OILCHANGE INTERNATIONAL

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PRIVATE FANTASIES PUBLIC REALITIES:

WHY PRIVATE FINANCE ISN'T DELIVERING AN ENERGY TRANSITION AND THE CASE FOR PUBLIC SECTOR LEADERSHIP

This report was researched and written by Bronwen Tucker and Claire O'Manique with contributions from Camilo Rodriguez and Kelly Trout. It was edited by David Gray-Donald.

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All monetary values in this report are stated in United States dollars (USD) unless otherwise stated.

Design: paul@hellopaul.com
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Oil Change International is a research, communications, and advocacy organization focused on exposing the true costs of fossil fuels and facilitating the coming transition towards clean energy.

Oil Change International
714 G Street SE
Washington, DC 20003 USA
www.oilchange.org

EXECUTIVE SUMMARY

Governments agreed to "transition away from fossil fuels in energy systems in a just, orderly, and equitable manner" and rapidly scale up renewable energy and energy efficiency at the UN climate negotiations in 2023.[1] This report takes stock of our current progress in financing the just energy transition and finds we are not yet seeing anything near the scale, distribution, or quality of funding needed (Figure ES-1). This is despite the fact that a just energy transition is dramatically more affordable than continued fossil fuel dependence.

The core problem is that most governments are relying too heavily on a "private-sector first" or "de-risking" approach to financing the just energy transition – whether by choice (in the Global North) or because their options are constrained by our global financial architecture (in much of the Global South). This approach limits the role of the public sector to setting financial incentives that aim to make private sector investment in energy transition projects more profitable.

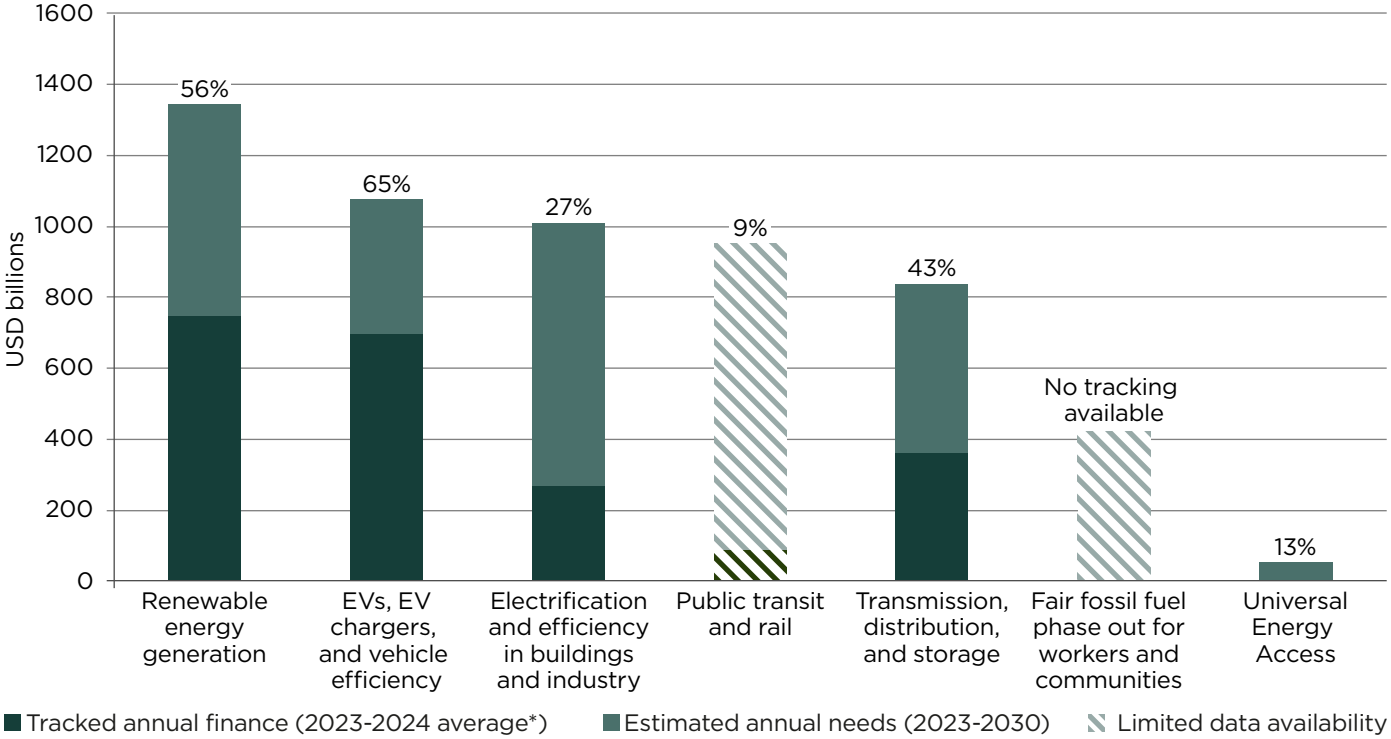
We need governments to take a much more active role in coordinating and investing in the just energy transition instead. Many of the strongest examples of financing for a just energy transition are cases where governments have already begun to prioritize industrial policy, public funding, public ownership, and private finance regulation. However, for these options to be available to all governments, Global North countries will need to pay their fair share of climate finance and stop blocking reforms to our outdated global financial architecture that are limiting many of their peers' options to act.

IN SUMMARY:

Our current approaches are not generating the scale or distribution, or quality of finance needed for a just energy transition. The largest shortfalls are in the Global South and critical sectors like grids, public transit, and fossil fuel phase-out programs.

- We saw 38% of the $5.7 trillion in global annual investment needed for a just energy transition by 2030 in 2023-2024 (Figure ES-1).
- Critical sectors like energy efficiency, public transit, universal energy access, grids, and fair fossil fuel phase out programs that are most structurally in need of public funding are the most dangerously behind. Renewable energy and electric vehicles (EVs) were the only sectors to break 50% of global annual investment needs.
- The increase in energy transition-related investment in recent years has been overwhelmingly concentrated in Global North countries and China, with the remaining 69% of the population receiving just 15% of finance in 2023–2024.
- The $420 billion per year in finance needed for a fair fossil fuel phase out[1] that we have included in Figure ES-1 are missing from all major models, setting us up for failure. This includes funding for worker and community support programs, economic diversification, and socio-ecological restoration of fossil fuel sites.

Figure ES-1: Conservative estimate of annual global finance needs for just energy transition by sector compared to annual tracked finance, USD billions



Source: Oil Change International analysis of data from Climate Policy Initiative, Civil Society Equity Review, Bloomberg NEF, and International Energy Agency. See Appendix B for full methodology and sources.

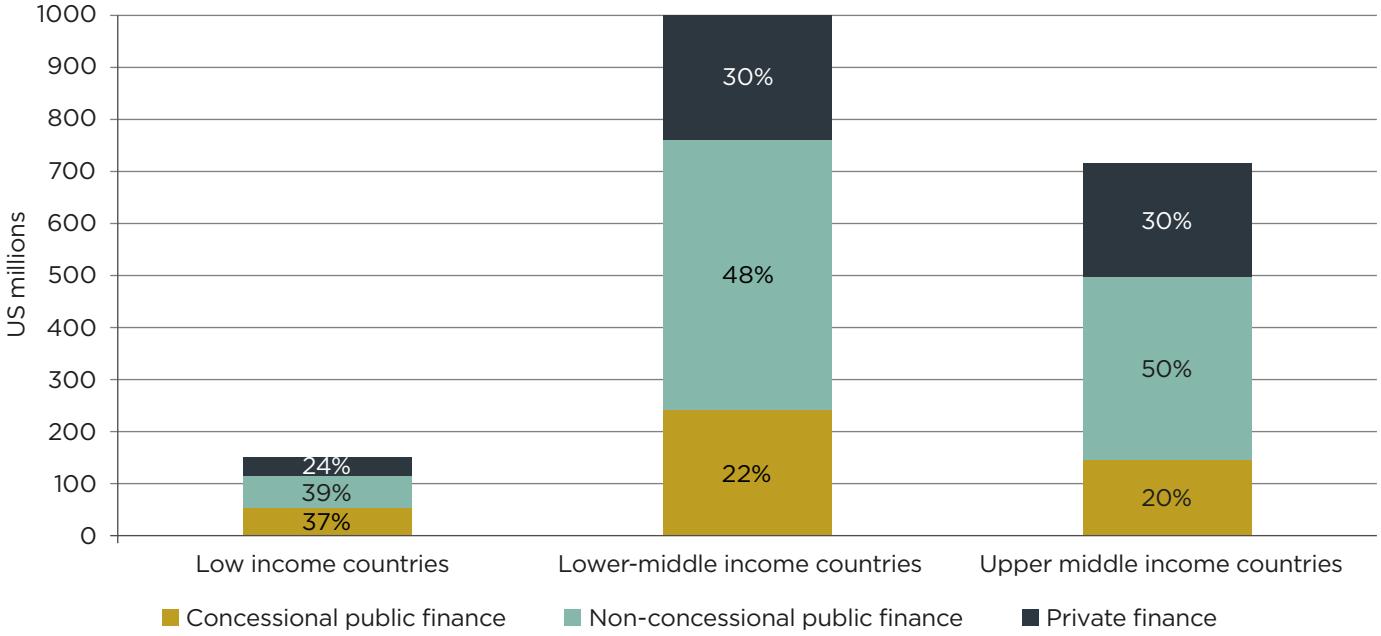
"Blended finance" is the primary solution posed to fill shortfalls in just energy transition finance in the Global South, but it is attracting 4 to 7 times less private finance than promised.

- Blended finance is where a small amount of public finance at subsidized ("concessional") rates is used to try to attract much greater amounts of private finance.
- We compiled a new dataset of blended finance transactions for energy transition projects and found that between 2015 and 2024 only 29% of the finance invested came from the private sector. In low-income countries this fell to 24% (Figure ES-2)
- Despite blended finance programs' emphasis on attracting private money, concessional public finance brought in twice as much public investment on commercial terms than private investment.
- Between 2022 and 2024, each dollar of concessional public finance leveraged only $1.12 in private investment, compared to the $4 to $7 assumed in major international policies and models that propose it as a core solution to fill the finance gaps for a just energy transition in the Global South.
- As shown in Figure ES-3, this unrealistic assumption drives a 33% ($540 billion/year) shortfall in energy transition finance by 2030 for the Global South in the International Energy Agency's 1.5 °C-aligned model, even if international public climate finance pledges are met.

A detailed, standalone analysis and methodology for our blended finance for energy dataset is available here.

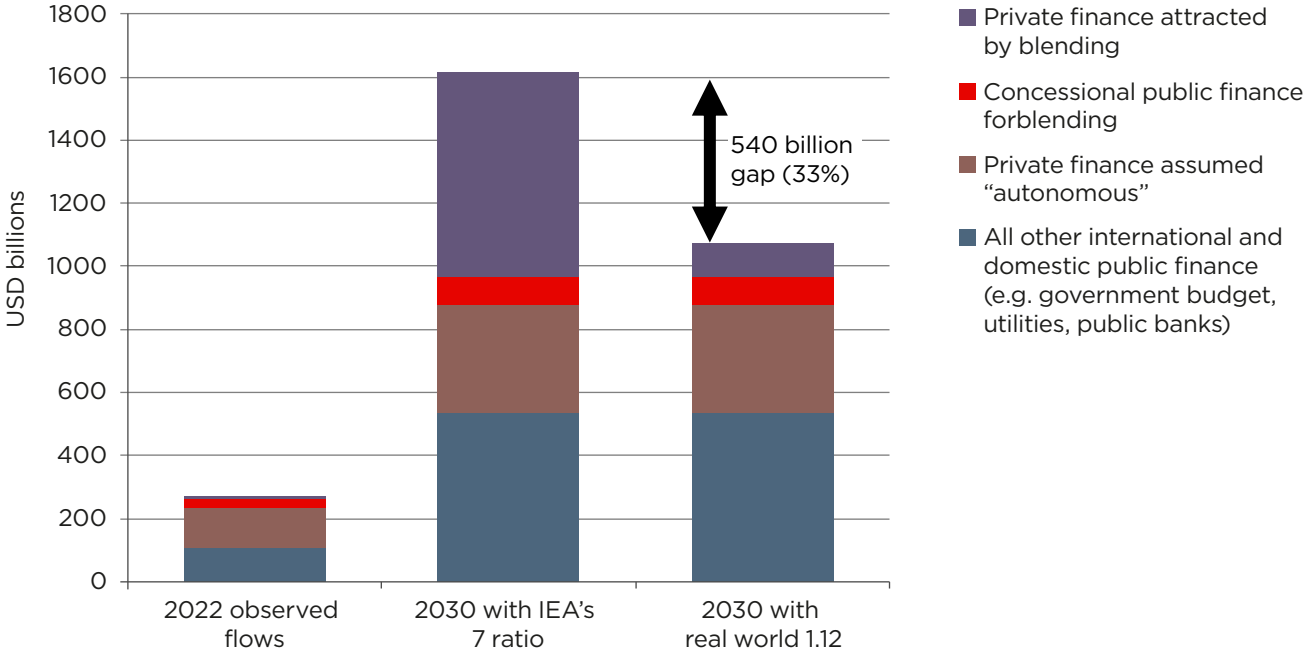
Andrew Mbewe and Gabriel Bamda holding a map showing the Community Conservation Areas in the southern section of Lukusuzi_Kasungu TFCA, ZambiPhoto Matthew Boucher for Makhulu Media/GIZa by Transfrontier Conservation Areas Southern Africa. CC BY-ND 2.0.

Figure ES-2: Blended finance for energy transition projects by country income category and finance type, annual average, 2015–2024, USD millions



Source: OCI analysis of data from Convergence© and IJGlobal

Figure ES-3: Setting up future shortfalls: The impact of modelled vs real-world blended finance mobilization ratios for energy transition finance in the Global South. Showing finance for "emerging and developing" countries without China under the IEA's 1.5ºC-aligned scenario in 2030, USD billions.



Source: Oil Change International analysis based on IEA data. See Appendix C for full methodology and sources.

The emphasis on private-sector first approaches in the Global South is locking in future funding shortfalls and worsening global debt, inequality, and cost-of-living crises.

- Major policies and models that rely heavily on attracting private finance suggest only $11 billion to $59 billion per year in public climate finance from the Global North to Global South by 2030 when measured on grant equivalent terms.
- Models relying on more realistic levels of private finance mobilization call for **4 to 29** times more grant-equivalent public finance from the Global North. Those based fully on historic equity and fully avoiding new debts call for **22 to 225** times more.
- Reliance on private sector-led approaches will continue to force many countries and communities to pay for a crisis they did not cause and risks worsening our current worst-in-history global debt crisis by setting up the bulk of energy transition finance to be delivered to Global South countries as commercial loans.
- International firms in the Global North appear most poised to benefit from blended finance, with just 33% of projects in low and lower-middle income countries between 2015 and 2024 delivered by domestic companies.

A wider "public sector led" toolkit of industrial policy, public funding, public ownership, and private finance regulation is already showing the way forward.

- Domestic subsidies provided largely in Global North countries are key drivers behind the two sectors receiving over 50% of the global annual finance needed, i.e. renewable energy and electric vehicles.
- Initial analysis suggests that for renewable energy, Global North subsidies have been able to attract 2 to 4 times more private finance than blended finance per dollar. This is because they have been provided at a long-term sector-level rather than on a project-by-project basis, given on more generous grant-like terms, and benefit from considerable cost of capital advantages.
- Much of the best progress towards a just energy transition is seen where governments are using an even wider "public sector led" toolkit, including industrial policy, public ownership, and private finance regulation, as well as subsidies. However, many Global South countries do not have full access to these tools under our outdated global finance architecture.
- Blended finance programs could be made more effective if fair cost of credit reforms are made, if they emphasize public-public finance partnerships, if they are designed with safeguards in place, and if used to build up local workforces and firms. But it is clear their use should be carefully weighed against alternatives, and that further tools are needed, particularly to cover all sectors needed for a just energy transition.

The bottom line is that governments need to take a much more active role in coordinating and investing in the just energy transition. In particular, Global North governments with the most responsibility for the climate crisis must stop blocking reforms to outdated global financial rules that are limiting many countries' options to act.

We make the following key recommendations for policymakers to set down this path:

- **Align energy finance models and plans with just energy transition pathways,** most urgently to ensure fair fossil fuel phase-out costs are included. As part of this, provide more granular tracking and analysis of blended finance and subsidies for just energy transition to better evaluate and tailor their use relative to other measures.
- **Expand green industrial policy** including public funding, public ownership, democratic planning, and regulations. This will align and dramatically scale up the efforts of regional and domestic public finance institutions, state-owned enterprises, and government departments to ensure just energy transition priorities are funded and that fossil fuel production is phased out.
- **Strengthen financial regulations to improve the impact, scale, and distribution of private finance for a just energy transition,** including ensuring the phase-out of fossil fuel finance and other harmful private flows.
- **Raise public funds for a just energy transition and other public goods,** prioritizing the over $10 trillion per year we detail in section 5 that can be raised from measures that also stop climate drivers like fossil fuels and the super-rich.
- **Pay their fair share of global climate finance,** with Global North countries providing *at least* $1 trillion per year in grant-based and highly concessional public finance for mitigation, adaptation, and loss and damage.
- **Cancel unfair public debts in the Global South** held by public and private Global North creditors, including interest, commissions and other charges.
- **Support multilateral efforts to build a more democratic and 1.5 °C-aligned global financial architecture that enables the above policies,** removing barriers to raising public finance from polluters and the super-rich, regulating private finance, fair debt cancellation, and ending lending, trade, and other financial biases against the Global South.

CONTENTS

1. INTRODUCTION: FAIR FINANCE AND FOSSIL FUEL PHASEOUT IN THE SPOTLIGHT

The science is clear: Building a climate-safe future requires an immediate end to fossil fuel expansion as well as a fair and fast phase-out of existing fossil fuel production.[2] This must be accompanied by a just transition to 100% renewable energy systems. This fair phase-out of fossil fuels and build-out of renewable energy systems is not only needed to ensure a liveable, climate-safe future, but it is also the most viable pathway to providing affordable and reliable access to energy, transportation, and housing for all.[3]

At the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) in 2023 in Dubai, United Arab Emirates, governments adopted a landmark agreement. They committed to transition away from fossil fuels and to pursue parallel goals of tripling renewable energy capacity and doubling energy efficiency globally by 2030.[4] Yet, Global North countries, which bear the largest historical responsibility for the climate crisis and the greatest latitude to shape international and their own domestic financial policies, have yet to achieve a just energy transition at home or pay their fair share in climate finance abroad.

This failure of wealthy countries to pay what they owe is a symptom of our wider economic system, which concentrates power and money in the hands of a few Global North governments, Big Oil corporations and a small financial elite.[5] They have benefited from – and set the rules for – our outdated and unfair global monetary, trade, tax, and debt rules, which are driving overlapping crises.

These crises include:

- **Extreme levels of income inequality and inflation:** The richest 1% have amassed over $42 trillion in new wealth over the past decade while more people than ever struggle to afford housing, food and other basic rights.[6]
- **The worst ever global debt crisis:** In Global South countries, an average of 42% of public spending is flowing to debt service payments.[7]
- **Continued fossil fuel expansion and escalating climate impacts:** In 2024, the world experienced 151 record-breaking extreme weather events and over 800,000 people were displaced or made homeless by climate impacts.[8] However, our current financial architecture allowed global fossil fuel finance to surpass $1 trillion in 2024, reaching its highest level since 2015.[9] Fossil fuel producers plan to extract more than double the amount of oil, gas, and coal in 2030 than is compatible with a livable climate.[10]

In response, we are seeing increasingly polarized global politics. On one hand, there has been growing pressure from social movements, civil society, and government leaders across the Global South creating momentum to overhaul this financial architecture. Changes underway or being considered include moving decision-making to democratic fora better equipped to cancel unfair debts and tax rich polluters, and rewriting financial rules to stop locking in fossil fuels.[11] These trends have also spurred more countries to pursue green industrial policies domestically.[12]

But these trends have also helped new right-wing and authoritarian governments gain power. Some of these governments are introducing new headwinds to a globally just energy transition like cuts to climate and development aid, and intense pressure to import expensive and climate-wrecking liquefied fossil gas (LNG).[13]

In this turbulent context, this report takes stock of our progress to finance a fair fossil fuel phase-out and build out a 100% renewable energy system. We assess the dominant "private-sector first" approach of governments, which focuses on relatively small incentives to attract private commercial investment (also widely known as "derisking," among other names discussed later). Far from being pragmatic, our findings suggest this approach is failing to deliver on the quantity, quality, and distribution of finance needed and that a wider toolbox with much more emphasis on "public sector led" interventions is urgently needed.

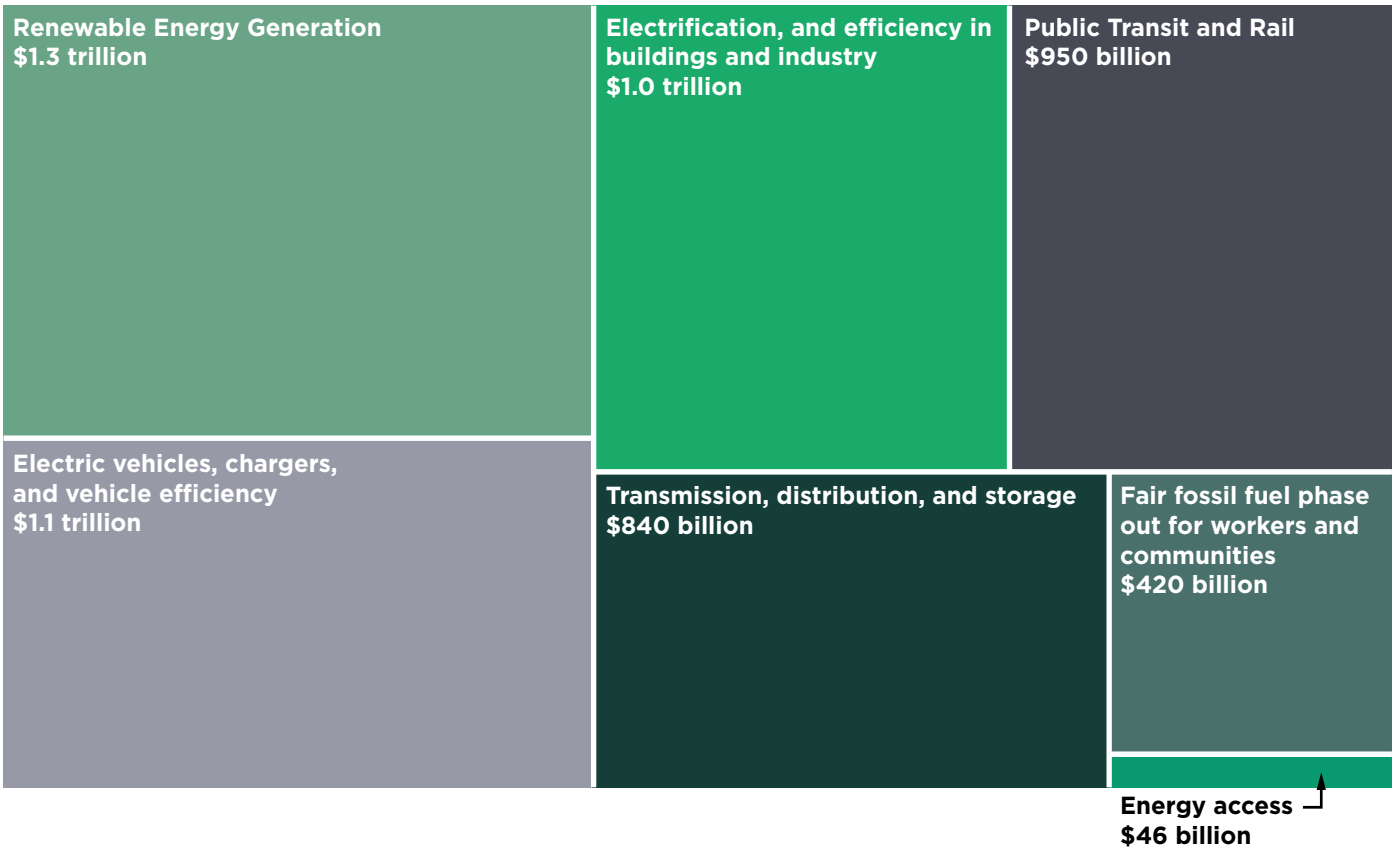
2. A BUDGET FOR JUST ENERGY TRANSITION

The label of "just transition" first emerged in the 1970s in the labor movement, as the idea that impacted workers should define and lead in the transition away from extractive industries.[14] Since then, many other labor unions and communities affected by climate change have built on this concept by developing visions, principles and policy plans tailored to their local contexts. We use these foundational documents as a basis of our approach in this paper,[15] and accordingly we define a just energy transition as the shift from the fossil-fueled energy system to a 100% renewable system that works to undo systemic economic, colonial, and racial injustices. Looking across these texts, we find the following common principles, defined more fully in Appendix A:

- **Following a fair, probable, and safe pathway to limit global heating to 1.5°C, with Global North countries moving fastest to phase out fossil fuels by 2035.**
- **Regenerative and within planetary limits.**
- **Global North countries, polluters, and the wealthy pay their fair share.**
- **Building democratic economies that prioritize well-being for people and nature.**
- **Rooted in solidarity and interconnectedness, recognizing the need for common solutions to address other economic, racial, social, and environmental injustices in parallel.**

Women at a community meeting discuss the reconstruction of their village by World Bank Photo Collection. CC BY-NC-ND 2.0.

Figure 1: Estimated annual average global energy transition finance needs in major scenarios, 2023–2030, USD



Source: Oil Change International analysis based on data from Climate Policy Institute (CPI), Civil Society Equity Review, and International Energy Agency.[17] See Appendix B for full methodology and sources. We adjust CPI estimates to include the best-available, conservative estimates of fair fossil fuel phase-out and transfer of some costs of electric vehicle expansion towards public transit and rail expansion.

Crucially, the principle of interconnectedness means there is a need for common, holistic planning for the just energy transition alongside other necessary just transitions in industrial agriculture and forestry, and alongside the build out of equitable and robust adaptation and loss and damage policies.

With these principles in mind, Figure 1 shows our best estimate of the annual just energy transition investment needs by sector, totaling $5.7 trillion per year. This is a conservative estimate given it is based heavily on using the low end of each relevant sector from Climate Policy Initiative's review of major models for energy transition finance — using the average would total 6.9 trillion (Appendix B). However, there are a number of systemic limitations and biases across major top-down energy finance models that mean they are not putting us on course for an energy transition, let alone a just one in line with these principles. We have made some small adjustments to start to address the limitations of these models laid out in Box 1 to come to our $5.7 trillion total. However, much deeper new modelling is needed to fully address these limitations, as many prominent Global South climate experts are calling for.[16]

Considering the $2.2 trillion per year in current finance for a just energy transition we discuss below in section 4a, **this leaves an estimated "just energy transition finance gap" of $3.5 trillion per year.**

BOX 1: LIMITATIONS IN MAJOR ENERGY TRANSITION FINANCE MODELS

- **Top down, with low granularity.** These finance models create global estimates, which are also very approximate by nature. There is a need for more bottom-up, in-country needs assessments that integrate national technology and policy choices, as well as worker and community-led planning for the post-fossil fuel economy.[18]
- **Locking in unequal and unsustainable levels of energy consumption in the Global North,** with per capita energy demand in most Global North countries assumed to continue to be many times higher than in most Global South countries. While many energy transition finance models set a path to universal energy access, they do not redistribute, restructure, and reduce energy consumption to the extent needed to simultaneously stay within global ecological limits and guarantee sustainable development.[19]
- **Omitting or underemphasizing the costs associated with a meaningful shift towards public transportation**, assuming levels of individual vehicle use remain similar, albeit with a shift from combustion engines to electric vehicles (EVs), especially in the Global North.[20] This is the most critical area for reaching equitable and sustainable levels of energy consumption as the extra energy use associated with individual vehicle use is staggering. U.S.-level studies find that relying on EVs to decarbonize transportation *without* pursuing increased public transit will more than double expected U.S. electricity demand and triple lithium demand.[21] Frontline communities rightfully highlight that expanding transition mineral mining at this speed and scale will unnecessarily replicate some of the harmful human rights, biodiversity, and inequality impacts of the extractive fossil fuel industry we are trying to leave behind.[22] The authors could only identify one recent global scenario with an explicit build-out of rail and public transit, which aims for a 15% per year reduction in overall transportation energy demand by 2050.[23]
- **Relying on low-probability pathways to 1.5°C that heavily deploy carbon capture and other faulty technologies that prolong fossil fuel use.** Many models do not adequately account for the feasibility constraints, harms, and equity implications of large-scale reliance on fossil-based carbon capture and storage (CCS) and various forms of carbon-dioxide removal.[24] Fossil fuels need to be phased out more rapidly than most models indicate in order to avoid gambling the well-being of people and ecosystems on measures with a track record of failure,[25] that are proven to not work at scale,[26] and that exacerbate pollution and injustice.[27]
- **Omitting the costs of measures needed for a fair fossil fuel phase-out.** Funding is needed for social protection measures to assist impacted workers and communities; skills and educational measures to promote retraining, reskilling and capacity-building for workers and affected communities; economic diversification and rebalancing to build alternative and regenerative sectors in affected territories; socio-ecological restoration; and dialogue, inclusion, and collective participation in policymaking. As with mass transit, there is only one recent global estimate available for these costs. We add this Civil Society Equity Review estimate of $420 billion per year for a fair fossil fuel phase-out to our total in Figure 1, noting that they state this is a highly conservative estimate with possible costs up to $4.1 trillion per year.[28]

There is no shortage of redistributive, polluter pays measures available to cover this $5.7 trillion in just energy transition needs, even if 100% covered by public funds. We detail the options in section 5 below. $5.7 trillion is also far smaller than the costs of continued fossil fuel dependence. The Grantham Institute estimates that direct savings from shifting to a renewable energy system could reach $10 trillion per year by 2030 as a conservative estimate, including through reduced fossil fuel investment, savings on fuel and import costs, greater efficiency, and ending fossil fuel subsidies.[29] This is before accounting for much greater indirect costs that are harder to estimate and include many unquantifiable impacts to human and natural life – including increased extreme weather events, crop failure, loss of biodiversity and nature, stranded assets, conflict and migration, and disruptions in trade.[30] Air pollution from fossil fuel and other dirty energy combustion alone caused an estimated $5.0 trillion in health costs in 2021.[31]

There are valuable critiques of defining financing gaps for achieving various global public goods *at all*, because, ultimately, prices, markets, and the distribution of resources are all shaped most heavily by government policies.[32] Rather than focusing narrowly on "raising the money," it is above all about setting policies that center collective well-being for people and nature, and addressing the power imbalances that prevent this. This is what will set us on a path to a just energy transition.

3. FIFTEEN YEARS OF "PRIVATE-SECTOR FIRST" INITIATIVES ARE NOT DELIVERING

3A. DEFINING THE PRIVATE-SECTOR FIRST APPROACH

The "private-sector first" approach that governments have overwhelmingly adopted to finance an energy transition sets out that the private sector will need to finance the vast majority of needs and that public finance can only play a small role.[33] As former U.S. Treasury Secretary Janet Yellen put it in 2021, to transition to net-zero emissions: "massive investments are needed and the bulk has to be private."[34]

The private-sector first approach is based on the core assumption that public money is both scarce and fixed. It casts private investors as the main actors to finance a just energy transition, and it says that where this fails and the private sector is not investing in the right quantities or qualities, the role of governments and public finance institutions should be narrowly focused on making investments less risky and more profitable for private investors (see Table 1).[35] We contrast this approach with a broader toolkit including private finance regulations, public ownership, public coordination, and public funding later on in Table 4.

Among other labels, the private-sector first approach has also been called de-risking, Billions to Trillions, the Wall Street Consensus, the Cascade Approach, and Maximizing Finance for Development.[36] As traced out in Table 2, major multilateral initiatives since 2009 have asserted private-sector first interventions can attract trillions of private capital to the energy transition and sustainable development more broadly in the Global South. In the Global North, this has tended to be set by domestic actors, while in many countries in the Global South it is imposed by the global financial architecture.[37] Blended finance, the use of public finance on concessional (subsidized) terms to try to attract a much larger amount of private finance, has played a particularly prominent role in this.

Chevron Refinery Fire by TheRealMichaelMoore. CC BY-NC-ND 2.0.

Table 1: The government and public finance institutions toolkit for the "private-sector first approach" to financing the energy transition, with definitions. *Adapted from Gabor (2021), OECD (2022), IEA (2022).*[38]

Type of Intervention	Key Instruments
Financial de-risking: using public funds to take on some or all the financial risks of an investment with the aim of attracting private sector investment. This can include: • **Blended finance**: the use of public finance on concessional (subsidized) terms to "catalyze important investments that would otherwise be unable to proceed under conventional commercial terms."[39] Various institutions set different thresholds for how concessional this financing should be to be considered "blended." • **Public finance at market or near-market rates:** not considered concessional but still aims to attract private finance through government-backed credit ratings, signaling of wider government norms, and larger research and technical capacity.[40]	**Project level:** loans, equity, grants, guarantees for one specific project. **Portfolio level:** syndicated loans, shares in collective investment vehicles for a collection of projects. *All can include public finance on concessional or market terms.*
Policy de-risking: domestic regulations aimed at reducing real or perceived barriers to increasing private sector investment, often by putting more risk onto governments and public finance institutions. While these can be implemented freely by national governments, in the context of international development policy, they have often been externally imposed by the International Monetary Fund (IMF) or Multilateral Development Banks (MDBs) through structural adjustment.	Common policies aiming to attract private investment include: • reforms of direct subsidies • reductions of fiscal deficits • permitting reforms • electricity market reforms • measures to lower labor costs • entering investment treaties that protect private interests from political risks.
Private-Public Partnerships (PPPs): long-term contractual agreements between governments and private companies for the private company to finance, construct, maintain, or manage infrastructure or services traditionally provided solely by governments, where there is some form of cost or ownership sharing between the public and private sector.	Common models for PPPs include build-own-operate-transfers and joint ventures.
Supporting corporate social responsibility initiatives: encouraging or directly funding joint or individual voluntary initiatives from private companies and financial institutions to increase their finance for climate mitigation or reduce the climate impacts of their operations.	Voluntary carbon markets, individual companies' "environmental, social, and governance" policies,[41] and joint commitments or club of actors to set goals jointly.

This approach is not new, nor is it limited to the energy transition. We have seen many of the policies in Table 1 become dominant across sectors since the 1980s with the advent of neoliberalism. The emphasis on the private sector has been baked into the DNA of many global financial institutions since their inception. As the World Bank Group President Ajay Banga recently wrote: "The World Bank was not born of altruism, but of strategic design. Its original purpose, shaped by U.S. interests, was to forge a global economic landscape ripe for private sector investment."[42]

In the 1970s and 1980s, the major tool in international development for attracting private investment was broad "policy derisking" to grow the private sector and increase free trade through market liberalization and structural adjustment. While these very much remain, since the 2000s there has been a growing emphasis on attracting international private investment towards sustainable development aims, including those like universal energy access and healthcare that had previously been seen as public goods not suitable for profit-making.[43] In practice, this means governments take on more risks, while the private sector receives a greater share of profits.[44]

In the context of international development finance, the dominance of the private-sector first approach has become a key tool for Global North governments to shirk and further cut their international responsibilities to provide international climate finance and official development aid (ODA).[45] As Charles Kenny with the Centre for Global Development describes it, "'Billions to Trillions' was the magic mechanism whereby donor [countries] wouldn't have to cough up more cash to deliver on the Sustainable Development Goals (SDGs) they were agreeing to, even though those goals implied many trillions in investment spending that was utterly beyond the financing capacity of poorer countries."[46]

It is important to note that many of the policy tools dominant in the private-sector first approach (detailed in Table 1) can have an important role to play in financing the energy transition. The issues we sketch out in the remainder of this report are arising because they are used at the near exclusion of approaches that would see more public finance and public sector planning (explored in more detail in section 6).

3B. THERE IS GROWING CONSENSUS THAT "PRIVATE-SECTOR FIRST" INITIATIVES ARE FAILING – BUT ENERGY TRANSITION IS HELD UP AS A POSSIBLE EXCEPTION

After over a decade of high-profile political initiatives aimed at driving private finance to development, climate, and energy transition finance priorities, the results show a trail of unmet targets. Table 2 summarizes these major initiatives, traces the rise of blended finance as the poster child of the private-sector first approach, and presents what evidence is available about their results.

Table 2: A trail of unmet targets. Tracking promises of major private-sector first initiatives to direct finance to energy transition or sustainable development more broadly in Global South countries, 2009-2024.

Initiative	Year	Description and Goal
UNFCCC COP15 Climate Finance Goal	2009	Global North countries committed to a goal of "mobilizing jointly" $100 billion per year by 2020 for both climate mitigation and adaptation on the condition that this include private sources. Roadmaps for reaching the target emphasized using public finance to mobilize private money as a key means for energy goals.[47]
MDBs "From Billions to Trillions"	2015	Joint MDB strategy to raise trillions for the Sustainable Development Goals (SDGs) by focusing their public development finance, technical advice, and policy guidance on leveraging private finance.[48]
G20 and MDB Hamburg Declaration	2017	Set a goal for MDBs to increase their private sector mobilization total of $164 billion by 25 to 35% by 2020, with a particular focus on low- and middle-income countries achieving the SDGs and meeting the Paris Agreement.[49]
Blended Finance Taskforce	2017	This joint MDB, private finance, and OECD secretariat action plan aimed to scale up the blended finance market, setting a goal for one dollar of concessional public finance to mobilize 3 to 9 dollars of private finance.[50]
World Bank Maximizing Finance for Development ("Cascade Model")	2017	An evolution of the "Billions to Trillions" strategy, this proposal secured a rare capital increase for the World Bank Group and called for a focus on PPPs and policy de-risking aimed at making infrastructure projects attractive investments to private institutional investors (e.g. pension funds and hedge funds).[51]
Glasgow Financial Alliance for Net Zero (GFANZ)	2021	A coalition of "net-zero initiatives from across the financial system," with its members committing to align their collective $130 trillion in resources to reach net zero emissions by 2050.[52]
G7 Impact Taskforce and Just Energy Transition Partnerships (JETPs)	2021	The G7 Impact Taskforce on the role of blended finance for a just transition in 2017 led to the launch of JETP funding packages to support a transition away from fossil fuels in South Africa, Indonesia, Vietnam, and Senegal.[53] They emphasize using concessional public finance to mobilize much greater amounts of private finance, with just 6-12% of the total $330 billion coming from Global North country public finance pledges. Only 4% of these public pledges are in grants.[54]
Global Gateway	2021	An initiative of the European Union to mobilize up to EUR 300 billion in commercial infrastructure investments by 2027 using $18 billion in grants for blended finance and $52 billion in guarantees, with an emphasis on supporting the "clean energy transition" in the Global South.[55]
World Bank Group Evolution Roadmap ("Bigger and Better" approach)	2022	Commits to strengthening WBG's focus on catalyzing private finance with an increased emphasis on portfolio-level blended finance, guarantees and insurance, and policy de-risking compared to earlier plans.[56]
G20 Delhi Declaration and Independent Expert Group	2023	The G20 set a goal for MDBs to triple their financing by increasing their average private capital mobilization ratio from 60 cents for every dollar to $1.20, stretching their balance sheets to grow overall lending, and pursuing more portfolio-level financial de-risking.[57]
Private Sector Investment Lab	2023	Launched by the World Bank Group and CEOs of 15 major private sector institutions, it is aimed at addressing barriers to mobilizing more private capital in low- and middle-income countries, with an initial focus on renewables and energy infrastructure.[58]

RESULTS: PERFORMANCE OF MAJOR CLIMATE AND DEVELOPMENT PRIVATE-SECTOR FIRST INITIATIVES.

- **Sustainable Development Goals and the $100 billion climate finance goal:** Investment gaps to finance the SDGs continue to grow and are estimated between $2.5 trillion and $4 trillion *annually*.[59] As of 2024, governments' views still "diverge sharply on whether developed countries have met the USD 100 billion".[60]
- **Private public partnerships:** Total PPP investments in just energy transition related sectors peaked at low and lower middle income countries peaked briefly at $34 billion in 2017 and have fallen since. Former World Bank economist James Leigland concludes that these have hindered progress in addressing infrastructure gaps.[61]
- **GFANZ:** Since the launch of GFANZ in 2021 there has been a mass exodus from the coalition. Over half of the insurance groups that originally joined have now left, as well as several major pension funds. There are just 5 of 15 North American banks remaining and 1 of 5 Japanese ones. Requirements around fossil fuel investments among others have been watered down or abandoned and the focus has shifted more narrowly to mobilizing private finance for clean energy.[62]
- **Blended finance:** Blended finance deals across all sectors remain small at only $12.6 billion a year in 2014-2023.[63] MDBs and bilateral development finance institutions (DFIs) mobilize just 75 cents of private investment in developing countries for every dollar of public finance provided. This fell to 37 cents when looking only at low-income countries.[64] A July 2024 World Bank working paper co-authored by the bank's chief economist suggests that there is little evidence that concessional guarantees or MDB participation in blended finance portfolio approaches are mobilizing additional private finance.[65]
- **Just Energy Transition Partnerships:** To date the South African JETP has received $2.5 billion of the $8.3 billion in public finance promised, and Indonesia's $1.1 billion out of $20 billion.[66] The Overseas Development Institute also finds that none of the JETPs have so far generated concrete plans for how they can contribute to the "just" element.[67]
- **MDB and DFI private capital mobilization:** The 2017 Hamburg goal to increase the total amount of private capital mobilized by 25 to 35% has been met in 2021 and 2023.[68] However, the ratios of reported MDB private capital mobilization in low- and middle-income countries have stayed relatively flat at 30-40 cents per public dollar since 2020 and below the Delhi goal of $1.20 — with a notable jump for high income countries only in 2023.[69] A UN commissioned study released in 2021 found that for every dollar committed by development banks, less than 25 cents in additional private finance was mobilized.[70]

Western Marine Shipyard Electrical Worker by zahin. hasan16. CC BY 2.0.

These lackluster results have attracted a parade of high-profile criticism of the private-sector first approach, with a Financial Times headline declaring that "the magic pony of private finance fails to fund the global green transition," the Economist calling it a "chimera," and the Centre for Global Development calling it "as reality-based as a Shrek movie."[71]

However, as the Economist notes in their article, the mounting evidence has merely resulted in a "change of tone, not of heart."[72] The new climate finance goal (NCQG) agreed at COP29 had a greater emphasis on private finance mobilization and weaker assurances of public finance provision than its predecessor.[73] MDBs, the G20, and the OECD among others have merely shifted their emphasis to guarantees, policy-derisking, and portfolio-level blended finance (this is providing concessional finance across a group of projects rather than one at a time).[74] Portfolio-level blended finance requires caution, with commentators noting international private investors they seek to attract are "structurally unequipped to finance the world's immense green infrastructure needs," and that they "cannot be counted on to fill the SDG and climate financing gaps in the short- to medium-term."[75]

Further, much of the available evidence that we have traced is general to sustainable development or climate finance as a whole. Energy transition investment is still often held up as one of the areas of sustainable development and climate finance most suited to this approach.[76] It is true that, compared to loss and damage, adaptation, or many other sustainable development priorities like health and education, more project types within the energy transition are potentially profit-generating. But this relative difference alone does not guarantee it is an effective approach. The next section provides new analysis assessing the performance of the private-sector first approach to financing the energy transition.

4. EVALUATING OUR PROGRESS ON FINANCING A JUST ENERGY TRANSITION

Despite the strong evidence and growing recognition that the "private-sector first" approach is failing in climate and development finance broadly, the energy transition is still often held up as a possible exception. In this section we provide an assessment of its performance towards achieving a fair fossil fuel phase-out and build-out of a sustainable renewable energy system, finding that it is dangerously off track on the scale, distribution, and quality of finance delivered.

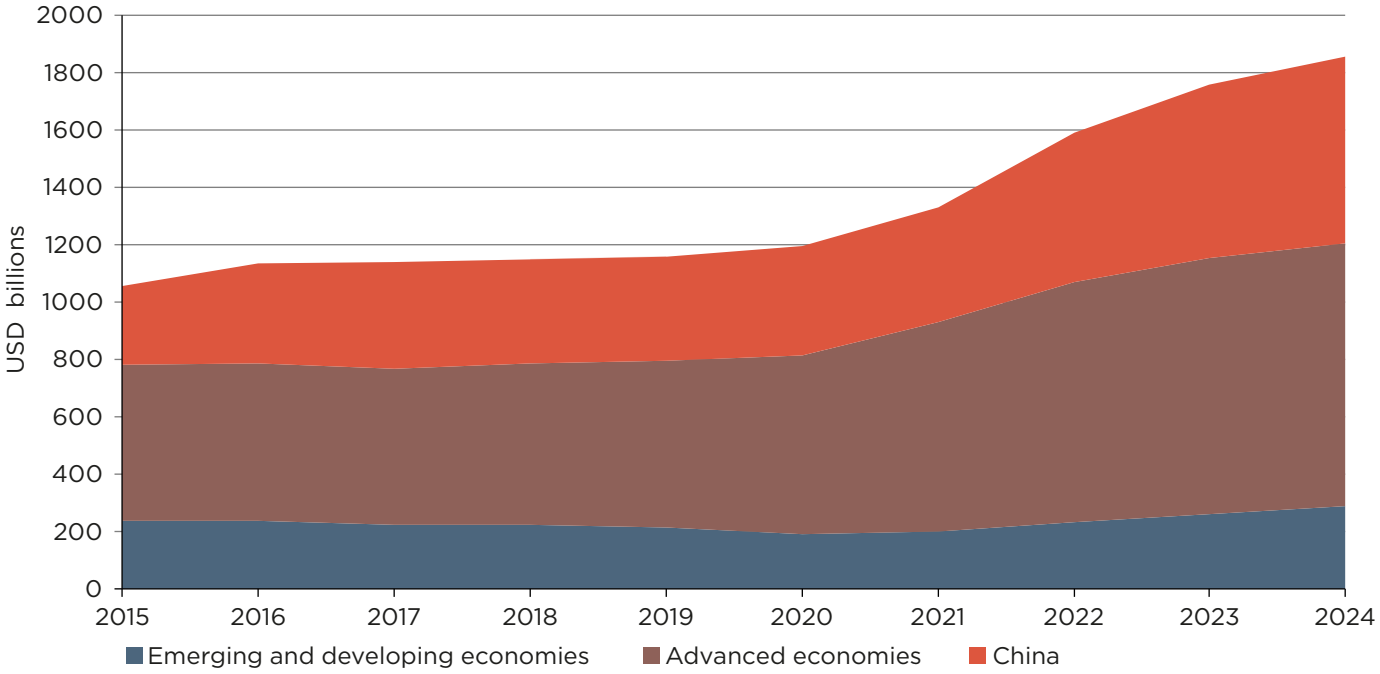
First, we look at global energy transition finance trends and the drivers keeping most regions and sectors far off track. Next, we use a new dataset of project-level transactions to assess the performance of blended finance as a key lever promoted to fill these gaps in the Global South. We then assess what the "real-world" performance of blended finance and other private-sector first tools mean for future funding shortfalls given they are central in major just energy transition policies, models, and initiatives. Finally, we consider the evidence on the impacts of a private-sector first approach on economic, social, and environmental justice.

4A. TOO LITTLE FINANCE, ESPECIALLY FOR KEY REGIONS AND SECTORS

The last four years have seen a much-needed surge in financing for energy transition, but global totals are still far off track from what is needed. We find that public and private energy transition investments reached about $2.2 trillion per year on average in 2023 and 2024, which is 38% of the estimated $5.7 trillion in annual needs across energy systems (Figure 3). This is a conservative estimate using the low end of most sectoral ranges from Climate Policy Initiative's meta-analysis of scenarios — using the 'average' estimates puts us at 32% (Appendix B).

Arne Jacobsen, Søholm I, 1946-1950 by seier+seier. CC BY 2.0.

Figure 2: Energy transition-related investments by country group, 2015–2024, USD billions



Source: Oil Change International analysis based on the IEA World Energy Investment Data Download (2024).[79] Note: We use IEA data due to the lack of time series data for the sources used to reach the $2.2 trillion total presented above. The difference is due to the narrower scope IEA uses for transport and energy efficiency. We have also omitted bioenergy, hydrogen, 'transitional' fossil fuels, fossil fuels with CCUS, and nuclear from IEA's "clean energy" totals.

These recent investments represent a major, much-needed uptick but have been contained to the Global North (called "advanced economies" by the IEA) and China, with financing levels remaining more or less stagnant in the rest of the world (Figure 2). Emerging and developing countries other than China received only 15% of energy transition investments on average in 2023 and 2024 while making up 69% of the world population.[77] This means that on a per capita basis, advanced economies are receiving 13 times more investment than those in the emerging and developing categories ($811 per person compared to $61). This flat trend of course masks different trajectories within the Global South outside of China, with some countries managing to increase their just energy transition finance, particularly larger middle income economies, while others see decreases.[78]

No energy transition-related sector is yet on track for what is needed to stay within 1.5C of warming, with only renewable energy generation and electric vehicle investments tracking above 50% of what is estimated to be needed annually (Figure 3). Grids and storage saw a dramatic uptick in 2023 and 2024, however the IEA warns that these sectors are key to support renewable energy buildout and that spending should be "moving towards parity with the amount spent on generation."[80]

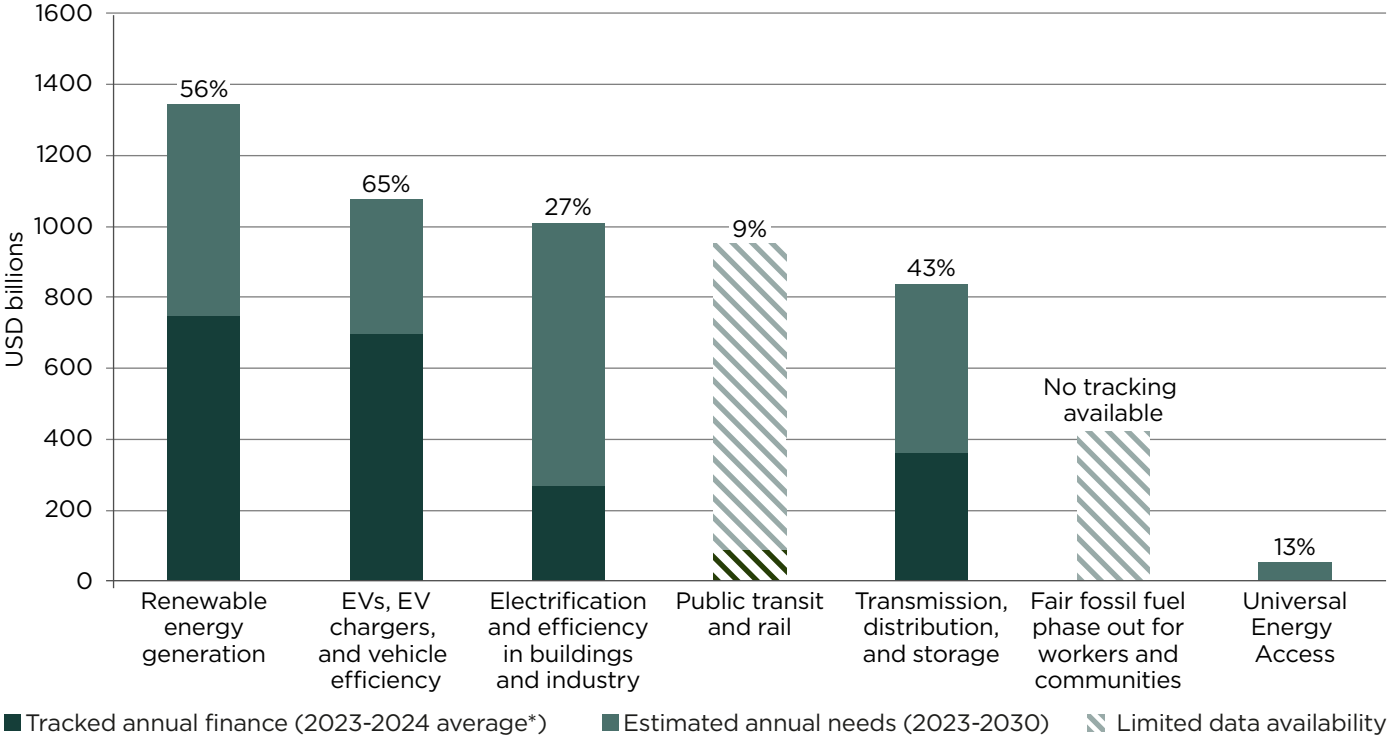
All other sectors are receiving less than ⅓ of what is needed. These are all key "enabling" sectors that will help make further decarbonization easier, cheaper, more politically popular, or are needed for just outcomes. For example, energy efficiency, electrification, and economic diversification policies (as part of fossil fuel phase-out) will make further decarbonization much more rapid and affordable. Worker support and retraining packages (as part of fossil fuel phase-out), public transit and rail, and universal energy access are all key for just and equitable outcomes and help bolster political support for the energy transition.

All of these sectors are also absent or inconsistently tracked across major global and country-level models and trackers,[81] and correcting this will be a key first step to catching up on finance.

SUBSIDIES, POLICY, GLOBAL FINANCIAL ARCHITECTURE, AND HOUSEHOLDS ARE DRIVING THE DIFFERENCES

Climate Policy Initiative, IEA, and IRENA analysis all suggest that increases in energy transition finance since 2013 have been driven roughly equally by private and public investors.[82] However, this relatively even global trend masks different trajectories where there has been growth. More of the increase in finance in Global North countries has come from the private sector and has been more limited to renewable energy generation, grids, and EVs. Meanwhile, China's finance increases have been dominated by the public sector and spread across a wider set of energy transition-related sectors.[83]

Figure 3: Conservative estimate of annual global finance needs for just energy transition by sector compared to annual tracked finance, USD billions



Source: Oil Change International analysis of data from Climate Policy Initiative, Civil Society Equity Review, Bloomberg NEF, and International Energy Agency. See Appendix B for full methodology and sources.

There are four overarching factors driving the instances where energy transition finance is scaling closer to the pace needed:

- **Sectors that are easier to structure as profitable:** Under governments' dominant private sector first approach, sectors that cannot or should not generate profits are the most dangerously underfunded (Figure 3), despite these being critical for decarbonization and ensuring just outcomes. In contrast, renewable energy generation as well as EVs have become profitable in many contexts, aided by the dramatic drops in the cost of solar and wind generation and EV costs in the last two decades.[84] However, like all industries, these market conditions are structured by government interventions, and experts are sounding the alarm that these profit margins will not be sustainable without more active government interventions — we discuss this further in section 6.
- **Household-level purchases:** As households purchase more rooftop solar, home efficiency retrofits, and electric vehicles, the share of private sector investment has grown more quickly than corporations', making up nearly 60% of the growth in energy Investments 2015 in "advanced economies".[85]
- **Government actions including subsidies, industrial policy, public ownership, and private finance regulation:** So far, subsidies are the most widely used government tool, supporting the surge in renewable energy and EV investment in the Global North in particular.[86] As we will explore more below in section 6 – these have been at a higher scale, quality, and consistency than blended finance and have had a stronger impact because of this. China's use of a wider range of government interventions has supported their progress across a greater number of energy transition sectors and we can see similar results in other sector level country cases (Box 2).
- **Economic sovereignty and access to fair financing terms:** The relative progress in the Global North stems from these factors — meanwhile, countries in the Global South operate under different degrees of financial subordination from the global financial architecture leading to higher financing costs for just energy transition projects for both public and private investors, less space in government budgets, and limits in what kinds of monetary policy they can pursue.[87]

It is clear the scale and distribution of finance is still not on track to what is needed for a just energy transition. It is also important to emphasize that even if it were, this would still be just one limited indicator of progress towards the just energy transition we define in Appendix A. The *amount* of finance flowing alone does not tell us whether the terms of finance are fair or sufficient to get what is needed built, that the benefits are shared fairly, or that human rights are being upheld among many other factors, and much further effort to take stock of these elements is urgently needed.

4B. BLENDED FINANCE FOR ENERGY IS DELIVERING "MILLIONS TO MILLIONS" NOT THE PROMISED "BILLIONS TO TRILLIONS"

Wealthy governments continue to propose mobilizing private investment as the primary means to raise needed finance for the just energy transition in the Global South, relying on small amounts of public money to attract sufficient private investment.[88]

"Billions to Trillions" has been one of the most prominent slogans for blended finance, coming from the 2015 joint MDB initiative to raise money for the SDGs (Table 2). Looking across major pledges and models from blended finance initiatives and international finance institutions, we find only somewhat more modest targets or estimates of performance than the tenfold multiplier Billions to Trillions implies. Most state that we should expect each dollar of concessional public finance to attract $4 to $7 in private finance for the energy transition in the Global South.[89]

Data and transparency are limited, so it is difficult to understand how much private finance is mobilized through private-sector first approaches, particularly at the transaction level. While past blended finance initiatives, encompassing wider development and climate aims, have a clear track record of failure in mobilizing promised sums in aggregate (Table 2), there is very little analysis to date on the efficacy of blended finance to fund the energy transition in particular.

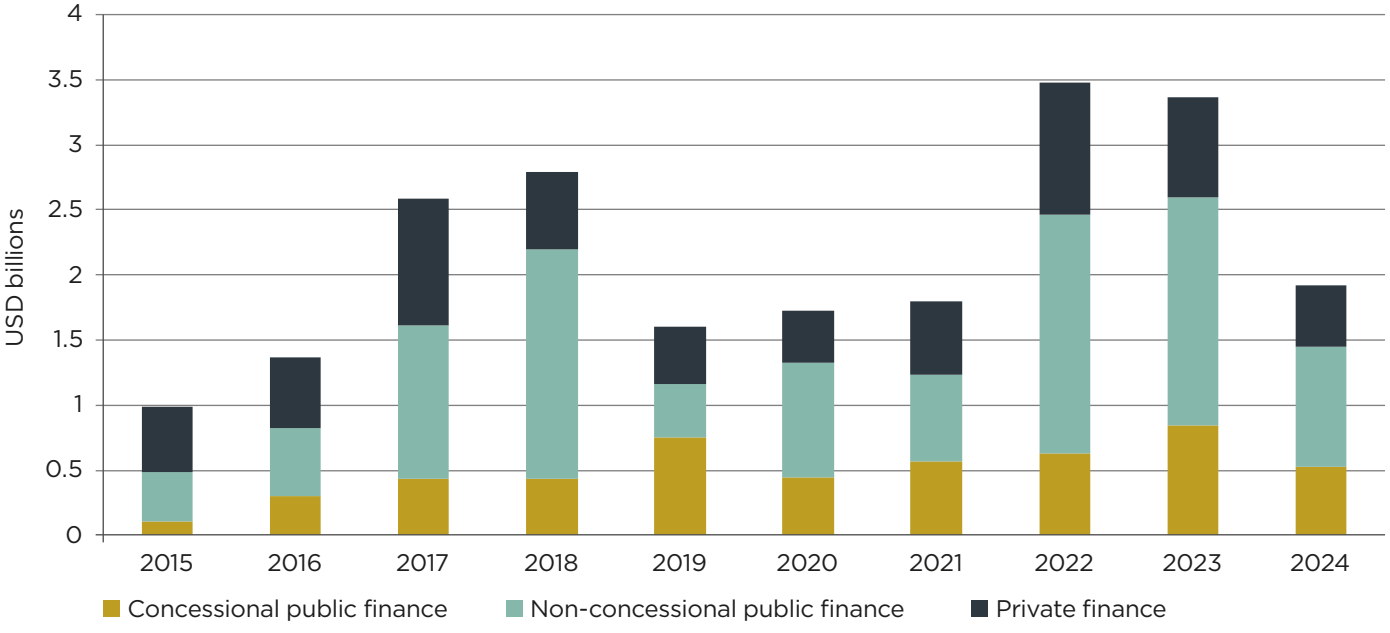
To get a clearer picture of how a blended finance approach is performing specifically for the just energy transition, we built a dataset of 162 renewable energy and other energy transition-related blended finance transactions between 2015 and 2024, based on publicly-available information and supplemented with project finance information from Convergence© and IJGlobal (See Methodology). Our dataset comes from initiatives with the specific goal of financing projects outside of the Global North and China.

Here are our key findings:

- Between 2015 and 2024 only 29% of the finance invested came from the private sector. In low-income countries this fell to 24% (Figure 4) .
- Despite blended finance programs' emphasis on attracting private money, concessional public finance brought in twice as much public investment on commercial terms than private investment.
- Our dataset comes from initiatives with the specific goal of financing projects in the Global South. And yet, just 7% of all finance tracked in our database between 2015 and 2024 went to low-income countries. None of the top 10 recipient countries based on total finance in our dataset between 2015-2024 were low-income countries[90]
- There has been no improvement in performance over time (Figure 5). Between 2016-2018, 31% of the finance invested came from the private sector, compared to 27% in 2019-2021, and 26% in 2022-2024.

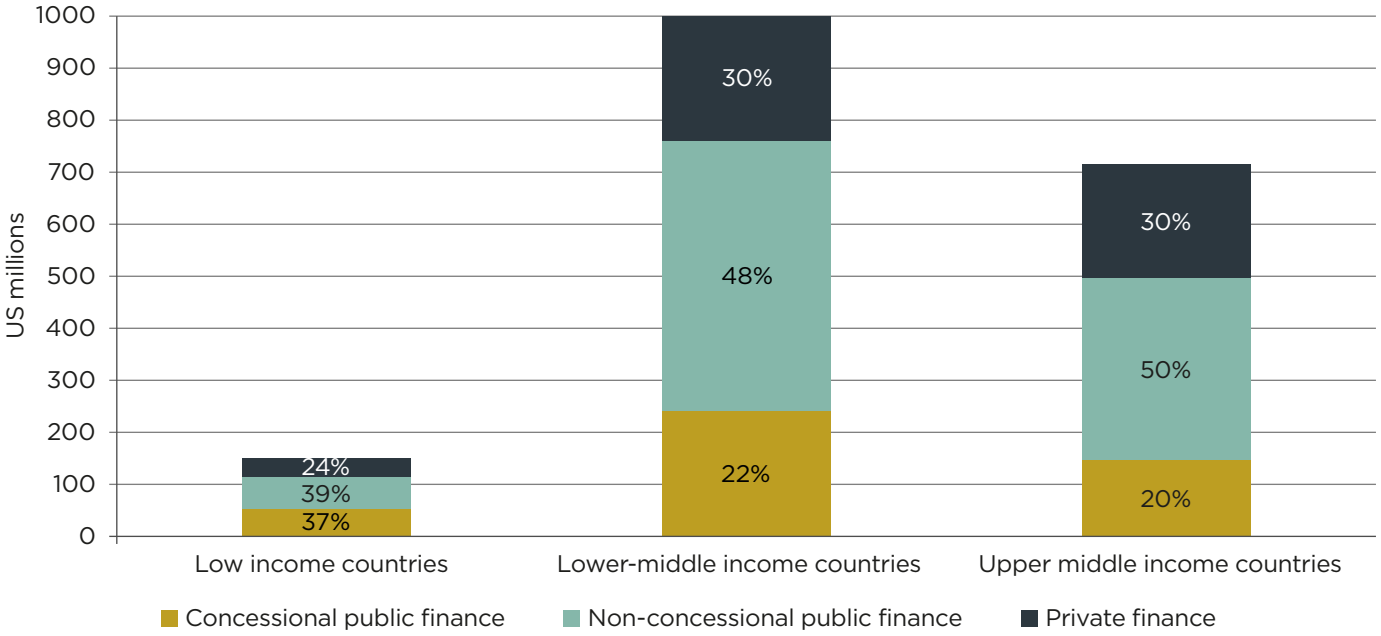
Putting this into same terms of the $4 to $7 dollars assumed in most major energy finance models and policy proposals, this means that in 2016-2018, $1 in public concessional finance mobilized on average $1.81 in private finance, compared to $0.80 in 2019-2021, and $1.12 in 2022-2024. These are all well below what is expected.

Figure 4: Blended finance for energy transition projects by country income category and finance type, annual average, 2015–2024, USD millions



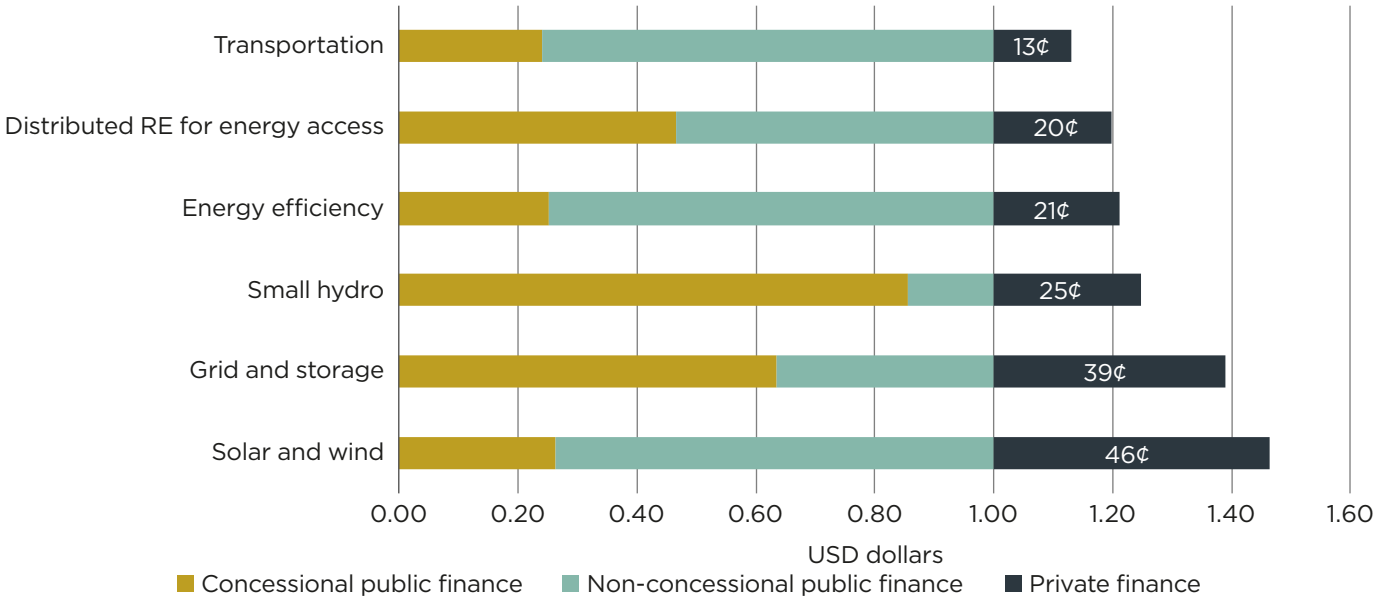
Source: OCI analysis of data from Convergence© and IJGlobal

Figure 5: Blended finance for energy transition projects, 2015–2024, USD billions



Source: OCI analysis of data from Convergence© and IJGlobal

Figure 6: Performance of blended finance projects by just energy transition sector, based on private investment mobilized per public dollar, 2015–2024



Source: OCI analysis of data from Convergence© and IJGlobal. We have only included sectors where at least 5 projects were available.

BLENDED FINANCE BY SECTOR

The majority of blended finance transactions went to renewable power generation, with wind and solar receiving 70% of all finance between 2015 and 2024. Overall, renewable power generation received at least 84% of all the blended energy finance tracked in our dataset.

As Figure 6 illustrates, the crowd-in rates of private finance for key energy transition sectors are all well below $1 for every public dollar (both concessional and non-concessional public). These roughly matched our findings for overall finance flows, where sectors that are easier to structure as profit generating leveraged the most private finance. Finance for renewable energy generation is critical and needs to be scaled up. It also needs to be accompanied by finance for these other critical sectors, such as 100% renewable-ready grids, energy storage, distributed renewable energy projects for universal energy access, housing retrofits, electrified public transit and just transition priorities like community-led economic diversification plans in low-income regions heavily dependent on fossil fuels.

Currently, these key types of public services and infrastructure are largely left out of both blended finance flows and overall energy financial flows.

The lower level of mobilization seen in low-income countries and sectors that are less revenue generating is because the primary goal of these initiatives has been

to use public funds to mobilize private investment, often at the expense of other goals, such as where there is greatest need. As a result, financing flows toward projects that offer easier investment opportunities and more secure profits for the private sector. This bias favors mature capital markets. This has the effect of diverting funds away from lower-income countries, where the cost of capital is higher, requiring greater public investment to attract private capital at competitive rates.[91] We discuss some of the economic justice implications of our blended finance data in section 4d.

We put these findings into more context in the dedicated methodology and analysis of our blended finance dataset, also highlighting that:

- The somewhat higher mobilization rates seen in 2016-2018 appear likely to be driven by the lower interest rates at this time.
- These results are similar to the mobilization rates for blended finance found by Overseas Development Institute for MDB and bilateral development finance institutions across sectors, suggesting the energy transition is no exception to the growing evidence stacking up against blended finance.
- Our analysis of a more limited number of guarantees and portfolio funds showed they performed similarly to other blended finance transactions, suggesting these instruments currently being emphasized by international financial institutions are unlikely to play a breakthrough role in attracting private finance.

Solar Schools, USAID. CC BY-NC 2.0.

4C. UNREALISTIC PRIVATE FINANCE ASSUMPTIONS ARE SETTING UP FUTURE FUNDING SHORTFALLS AND INEQUALITIES

There is too little publicly available data to adequately translate our estimated global $5.7 trillion in just energy transition investment needs into a regional- or Global South-only figure. However, the IEA, IRENA, and UNCTAD put investment needs in the Global South without China in the range of $1.6 to $2.3 trillion per year, noting that these are likely very conservative as they omit aspects of fossil fuel phase-out, energy efficiency, and transportation, and lock-in lower per capita energy consumption levels in the Global South (Box 1).[92]

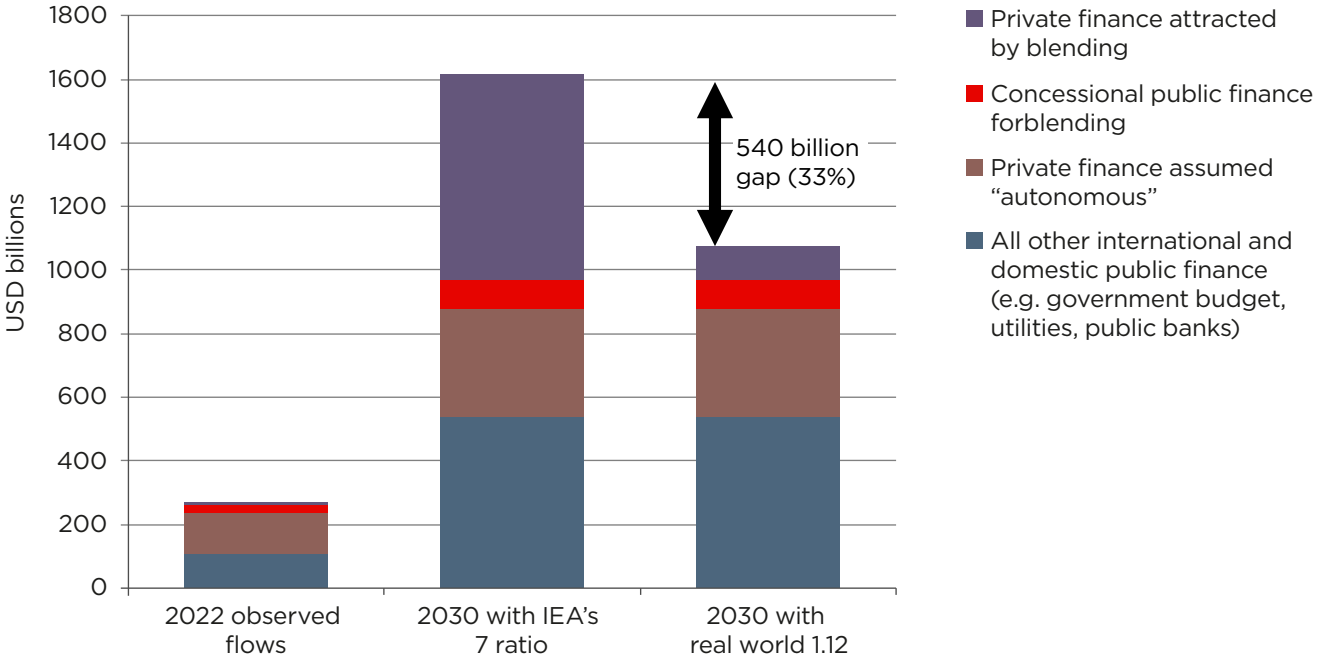
As we have detailed in section 4a, the shortfalls in funding for a just energy transition are largest in Global South countries outside of China. However, major international agreements and the energy models used to inform them continue to assume blended finance will play a leading role in filling the shortfalls and delivering the energy transition finance owed to the Global South. However, as our new dataset shows, blended finance is mobilizing 4 to 7 times less private finance for energy transition than proponents typically promise.

If blended finance continues to underperform these expectations, such agreements and models set up Global South countries for continued, massive future funding shortfalls for renewables and fossil fuel phase-out needs.

A key perpetrator of overoptimistic assumptions on blended finance is the International Energy Agency. The IEA's modelling is a key source which governments, companies, and investors rely on to inform their decisions.[93] The IEA's 1.5°C-aligned Net Zero Energy (NZE) scenario puts the use of blended finance at its core as a means for reaching the $1.6 trillion per year it estimates as being needed for energy transition-related finance in "emerging and developing economies" without China. It calls for international, concessional public finance to be "used strategically to mobilize the largest possible amounts of private capital in support of EMDE development and climate goals."[94]

The IEA assumes that each dollar of concessional public finance used for blending in these countries attracts 7 additional private dollars for clean energy investment on average in its NZE scenario.[95] If our "real world" ratio of 1.12 is used in the IEA's model instead, this wrong assumption alone creates a **funding shortfall of around $540 billion per year or fully 33% of the IEA's overall estimated needs for energy transition finance in the Global South (Figure 7).** In other words, this gap exists even if international climate finance targets are met and more than a tripling in domestic public finance occurs — both of which are far from guaranteed. The IEA's suggested target of $92 billion per year in blended finance in 2030 would only raise around $100 billion of new private finance instead of $640 billion if our real-world ratio is used in place of their 7x multiplier.

Figure 7: Setting up future shortfalls: The impact of modeled vs real-world blended finance mobilization ratios for energy transition finance in the Global South. Showing finance for "emerging and developing" countries without China under the IEA's 1.5ºC-aligned scenario in 2030, USD billions.



Source: Oil Change International analysis based on IEA data. See Appendix C for details.

UNDERMINING FAIR CLIMATE FINANCE AND GLOBAL FINANCIAL ARCHITECTURE REFORM

Table 3 shows major international energy finance proposals, using grant-equivalent terms to make them comparable and show a more realistic assessment of their value.[96] Grant-equivalence is a rough measure of the financial effort of a concessional transaction, attempting to measure just the portion of it that could be considered a grant due to favorable terms like a low interest rate or long repayment period. We find energy finance models from Global North-led agencies and international finance institutions propose just $11 to $59 billion per year of international public finance once this adjustment is made showing a more realistic estimate of financial effort is made. These low amounts are justified largely by so-far unfounded assumptions about how much private finance can be mobilized both through blended finance initiatives and the other private-sector first measures presented in Table 1.

In comparison, the annual international public investment needs for energy transition finance that see only a limited use of blended finance range from $229 to $329 billion per year in grant-equivalent terms while those that rely heavily on it This means if blended finance-reliant proposals are followed, they result in **4 to 29 times** less international public finance for energy transition than is likely needed.

Meanwhile, estimates that are based on historic equity and fully avoid new debts range from $1.3 to $2.5 trillion a year, a staggering **22 to 225 times** higher than those heavily reliant on mobilizing private finance.

Relying heavily on optimistic blended finance assumptions, Global North-led proposals set out a dramatic and rapid expansion of the private sector in the energy sector, stating this is the only viable option to meet a 1.5 ºC future. Currently, private finance makes up 52% of clean energy investments in Global South countries without China.[97] The IEA's net-zero emissions scenario sees private finance increasing to 61% by the early 2030s. In the International Monetary Fund's 2024 Global Financial Stability report, they take an even more dramatic stance, stating "public investment growth is projected to be limited" and estimating the only way for targets to be reached is for 90% of climate mitigation finance to be private by 2030. The IHLEG is more staid, estimating private sector investment in energy transition needs to reach 56% by 2030.

The IEA and IHLEG also see domestic public finance growing rapidly to meet just energy transition finance needs, albeit at less dramatic rates than they prescribe for private finance. This increase in domestic public finance for just energy transition in the Global South is more realistic than the assumed overnight switch to a privately-financed energy sector and would help ensure sovereignty and energy affordability. However, as has been emphasized by UNCTAD and the Sustainable Finance Lab, anything near this level of increased domestic resource mobilization will not be possible unless Global North countries agree to much wider reforms of global financial architecture reform than either IHLEG or IEA recommends.[98]

Table 3: International public finance needs for a 1.5°C-aligned just energy transition in the Global South, according to major international agreements and economic models

	Model or policy	Estimated annual international public finance contribution to just energy transition in grant-equivalent terms
	Current flows (2021–2022)	**$11 billion**
High dependence on attracting private finance	International Energy Agency (IEA)	**$26 billion**
	Independent High Level Expert Group (IHLEG)	**$59 billion**
	New climate finance goal (NCQG) agreed at COP29	**$53 billion**
	International Monetary Fund (IMF)	**$11 billion**
Limited dependence on attracting private finance	Global South country positions	**$229 to $298 billion**
	UNCTAD	**$329 billion**
	Climate Action Network International – technical proposal	**$239 billion**
Based in historic equity and avoiding new odious debts	Rights-based constituencies to the UNFCCC	**$1.3 trillion**
	Pacific Island Climate Action Network	**$2.5 trillion**

Source: Oil Change International analysis. See Appendix C for methodology and sources.

International Transport Workers' Federation's photo. CC BY-NC-SA 2.0.

4D. DRIVING PRIVATIZATION, ECONOMIC INEQUALITY, AND AUSTERITY

Beyond this approach not delivering enough finance, nor going to the right places or sub sectors, there are fundamental issues with a narrow use of this approach that make it not only incompatible but antithetical to a just energy transition. By largely reducing the role of the government to creating an "enabling environment" for private investment, it is overwhelmingly multinational corporations and financial institutions that dictate what gets built and where.

Beyond this, a private-sector first approach not only centers public money to mobilize private finance, but a suite of policies aimed at creating and sustaining favourable investment conditions for the private sector, at the expense of prioritizing public goods and benefits (Table 1). As World Bank President Ajay Banga emphasizes, "Private investment flows only where the right conditions exist and where there's a clear probability of return."[99] This section examines the impact of key tax, public spending, labor, and trade policies that support and advance a private sector–first investment strategy for energy transition.

In much of the Global South these policies have been externally imposed or heavily incentivized by international institutions dominated by the United States and other Global North countries, such as the IMF, and the World Bank Group.[100] For instance, the IMF conditions its financial assistance on the implementation of structural adjustment programs, effectively linking access to funding with these neoliberal reforms aimed at supporting the entry of foreign capital.[101] Similarly, the OECD requires prospective member states to commit to structural reforms, framing them as essential components of its "club of good practices."[102] In contrast, in many Global North countries, these policies have been domestically implemented, albeit often with more protections, including stronger state intervention to incubate new industries, larger subsidies, trade tariffs, and restricted patents.[103]

SOME COMMON POLICIES TO IMPROVE INVESTMENT ENVIRONMENTS AND THEIR IMPACTS INCLUDE:

- **Privatization and deregulation of energy sectors:** While recipient countries and communities need more climate finance, they should have control over how this finance flows — including what kinds of projects are supported, and how economic benefits are shared. A Bretton Woods Project review of recent World Bank Group energy transition lending contingent on policy changes found the majority of these were market-based reforms aimed at opening energy sectors to foreign investors.[104] This marks a continuation of 1990s and 2000s policies of energy sector deregulation and privatization, which the World Bank's own research suggests did not improve energy costs or energy access.[105] This approach would distribute a higher share of project revenues to private companies — rather than promoting

ownership and regulatory models that would allow either a cheaper overall transition cost by foregoing profits, or for more of the profits to be invested in public goods.[106] The profiteers are also set to be largely multinational corporations, with more than 85% of climate and environmental goods patented in OECD countries and more than 70% of global exports coming from just a few countries within the OECD (U.S., Japan, U.K. and some of EU).[107] As a further example, in our project dataset for blended finance, 59 out of the 89 projects (66%) in low- and lower-middle-income countries were delivered by companies headquartered outside of the country. We also found at least 4 projects within our database that were part of power purchase agreements where all of the energy produced would go exclusively to power the operations of foreign owned corporations, who walk away with all of the benefits.

- **Lower corporate tax rates, reducing taxes on investment income, and increasing indirect taxation, such as value-added tax (VAT).** These measures have greatly exacerbated income inequality, and they have had a limited and often unclear impact on job creation, particularly in capital-intensive sectors such as oil and gas.[108]
- **Cutting public spending to reduce fiscal deficits**.[109] This reduces funding for social policies, disproportionately affecting low-income households, Indigenous communities, and women.[110] A review of studies analyzing 79 countries between 2002 and 2008 concluded that austerity measures contributed to increased income inequality and higher poverty rates.[111] As one example, Uganda's Ministry of Water and Environment suffered a 40% budget cut from an IMF program in 2020, resulting in a decreased capacity to fund programs and enforce environmental regulations.[112]
- **Reducing labor costs:** Okun's Law suggests that lower labor costs will attract private investment, stimulating economic growth and reducing unemployment. However, several studies have shown that this relationship does not consistently hold, particularly in countries of the Global South, where structural factors resulting from our global financial architecture often limit the impact of growth on job creation.[113] Moreover, efforts to reduce wages have led to increases in labor productivity without corresponding gains in real wages for the broader population.[114] For example, labor-income share as a percentage of GDP over the last two decades has decreased in Kenya by 15 percentage points, Guinea by 11, Honduras by 10, Azerbaijan by 9, and Mozambique by 4.[115]

4E. WORSENING THE DEBT CRISIS

Global South governments and social movements are calling for debt-free climate finance and urgent debt cancellation.[116] However, private-sector first approaches entrench a model of development that rests almost exclusively on increasing the debts that Global South countries owe to Global North institutions.[117]

We are currently in the worst ever global debt crisis, with an average of 42% of Global South governments' public spending going to debt service payments.[118] Ninety-three percent of the countries most vulnerable to the climate crisis are at risk of significant debt distress.[119] These debts are unjust and born out of colonial legacies. They are a tool of ongoing neo-colonial control.[120] Most of these debts were either inherited as countries gained independence or forced upon them as they set out to build basic infrastructure and deliver critical public services.[121]

These high debt levels are directly reducing the public money available to fund a just energy transition, social services, public infrastructure, poverty reduction, gender equality measures, and other programs critical for development.

Meanwhile, the Global South is owed a major climate debt from high-income, polluting countries in order to address climate impacts, and for high-income countries' historic and ongoing role in the climate crisis. A 2021 *Nature Sustainability* study calculates that the Global North owes $5 trillion per year in climate debts to the Global South – an amount roughly **30 to 150 times** higher than what these countries are currently offering, once debt-creating finance is fairly counted (Table 3).[122]

Finally, climate disasters are also driving up debt loads and the cost of capital. As a result, climate-vulnerable countries are forced to incur new debts to address climate disasters they did not cause, and face more expensive future lending as their credit ratings fall.[123] As just one example, after Pakistan's devastating floods in 2022, where 22 million people were impacted, around 90% of the finance they received to support recovery efforts was delivered as loans.[124]

In many cases the private-sector first approach is worsening the debt crisis, which in turn also makes it harder for countries to pay for both the just energy transition and measures to address these climate impacts. This is happening in a few key ways:

- **Energy transition-related finance continues to flow mostly as loans in foreign currencies.** Most countries in the Global South are overwhelmingly only being offered more debt to finance the energy transition. Currently, 83% of international public finance for the energy transition for low- and middle-income countries flows as loans.[125] Blended finance specifically is also exacerbating debt loads. As Figure 8 illustrates, between 2016 and 2024, grants made up just $334 million, or 2%, of all blended finance tracked in our database. Non-concessional loans or equity from both public and private sources made up 71% of the finance. Countries in the Global South are also often forced to take on debt in foreign currencies which fluctuate and make repayments more costly. High debt levels contribute to economic instability, depreciate local currencies, and reduce credit, creating an environment that is even less conducive for climate investments.[126]

- **Imposing "enabling environments" to attract just energy transition finance that limit domestic resource mobilization.** As we laid out in section 4d, the IMF and many MDBs continue to include austerity measures, privatization of infrastructure, and lower corporate tax rates as conditions for loans on indebted countries. This not only has severe impacts on the poorest communities, it limits the options for governments to raise domestic public finance for a just energy transition or other public goods.
- **Continuing the "debt-fossil fuel production trap" whereby creditors push countries to extract more fossil fuels to repay debt, despite the poor track record of this approach.** The lack of finance regulations limiting fossil fuel investments has allowed public and private fossil fuel investment to continue nearly unchecked.[127] Facing few options, many Global South countries look to the extraction of fossil fuels or other natural resources to repay debts. This is often paired with pressure or explicit conditions from creditors to expand fossil fuel production in order to pay back their debts.[128] Poor fossil fuel contract terms, price fluctuations, and structural incentives to take out bigger loans following fossil fuel discoveries mean that this approach has made it harder, not easier, to address their debt burdens. A study by the Overseas Development Institute (ODI) found that countries in the Global South that have relied on oil and gas exports have been no exception to the debt crisis, seeing their debt levels rise as much, or more, than peers over the last decade.[129]

The institutions that govern global debt are dominated by the creditor countries that prioritize paying debts back over investing in development, thereby creating vicious cycles of debt and austerity.[130] This is one reason why many Global South countries are mobilizing to establish a UN framework convention on sovereign debt, which would establish an intergovernmental process where all UN Member States would participate equally to address global debt rules.[131]

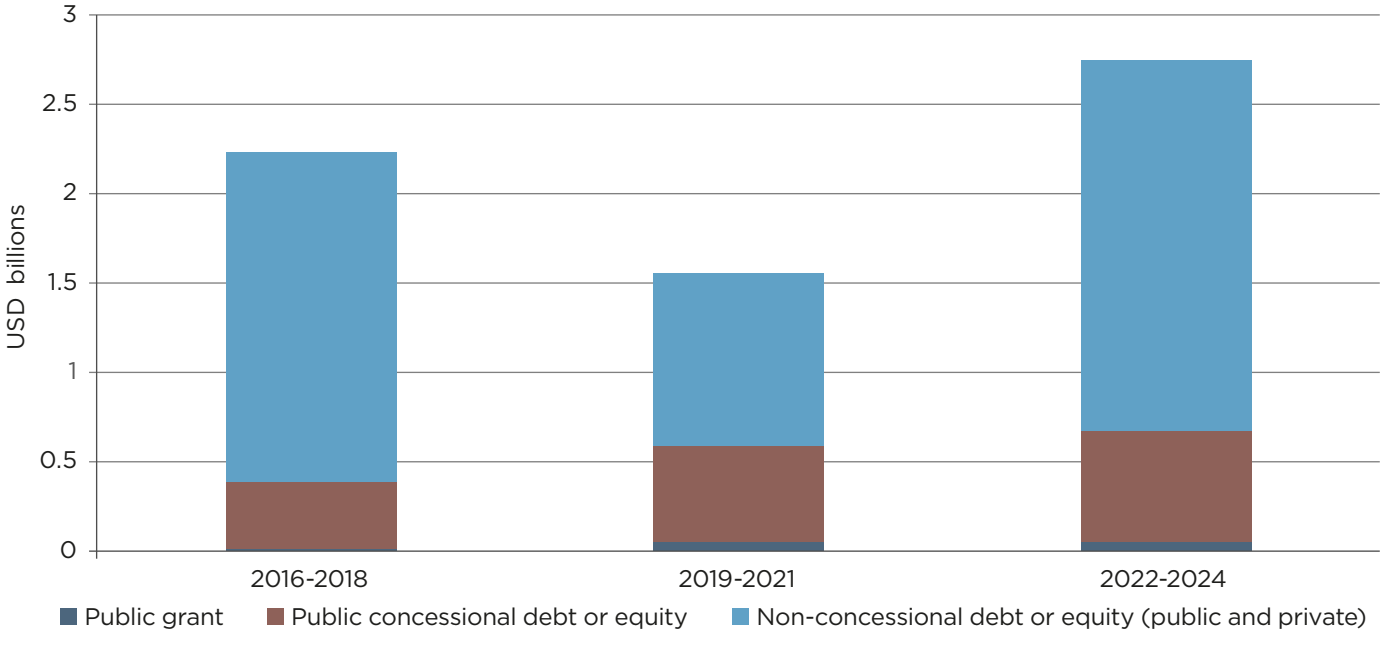
4F. LOCAL ENVIRONMENTAL AND SOCIAL HARMS

Alongside the negative consequences of the private-sector first approach in terms of debt creation, entrenching inequality, and austerity outlined above, this approach is also associated with specific local environmental and social impacts on communities and to biodiversity where these projects are taking place.

Although such impacts are not solely limited to projects funded through a private-sector first approach, this approach creates a motive to maximize profits at the expense of social benefits and protections. It creates less incentive to support important types of projects, such as gender-sensitive training and employment, or local manufacturing, which may not be profitable.[132] It also may result in harmful consequences. As described by IRENA, private finance institutions and private corporations have a "higher inclination and room to externalize social and environmental impacts."[133] In other words, they are more likely to skirt safeguards for human rights, environmental justice, and gender justice. This has resulted in violating land rights, displacing local communities, and disrupting livelihoods, among other impacts.

There are two major factors driving this: first, a stronger profit motive that heavily incentivizes cutting costs, such as community consultation, adequate compensation for damages, and environmental assessments. Second, for the multinational corporations and investors, there is much weaker legal culpability for violations.[134]

Figure 8: Grants vs. equity and debt in blended finance for energy transition projects, 2016–2024, 3-year annual averages, USD billions



Source: OCI analysis of data from Convergence© and IJGlobal.

European trade union demonstration by Joost (formerly habeebee). CC BY-NC-ND 2.0.

One example from our blended finance dataset is the Turkana Wind project in Kenya, which received grants from the Government of the Netherlands and the European Commission, as well as concessional equity from Finnfund. It also received non-concessional finance from a number of other public finance institutions, including the African Development Bank, Danish Export Credit Agency, Germany's DEG, and the European Investment Bank, among others.[135] A study released by Recourse highlighted the extractive nature of this project, including how it lacked free, prior and informed consent and community involvement, which led to a legal battle between the local Indigenous communities who were not consulted nor sufficiently compensated. This involved the involuntary relocation of a local village, higher rates of gender-based violence associated with the influx of workers, bars and hotels, the destruction of local livestock grazing areas, and increased pollution and contamination of local water.[136]

This case study also highlights a more common occurrence under privately-owned renewable energy projects, where the electricity is sold to the highest bidder and not delivered to where it is most needed. The local communities surrounding the Turkana Wind project were excluded from getting access to electricity.[137] They also were largely excluded from employment opportunities; since operation, the main job available for local community members has been serving as a security guard.[138]

Considering the evidence through section 4, it seems clear that blended finance programs could be made more effective if they emphasize public-public finance partnerships, if fair cost of credit reforms are made, and if they are designed with safeguards in place and to build up local workforces and firms. But it is also clear that their use should be carefully weighed against alternatives, and that further tools are needed, particularly to cover all sectors required for a just energy transition.

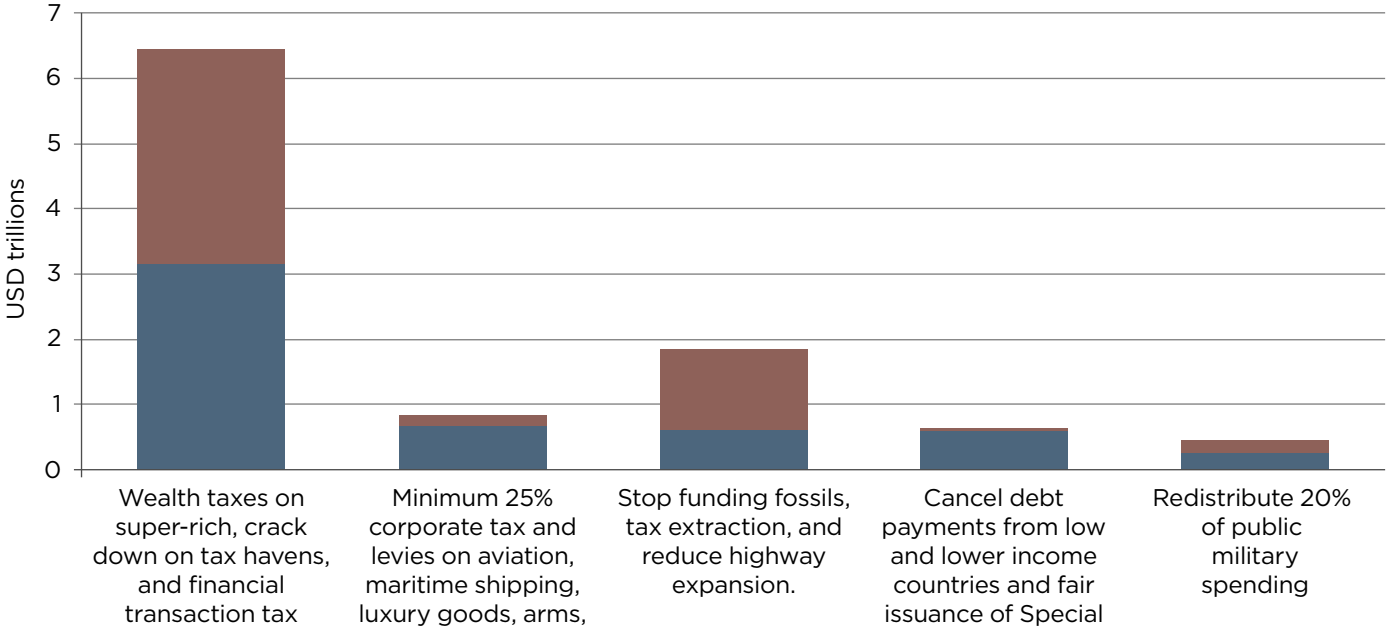
5. WE CAN UNLOCK TRILLIONS IN PUBLIC SPENDING FOR A JUST ENERGY TRANSITION AND OTHER PUBLIC GOODS

There is no shortage of public money available for rich countries to pay their fair share, on fair terms, for climate action and other public goods, both at home and abroad. Figure 8 is based on Oil Change International's *We Can Pay For It* factsheet and summarizes measures Global North governments can use to redistribute or raise an additional **$5.3 trillion per year** in public funding that would make it possible for them to take on a much greater share of just energy transition costs.[139]

Because of their outsized control in our global financial architecture, Global North countries also hold the key for many Global South countries to be able pursue many of these measures. If these unfair barriers are unblocked, a total of **$10.3 trillion per year** could be made available globally for public goods.

Alongside freeing up new public funds, these measures would have further impacts by also helping us phase out the fossil fuel sector, lessen other harmful economic activities, and reduce the capture of politics by large corporations and billionaires. There are considerable further interventions governments can pursue to both direct private finance and increase public finance, and we summarize some of these priority actions in the following section.

Figure 9: Redistributive & polluter-pays measures governments can use to raise public funds for climate action and other public goods, by annual amount by measure, USD trillions



Source: Oil Change International analysis, originally published in "We Can Pay For It,"[140] which includes detailed methodology and sources. In this case, 'Global North' countries refers to Annex II countries under the UNFCCC who bear a legal responsibility to contribute to international climate finance.

There is already momentum on a number of these proposals, including:

- A number of countries have implemented windfall taxes on fossil fuels, including the U.K., which imposed a 25% tax on oil and gas company profits, which was then raised to 35% in 2023.[141]
- In February 2025, negotiations began for the first time on a UN Convention on Tax, to replace our current patchwork system, with global, equitable tax rules. Currently, in the absence of a tax convention, countries are losing $492 billion on tax per year from multilateral corporations and the richest individuals through tax havens[142]
- There is momentum growing around establishing a UN Framework Convention on Sovereign Debt, led by the Africa Group, Alliance of Small Island Developing States, and supported across the G77.[143] The Fourth International Finance for Development Conference taking place in July 2025 is a critical opportunity to advance this process.[144]
- In 2021, 40 countries signed onto the Clean Energy Transition Partnership (CETP) and committed to end public finance for international fossil fuel projects and fully prioritize their public finance for the just energy transition.[145] This initiative is showing promise, with signatories' international fossil fuel finance falling to $5.2 billion in 2023 from $10 billion to $15 billion prior to the agreement. However, this has not yet translated to an equivalent increase in international clean finance.[146]
- In April 2025, the International Maritime Organization (IMO) approved a levy on carbon emissions, which means shipping companies will have to pay for the carbon dioxide they produce.[147] While this is a historic agreement to tax the emissions of an entire industry, it fell well short of what many of the poorest countries were advocating for, which would have raised funds to combat the climate crisis.[148]

Electricity workers by Unique koncept. CC BY-SA 4.0.

6. PUBLIC SECTOR PLANNING AND FINANCE ARE ALREADY SHOWING THE WAY FORWARD

Avoiding catastrophic climate breakdown requires rapidly phasing out fossil fuels, with Global North countries moving first and fastest, while concurrently building out a new renewable energy system. This will require economic and society-wide transformation, starting with a deep rethink of the relationship between the private and public sectors.[149]

While the private sector has an important role to play, they are not equipped to lead; only the public sector can coordinate the investments and actions needed to enable a just energy transition.[150] As economist Mariana Mazucatto succinctly puts it: "The global transition to a net-zero economy simply will not happen at the pace that is needed unless states embrace their proper role as a market maker and investor in public goods."[151]

This is often called green industrial policy: a set of government interventions geared at coordinating the transition of the economic system away from fossil fuels, while building up a low-carbon economic system that serves the public interest instead of bending to the whims of market forces.[152] At its most fundamental level, green industrial policy is about coordination and taking a holistic view towards economic development.[153] In many places where there is progress towards an energy transition it is being driven by green industrial policy — albeit with room for improvement, particularly to ensure it is just.[154]

Since 2020 there has been an increasing return to industrial policy for a just energy transition. However, this has been uneven, with more Global North countries pursuing it at home but continuing to push the private-sector first approach and austerity onto Global South countries.[155] To realize the just energy transition, all countries need the ability to pursue green industrial strategy, not just the rich ones who have outsized control over global financial architecture.[156]

It is important to emphasize that at present, far too many industrial policies — in any sector — are top-down and corporate-captured, and the success of the "public-sector first approach" will hinge on governments committing to more democratic, accountable, and equitable processes. This is not just a moral necessity, it is essential to sustaining and strengthening broad support for a just energy transition.[157] Democratic government planning for a just energy transition will not be possible without strong and interconnected social movements, including Indigenous peoples, civil society, trade unions, and frontline communities.[158]

Next, we look at some promising green industrial policies, starting with subsidies, the tool that is by far the most widely in use already, before turning to the rest of the "public-sector first" toolkit.

Table 4: High-level comparison of private-sector first vs public-sector first approaches

Dimension	Private-sector first approach	Public-sector first approach
Core strategy	Create the conditions to enable and scale up private sector investment in the energy transition	Actively mobilize and direct public resources and planning to deliver the energy transition
Role of public sector and the state	Create incentives and policies that take on risks (de-risk) and boost profitability of investments	Directly funding, planning, and shaping markets, including through regulations
Primary instruments	Subsidies, blended finance (including concessional loans, equity, and guarantees) public-private partnerships, voluntary programs.	Subsidies, public banks, public and community ownership, public-public-partnerships, private finance regulations, sectoral regulations and standards.

Subsidies are driving renewable energy and EV buildout in the Global North, but they are not enough on their own

The idea that fossil fuels gained and maintained their dominance in energy systems through market forces is a myth. Governments have been essential partners in the buildout and expansion of oil, gas, and coal, using all of the tools laid out in Table 4 and more — though rarely to democratic and equitable ends.[159] And even with the increases in subsidies for a just energy transition we are about to detail, fossil fuel subsidies continue to be much larger.[160]

Spurred by COVID-19 and the EU energy crisis, IEA tracking shows governments earmarked $450 billion a year on average in domestic support measures like tax breaks, direct payments, feed-in tariffs for energy transition-related sectors 2020-2024, nearly triple the amount committed to these sectors in response to the 2007-08 financial crisis.[161] Over 75% of this funding went to the Global North and 14% to China.[162]

This government support coincided with dramatic drops in the costs of solar, wind, and EVs and has played a foundational role in supporting their rapid recent uptake in these regions — driving further finance from households, corporations, and private investors. A 2022 Energy Policy study found that European solar capacity additions have closely tracked subsidy changes,[163] and the IEA finds that nearly 90% of future renewables growth projected between 2023 and 2028 has subsidies as their "primary driver."[164]

Data availability and comparability is a significant limitation but, given the overall data available on public and private flows, it is likely these Global North and China domestic subsidies for EVs and renewables have been able to attract more private finance per dollar than we found for blended finance in the Global South. Making a very rough comparison for renewable energy, where there is a bit more data available, this is likely somewhere between **2 to 4** times more private finance per dollar of concessional public finance.[165]

There are a few key structural differences that have made these domestic subsidies for renewables and EVs able to attract more private investment than blended finance:

- **More generous terms:** Most domestic subsidies are measures that are analogous to grants, like tax breaks and feed-in tariffs (and where they are not they are most often measured counting only the money given outright).[166] In comparison the concessional portion of blended finance is made up mostly of loans and equity where payments are still owed back to financiers once the money is disbursed, with only 7% grants (Figure 8). The low end of our range above attempts to account for this, but Oxfam and others have argued the OECD methodology used is likely an overestimate of the real 'financial effort' of this concessional finance.[167]
- **More often provided at a sector level to a variety of actors rather than on a project-by-project basis to large firms**. The international private investors that blended finance aims to attract require standard, repeatable, and large transactions, unlike subsidies which can be tailored to support household purchases, and a wider variety of project types and sizes.[168] Stable, predictable subsidies provided at the sector level are able to support the development of a workforce and firms with knowledge of local conditions.[169]
- **Deployed in countries that already benefit from significant 'cost of capital' advantages.** As discussed earlier, Global North countries can generally access private finance on much fairer terms. As a sector, renewable energy is particularly sensitive to financing costs – for example, payments back to investors for a typical solar PV plant in 2021 made up about a quarter of all lifetime project costs in the EU and US, but about 50% in large middle-income countries.[170]

This does not mean subsidies are a silver bullet for attracting private finance or securing just and equitable outcomes. As a label, "subsidy" covers a wide range of measures and their impact depends heavily on design and how they are used in conjunction with other policy tools. Reflecting this, there are multiple competing policy frameworks, each casting subsidies as part of public-sector first or private-sector first approaches (and, accordingly, we have listed subsidies on both sides of Table 4).[171]

As one example, solar in Pakistan has more than tripled from 4% to 14% of the power supply since 2021, a spike much higher than peers who also gained access to cheaper solar panels in this period. The difference has been driven by solar subsidies and IMF-imposed gas price hikes.[172] It is an impressive case study but it also serves as a reminder of the imperative to design policies and subsidies to ensure equitable outcomes. The subsidies benefited affluent households who could afford panels, and who now enjoy lower cost solar generation, while utilities raised rates further for the rest of the public.[173]

Notably, globally, subsidies for public transit and efficiency together made up about a third of the 2020-2024 surge in the new government supports that the IEA details, and available evidence suggests these have remained largely publicly-financed domains.[174] This underlines that a private-sector first approach is especially unsuited to build out these sectors.

Finally, there is considerable evidence suggesting that renewables and EVs (1) will need sustained subsidies to continue to grow at scale, and that (2) leaning more heavily on the other green industrial policy tools that we are about to discuss instead could be more effective.[175]

Looking especially at solar as the most affordable and fastest growing form of renewable energy, economist Jack Copley notes that "this sector too has followed the pattern of much of global industry: production has risen,

prices have fallen, and profits have eroded."[176] In other words, as a commodity style business, high competition makes it hard for many solar companies to sustain profits. As the IEA's 2025 World Energy Investment report notes, for solar: "declining return on investment is disincentivizing new investment." In the case of oil and gas, these dynamics have often been avoided due to coordination from the Organization of the Petroleum Exporting Countries (OPEC) or other government interventions.[177] Rather than continuing to subsidize a renewable spending boom that is having to swim against the current of the long-term global slowdown in investment, Copley suggests prioritizing public and community ownership, private finance regulation, and policy interventions more heavily instead.

BROADENING THE TOOLKIT BEYOND SUBSIDIES AND "PRIVATE-SECTOR FIRST" APPROACHES

Growing the policy toolkit beyond incentive-focused tools of subsidies and blended finance is needed to ensure the speed and scale of a buildout and to ensure just and equitable outcomes. This is true of all sectors and countries, though the exact approaches should be tailored to specific contexts. The key capacities and agencies that governments need to build up to take a more active approach to the just energy transition include:

- **Public coordination:** Our energy system requires a complete overhaul, needing huge amounts of coordination and planning of both capital and labor.[178] Switching our energy system is not as simple as switching gas plants to wind turbines. It requires a restructuring and buildout of energy grids and storage, different forms of expertise and skills to build out and maintain the infrastructure, and new land-use arrangements. The private sector is not set up to deliver these changes. Governments, held accountable by the public, are best suited to coordinate relevant stakeholders to ensure a systemic, democratic, and just approach at the core. Secondly, governments should be coordinating supply chains, mobilizing and supporting the workforce by working directly with unions to develop training programs, and directly employing workers through programs like climate corps. Finally, they are needed to coordinate research and development to ensure any critical knowledge gaps are filled, a role they have already played in developing much of today's renewable energy technology.[179]
- **Public policy:** Regulations, standards, and laws are needed to help coordinate actors and direct both public and private investments to a just energy transition. This includes governments enacting regulations to end new fossil fuel licensing and phase out existing extraction, which a growing coalition of governments have.[180] End-use energy efficiency and electrification policies for buildings, industry, and infrastructure have shown to be more effective than subsidies alone.[181]
- **Financial regulations:** Generally, monetary policy for climate has focused on setting relatively weak incentives for green investments, but we need central banks and regulators to broaden their toolkit by also introducing measures to limit fossil fuel investments. They can also take a much more active role beyond incentives by stipulating minimum investment targets for priority sectors and implementing credible taxonomies that rule out fossil fuel technologies in place of current loophole-ridden ones. A growing number of countries, particularly in the Global South, are taking steps towards these more ambitious measures, which should be duplicated and further strengthened.[182]
- **Domestic public finance institutions:** Governments, alongside public banks, can play a critical role in supporting regional planning and development by directly funding the just energy transition. Globally, public banks have assets that total over $91 trillion, and they can be tasked by governments to be "policy-maximizing institutions rather than profit-maximizing entities."[183] A growing body of research details that positive and already-widespread tools, like community consultation standards, can limit project harms and better direct funding to public interest priorities; the use of cross-subsidization to redirect profits from higher-return activities can fund loss-making public interest priorities; and public-public partnerships can encourage information sharing and collaboration between institutions.[184] Finally, green bonds are another tool that public finance institutions can use to raise private capital and direct it towards publicly owned projects, though credit rating agency biases and other global financial architecture risks mean the risks of this strategy are still too high for many smaller and lower-income countries in the Global South.[185] Compared to MDBs, domestic public institutions are better structured and equipped to keep project revenues within a country, understand the local economic and social conditions shaping priorities for a just energy transition, and they are often easier to hold accountable to community needs.[186]
- **Public and community ownership:** Governments can create public institutions to enable the transition and repurpose existing ones, like state-owned utility companies, to enable the just energy transition. Public ownership allows for coordination of investments and more holistic systems planning of the energy transition.[187] This is already underway, with an MIT study of utility firm investments between 2005 and 2016 finding public utilities made higher proportions of their total investments to non-hydropower renewables than private utilities in the same jurisdictions did.[188] Publicly-generated electricity can be delivered at lower costs compared to private energy, where profit motives often increase prices. Public ownership also provides potential revenue streams, which can be reinvested to expand other public services.[189] Cheaper energy bills and an expansion of public services will also likely increase support for the energy transition among the public.

BOX 2: GREEN INDUSTRIAL POLICY AND PUBLIC FUNDING IN ACTION

Here are just a few of many examples of governments using green industrial strategies to support the energy transition. Many of these strategies still have significant room for improvement, particularly to ensure that justice is centered in the energy transition.

- **Banco Popular,** a worker-owned public bank in Costa Rica, shows how public banks can be retooled to support a just energy transition. The bank has green facilities that are geared to community energy cooperatives, local schemes to fund low-income residential solar installations and micro-, small-, and medium-sized enterprises.[190]
- The **US Inflation Reduction Act (IRA)** significantly boosted public and household investments in parts of the just energy transition, including rural electric cooperatives, electrification and energy efficiency for households, EVs, and the postal service transitioning their fleet. But many aspects of the IRA were not in line with a just energy transition: the support measures for efficiency and transport above did not extend to renters or public transit and it continued support for fossil fuel extraction and increased subsidies for carbon capture and storage (CCS). This is exacerbating environmental injustices and toxic pollution in communities on the frontlines of oil and gas expansion along the U.S. Gulf Coast and elsewhere.
- **Oil and gas workers trade unions in Trinidad and Tobago and Colombia.** Both trade unions have developed worker-led just transition plans. In the case of Trinidad and Tobago, it calls for parts of the energy sector to be brought into full public control and management with the participation of trade unions and community groups to pursue green industrial development while also leading to a more equitable redistribution of wealth.[191] In Colombia, the plan calls for the transformation of national oil company Ecopetrol into a renewable energy company, public pathways for the energy transition, and massive expansion of union jobs and green industrialization.[192]
- The **Chinese government's** wider range of government interventions has supported their progress in building out a greater number of energy transition sectors than most countries in the Global North (Section 4a). They have done this not only by providing substantial public subsidies but also through directly coordinating research and development, using state-owned enterprises and local public banks in concert to support new industries, and target-based financial regulations.[193] China's approach is far from perfect. While the share of energy coming from renewable sources has grown, the government has yet to phase out coal, and researchers have raised concerns about China's lack of support for workers in the energy transition in many impacted sectors is leading to "severe social injustice."[194]
- **Uruguay's state-owned utility firm** has been key to getting the country to run on 98% renewable energy.[195] While not without room for improvement,[196] it has also raised significant state revenues to support other public services.[197]

7. RECOMMENDATIONS

This report has detailed how the narrow "private-sector first" approach to financing a just energy transition has been tried and tested for two decades and is not generating the scale, distribution, or quality of funding needed. It is time for governments to take an active role in coordinating and investing in the just energy transition. A broad set of domestic and multilateral measures are needed to do so. We detail the most critical first steps here.

At the **domestic level,** we recommend all governments take the following steps, noting that Global South countries face differing obstacles to do so until some of the multilateral steps detailed below are taken:

- **Pursue pro-public green industrial policy.** This should be a whole-of-government approach to reorganize their economies away from fossil fuels and build just, low carbon economies in the public interest, delivering meaningful work and social benefits.[198]
- **Better equip national and subnational public development banks to fund the just energy transition.** This should include the use of green bonds to raise revenue for energy transition projects, cross-subsidizing profits from higher-return activities to generate public returns that can be invested in transformative areas that are less profitable or are loss-making, and supporting increased public-public partnerships between public banks.
- **Pursue fair, redistributive, polluter-pays measures to raise trillions in public funding for the just energy transition.** Recognizing Global North countries have the most latitude to do so in our current global financial architecture, and that they must use some of the revenues to pay their fair share in public, grant-based climate finance.
- **Implement policies and funding to ensure a fair fossil fuel phase out,** including worker and community support programs, economic diversification, and socio-ecological restoration.
- **Uphold legally accountable safeguards across all energy policies and financiers,** including: social dialogue; human rights; Indigenous Peoples' rights; free, prior and informed consent; gender equality; and safe grievance and redress mechanisms.
- **Strengthen financial regulations to improve the impact, scale, and distribution of private finance for a just energy transition,** including ensuring the phase-out of fossil fuel finance and other harmful private flows. While methods will depend on country-specific central bank and monetary policy structures, this should include setting lending requirements for priority asset classes, limiting fossil fuel investments, taxonomies for just, 1.5 ºC aligned investments, and requiring sustainability-related financial disclosure.[199]

At the **multilateral level,** governments should:

- Support existing momentum to build a more democratic global financial architecture. Critical near-term steps include supporting redistributive, polluter-pays measures in the ongoing UN Tax Convention negotiations, the establishment of a UN Framework Convention on Sovereign Debt,[200] and working to enhance public-public financial institution cooperation among and across sub-national, national, regional and international scales to build a global public financial ecosystem.[201]
- Agree on transparent reporting rules through the UNFCCC on all forms of international, domestic, public, and private climate finance, including blended finance. Ensure commercial loans are not counted towards the $1.3 trillion per year annual climate finance goal (NCQG).

- Strengthen multilateral governance to improve the scale, distribution, and fairness of private finance, particularly to reduce biases in lending terms that are intensifying the debt crisis and locking in fossil fuels.
- Apply best practice standards and safeguards when using blended finance to ensure accountability and transparency. This includes the OECD-UNDP Impact Standards for Financing Sustainable Development, and the DFI-enhanced principles for blended concessional finance for private sector projects.[202]

- **Global North governments,** with the historic responsibility for the climate crisis and an outsized say in global financial architecture, should:
  - Stop blocking their peers' efforts towards a democratic and 1.5 °C aligned financial architecture detailed above, recognizing not just the moral case but also the domestic and geostrategic benefits of doing so.[203]
  - Support binding commitments under the UNFCCC for the collective provision of *at least* $1 trillion per year in public grants for mitigation, adaptation, and loss and damage, and immediately begin paying their fair share of these needs.[204]
  - Cancel unfair public debts in the Global South held by public and private Global North creditors, including interest, commissions and other charges.
  - Overhaul insurance and credit rating agency regulations driving unfair global financing terms. This means ensuring robust and transparent risk methodologies to end biases leading to much of the higher cost of capital for just energy transition investments in Global South economies.[205]

- **Global South governments,** whose options to pursue a just energy transition face varying limitations under our current global financial architecture, should:
  - Intensify existing coordination towards a more democratic global financial architecture, including using regional fora to set political agendas, increasing leverage through a debtor's club for collective bargaining, and prioritizing efforts in democratic fora like Financing for Development.[206]
  - Scale efforts to work around existing global financial architecture to improve options and provide further leverage in reform efforts. For example, pursuing local currency trading agreements, cooperating between domestic public finance institutions, integrating supply chains for key technologies, and building alternative regional public finance institutions.[207]

*Metro life by *Fo. CC BY-NC-SA 2.0.*

GLOSSARY

- **Global South and Global North:** Global South countries have a shared trajectory of historic colonial subjugation as well as some level of current financial subordination. This is true even while there are significant differences between Global South countries in terms of climate impacts, emissions, power, and income. Global North countries are those who have a high level of economic and industrial development gained largely through colonialism and our current global financial architecture. These terms generally have political and historic definitions rather than technical ones, but unless a specific criteria is referenced, in this report we use "Global South" and "Global North" to refer to the United Nations' Conference on Trade and Development (UNCTAD) lists of developing and developed countries respectively.
- **Just energy transition:** (see Appendix A for a full definition and principles) Following foundational documents from trade unions, frontline communities, Indigenous peoples, and civil society, we define a just energy transition as the shift from the fossil-fueled energy system to a 100% renewable system that works to undo systemic economic, colonial, and racial injustices
- **Blended finance:** Blended finance is the use of public finance on concessional (subsidized) terms with the goal of mobilizing private finance that otherwise would not go forward under conventional commercial terms.
- **Grant-equivalent:** The grant equivalent is defined by the OECD as "an estimate, at today's value of money, of how much is being given away over the life of a financial transaction, compared with a transaction at market terms."[208]
- **Cost of capital:** The cost of capital refers to the minimum rate of return needed to account for both the equity and debt costs of an investment. The cost of capital is shaped by perceived risks, and in the context of the just energy transition are often much higher in Global South countries compared to those in the Global North.
- **De-risking:** De-risking is when the public sector, through public funds and/or policy, takes on some or all of the financial risks of an investment from the private sector, with the aim of attracting private sector investment.
- **Concessional finance:** Concessional finance is finance provided at below market rates. This includes grants, as well as equity or loans where the interest rates are lower than market rates, or with longer repayment or more flexible repayment conditions.
- **Non-concessional finance:** Non-concessional finance provided at the market rate. This includes private finance, as well as public finance that is provided on the same commercial terms.
- **Global financial architecture:** Global financial architecture refers to the institutions and rules that govern international financial and monetary systems. It determines who sets the rules, how money flows across borders, and how money can be accessed and on what terms.
- **Multilateral development bank:** Multilateral development banks are international finance institutions established by multiple countries with mandates to support development. Almost all have Global North countries as majority shareholders.

APPENDIX

A. PRINCIPLES FOR A JUST ENERGY TRANSITION

The label of "just transition" first emerged in the 1970s in the labor movement, as the principle that impacted workers should define and lead in the transition away from extractive industries.[209] Since then, many other labor unions and communities affected by climate change have built on this concept with visions, principles and policy plans tailored to their local contexts. We use these foundational documents as a basis for our approach and scope of just energy transition in this paper, and accordingly define it as the shift from the fossil-fueled energy system to a 100% renewable system that works to undo systemic economic, colonial, and racial injustices.[210]

Looking across foundational just transition texts, we find the following common principles:

- **Following a fair, probable, and safe pathway to limit global heating to 1.5 °C,** with Global North countries moving fastest to phase out fossil fuels by 2035 to ensure atmospheric space for Global South countries to pursue just development.[211] This pathway should be *high probability* and *safe,* avoiding harmful technologies that lock in more fossil fuels such as carbon capture and storage (CCS).
- **Regenerative, redistributive, and within planetary limits.** This means building a renewable energy system without unnecessary and harmful extraction of transition minerals; restructuring and redistributing energy consumption so that everyone can have full, continuous and affordable access to the energy, land, water, air, food, transportation, and shelter they need to live a good life; and embedding safeguards for Indigenous sovereignty, environmental justice, and sustainable use of land, water, and ecosystems across supply chains.
- **Global North countries, polluters, and the wealthy pay their fair share.** Recognizing that our current monetary, trade, tax, debt, and finance rules are driving both the climate crisis as well as global and local inequalities, a just energy transition must take us towards a more rights-based, people-centered, democratic, and transparent economic system. This includes Global North countries paying the economic and social reparations they owe due to colonization, resource exploitation and extraction.
- **Democratic economies prioritizing well-being for people and nature**. This means using democratic planning for local transitions led by impacted workers and communities, including those impacted by renewable energy projects. This must include: social protection measures, skills and education measures, economic diversification planning, and socio-ecological restoration. It means avoiding policies that intensify energy privatization and prioritizing those that allow for democratic and community ownership. Finally, it means building a caring economy with strong universal public health, education, and childcare, to ensure all communities can live with security and dignity even as climate disasters intensify.
- **Rooted in solidarity and interconnectedness, recognizing the need for common solutions to address other economic, racial, social, and environmental injustices in parallel.** This includes holistic planning for the just energy transition alongside other necessary just transitions including industrial agriculture and forestry. Upholding the primacy, indivisibility, and non-negotiability of human rights for all, including Indigenous rights, gender justice, land rights, and labor rights.

Site reclamation and public transit in Sheffield, UK. Alastair Johnstone / Climate Visuals

B. A BUDGET FOR JUST ENERGY TRANSITION AND EXISTING FLOWS

Unless otherwise noted, all estimates for annual needs come from Climate Policy Initiative's Top Down Needs data download, last updated 31/05/2024.[212] We use the provided average of yearly needs for 2023 to 2030 across the scenarios examined. Tracked annual finance data is based on a mix of best available sources per category between Climate Policy Initiative (2022 annual amounts), IEA (2023 to 2024 annual averages), and Bloomberg New Energy Finance (2023 to 2024 annual averages). We attempted to correct all of the limitations of these models noted in Box 1, except for unequal levels of future consumption between regions, given our calculation is for a global total. There is still an urgent need for scenarios that put us on a path to equitable, sustainable levels of energy consumption.

Table A1: Just energy transition finance needs (Figure 1 and Figure 3)

Category	**Low annual needs estimate for 2023–2030** (2022 USD billion per year)	**Average annual needs estimate for 2023–2030** (2022 USD billion per year)	**Scope and adjustments for needs (if any)**	**Tracked annual finance** (USD billion per year)	**Source and adjustments for tracked annual finance (if any)**
Renewable energy generation	1343	1829	Renewable power generation as well as spending needs for CCS ($125 bn / year) and low emissions fuel costs ($223 bn / year), with our recommendation these amounts be invested in renewable energy sources instead. A detailed estimate of how total investment needs and needs per category to 2030 would change in scenarios based on fully renewable energy replacing CCS and low-emissions fuels is beyond the scope of this report. Past IEA modelling of a low-CCS "net zero emissions" sensitivity case indicated that the bulk of additional energy system capacity to 2030 would be in solar and wind (NZE 2021 report page 95). We also subtracted the portion attributed to universal energy access needs.	750	IEA World Energy Investment report data download (average of 2023, 2024) omitting spending on fossil fuels and nuclear. NB: similar to BNEF, IRENA and other 2023, 2024 estimates available. Tracked amount also adjusted to account for spending attributable to energy access.
Electrification and efficiency in buildings and industry	1010	1667	Electrification for heat pumps and other fossil fuel end uses, and retrofits for energy efficiency in the building, infrastructure, and industry sectors. We include decarbonization of steel and cement production processes ($172 bn / year) though it likely includes both energy end use and non-energy process emissions cuts.	269	Buildings: Table A.7 p 46 (2022 only), Industry: Table A.4 Mitigation (2022 only) 2023, 2024 estimates not available elsewhere.

Electric vehicles, chargers, and vehicle efficiency	1077	950	CPI needs estimate minus the expected vehicle savings costs from the IEA high rail scenario relative to their base case scenario ($670 2015 USD PPP, adjusted to $827 2022 USD to match CPI figures).[213] The reduction in vehicle costs under the IEA's high-rail case is relative to a base case that would exceed a 2 ºC temperature rise outcome. Thus, avoided vehicle costs assumed here may be partially offset by greater upfront investments required to transition the vehicle fleet to EVs at a 1.5 ºC-aligned pace.	696	Average of BNEF (2023, 2024) figures, which best matches the scope of CPI's "needs" definition in this category. P. 57
Transmission, distribution, and storage	840	930	Power, heat transmission, distribution (including district heating and power grid build-out) and energy storage; subtracting the portion attributed to universal energy access needs.	364	Average of IEA WEI figures (2023, 2024) for grids and storage, while weighting grid investment levels to the share of renewable energy investment in overall power generation investment, which was 83% on average for 2023-2024. We do this because the IEA (as well as Bloomberg NEF) categorizes all grid spending as "clean" without differentiating expansion to support new fossil fuel and nuclear plants that are spatially unsuited to support a fully renewable transition. Meanwhile, CPI tracking of grid spending that adequately differentiates investment by compatibility with a 100% renewable energy transition is very small at only $14 billion a year. The tracked amount is also adjusted to account for spending attributable to energy access.

Public transit and rail	950	950	Missing from CPI assessment. Added the funding needs from the IEA High Rail Scenario (2019) in 2015 USD PPP as best available estimate. This is a scenario with 60% higher passenger rail use, 14% higher freight rail use, and 15% energy demand reduction from transport than a base scenario. Estimate was $770 billion in 2015 USD PPP; this has been adjusted to 2022 USD constant to match CPI figures.[214] The IEA High Rail Scenario by itself would not align the transport sector with a 1.5°C pathway, suggesting that investment needs in public transit indicated here may be conservative.	88	We used CPI Table A.6 (2022). 2023, 2024 estimates not available elsewhere.
Fair fossil fuel phase out for workers and communities	420	420	Missing from CPI assessment. We include a conservative, lower bound estimate of annual funding needs from the Civil Society Equity Review as the best available estimate.	No tracking available.	No tracking available.
Universal energy access	46	46	Not differentiated in CPI assessment. We include the IEA's estimate of annual investment needs to deliver universal access to electricity and clean cooking, which include $20 billion per year invested in transmission, distribution, and storage, $19 billion in power generation, and $7 billion in clean cooking sources (IEA pp 62-63). Total CPI needs estimates for renewable generation and transmission, storage, and distribution are adjusted accordingly.	6	The IEA's 2022 estimate is the latest available known source. pp. 62-63
TOTAL	**5686**	**6874**		**2172**	

C. FINANCE ASSUMPTIONS IN ENERGY FINANCE MODELS AND PROPOSALS

Methodology for Figure 7:

The IEA has written a series of reports on finance for the energy transition in 'emerging and developing economies,' modelling the investments needed in these countries to meet their flagship net-zero emissions (NZE) scenario. We use details provided in their 2023 report to make Figure 7:

- The 2022 values of all flows of finance shown in the first bar are calculated using values in the report text plus OECD reporting on climate finance for energy as the best available proxy for concessional public finance and the private finance attracted by it.[215]
- For the 2030 model as proposed by the IEA, Table 4.1 provides values of total annual clean energy investment, the private finance amount, and the concessional public finance funds needed in EMDEs excluding China.[216] From this we use their stated average mobilization ratio of 7 dollars for every dollar of concessional public finance in the NZE to calculate the amount of private finance attracted by this concessional finance. A major limitation to this figure is that it shows a simplified version of the IEA's model, which uses different mobilization ratios for each region, sector and time period that are not provided.[217] The amount of autonomous private finance is the $340 billion remaining after this calculation.
- For the 2030 model using our 'real-world' ratio, we use our $1.12 mobilization ratio reported in section 4b to calculate the private finance attracted by blending. We keep all other values the same.

Table A2: Assessing international public finance needs for just energy transition in major international agreements and economic models.

	Model or policy	Estimated annual public finance in grant equivalent terms	Estimated annual international public finance for energy transition	Description and source
Current flows	**Current flows (2021-2022)**	**11 billion**	32 billion	• **Source:** World Energy Investment 2025 reporting based on OECD (p 127) • We apply the 2021-2022 average grant equivalence of public climate finance for mitigation (Table A3).
High dependence on attracting private finance	**New quantified climate finance goal (NCQG) at COP29,** assuming no backsliding from current flows	**26 billion**	89 billion	• **Source:** New collective quantified goal on climate finance. Draft decision -/CMA.6 (pp. 2-3). • Sets a $1.3 trillion per year global finance goal for all climate finance, with a $300 billion per year by 2035 subgoal as an "extension" of the 2015 goal for $100 billion from developed to developing parties. • We assume $150 billion of the $300 billion will go to mitigation given the stated goal in the text of balance between adaptation and mitigation though this is a likely overestimate given urgent loss and damage needs as well. $89 billion of this $150 billion would be public finance based on 2021-2022 flows. • We assume 80% of this mitigation finance will flow to energy transition related spending (Table A3). • We apply the 2021-2022 average grant equivalence of climate finance for mitigation to the $150 billion (Table A3). This means we are assuming, as major observers have in the wake of the agreement, that a similar concessional quality of sources will flow toward the $300 billion goal as the $100 billion goal, but this is left unspecified in the text.
	Independent High-Level Expert Group on Climate Finance (IHLEG)	**59 billion**	200 billion	• **Source:** IHLEG Report 3: Raising ambition and accelerating delivery of climate finance (Figure 2.1). • $1.6 trillion annual finance target for energy transition in emerging and developing economies without China by 2030 to meet a net zero scenario, with $199 billion per year from international public finance. • We apply the 2021-2022 average grant equivalence of public climate finance for mitigation (Table A3).

High dependence on attracting private finance	**International Energy Agency (IEA)**	**53 billion**	92 billion	• **Source:** Scaling Up Private Finance for Clean Energy in Emerging and Developing Economies, Table 2, pp 14. • $1.6 trillion annual finance target for energy transition in emerging and developing economies without China to meet a net-zero scenario, on average 2026 to 2035. • We take the $92 billion per year on average in concessional international public finance 2026 to 2035 (the overall international public finance amount is not stated). • We apply the 2021 to 2022 average grant equivalence of public concessional climate finance for mitigation (Table A3).
	International Monetary Fund (IMF)	**11 billion**	39 billion	• **Source:** Global Financial Stability Report, October 2023: Financial and Climate Policies for a High-Interest-Rate Era - Chapter 3 Online Appendix Table 3.2.2. • Stated $135 billion per year domestic and international public finance needed in EMDEs excluding China in 2030. • We assume a 29% share of international in public finance based on current breakdowns (IEA Scaling Private Finance Table 4.1). • We apply the 2021 to 2022 average grant equivalence of public climate finance for mitigation (Table A3). • They state the study is for all climate mitigation but the source estimates cover energy transition only so we make no adjustments.
Limited dependence on attracting private finance	**Global South country climate finance goal positions**	**229-298 billion**	398-517 billion	• Based on Africa Group, India, and AILAC (p. 6) proposals. • All draw from the UN Standing Committee on Finance's first Needs Determination Report finding needs of $5.8–$5.9 trillion total by 2030, resulting in overall NCQG recommendations of $1–$1.9 trillion per year. • All state equal or roughly equal splits between adaptation and mitigation with inclusion but less specificity on needs for loss and damage. • Where not specified, we assume 80% of this mitigation finance will flow to energy transition related spending (Table A3) • All emphasize the need for the target to be in grant-equivalent terms to the largest extent possible, and some specify portions for grants.
	UN Trade and Development (UNCTAD)	**329 billion**	645 billion	• **Source:** Considerations for a New Collective • Quantified Goal, pp. 12. • We use the 2030 target for mitigation of $1 trillion per year, with *at least* $250 billion per year on grant-equivalent terms. • We assume 80% of this mitigation finance will flow to energy transition related spending (Table A3) • We apply the 2021 to 2022 average grant equivalence of overall climate finance for mitigation to the non grant-equivalent portion, a likely overestimate given all proposed alternative sources for this portion are high-quality public finance (Table A3).
	Climate Action Network International Technical Proposal	**239 billion**	239 billion	• **Source:** Climate Action Network Submission: NCQG. • Stated $300 billion per year subgoal for mitigation made up of grants and grant equivalent finance as an absolute minimum. • We assume 80% of mitigation finance will flow to energy transition related spending. (Table A3)

Based in historic equity and avoiding new odious debts	**Rights-based constituencies of the UNFCCC (Gender, Civil Society, Labor, and Youth)**	**1.3 trillion**	1.3 trillion	❯ **Source:** Climate Action Network (p. 6), Women and Gender Constituency, Report of the Independent Expert on the effects of foreign debt, YOUNGO. ❯ Stated $5 trillion per year balanced across loss and damage, adaptation, and mitigation as an overall annual good-faith down payment on historic climate debt. We assume equal ⅓ shares. ❯ We assume 80% of mitigation finance will flow to energy transition related spending as in OECD reporting 2016-2022. (Table A3)
	Pacific Islands Climate Action Network (PICAN)	**2.5 trillion**	3.8 trillion	❯ **Source:** Pacific Islands Climate Action Network TED-11 Submission (Figure 2) ❯ Mitigation subgoal of $1.1 trillion per year in grants and $3.6 trillion per year in concessional finance and justice-aligned fiscal space instruments. ❯ We assume 80% of mitigation finance will flow to energy transition related spending as in OECD reporting 2016 to 2022. (Table A3) ❯ We apply the grant equivalence ratio for concessional public climate finance to the $3.6 trillion envelope. (Table A3)

Climate Change - Chile by International Monetary Fund, CC BY-NC-ND 2.0

Table A3 — Quantitative factors used to translate published recommendations assessed in Table A2 to grant-equivalent values for international public finance for energy transition. All OECD climate finance data considers only international flows to development assistance committee eligible countries.

Grant equivalence is defined by the OECD as "an estimate, at today's value of money, of how much is being given away over the life of a financial transaction, compared with a transaction at market terms."[218] Only concessional or grant-based climate finance has a grant-equivalent share, meaning public or private finance provided at commercial terms is valued at zero in terms of grant equivalence.

Where there is uncertainty, all assumptions made likely overstate the grant-equivalence and energy transition-related finance proportion of non-grant climate finance. Most notably, Oxfam emphasizes that the OECD methodology for grant-equivalence is flawed and "provides an incentive for donors to extend climate finance as loans rather than as much-needed grants."[219]

Due to a lack of data, we have used the grant equivalence or concessionality ratios for mitigation or overall climate finance in places, which are both known to have a higher grant component than energy transition finance more narrowly. This means that, the grant-equivalence of proposals dependent on attracting private finance for energy transition needs specifically are likely even lower than presented in our analysis.

Factor	Multiplier per dollar	Description and source
Grant equivalence **per dollar** of international climate finance for mitigation	22%	• Based on 2021 to 2022 average grant equivalence of climate finance for mitigation using OECD methodology (Oxfam, Table A1)
Grant equivalence **per public dollar** of international climate finance for mitigation	29%	• Based on 2021 to 2022 average grant equivalence of climate finance for mitigation using OECD methodology (Oxfam, Table A1) • The public share is estimated by subtracting the private finance in Oxfam's Table A2 from their total in Table A1. • We estimate the private finance amount based on mitigation making up an average 86% share of private finance mobilized from 2016 to 2022 (OECD, P.20).
Grant equivalence **per public concessional dollar** of international climate finance for mitigation	58%	• Based on 2021 to 2022 average grant equivalence of climate finance for mitigation using OECD methodology (Table A1). • The public concessional share (51%) of climate finance is found using the 2021 and 2022 breakdown of flows provided by the OECD (OECD, Table 1, Figure 12, Figure 13)
Percent of international public finance in overall public climate finance for energy in EMDEs minus China	29%	• $37 billion annual international public climate finance for energy from 2021 to 2022 (OECD) • $127 billion (2022) total public finance for energy in EMDEs minus China (IEA, Figure 1.1)
Percent of mitigation climate finance flowing to energy transition	80%	• This is the portion of energy transition-related finance in OECD reporting of climate finance for mitigation 2016-2022. We assume half flows to energy where categories are cross-cutting or unspecified (OECD, Figure 6) • This is within range of estimates of future needs for energy transition within mitigation from IHLEG (85% - Figure 1.3) and a peer-reviewed independent assessment (69%, Nature Climate Action).
Percent of public finance in international climate finance for mitigation	75%	• The public share is estimated by subtracting the private finance in Oxfam's Table A2 from their total in Table A1. • We estimate the private finance amount based on "Official Development Assistance," mitigation making up an average 86% share of private finance mobilized from 2016 to 2022 (OECD, P.20).

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The other main limitations to this calculation are related to scope. First, the IISD data is G20 which includes a few countries outside the Global North and China, but these countries represent a small amount of both the public and private investment involved. And in both the IISD and OCI datasets, the grids and storage component is less than 10% but we kept it in as the G20 total for renewables without grids and storage was not available. The mobilization ratio without grids and storage would be slightly lower for both datasets. See: Laan et al., *Public Financial Support for Renewable Power Generation and Integration in the G20 Countries,* p. 14.

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219 Jan Kowalzig et al., *Climate Finance Short-changed, 2024 Update, Estimating the real value of the $100 billion commitment for 2021-22 Climate-specific net assistance methodology note,* Oxfam, June 2024, Table A1 p.3, https://unfccc.int/sites/default/files/resource/Oxfam_Climate_Finance_Short-Changed_2024_update_CSNA_Estimate_Methodology_Note.pdf

OILCHANGE INTERNATIONAL

714 G STREET SE
WASHINGTON, DC 20003 USA

WWW.OILCHANGE.ORG

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