the case of direct private debt finance, guarantees or other de-risking mechanisms that reduce public influence or risk of unfair transfer of economic value should be examined closely.

04. No equity, or at least no majority equity shares, from private investors should be allowed without significant legal and/or contractual protections for workers.

With regard to transportation modes that are generally the domain of the private sector, the risks detailed in this section are not necessarily a greater concern under a transition to low-emissions scenario than they are already.

In general, country platforms that allow for coordination among parties and give workers and communities an effective role in shaping and implementing a transition to sustainable transport should be welcomed. Such platforms must be structured, however, to create a conscious, explicit, and transparent way to uphold Just Transition principles and address concerns related to private financing.

# 5. CONCLUSIONS

There is an urgent need to achieve sustainable transport systems in the Global South. The actions that need to be taken are understood. Unfortunately, current financing for these actions is insufficient. Across the Global South, spending on sustainable transport systems needs to increase from approximately USD 15 billion per year currently to approximately USD 550 billion per year. There is enough money available in the world, but it is not flowing to the right places.

The assessments and recommendations of this paper for the desirable and feasible means to achieve the necessary flows are summarized in the following graphic.

This figure shows the broad categories of financing sources as a crosstab with major forms of financing. The check marks and X marks indicate the relative size of the current contribution each is making to finance a transition to sustainable transport in the Global South and the green/yellow/red circles are a traffic-light indicator of their desirability as determined in this paper.

Amid the clamor and discussion on this topic, the role of Global North governments in addressing this issue is not being addressed head-on. Without sufficient financing from these governments, other financing will not materialize. With a higher level of contribution, however, there is hope of increasing funding dramatically, including mobilizing additional Global North private capital intermediated by development banks and private capital from the Global South directly.

Moreover, a just transition to sustainable transport systems can be accomplished with protection for workers and communicates. But doing so requires ensuring that the democratic control and oversight in the Global South are respected. This requires that boundaries be placed on the forms of private influence that comes with private finance.

**Figure 3**

Form of Financing	Domestic		International	
	Public	Private	Public	Private
Market-Rate Debt	✓	✓	✓	✗
Concessional Debt	✓		✓	
Corporate Equity		✓		✗
Grant	✓	✗	✓	✗



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