Building Momentum for a Strong Recovery and Sustainable Transformation

An update to the
Better Recovery, Better World Report

–

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The Coalition of Finance Ministers for Climate Action

Authors and Acknowledgements

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List of Abbreviations

AML	Anti-Money Laundering
BEPS	Base Erosion and Profit Shifting
BCA	Border Carbon Adjustment
DRM	Domestic Resource Mobilisation
EMDEs	Emerging market and developing economies
EME	Emerging market economies
ETS	Emissions Trading System
GDP	Gross Domestic Product
GRID	Green, Resilient, and Inclusive Development
ICPF	International Carbon Price Floor
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
LIC	Low-income country
LMIC	lower middle-income country
LTSs	Long-term strategies
MDBs	Multilateral Development Banks
NDCs	Nationally Determined Contributions
NGEU	Next Generation European Union
NGFS	Network for Greening the Financial System
OECD	Organisation for Economic Co-operation and Development
PFM	Public Financial Management
PIMA	Public Investment Management Assessment
QE	Quantitative Easing
SBTi	Science Based Target Initiative
TCFD	Task Force on Climate-related Financial Disclosures
TSVCM	Taskforce on Scaling Voluntary Carbon Markets
TPI	Transition Pathway Initiative
UMIC	Upper middle-income country
WEO	World Economic Outlook

Executive Summary

Eighteen months into the COVID-19 pandemic, the world is experiencing a protracted and divergent recovery. There is a clear divergence between advanced economies and China on the one hand, who are back on pre-crisis growth trajectories, and most emerging market and developing economies (EMDEs) on the other, who continue to lag as they grapple with the ongoing impacts of the pandemic. At the same time, the recovery—as of late 2021—is starting to lose momentum in some key countries. This uneven recovery is set against a backdrop of weak productivity and growth performance over the previous decade and a collapse in investment at the start of the pandemic. The collapse in investment, in contrast to the 2008–09 financial crisis, is especially pronounced in EMDEs, where the economic and social impacts from the pandemic remain particularly severe.

There is widespread consensus that a strong investment push, led by green investments, can lay the foundation for both a sustainable recovery from the COVID-19 crisis and the transformation needed to respond to the climate crisis and development imperatives. This will require investment of at least 2% of GDP per year in advanced economies over the next decade, with an even higher magnitude of investments needed in EMDEs. Concerted and coordinated investments are needed in two priority areas: 1) an accelerated shift to zero-carbon energy, and 2) a big push on adaptation, resilience, and nature. Such green and sustainable investments can be implemented in a timely way, are job-creating and have high multipliers. A recent report by the World Resources Institute, International Trade Union Confederation and New Climate Economy adds to the growing evidence that green investments can provide an important boost to jobs, finding that climate-friendly investments can create twice or more the jobs per dollar in the near term than investments made without applying a sustainability lens.[1]

To date, investment-led recovery programs are at early stages of design and implementation. While in advanced economies economic growth has generally recovered, this recovery has so far largely been delivered by fiscal 'rescue' stimulus rather than investment. In contrast, most EMDEs have not been able to put in place significant rescue programs, let alone recovery plans. COVID-19 'response trackers' that measure the green component of fiscal spending consistently show that green investments are yet to take off, even in advanced economies. Green spending only makes up a small part of the total investment spending to date—less than 21.5% of recovery spending.[2] At this point in time, the recovery mostly still lies ahead, particularly for EMDEs. There is an urgent need to accelerate the recovery in both developing and developed countries, and to anchor recovery plans in long-term strategies (LTSs) and updated Nationally Determined Contributions (NDCs).

To catalyse the investments required to meet climate and environmental goals, countries need to put in place well-articulated investment plans—and translate them into concrete and viable project pipelines. Institutions are crucial to implementing investment strategies successfully, as the strength and quality of institutions will determine the effectiveness of policies designed to unlock good-quality sustainable infrastructure investments. Yet many of the types of institutional structures needed will take time to develop and become effective. For this reason, countries can set up country platforms focused on key sectoral transitions that foster sound investment decisions, necessary policy actions and governance arrangements, and mobilization of finance at scale through better coordination of key stakeholders.

The implementation of investment-led recovery plans will face significant macroeconomic challenges. Advanced economies used a significant amount of their available fiscal space implementing their immense

rescue stimulus packages. EMDEs, in contrast, lack this fiscal space, given their existing fiscal and debt constraints. These countries now face the fundamental challenge of creating much-needed room in their budgets to fund necessary investments. In response to the last major economic crisis—the 2008 financial crisis—most governments implemented austerity measures. However, the experiences of many countries in the aftermath of the 2008 financial crisis revealed that this path ultimately leads to unsustainable growth and debt trajectories, as growth is not sufficient to generate the revenues required to pay down debt over time. The alternative is to put in place growth-enhancing investments across a range of capital: physical, natural, human and social. While maintaining macro prudence, countries need to find a way to exit the pandemic sustainably, implementing investment programs and projects that boost productivity and meet long-term transformation goals.

Countries will need to build macro-fiscal frameworks that are supportive of the green transition. Finance Ministers have a central role in implementing domestic fiscal reforms that increase the effectiveness and efficiency of taxation, and in mainstreaming climate action and transformation into economic policies and public financial management.

In addition to macro-fiscal reform, a strong supportive policy framework will be crucial to accelerate change. Carbon pricing policies will be critical. A global investment regime consistent with a net-zero target aligned with a maximum 1.5°C of warming will need carbon pricing at much higher levels than we see today: the 2017 Stern-Stiglitz Commission on Carbon Pricing found that carbon prices should rise to between US$50 and $100 per tonne of CO_2 by 2030 to meet the temperature goal of the Paris Agreement.[3] The International Monetary Fund (IMF) has proposed several ideas, including a carbon price floor, to facilitate this price increase. The elimination of inefficient fossil fuel subsidies remains crucial and a renewed push is needed.

Carbon prices need to be supported by complementary policies and regulations. It will be important to strike the right balance between carbon prices and regulations, which will depend on the structure of each individual economy. The setting of industry standards is particularly powerful as it can drive expectations and investment flows in key areas that are crucial for growth and decarbonisation; for example, around the phase-out of internal combustion engine (ICE) vehicles or the shift away from unabated coal and gas to low-carbon energy sources.

A just transition and the inclusion of all workers and communities needs to be mainstreamed into policy frameworks. Particularly in countries with established high-carbon energy systems and industries, the transition to a low-carbon economy is likely to result in job losses concentrated in particular regions and sectors. Coal regions will likely be hardest hit in the near term. Policies will need to ensure a just transition for impacted workers and communities.

Given the task at hand, unlocking finance will be central to transforming investment plans into reality. There is a big finance gap that needs to be filled if countries are to achieve a green and resilient recovery and align their economies with a sustainable, resilient and net-zero-emissions future. This will require both mobilisation of finance in EMDEs and the shifting of the wider financial system in line with a net-zero economy. Climate finance from public sources, including from multilateral development banks (MDBs), will play a crucial role. There is also great potential and need to increase private sector investment and finance given the binding constraints on fiscal space and the dynamism that the private sector can bring to the transformation agenda. Private capital mobilisation including through blended finance needs to be greatly enhanced.

It will be equally important to accelerate the realignment of the wider financial system to facilitate sustainable growth and climate action. The agenda around risk, reporting and returns continues to shape and lead action on the transformation of the financial system. This work has spurred significant moves such as a big push on creating private sector alliances and coalitions around net-zero. A key issue moving forward will be ensuring the integrity and effective implementation of these private sector commitments. It will be the combination of forward-looking climate disclosure, credible net-zero plans and portfolio alignment metrics that helps shift and scale-up the vast amount of finance and investment the world needs for the transition to net-zero.

Given the nature of the recovery so far, the design and implementation of strong recovery packages must remain at the top of Finance Ministers' agendas. The Coalition of Finance Ministers for Climate Action has a key role to play in driving coordinated action that can set the global agenda for a sustainable recovery. There are tremendous benefits from Finance Ministers working together and acting in tandem. As countries continue to design and implement their recovery packages, the sharing of expertise and experiences, as well as the ongoing efforts under the Helsinki Principles, can inspire the scale of action needed to recover from the pandemic—and drive the transformation needed to reach climate and development goals.

Introduction

While economic prospects have improved since the July 2020 publication of the Coalition's *Better Recovery, Better World* report of July 2020[4], the recovery remains uneven, with considerable divergence between advanced economies and China on the one hand and other emerging markets and developing economies on the other. To date, investment spending has constituted only a small proportion of the fiscal stimulus, with the result that we are still in the early stages of an investment-led recovery. Moreover, only a small fraction of investment spending has been directed towards green investments. Since the last report, the urgency of climate action has been underscored by the Working Group 1 contribution to the IPCC's *Sixth Assessment Report*, which documents the rapid acceleration of climate change, dramatically narrowing the window for limiting global warming from 2°C to 1.5°C and underscoring the imperative to reach net-zero emissions by 2050.[5]

This update to the *Better Recovery, Better World* report assesses progress on the recovery and the agenda ahead, based on ongoing monitoring efforts and a survey of Members conducted specifically for this report. We argue that a strong push for sustainable investment remains the best path to secure a strong and sustainable recovery and to accelerate the economic transformation needed to deliver on climate goals. Recovery packages must be anchored in the next round of more-ambitious NDCs. Policy reinforcement remains key to driving green investments. In particular, carbon pricing and complementary regulations (Helsinki Principle 3) and a supportive macro-fiscal framework and structural policies (Helsinki Principle 4) remain crucial priorities to drive up the scale and quality of investments. Proactive approaches to ensuring a just transition in the face of rapid structural change will also be important.

Financing an investment-led recovery will be challenging given the tighter fiscal space in all countries and more difficult debt and financing constraints in several low- and middle-income countries. It is imperative, therefore, to harness and utilise more-effectively all pools of finance, domestic and international, public and private.

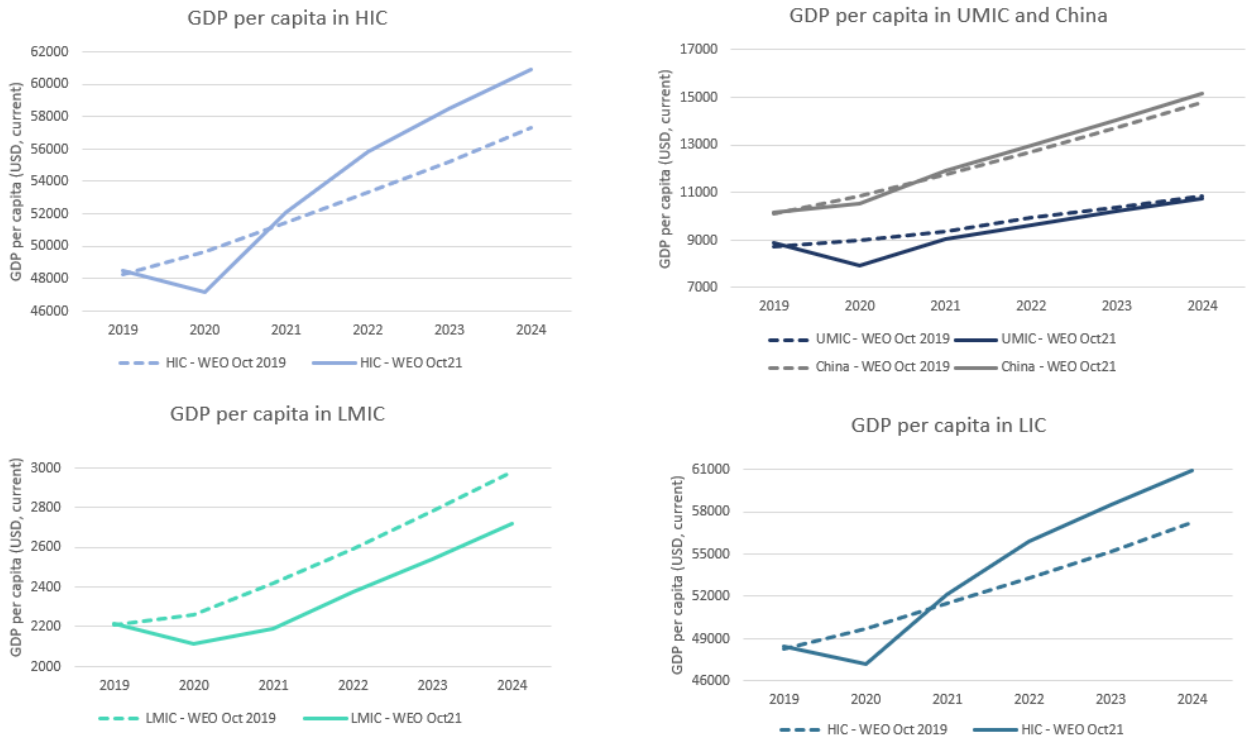
Part 1 of this report assesses progress and the agenda ahead on an investment-led recovery. Part 2 reviews the policy and institutional agenda to support the necessary scale and quality of investments. Finally, Part 3 considers the role of the financial system, both for mobilising finance at scale and aligning the financial system with climate goals.

Part 1) An Investment-Led Recovery

1.1. The Investment Imperative

Eighteen months after the onset of the COVID-19 pandemic, the world is experiencing an uneven and divergent recovery. The divergence between countries is deepening, driven by differences in vaccine availability and policy support, as noted by the IMF in its October 2021 World Economic Outlook.[6] The outlook for advanced economies, while subject to downside risks, is better than it was before the crisis. China is expected to be back on the same path as before the crisis. In contrast, per capita incomes in upper middle-income countries (UMICs) excluding China, lower middle-income countries (LMICs) and low-income countries (LICs) are expected to be substantially lower on a sustained basis than was projected before the crisis (Figure 1).

Figure 1: A Divergent and Protracted Recovery: GDP projections by country group



Notes: HIC = high-income country. UMIC = upper middle-income country. LMIC = lower middle-income country. LIC = low-income country. WEO = IMF World Economic Outlook.

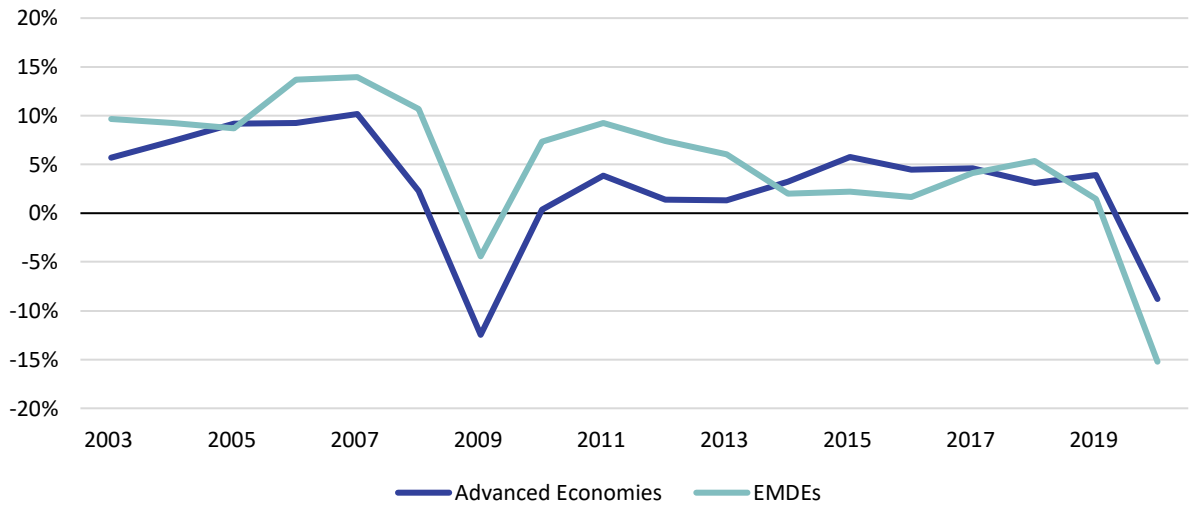
Source: IMF World Economic Outlook (October 2021)

EMDEs are still far from overcoming the pandemic. Although there are large variations in the incidence of the virus and the rollout of vaccines, most EMDEs are still contending with the health challenges arising from the pandemic and its economic and social costs. Estimates of the amount of financing that will be needed to ensure universal access to vaccines range from $50 to $75 billion. Depending on how long vaccine protection lasts and the emergence of new strains, additional and recurrent financing may be needed. In addition, the cost of better pandemic preparedness is estimated at $75 billion over the next five years (or $15 billion annually). This would require doubling current preparedness funding levels to boost infectious disease surveillance, the resilience of national health systems and global capacity to supply and deliver vaccines.[7]

EMDEs and especially LICs need to boost public spending to deal with the human and social costs of the pandemic. Many countries were forced to cut back sharply on public services and social spending as a result of shrinking fiscal space. According to IMF staff estimates, LICs need a boost in public spending of around 2% of GDP to reach pre-pandemic income levels, amounting to around $250 billion between 2021 and 2025.[8] A smaller but still significant boost of 1% of GDP is needed in other EMDEs to respond to the after-effects of the pandemic until recovery has set in. If the recovery is delayed, additional costs will be incurred to protect people and jobs.

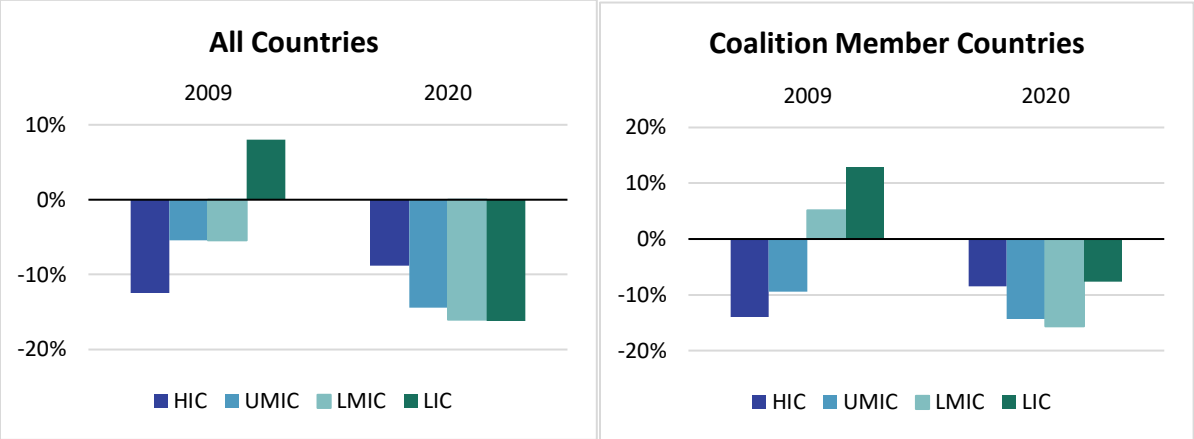
While the decline in GDP growth in 2020 was greater in advanced economies than in EMDEs, the collapse in investment has been much greater in EMDEs and much steeper than in the aftermath of the global financial crisis in 2009 (Figures 2 and 3). LICs, that had been barely impacted in 2009 are experiencing the largest investment declines. Furthermore, investment recovered quickly in EMDEs after the global financial crisis; this time there is a major risk of a protracted investment slowdown in both low- and middle-income countries following a decade of declining investment growth.

Figure 2: Changes in Investment Growth Rates, 2003–2020



Source: World Economic Outlook

Figure 3: Average Change in Investment Rates post-2008–09 Financial Crisis and Post-COVID-19



Source: World Economic Outlook (includes data from 49 member countries).

Against this backdrop and the challenges outlined above, the strategy for an investment-led recovery must accomplish three objectives:

1. Restore investment to its pre-pandemic level. Given the declines since the pandemic, this would mean raising investment by 2–3% of GDP in 2021–22.
2. Raise investment growth rates to the levels of the 2000–10 period, and enhance the productivity of investment, to enable EMDEs to return to a trajectory of income convergence with advanced economies (or middle-income countries for the LICs). This would mean increasing investment by 2–3% of GDP from pre-pandemic levels.
3. Ensure the scale and quality of the investment-led recovery puts economies on a path to meet development goals and achieve the transition to net-zero over the coming three decades.

As argued in our earlier report, **recovery investments in the wake of the COVID-19 crisis are a unique opportunity to accelerate the transition towards emissions neutrality and, more broadly, to build the foundations for sustainable and inclusive growth.**[9] Green investments will make more-ambitious climate policy easier, both politically and technically.

Several recent studies have made the case and assessed the magnitudes of investment needed to drive a strong recovery and lay the basis for sustained growth and transformation to meet climate goals:

- The Stern Report prepared for the G7[10] in June 2021 makes the case for a "coordinated global program of investment for recovery, reconstruction and transformation that can boost all forms of capital—human, physical, natural and social—and create strong and sustainable growth. This program of investment, involving sustainable infrastructure development, the preservation and restoration of nature, and greater focus on innovation and skills, can provide strong economic multipliers to increase activity and jobs in the shorter

run, and unleash discovery and productivity growth in the medium term." The report further argues that "to both raise growth and accelerate the drive to a net-zero emissions and climate-resilient economy, global investment needs to be increased and sustained above pre-pandemic levels by around 2% of GDP p.a. over this decade and beyond."

- The IMF has argued that a green investment push can raise average global growth by 2% over the baseline from 2021–2030.[11] A shift from fossil fuels towards low-carbon energy will require large investments to replace existing carbon-intensive capital with low-carbon capital. The net cumulative increase in public investment needed to support the low-carbon transition over the next decade is estimated to be between 0.5% and 4.5% of average GDP, with most estimates clustered around 2%. Public investment needs for reaching net-zero emissions differ across countries and sectors, in part reflecting different ownership structures.
- The World Bank has proposed a "Green, Resilient, and Inclusive Development [GRID] approach that pursues poverty reduction and shared prosperity, through a sustainability lens."[12] This approach promotes economic progress through a recovery path that is inclusive and consistent with environmental and social sustainability. GRID will require urgent investments at scale in human, physical, natural and social capital to address structural weaknesses and promote growth, with special attention paid to rebuilding skills and recovering pandemic-related losses, particularly among marginalised groups. Transformational investments and actions are required in key systems—including energy, agriculture, food, water, land, cities, transport and manufacturing—that drive the economy, account for around 90% of global greenhouse gas emissions, and face wider sustainability challenges.
- A forthcoming Brookings-LSE-Rockefeller report[13] on "Financing a big investment push for inclusive, sustainable and resilient recovery and growth" and an accompanying paper by Homi Kharas and Meagan Dooley[14] argue that the next five years will be critical for both a sustainable recovery from COVID-19 and for laying the foundations for transformative growth. A big investment push is needed to drive a strong recovery and meet the unprecedented demographic and climate transitions that the world faces over the coming three decades. The report will show that investments in emerging markets and developing countries other than China will need to increase by around $1.3 trillion on an annual basis by 2025, encompassing human development, sustainable infrastructure (including green investments), adaptation and resilience, agriculture and nature.

There are strong arguments, supported by mounting evidence, that the economic benefits of green stimulus projects are superior to those of alternative investments. Evaluation of the impact of recovery packages is often lacking and characterised by complex methodological challenges.[15] Still, there is mounting evidence that green recovery measures come with strong fiscal multipliers. Both ex-ante assessment and ex-post evaluations suggest that, in the short term, green investments—for example in renewable energy and nature conservation such as tree planting—are often more labour-intensive than non-green activities, therefore leading to a higher number of jobs created per stimulus dollar spent and ensuring that every dollar spent generates more than a dollar's worth of economic activity.[16] A recent report by the World Resources Institute (WRI), International Trade Union Confederation (ITUC) and New Climate Economy (NCE) finds that, in the near term, climate-friendly investments can create twice or more

the jobs per dollar than investments made without applying a sustainability lens. For instance, investing in energy efficiency for buildings can create 2.8 times as many jobs as oil and gas production, and ecosystem restoration 3.7 times as many jobs. Similarly, investments in mass transit, cycling, and walking infrastructure generate more jobs than road construction.[17]

Green projects continue to generate benefits in the long run, too. For instance, evidence suggests that spending on clean energy and ecosystem conservation has both larger and longer-lasting effects on economic activity than non-green spending.[18] As a result, a review conducted by the OECD concludes that well-designed, sufficiently large and properly implemented green stimulus programs can "deliver economic and environmental benefits", particularly when coordinated across countries.[19]

The benefits of green stimulus programs are not guaranteed, however, and uneven distributional consequences and other trade-offs need to be considered.[20] The WRI-ITUC-NCE report finds that green jobs are not always quality jobs—but they can be if government investments come with the right conditions.[21] To be successful, the right supporting policies need to be in place, including on fair wages and work security. In addition, the role of expectations and confidence is crucial, as both the short-run and long-run multipliers hinge on a clearly expressed, credible and consistent policy vision that supports long-term green transformation.[22]

A range of tools are available to Finance Ministers to get investment decisions right and maximise the benefits of green stimulus programs (see also Part 2). The *Better Recovery, Better World* report highlighted the importance of project-level guidance and checklists to ensure sound project appraisal and the use of resilience tools to consider investments. International support for climate risk and vulnerability assessments—building on improvements in modelling and investments in hydro-meteorological systems—would help inform investment decisions. Greater emphasis on pre-appraisal screening is needed to exclude projects from the project pipeline that do not meet resilience objectives. A rapid assessment of physical and transition risks early in project preparation can direct scarce resources for feasibility studies to the most promising projects. Project preparation facilities can support the creation of project designs and specifications compliant with evolving climate-related environmental standards and regulation, including at the subnational level. Project appraisal and selection procedures can integrate climate considerations, inclusive and equitable growth, job creation, and long-term low-carbon development into decision-making. Asset registries, including the identification of critical infrastructure, can help guide informed choices about upgrading infrastructure, mitigating risk, and prioritising reconstruction efforts in the event of natural disasters.[23]

While public investments will play a key role in kick-starting the green transformation, there has never been greater scope for harnessing private investment and finance, especially for accelerating the energy transition. Creating the right policy frameworks and institutions to accelerate and redirect private finance flows towards the recovery and the transition will therefore be equally important (see parts 2 and 3).

1.2. Stocktaking Existing Recovery Measures

Over the last 18 months, a range of initiatives have emerged that focus on tracking governments' responses to the pandemic and their respective 'green-ness'. The Global Recovery Observatory**,** produced by the Oxford University Economic Recovery Project, tracks and assesses national fiscal crisis expenditure in the world's 50 largest economies, comprised of 24 advanced economies and 26 EMDEs.[24] The Observatory assesses fiscal spending following the COVID-19 pandemic, *a priori*, for its potential environmental impacts (greenhouse gas emissions, air pollution, and natural capital) and social impacts (wealth inequality, quality of life and rural livelihoods).

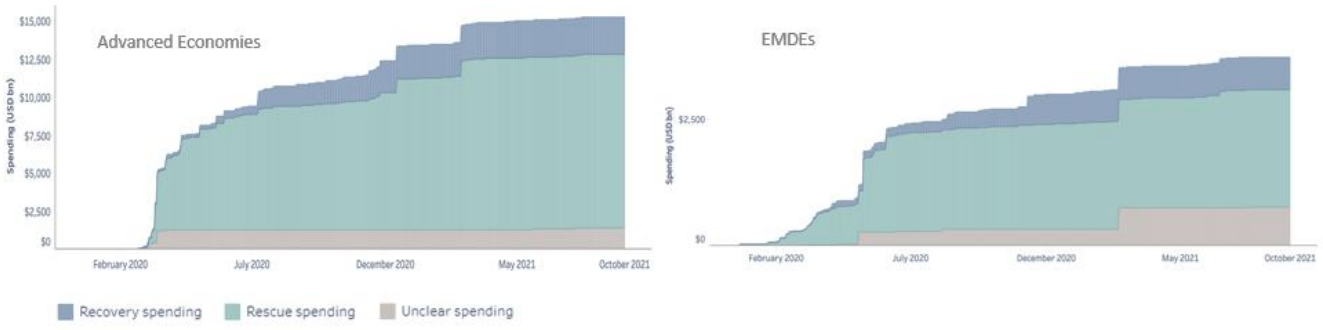
Vivid Economics, in partnership with the Finance for Biodiversity Initiative, assesses the environmental orientation of the stimulus funding of 30 economies to produce a Greenness of Stimulus index.[25] The index is constructed by tracking the flow of stimulus into five key sectors (agriculture, energy, industry, waste and transport) and applying an impact indicator to assign a greenness value (positive or negative) to each sector, accounting for both historical trends and specific measures implemented under the country's stimulus.

Other initiatives include the OECD's Green Recovery Database (see Box 1), E3G and Wuppertal Institute's Green Recovery Tracker—which assesses the effects of individual measures contained in EU member states' national recovery plans and packages on the transition to a climate-neutral economy[26]—and the joint Sustainable Recovery Tracker of the IMF and International Energy Agency[27]—which assesses recovery plans of 50 countries against the $1 trillion clean energy investment target estimated in the IEA's Sustainable Recovery Plan.[28]

Despite methodological and geographical differences, the trackers paint a similar picture.

First, countries have spent large sums of money on rescue, but recovery programs have been slow to build and still only make up a small proportion of GDP. According to the Global Recovery Observatory's analysis of stimulus spending, by mid-2021, countries had committed $19.74 trillion in additional spending in response to COVID-19, of which only $3.38 trillion (17%) was for recovery spending (Figure 4).[29]

Figure 4: Rescue and Recovery Spending in Advanced Economies and EMDEs, February 2020– October 2021



Source: Global Recovery Observatory (2021)

Box 1: The OECD's Green Recovery Database

The OECD's Green Recovery Database identifies and tracks recovery measures with a clear positive, negative or mixed impact on a number of environmental dimensions (e.g. climate change, air pollution and biodiversity). The database covers all OECD members, key partner countries and the EU (44 countries in total, plus the EU).[30]

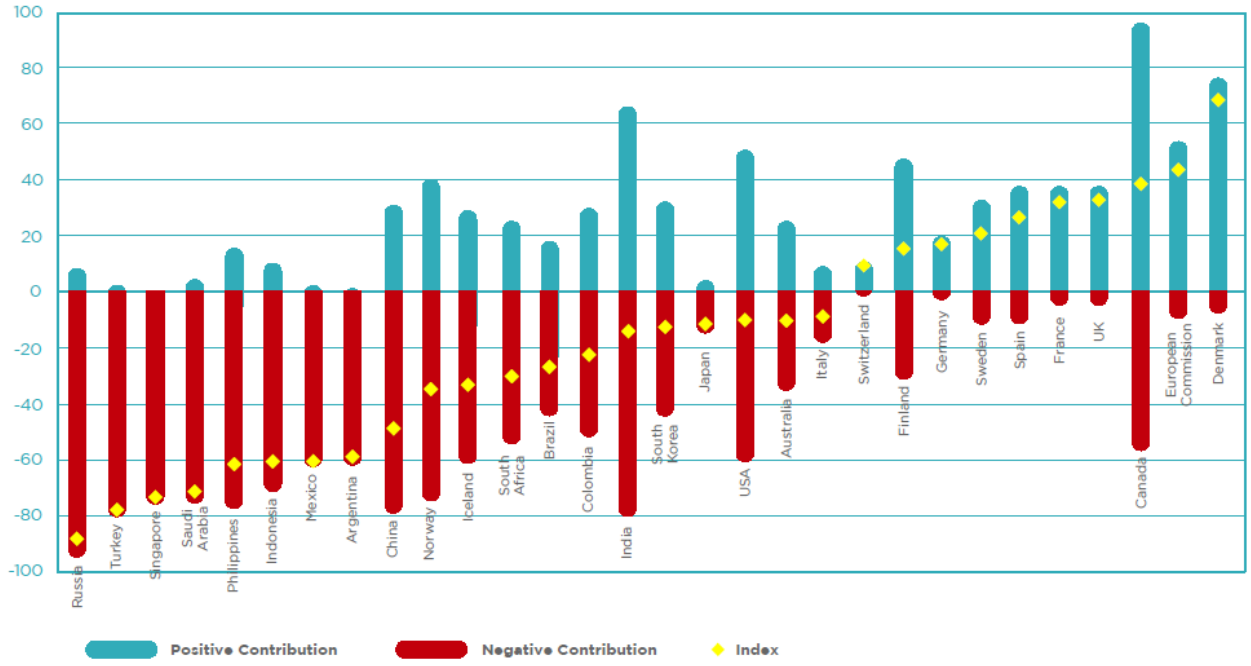
The latest update (October 2021) shows that measures with a positive impact on the environment have increased significantly, in terms of both budget and number. Since the April 2021 update, the budget allocated to environmentally positive measures increased from US$336 billion to $677 billion, and this is almost double the budget allocated to measures with negative or mixed impacts. However, spending on environmentally positive measures still represents only 21% of total COVID-19 recovery spending (up from 17%) in OECD, EU and Key Partner countries.

Furthermore, continued support to fossil fuels risks undermining efforts to transition towards a more sustainable growth path. The $677 billion of public budget for green recovery measures, which will be spent over several years, is relatively small compared with the continuing government support to fossil fuels, which amounted to $345 billion in 2020 in the G20 and emerging economies.[31] Furthermore, the limited focus of green recovery measures on workers' skills for green jobs and support to green innovation is a missed opportunity. These are essential interventions to ensure a just green transition and accelerate the innovation required to reach net-zero targets.

Source: OECD

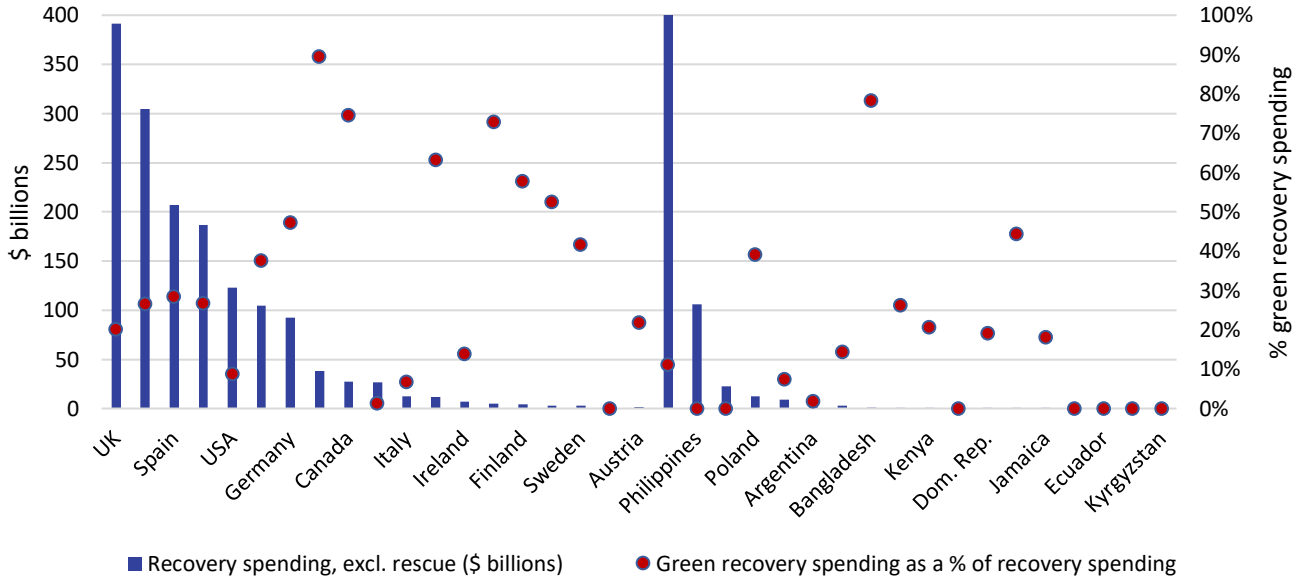
Second, while there are some efforts to green the recovery, 18 months into the pandemic only a small share of the announced spending has been green: the Global Recovery Observatory finds that only $0.5 trillion—21.5% of recovery spending (and 3% of overall pandemic spending)—is likely to reduce greenhouse gas emissions.[32] Similarly, the latest update of the Greenness of Stimulus Index finds that, while 28% of total stimulus money announced by 30 large economies is to flow into environmentally sensitive sectors, only 10.6% can be considered green (see Figure 5). Meanwhile, large amounts of stimulus money support fossil fuel activities. In 15 of the G20 countries, the stimulus is even likely to have a net negative environmental impact.[33]

Figure 5: Greenness of Stimulus Index



Source: Vivid Economics (July 2021)

Figure 6: Recovery Spending in Coalition Member Countries



Source: Global Recovery Observatory, authors' calculations (October 2021)

Third, there are large disparities between advanced economies and EMDEs in terms of overall, recovery and green spending. On average, advanced economies announced stimulus expenditures measures amounting to 25.9% of GDP, more than 20 times higher on a per-capita basis than EMDEs, who have announced spending worth only 11.1% of GDP. The EMDE average is heavily skewed upwards by China, which has implemented the largest stimulus among EMDEs. In some of the least developed countries, stimulus spending has been negligible.[34]

The vast majority of green spending comes from a small number of high-income countries, particularly in the EU. In these countries, green spending is also spread across a wider range of policy areas than in EMDEs, where most spending is narrowly focused on clean energy and natural infrastructure projects.[35] Nature and biodiversity, however, are particularly neglected in stimulus packages across all countries, with only 1% of all recovery spending dedicated to these areas. [36]

Table 1, based on data from the 36 Coalition Members included in the Global Recovery Observatory, illustrates how the disparities in stimulus, recovery and green spending also exist among Coalition Members. The Green Recovery survey conducted among Coalition Member countries in April 2021 highlights the same overall trends: responses emphasise the larger spending power of advanced economies, as well as their greater share of green spending and the constraints faced by both advanced and EMDE member countries (see Box 4 and Appendix).

The different spending patterns highlight the different stages in which countries find themselves in the pandemic. An increasing number of advanced economies have started to implement substantial investment-led recovery plans. Recent examples include the US infrastructure bill and Korea's Green New Deal 2.0 (see Box 2). By contrast, most EMDEs are still focusing on their immediate COVID-19 response. With the exception of China, they have largely not yet been able to design and implement investment-led recovery plans at the scale and of the quality needed to restore growth and drive transformation. At this point in time, particularly for EMDEs, the recovery still lies ahead.

Table 1: Spending in Coalition Member Countries included in the Global Recovery Observatory (US$ billion)

	Total spending	…of which recovery spending	…of which green
Advanced economies	12,435.9	1,551.0	374.2
EMDEs (excl. China)	567.9	163.7	5.8
China	2,072.3	406.57	44.7

Source: Global Recovery Observatory, authors' calculation (October 2021)

Fourth, as advanced economies move from rescue to recovery, their COVID-19 response is slowly becoming greener. Vivid Economics finds that Greenness of Stimulus scores in 17 countries, including in European countries, the US and China, have improved over time—although scores also *decreased* in 10 countries.[37] The OECD Green Recovery Database shows that environmentally positive spending in OECD and key partner countries has almost doubled since April 2021 (Box 1). In EU member states, the Recovery and Resilience Facility has played a key role in greening stimulus overtime (see Box 2).

Accelerating the Recovery

Despite recent improvements, advanced economies need urgently to step up and further green their recovery spending to get on a path to reach net-zero emissions in line with the Paris Agreement. EMDEs, meanwhile, face the challenge of designing and embarking on substantial recovery programs. Currently, most countries are still falling short of putting in place recovery programs of the magnitude needed to drive a strong recovery and accelerate the transition to a low-carbon, climate-resilient economy.

Recovery spending, particularly on energy and on nature and biodiversity, will need to be boosted substantially. With regards to energy, the IEA finds that, so far, less than 2% of stimulus spending ($380bn) has been spent on clean energy measures. While an extra $350bn is expected over the next two years—constituting a 30% increase compared with pre-COVID-19—these amounts fall far short, making up only 35% of what is needed to reach net-zero. The stark disparities in spending between advanced economies and EMDEs are also likely to further widen the energy spending gap between the two country groups; while advanced economies have mobilised 60% of the recommended spending levels, EMDEs are only expected to meet 20% of their clean energy investment needs.[38] Meanwhile, despite the superior economic benefits of nature-based stimulus programs (see Part 1.1), biodiversity and nature have so far received very limited attention. Governments need to better-integrate nature into their recovery programs urgently to ensure a nature-positive recovery.

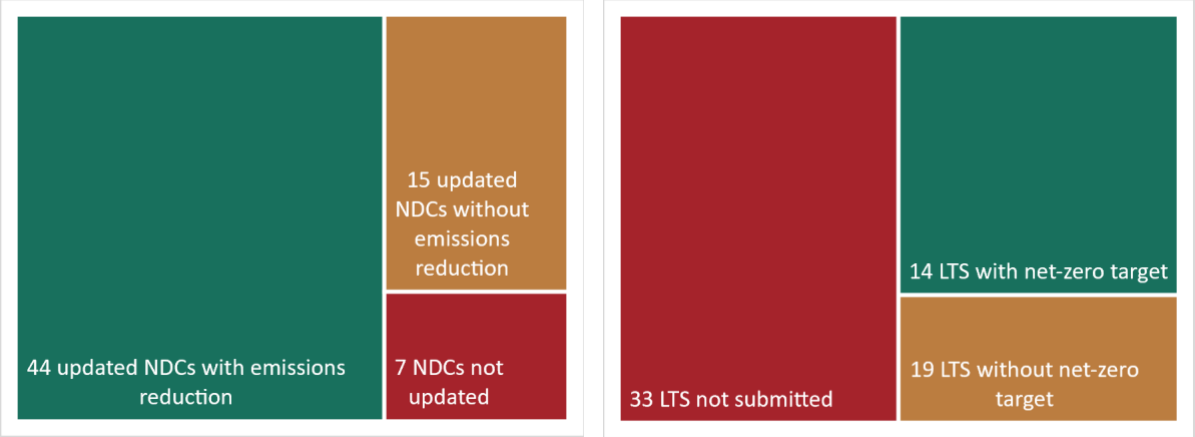
Aligning recovery plans with existing short- and long-term climate strategies will be key for all countries. Transformation and decarbonisation strategies articulated in Nationally Determined Contributions (NDCs) and Long-Term Strategies (LTSs) can be valuable inputs in setting strategic directions for a recovery that is inclusive, resilient and sustainable.[39] In the Coalition Member survey on Green Recovery, 52% of the respondents that had a recovery plan in place or under development reported that existing climate strategies and plans, including NDCs and LTSs, were considered *extremely influential* when designing their recovery plans. For a further 19%, they were at least *moderately influential* or *one of many factors considered* (see Appendix).

However, 30% of Coalition Members are yet to submit a new or updated NDC with reduced total emissions compared with previous submissions. Almost 70% are yet to submit LTSs that include a net-zero target (Figure 7).[40] There is thus an urgent need to submit NDCs and LTSs that are aligned with, and guide, COVID-19 recovery plans. The need for more ambition is also emphasised in the UNFCCC's latest NDC synthesis report, which finds that "a significant increase in the level of ambition of NDCs between now and 2030 or a significant overachievement on the latest NDCs, or a combination of both" is needed to limit warming to 1.5°C.[41]

To improve alignment between climate plans and the COVID-19 recovery, it is essential that Finance Ministers embrace an active role in the planning and implementation of both NDCs and LTSs. With regards to NDCs, preliminary results of a survey conducted under Helsinki Principle 6 suggest that, while only 4% of finance ministries have no engagement at all in NDC preparation and implementation, only around a

quarter (28%) are actively involved in all stages of NDC development (such as formulation, validation and mainstreaming/implementation).[1]

Figure 7: NDCs and LTSs Submitted by Coalition Member Countries



Source: Climatewatch.com and authors' calculations (16 November 2021)

Box 2: Green Recovery Plans in Selected Coalition Member States

An increasing number of countries are putting together recovery plans, though with varying emphases on an investment-led green recovery. This box provides snapshots of recent developments.

The **European Commission** will make available €2.018 trillion to boost the recovery. The plan consists of two parts: the multi-annual financial framework (MFF) for the years 2021 to 2027 and the temporary 'Next Generation EU' (NGEU) European recovery instrument. As part of the NGEU, the Recovery and Resilience Facility (RRF) will provide €723 billion for investment and reforms to recovery in Member States.[42] To access the funds, governments are required to allocate at least 37% to climate-related measures, and another 20% must be dedicated to digital components. In addition, all proposed measures must respect the 'do no significant harm' principle, and governments must explain how their plans contribute to the green transition. The Commission's early analysis shows that Member States' Recovery and Resilience Plans are expected to support climate-related investments by at least EUR 177 billion. Based on the plans approved so far (by time of going to press, 22 plans were approved by the Commission), the 37% threshold has been surpassed.

[1] Helsinki Principle 1 workstream is also preparing a study on the possibilities and challenges of assessing the fiscal impacts of long-term climate strategies.

The **South Korean** New Deal, a US$139 billion 'National Strategy for a Great Transformation' announced in July 2020, consists of three major components: the Digital New Deal, Green New Deal, and a Stronger Safety Net. The Green New Deal component included KRW42.7 trillion ($26 billion, 2.23% GDP) in funding to 2025, and aims to finance the structural changes needed to support recovery from the pandemic, including in renewable energy, sustainable transport and industry investments, and to create 1,901,000 jobs by 2025.[43] However, the Green New Deal has been criticised for not being anchored in, or aligned with, the Paris Agreement.[44] A South Korean New Deal 2.0 was launched in July 2021, expanding the program with an additional $191 billion. The updated Deal plans to create an additional 600,000 jobs and includes a new focus on reaching the net-zero target that Korea announced in October 2020. It also contains an additional 'Human New Deal'—a $44 billion commitment towards inclusive growth and strengthening the social safety net.[45]

The **United States** is one of the countries that has improved the greenness of its pandemic response over time. After initial stimulus programs did not prioritise environmental considerations, the March 2021 USD 1.9 trillion American Rescue Plan, while not explicitly green, did contain some green measures including investment in public transport and energy efficiency (Vivid Economics, 2021).[46] The USD 1.2 trillion Infrastructure Investment and Jobs Act, signed into law in November 2021, has a more explicit focus on climate and sustainable infrastructure and includes significant measures that can set the country on track to meet its climate targets. Presented as "the largest investment in environmental justice in American history", it includes large investments in public transport, electric vehicle, and grid infrastructure, as well as investments that clean up drinking water, tackle pollution, and increase the resilience of physical and natural capital to extreme weather events.[47]

The **Philippines** is one of only a few EMDEs that has put together a substantial recovery plan, guided by the government's 'We Recover as One' report.[48] It contains a strong focus on infrastructure spending through the Build Build Build program, worth US$24 billion (5.9% of GDP). Though the program covers a range of sectors and includes a new import duty on oil and petroleum products, few of the infrastructure projects are considered green.[49] The program raised public spending from 19.1% of GDP in the first quarter of 2020 to 23.4% of GDP in the same period in 2021. However, the Philippines economy is struggling to recover amid ongoing COVID-19 restrictions, and the country remained in a recession in the first half of 2021.[50]

Uganda, recognising the interconnectedness of the multiple crises the country is facing, has committed to implementing a green recovery that puts resilience at the centre. Its recovery program focuses on three priorities: the social wellbeing of Ugandans; peace, security and good governance; and boosting economic transformation. However, while Uganda's legal framework provides an enabling framework for a green recovery, the government response is currently largely focused on stimulus spending that is lean on climate action. The biggest challenge to implementing an investment-led green recovery remains access to finance. To close the resource gap, Uganda is exploring leveraging new and innovative sources of financing, including green and sustainability bonds.

In **Indonesia,** low-carbon development was initially not an immediate priority following the COVID-19 outbreak. However, recently, the Low Carbon Development Initiative (LCDI), a program of the Indonesian Government with the intent of setting a long-term decarbonisation strategy, published a report highlighting the role of a green recovery for reaching national climate and development targets. The report discusses four net-zero scenarios for Indonesia, and includes the opportunities arising from reaching net-zero by mid-century as well as detailing the investments needed.[51] The government has also prepared a medium-term green recovery roadmap for 2021–2024, which aims to prioritise green recovery initiatives in Indonesia's national planning and budgeting processes and to ensure sufficient funding for green economic development.

Box 3: NDC Partnership's Economic Advisory Initiative

In response to COVID-19, in June 2020 the NDC Partnership launched the Economic Advisory Initiative to support governments in preparing climate-compatible recovery packages by embedding economic advisors into ministries of finance and/or planning.[52] The establishment of the program followed a member survey that revealed three priorities among NDC Partnership members:

- Ensuring that NDCs are aligned to the new, post-pandemic fiscal reality.
- Exploring how recovery projects can be anchored to NDCs.
- Tackling uncertainties about how best to implement green recovery plans at the country level.

Since the launch of the project, the Partnership has employed advisors in 30 countries where they support the preparation of national plans and budgets, the development of project concepts and pipelines, and the mobilisation of finance. With support now being completed in nine of these, a series of lessons and challenges is starting to emerge, including limited fiscal space and difficulties in mobilising resources, limited private sector engagement, and a lack of political buy-in due to perceptions of climate-compatible development being more costly than business-as-usual investments.

To address some of these challenges, several advisors are targeting their recommendations for implementation through future budget cycles and forthcoming NDC action plans. To ensure a long-term view, from mid-2022 onwards the support will be integrated into the Partnership's Country Engagement process, while additional support might be provided to sectoral ministries.

Box 4: Results from the Green Recovery Member Survey 2021

Earlier this year, a Green Recovery survey was sent to Coalition Members . Survey responses were received from 30 Members, of which 27 indicated they are working on investment-led recovery plans. While the overall response rate was close to 60%, there was an 85% response rate from advanced economies and a 30% response rate from EMDEs (see Figure A1 in Appendix). This likely reflects the divergence in the recovery, with many EMDEs continuing to battle the health effects of the pandemic and facing severe constraints in designing or implementing investment-led recovery plans.

Below, we provide key insights from the survey in terms of the emergency response and the investment-led recovery.

1) Insights from the survey around the emergency and rescue phase of the pandemic

- **The pandemic has had significant impacts on both revenue and spending for all Member countries** that responded to the survey. Some countries reported revenue shortfalls in 2020 of up to 18–20% compared with pre-COVID estimates, and some reported a more than 20% increase in government expenditure on rescue measures.
- **Fiscal spending limits were often suspended,** with several countries highlighting a 'whatever it costs' response. Countries prepared numerous supplementary budgets over the course of 2020 and 2021, and deepened and broadened their rescue programs as the pandemic unfolded.
- Consequently, **countries reported unprecedented increases in government borrowing—**one country noted that it experienced the highest level of peacetime borrowing on record. Exceptionally large **fiscal deficits,** often between 5% and 10% of GDP, were reported by countries, including those that had run surpluses or balanced their books in previous years.
- **Advanced economies have demonstrated their significant fiscal firepower in designing their rescue plans.** The average size of fiscal rescue stimulus among advanced Member country survey respondents was more than three times that of EMDE members: 11.6% versus 3.6% of GDP.
- **Member countries reported three clear priorities when designing their emergency rescue packages:** protect public health, support businesses, and protect families and household incomes.
    - Most survey responses reported their top priority was to **contain the pandemic and protect both public health and the capacity of the public health system**. Significant resources were directed at the health system, including spending on expanding intensive care capacity and procuring medical equipment, personal protective equipment (PPE) and vaccines.
    - Another top priority was providing **support to crisis-affected businesses and the self-employed**, with countries highlighting the urgency of preserving the productive capacity of their economies and safeguarding macroeconomic stability. This was

achieved through direct assistance in the form of grants and loans, as well as tax relief and other incentives.

- Countries also prioritised **protecting families and household incomes**. While advanced economies provided significant support for securing jobs and salaries through wage subsidy or furlough schemes, EMDE member countries spent a large share of their rescue packages bolstering social protection and food security programs that also reach workers in the informal economy.

2) Insights from the survey around investment-led recovery plans

Comparative analysis was conducted to draw out the main features of Member countries' investment-led recovery plans, including the major constraints preventing stronger action on green investments. The full analysis is presented in the Appendix.

- Advanced economies have demonstrated their significant fiscal firepower in the scale and ambition of their recovery plans, spending significantly more (as a share of GDP) than EMDEs. The average size of advanced economies' recovery plans reported in the surveys is almost double those of EMDEs: 5.9% versus 3.1% of GDP (Appendix, Figure A2).
- Where green investments are planned, most are consistent with the list of green recovery investments set out in the *Better Recovery, Better World* report (July 2020). Circular economy and digitalisation were the most frequently reported types of investments, followed by investments in the energy efficiency of buildings and industry, and transport. Adaptation and resilience, and sustainable and efficient agriculture were the least common types of investment (Appendix, Figure A3).
- The top priority across all countries in designing recovery plans has been jobs and multipliers (speed was not as important as expected), with climate and nature only a top priority in advanced economies (Appendix, Figures A4 and A5). Advanced Member countries also indicated that existing climate strategies and plans were considered *extremely influential* when designing their recovery plans, whereas in EMDEs they were either *one of many factors considered* or *moderately influential*.
- Regulations were the top policy priority to support recovery plans, followed by environmental taxes, such as carbon pricing and fossil fuel subsidy reform (Appendix, Figure 7). Other planned policy measures include a range of reforms to increase the capacity of the state to promote growth and stability, such as new labour legislation, new banking and supervisory reforms, and reform of various budgetary and fiscal tools.
- No survey respondents reported relaxation of any existing environmental regulations during the COVID-19 pandemic. Instead, as indicated above, there has been a strengthening of such regulations in many countries.
- The design of recovery plans has been a whole-of-government exercise. In most Member countries, several if not all ministries were involved in the preparation of recovery plans, with Finance or Planning Ministries often playing a coordinating role. In some cases, dedicated cross-government steering committees were established. However, ministries were not always as aligned as they could be: some countries reported a more siloed

approach, with each ministry working on measures in their respective area of competence.

- The survey also highlights a wide range of constraints holding back greater ambition on green recovery plans across investments, policy and finance. No single constraint dominates, and many impact both advanced and EMDE member countries, including insufficient project pipeline and preparation, constraints on debt and finance, and balancing multiple development priorities.
- Despite all countries facing constraints on their investment-led recovery plans, advanced member countries are better equipped to overcome them as they benefit from significantly greater fiscal firepower and institutional support, especially EU member countries, which benefit from access to the Recovery and Resilience Facility.

Part 2) Macro-Fiscal Context and Supportive Policy and Institutional Frameworks

2.1. The Role of Institutions in Implementing Investment-led Recovery Plans

To make the investments needed to ramp up the recovery and get countries on track for a sustainable transformation, and to ensure their high quality, countries need to be able to put in place well-articulated investment plans and translate them into concrete and viable project pipelines.

The strength and quality of institutions will determine the effectiveness of policy for unlocking demand in good-quality sustainable infrastructure investments. Such investments are often characterised by higher uncertainty than non-sustainable alternatives, higher spill-overs and complementarities, and a longer timeframe. Strong institutions are able to deal with these types of investment characteristics. They can deal with externalities and complementarities (e.g. creating the required skills development and housing for workers), reduce government risk (a huge deterrent to the private sector), and tackle short-termism as reflected in high discount rates. Stronger institutional frameworks also increase constraints on executive power, which has been shown to underpin private investment.[53]

The OECD, IMF and others have made recommendations for building institutional frameworks for quality sustainable investment in infrastructure. The OECD, based on a series of principles set out by the Japanese presidency of the G20 in 2019,[54] set out some of the key elements, or best practices, for delivering quality infrastructure.[55] The IMF has outlined elements around the governance of infrastructure.[56] Strengthening institutions may involve building new institutions or revamping existing ones. In some cases, setting up bespoke institutions may be required, such as the UK National Infrastructure Commission.[57] In all cases, OECD and IMF advice needs to be considered within each country's specific context, creating bespoke institutional solutions.

It takes time to design and implement institutions, and limited progress has been made on this front in many EMDEs over the last 30 years. To accelerate investment in countries with longstanding weaknesses in institutional frameworks and state capacities, a first step is to carefully consider the institutional frameworks and the nature of state capacities that exist today. The IMF has developed the Public Investment Management Assessment (PIMA) framework, which helps countries assess their infrastructure governance institutions in a comprehensive fashion and design a tailored and prioritised action plan.[58]

Building from existing knowledge of the investment climate gained through country diagnostics and evaluation exercises, country platforms can be set up that can lead to better investment decisions through better coordination of key stakeholders. The creation of country investment platforms was one of the core recommendations of the G20 Eminent Persons Group on Global Financial Governance: "Proposal 2: Build effective country platforms to mobilise all development partners to unlock investments, and maximise their contributions as a group, including by convergence around core standards."[59] Country platforms can help address project and sectoral realities, and find solutions informed by global experience, including through the engagement of international financial institutions. To be effective, country

platforms must be owned and developed by governments to ensure trust and legitimacy, encourage competition, and retain a government's flexibility to engage with the most suitable partners. Close involvement of governments ensures that platforms reflect heterogeneity in state capacities.[60]

2.2. Sound Macroeconomic Frameworks

The implementation of investment-led recovery for sustainable growth and low-carbon transformation faces significant macroeconomic challenges.

To enable a green recovery and transformation, supportive but prudent macroeconomic and fiscal frameworks are needed that can boost demand and enable a strong increase in capital investment, **while at the same time responsibly managing debt and deficits over the medium term.** Advanced economies have put in place expansionary fiscal policies that have delivered strong economic recoveries (see Part 1.2). The story for EMDEs is very different. EMDEs are extremely fiscally- and debt-constrained. Many EMDEs, with the exception of China, have used up most of their limited fiscal space on rescue spending and remain well below their pre-pandemic growth trajectories. As discussed above, given their stage in the pandemic and fiscal constraints, few EMDEs have been able to design and implement investment-led recovery plans at the scale and of the quality needed to restore growth and drive transformation. Many EMDEs are also facing debt difficulties as well as heightened vulnerabilities, due in part to the impacts of natural disasters. Countries will need to find ways to create fiscal space and unlock finance for the best growth- and job-enhancing investments available to them (see also Part 3).[61]

Fiscal expansion, while difficult in the current macroeconomic context, is crucial. In developed countries characterised by low productivity growth, surplus desired savings and limited scope for stronger monetary policy, temporary expansionary fiscal action can be effective and finance investments that drive productivity and growth. While fiscal expansion comes with risks to debt sustainability and overheating, the alternative—austerity—brings risks of social, economic and environmental damage.[62] Premature tightening of public budgets would almost certainly slow down the pace of economic recovery. EMDEs will need controlled fiscal expansion that enables targeted investment-led recovery programs, calibrated to restoring sustainable growth, boosting creditworthiness and securing future jobs growth.

Concerns have been raised that further borrowing could lead to unsustainable government debt and an acceleration of inflation, exposing economic strategies to further risks, especially when interest rates start to rise. These arguments have been prominent in the United States, where there is a concern about overheating the economy from elevated rescue spending. Stern and Zenghelis (2021) argue, however, that the risks associated with higher public debt for advanced economies able to borrow in their own currency are currently substantially outweighed by the potential benefits from public action to drive investment for a sustained recovery.[63] Economic stability comes through growth that is strong and sustained. Countries can also put in place transparent and credible criteria for reducing deficits as sustainable growth returns. The only route to growth without overheating the economy and increasing inflation is therefore through investment in the economy's productive capacity that can secure future creditworthiness, jobs and a strong economy.[64] This highlights the importance of bringing through productive net-zero-aligned capital investments, including in sustainable infrastructure.

2.3. Key Elements of a Supportive Fiscal Framework

As the recovery takes hold, there is an urgent need to mainstream climate and transformation into fiscal spending decisions. Depending on countries' existing systems and institutional set-ups, there are a range of tools and reform measures governments can take to mainstream climate change into policy and practice, increasing the quality and greenness of spending (for investment screening tools, see also Part 1.1).

Particularly for advanced economies, green budgeting is an important instrument and should build on a country's existing Public Financial Management (PFM) framework.[65] Green budgeting helps Ministries of Finance mainstream climate policy in fiscal planning; it provides an opportunity to bring a green perspective to the budget process and helps direct large-scale public finances towards policies and programs that both help the economic recovery from COVID-19 and meet climate and environmental goals. For example, green budgeting can help ensure that the critical information is available on how proposed budget measures impact the environment.[66] The application of green budgeting, however, is still limited, particularly in EMDEs. Some aspects of green budgeting are quite sophisticated, such as tagging of revenues and expenses as green, or otherwise, and are not yet ready to be adopted across all countries. There is a need to consider some simple and universally applicable tools that can be developed in time to impact COVID recovery spending.[67] Key starting points for countries with less advanced institutional setups are public investment management and green procurement.

Integrating climate change considerations into investment management will be essential to ensure that all public investment decisions take into account climate impacts. A failure to consider adequately the impacts of both physical and transition risks on future public investment will not only increase the vulnerability of infrastructure and its users, but also increase the value of exposed economic assets that can turn into 'fiscal time bombs'. Mainstreaming climate into all phases of public investment management, including project planning, design, appraisal, selection and financing, is key.[68]

Reforms to public procurement to include sustainability criteria will be needed to make public spending more efficient and greener. A recent survey conducted by the World Bank finds that outside of North America, Europe and Asia, green public procurement is still limited. Yet, in many countries the government and state-owned companies are the single largest purchasers of products and services.[69] Public procurement can be leveraged in several ways to achieve climate and environmental objectives, including to create markets for energy efficiency improvements, setting energy-efficiency-retrofit targets across social housing, schools, offices and healthcare facilities, and including resilience requirements in all publicly funded infrastructure contracts.[70] The OECD has published a range of tools and a collection of best practices on public procurement that can guide the set-up of public procurement systems.[71]

Under Helsinki Principle 4, the Coalition is currently preparing a report to be published shortly on these and other key areas for mainstreaming climate into macro-fiscal and economic policies, such as green macroeconomic modelling.

A major push on Domestic Resource Mobilisation (DRM) will also be important to increase fiscal space. Domestic fiscal reform priorities centre on the need to increase the effectiveness and efficiency of tax systems, thereby significantly enhancing fiscal space. Getting carbon prices right as part of these reforms will be crucial to provide the incentives for sustainable investment (see below).

International cooperation to curb illicit financial flows and design a better international tax system will also be key to creating more fiscal space, particularly for EMDEs. This includes implementing Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) Frameworks and engaging with the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS). In both cases, it is important to ensure that there are no biases against EMDEs.[72]

Exceptional monetary policy and asset purchases also play a central role in expanding fiscal space. Quantitative Easing (QE) programs implemented after the global financial crisis of 2008–09 did not consider climate change, and evidence suggests they leaned towards assets from carbon-intensive companies.[73] Central banks now have ample tools to ensure that its responses at least 'do no harm' and balance the multiple objectives of QE, including supporting the recovery.[74] But as central bank asset purchases have so far been guided by the market neutrality principle, where purchases reflect the composition of the market, they are yet to embrace this action.[75] Stern (2021)[76] has argued that market valuations and prices remain tilted away from those that would better guide action on social welfare, including climate change. In this context, a central bank acting on the basis of market neutrality, if narrowly interpreted, may be neither neutral, nor in the public interest. This provides a strong argument for central banks to take into account this bias in its own actions and become more discriminatory in its bond purchases in further rounds of QE. A number of proposals have been made to bring monetary operations into line with net-zero.[77] Taking first steps in this direction, the European Central Bank has recently committed to incorporating climate-related criteria into its corporate bond purchases, replacing the market neutrality principle with one of market efficiency.[78]

2.4. Structural Policies to Accelerate Change

A range of structural policies will be needed to provide clear signals to accelerate the drive to net-zero emissions and promote resilience. These include carbon pricing,[2] but also fossil-fuel subsidy reform, environmental taxes and a range of complementary regulations and standards that need to be well integrated into the policy mix. To ensure that no one is left behind, just transition and inclusion need to be mainstreamed across all policies.

Carbon pricing can support clean industries and low-carbon investment, which generate more jobs than alternative fossil fuel stimulus measures.[79] It was a central theme in the Coalition's *Better Recovery, Better World* report of 2020. Box 5 provides an update on carbon pricing based on that report.

[2] Carbon pricing is understood as any measures that put a price on carbon. This can be done explicitly, through carbon taxes, or implicitly through emission trading systems or sectoral policies.

Box 5: Carbon Pricing – An Update on the 2020 *Better Recovery, Better World* Report

Finance Ministers continue to recognise carbon pricing and inefficient fossil fuel subsidy reform, as key economic policy tools to address climate change. Supplemented by complimentary regulation, including sectoral policies, these tools establish price signals that incentivise investment in low-emission technologies, which can generate more jobs than alternative fossil fuel stimulus measures.[80] They also reduce the incentive to invest in fossil fuels, which can help avoid some of the difficult transition challenges and costs faced by countries that would otherwise be increasingly fossil-fuel-reliant.[81] Putting a price on carbon can further raise substantial revenue for governments in a more efficient way than can distortionary taxes on labour and income.[82] Using a share of the carbon tax revenue to reduce labour taxes can therefore be particularly useful when jobs growth is a priority.

The emissions reductions embodied in Coalition countries' commitments under the Paris Agreement are substantial (Figure 7). There are considerable differences across Coalition countries in the emissions reductions below business as usual (BAU) levels, i.e. levels in the absence of stronger climate change mitigation policies in 2030, needed to achieve the NDCs.[3] Needed reductions exceed 40% in 16 cases and are less than 20% in 22 others. Cross-country differences reflect, for example, varying preferences for leading on climate change. It is also worth highlighting that the aggregate impact of the commitments across all NDCs will not limit average global temperature increase to 2˚ or 1.5˚C.

Carbon prices implicit in mitigation pledges for 2030 are also substantial but again differ considerably across Coalition countries—from over US\$75/tCO_2 in 46 countries to less than \$25/tCO_2 in four others.[4] These differences reflect differences in both the stringency of commitments and in the price responsiveness of emissions. The price dispersion underscores the case for international coordination mechanisms like carbon price floors that could help to scale-up action globally and address competitiveness concerns.[83]

An investment regime that is consistent with a net-zero target aligned with a maximum 1.5°C of warming will need carbon pricing at much higher levels than we see today. The 2017 Stern-Stiglitz Commission on Carbon Pricing found that, to meet the 1.5°C temperature goal of the Paris Agreement, carbon prices should rise to between US\$50 and \$100 per tonne of CO_2 by 2030.[84]

Carbon pricing revenues are potentially significant. A \$25 carbon price would raise around 0.3–0.6% of GDP in revenues in 2021, rising to 0.9–1.4% of GDP for a \$50 carbon price in 2030 (Figure 8) for members of the Coalition. Broader reform of fossil fuel prices to reflect the full range of environmental damage types, such as local air pollution, would generate substantial additional

[3] Country commitments are under revision ahead of COP26 in Glasgow in November 2021.

[4] All monetary values are expressed in constant 2018 US dollars.

government revenue.[5] Ultimately, carbon pricing revenues would need to be replaced by other revenue sources as economies are decarbonised, but this is an issue for the longer term.
In 2020, carbon pricing instruments generated $53 billion in revenue globally.[85] An OECD analysis of 15 EMDEs[6] finds that, on average, these countries could generate revenue equal to around 1% of GDP if they set carbon rates on fossil fuels equivalent to €30 per tonne of CO_2,[7] increasing their tax revenues by around 5% on average.[86]

Additional carbon pricing revenues should be put to the most productive uses, which will differ by country. Some countries may wish to focus on fiscal neutrality from carbon taxation, e.g. using the additional funds to reduce distortionary taxes. Others with large funding needs can use the revenues to support good-quality sustainable infrastructure investments that are labour-intensive and contribute to inclusive, resilient and sustainable growth. It will be important to use part of the additional revenues to support a just transition and alleviate uneven distributional consequences (see below).

A comprehensive package can enhance the effectiveness, equity and acceptability of carbon pricing, though its appropriate timing will depend on national circumstances. Constraints on the acceptability of energy price reforms may imply a role for other mitigation instruments, such as regulations and feebates, to reinforce key incentives to encourage, for example, a shift to zero-emissions vehicles and other forms of mobility. Public investments, e.g. in smart grids, electric vehicle charging points and cycle lanes, and enhanced incentives for development and deployment of critical technologies, are needed.[8]

In countries that do not implement explicit carbon pricing, there are a range of alternatives, including adjusting existing fuel duties to reflect the carbon content of the fuel,[87] or placing customs duties on selected high-carbon imports. Such measures could be particularly useful in economies where most emissions stem from a small number of sources that can be addressed through a specific duty (e.g. fuel duty).

Assistance measures for households, workers, firms and regions vulnerable to higher energy prices are especially important given the heightened vulnerability of the poor due to the COVID crisis. Visible and productive use of carbon pricing revenues, funding recovery-related measures, for example, may enhance public acceptability.[88] Carbon pricing may be more acceptable at a time

[5] Full energy price reform would yield revenues, on average, twice as large as those from a $50 carbon tax. See Black and Parry (2020). This paper also presents results from implementing a minimum carbon price of €30/tCO_2, which would result in a +1.1% increase of GDP or revenue across OECD and G20 countries—except the USA—not accounting for behavioural responses.
[6] The countries include: Côte d'Ivoire, Egypt, Ghana, Kenya, Morocco, Nigeria and Uganda in Africa; the Philippines and Sri Lanka in Asia; and Costa Rica, Dominican Republic, Ecuador, Guatemala, Jamaica and Uruguay in Latin America and the Caribbean.
[7] It is worth noting that taxes employed at upstream level are likely to result in a proportionally higher revenue generation at the same tax rate given its impact on the entire economy, as opposed to a tax employed further downstream that would only impact specific sectors.
[8] More holistically, climate considerations need to be integrated into broader decisions such as city design, provision of mass transit, and land use.

of lower energy prices,[9] though countries able to borrow may prefer delaying pricing until economic recovery is well underway. There are several examples of successful carbon pricing reforms where a comprehensive package was implemented at the right time, including in British Columbia and Chile.[89]

Fossil fuel subsidies are a persistent form of negative carbon pricing and are expected to rise further. Inefficient fossil fuel subsidies impose a burden on government budgets and taxpayers that is also environmentally harmful and socially inequitable. Their removal could free up substantial resources for governments. However, the downward trend on fossil fuel subsidies, initiated when G20 leaders committed to phasing out "fossil fuel subsidies that encourage wasteful consumption",[90] appears to have recently been reversed. According to the OECD (2021),[91] there is little evidence that governments are using COVID-19 recovery efforts as a spur for fossil-fuel subsidy reform. Instead, "many countries are funnelling the bulk of stimulus funding to support fossil-fuel and related industries, often with no climate change or pollution reduction requirements attached".

A recent IMF working paper finds that fossil fuel subsidies, while slightly lower than in 2019, were worth $5.9 trillion in 2020, making up 6.8% of global GDP, with no country yet pricing all fuels in line with supply and environmental costs. The study also finds that efficient fuel pricing by 2025 could reduce global CO_2 emissions by 36% below 2018 levels, in line with keeping global warming to 1.5 degrees. Such efficient fuel pricing would also raise revenues worth 3.8% of global GDP and prevent 0.9 million deaths from local air pollution per year. However, due to an expected rise in the share of fuel consumption in EMDEs, fossil fuel subsidies are currently expected to further rise to 7.4% of GDP in 2025 [92]—a trend that could significantly undermine both a sustainable recovery and existing climate commitments (Stern, 2021).[93]

[9] Carbon prices of around $65/t$CO_2$ could be introduced without raising projected 2021 retail road fuel prices above 2019 price levels.

Figure 8: CO_2 Emissions Reductions by Carbon Tax in 2030 (% vs. baseline)

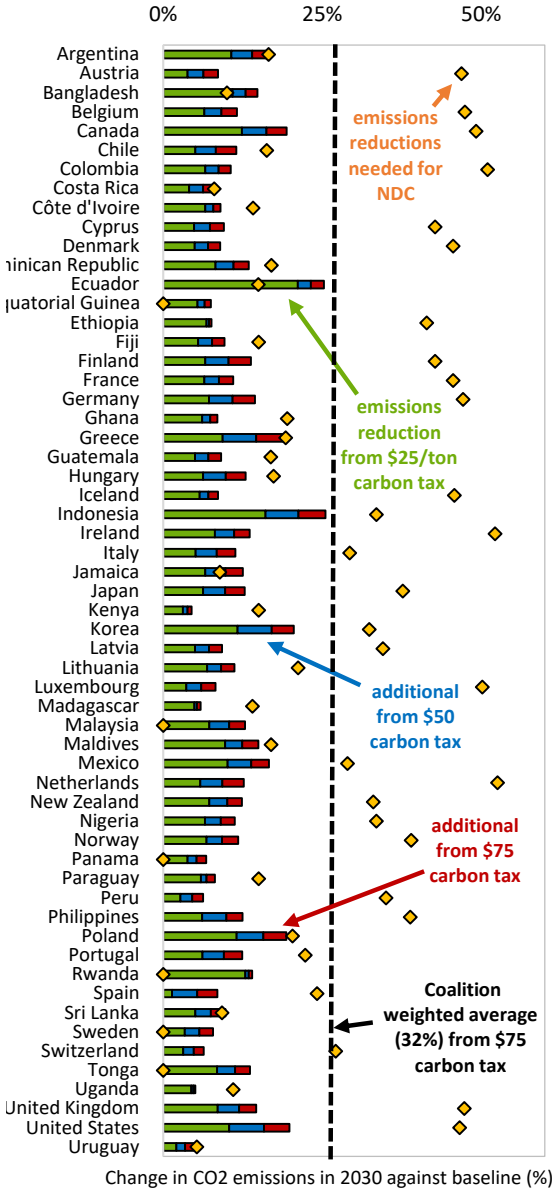
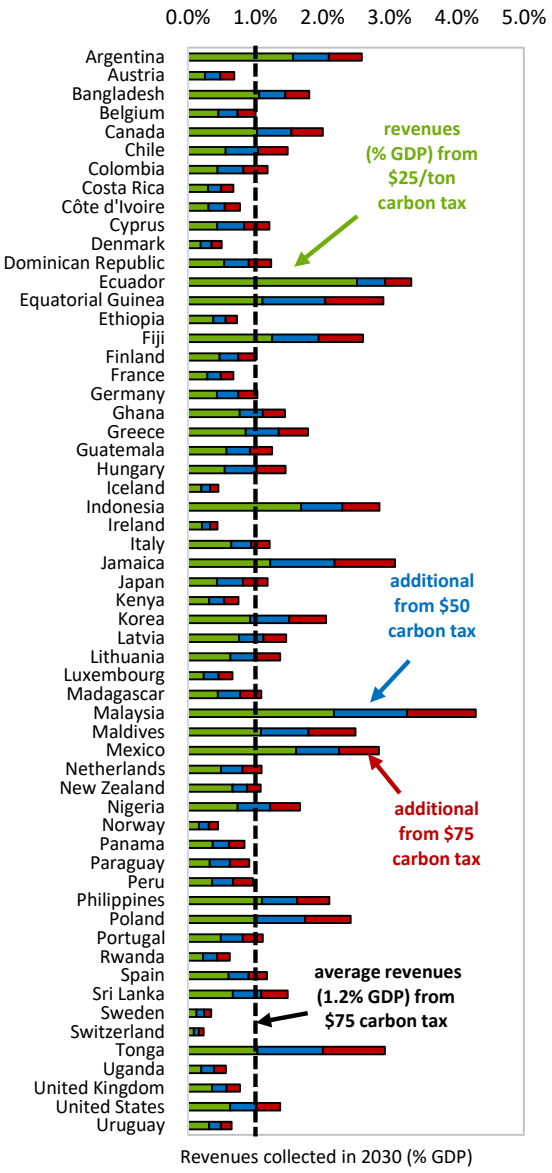


Figure 9: Potential Revenues from Carbon Taxes in 2030 (% GDP)



Source: updated in Sept 2021 from estimates in Black and Parry (2020)

Notes: Coalition averages are computed by weighting countries by their shares in total Coalition emissions (for emissions reductions) or GDP (for revenue) in the 2030 BAU scenario. Needed emissions reductions are based on submissions for the 2015 Paris Agreement and do not account for subsequent national pledges (e.g. Denmark, Germany and the UK have national targets to cut emissions by 70, 55 and 57% below 1990 levels by 2030 respectively). Coalition countries for which the analysis could not be run due to data requirements include the Marshall Islands, Monaco, Estonia, Burkina Faso and Kyrgyzstan.

Synchronization of carbon pricing across countries would help prevent carbon leakage and ensure a level playing field in trade. Growing ambition on carbon pricing around the world is being accompanied by a growing interest in design features that tackle carbon leakage, such as minimum price floors and border carbon adjustment mechanisms (BCAs, see Box 6).

A recent IMF staff note proposes an international carbon price floor (ICPF). Such an agreement between major economies would be easier to negotiate than a global agreement and it would be more efficient and effective than unilaterally imposed BCAs, which would only price a limited share of emissions.[94] However, if major countries do not move in concert, it may be necessary to consider BCAs that 'level out' the impact of carbon pricing for energy-intensive goods that are exposed to trade. For such a policy to be effective, it would need to be applied to a small set of products with high carbon content, and come with clear rules and procedures, in particular on quantifying the carbon content of imported goods and computing the effective carbon price in the country of origin.[95]

While BCAs are yet to be tested in practice, the EU may soon be the first jurisdiction to implement a BCA as part of the European Green Deal, with the European Commission announcing that the mechanism will be operational by the end of 2022.[96] Proposals for BCAs as a regulatory approach—as opposed to a price, as proposed by the EU—were introduced in the US in July 2021.[97] Canada and the UK are also discussing the feasibility of BCAs, and the G7 countries "acknowledge the risk of carbon leakage" and "agree that countries should work collaboratively to address this risk".[98] A report on BCAs for Ministries of Finance is forthcoming under the work of the Helsinki Principle 3 workstream. It will examine the legal compatibility of BCAs with WTO Agreements and discuss in detail some of the design options currently considered for implementation, including by the EU and the US, and their impacts on third states, as well as the "Climate Club" proposed by Germany.

International cooperation through carbon markets under Article 6 of the Paris Agreement provides a framework for voluntary carbon markets that can enable access to a wider pool of opportunities to reduce emissions.[99] The voluntary market for carbon credits has already grown substantially in recent years, and is expected to keep growing. According to a study conducted by McKinsey for the final report of the Taskforce on Scaling Voluntary Carbon Markets (TSVCM), it could be worth up upwards of $50 billion by 2050. [100] A subsequent report by the TSVCM suggest that under higher carbon prices, the market could even reach a size of $180 billion by 2030.[101] However, to ensure a meaningful and credible role for voluntary carbon markets, questions around governance, legal principles and credit-level integrity need to be addressed before the market can be scaled up.[102]

Box 6: Synchronising Carbon Pricing Across Borders – An International Carbon Price Floor (ICPF) and Border Carbon Adjustments (BCAs)

International Carbon Price Floor

Commitments under the Paris Agreement to date will not deliver the 25–50% reduction in global greenhouse gas emissions needed by 2030 to contain average warming to 1.5–2°C, due to two obstacles. First, negotiating greater ambition in mitigation is difficult because of the large number of parties (195 countries signed the Agreement). Even if current mitigation pledges for 2030 were fully achieved, this would cut global emissions only by two-thirds of the reductions needed to meet even the 2°C target, let alone 1.5°C.[103] Second, it is challenging for countries to scale-up mitigation policies aggressively, in part due to concerns about competitiveness and that trading partners might free-ride and renege on their NDCs. An ICPF could complement and reinforce the Paris Agreement as its two key elements seek to address both of these obstacles.

One element of an ICPF would be a focus on a small number of key emitting parties to facilitate negotiation. For example, an agreement among China, the EU, India and the US would cover 64% of baseline global CO_2 emissions in 2030, while an agreement among the G20 countries would cover 85% (see Figure 9).

The second element would be the focus on a minimum carbon price, as this is an efficient and easily understood parameter. Moreover, simultaneous coordinated action among large emitters to scale-up carbon pricing would directly tackle competitiveness and free-rider concerns. The focus on a price floor allows flexibility if countries need higher prices than the floor to meet their NDCs.

Most likely, an ICPF would need to be designed pragmatically to address equity concerns and different policy approaches at the national level. Equity concerns (i.e. 'differentiated responsibilities') could be addressed through stricter price floors for advanced economies than EMDEs like China and India. The arrangement could also include transparent mechanisms to transfer financial and technological assistance to lower-income EMDEs to accelerate their clean energy transitions. Participants who prefer other mitigation approaches (such as a package of regulations and feebates at the sectoral level) could be accommodated in the agreement so long as these approaches yield emissions outcomes equivalent to those that would have been achieved had they met the price floor requirement (as verified by third parties).

An ICPF could be strikingly effective. For example, if advanced economies were subject to a minimum price of $75 per tonne of CO_2 in 2030, high-income EMDEs a price of $50 per ton, and lower-income EMDEs a price of $25 per ton, this would be sufficient to align G20 emissions with containing warming below 2°C even if only Canada, China, the EU, India, the UK and the US participated in the agreement.[104] This assumes participants meet whichever is the more stringent of the price floor and their NDCs, and other G20 countries meet their NDCs. Large emitters should have strong incentives to consider an ICPF or similar international coordination regimes, given the collective interest of containing risks of dangerous instability in the global climate system.

Border Carbon Adjustments

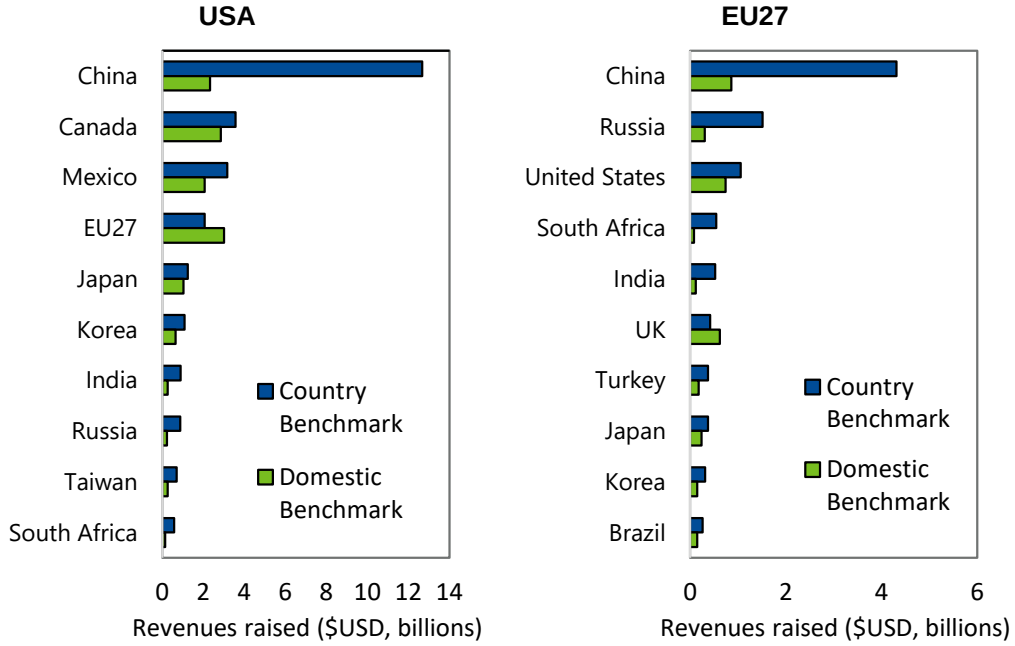
In the absence of international coordination regimes, a unilateral system of BCAs may well emerge as jurisdictions with aggressive carbon pricing attempt to maintain their international competitiveness. BCAs impose charges or allowance purchase requirements for carbon embodied in imports into a jurisdiction with carbon pricing, perhaps matched with rebates for domestic exports. BCAs are a potentially more robust mechanism for addressing competitiveness concerns than other measures (such as free allowance allocations) as countries move to deeper decarbonisation of the industrial sector.[105]

Limiting the scope to energy-intensive, trade-exposed industries (like iron, steel, aluminium, refined petroleum products, pharmaceuticals, plastics, glass, ceramics, cement, textiles and wood products) focuses BCAs on sectors where concerns about competitiveness and emissions leakage are most severe and helps to limit administrative burdens (not least because reliable estimates of embodied carbon for these sectors are generally available). Rebates for domestic carbon pricing can address competitiveness concerns for exporters, and to avoid undermining mitigation incentives at the firm level rebates might be tied to industry-level emission rate benchmarks.

A key concern about BCAs is that by imposing the same emissions price on advanced and developing country emissions alike they may be seen to violate the principle of differentiated responsibilities. This concern is further compounded because EMDEs may have substantially higher embodied carbon in their traded products than advanced economies (for example, embodied carbon in electricity inputs is larger in countries with coal-intensive generation mixes). This issue might be addressed, at least initially, by using domestic industry benchmarks to measure embodied carbon, rather than country-specific benchmarks. For example, if the EU imposed a BCA with a $50 price this would collect annual revenues of about $4 billion from charges on imports from China with country-specific benchmarks, but a much lower $1 billion under domestic benchmarks.

A unilateral system of BCAs would, however, be far less effective at scaling up global mitigation than international cooperation over carbon pricing. This is because BCAs only price emissions in traded products that are typically well below 10% of countries' total greenhouse gas emissions. BCAs might be used as an enforcement mechanism to encourage participation in international pricing regimes, but this would complicate negotiations over setting up the regime and BCAs run the risk of legal challenges (not yet tested) at the World Trade Organization.

Figure 10: Potential Revenues from Border Carbon Adjustments on Energy-Intensive, Trade-Exposed Imports with a US$50 Carbon Price, 2015



Source: Keen et al. (2021), Box prepared by the IMF.

In addition to carbon pricing, a suite of complementary policies will be needed to accelerate the transition. Sectoral policies, regulations and standards can tackle market failures beyond the greenhouse gas market failure, and provide confidence and clear market signals. Sectoral policies can take into account different technological, economic and institutional realities in each sector and ensure efficient deep decarbonisation across the whole economy.[106] Finance Ministers have a central role in coordinating the deployment of these policies and ensuring they are well integrated into recovery plans.

Regulations and standards are particularly needed to accelerate the transition to net-zero energy—a key focus for both advanced economies and EMDEs. The latest World Energy Outlook from the IMF highlights that, while renewable sources of energy have continued to grow rapidly during the pandemic, the speed of change is far from sufficient to put the world on track to a zero-emissions energy system by 2050.[107] Policies are urgently needed to significantly ramp up both supply- and demand-side investments.

On the supply side, regulation and standards can be useful to accelerate the phase-out of coal, by imposing high emissions standards to rapidly push out the dirtiest and oldest plants and by placing bans on new coal finance and construction. Standards for the installation and operation of mini-grids, smart-grids and renewable energy are also key to accelerating the expansion of renewable energy.

On the demand side, regulations can speed up electrification through the provisioning of necessary infrastructure. In transport, they can tackle network externalities ('chicken-and-egg externalities') that

can lead to an insufficient provision of electric vehicle (EV) charging infrastructure—a lack of charging stations means lower demand for EVs, but a lack of EVs reduces demand for charging stations—and thus accelerate the phase-out of internal combustion engine vehicles.[108]

Regulations can also be particularly useful to tackle systematic behavioural biases and preferences that can reduce the effectiveness of explicit carbon prices. For example, in household energy use, consumers often focus on short-term energy purchase decisions as opposed to longer-term energy savings measures. Regulation can tackle such behavioural biases by emphasising the benefits of such measures. Energy efficiency labelling on appliances has proved a particularly effective way to shift consumer behaviour.[109] Such labelling can also provide incentives for investment in a circular economy, which can make production and consumption less resource-intensive, driving growth and jobs. A range of taxes, fees and regulations can together create a complementary circular economy package that reduces adjustment costs compared with using pricing alone. These include taxes and subsidies to foster repair, sharing, resale and re-manufacturing; regulations to harmonise collection and sorting; and fees and regulations to disincentivise landfilling and incineration and promote reuse and recycling.[110]

In addition to energy, countries particularly need to step-up protection of nature and strengthen adaptation and resilience. This includes boosting public investments to protect, restore and enhance coastal areas, wetlands and marshes, and biodiversity, particularly in developing countries where many of the world's key natural carbon sinks are located. EMDEs account for 70% of the world's forest cover and 80% of the world's biodiversity pool, but they will need help to maintain these global public goods.[111]

Policy measures such as payments for ecosystem services and the reform of agricultural and water subsidies can play a key role in promoting the sustainable use of natural resources. Looking beyond traditional measures of wealth, such as GDP, and moving towards frameworks that integrate natural capital into national accounts will be a key step towards bolstering the role of nature and ecosystems (see also part 3).[112] To improve adaptive capacities, insurance instruments and social safety nets that can mitigate the immediate impact of climate shocks need to be developed.[113]

A just transition and inclusion of all workers and communities need to be mainstreamed into policy frameworks. Particularly in those EMDEs with established high-carbon and energy-intensive industry and energy systems, the transition to a low-carbon economy is likely to result in job losses that are concentrated in particular regions and sectors. For a successful green recovery and transition to net-zero, governments will need to implement policies to ensure a just transition for impacted workers and communities.

At the same time, integrating and advancing inclusion will be essential, especially as COVID-19 has exacerbated inequality for many groups—not only the poorest.[114] Women, indigenous peoples, racial and ethnic minorities, and lesbian, gay, bisexual, transgender and intersex (LGBTI) people are overrepresented in groups with no or little access to state-sponsored social security systems. Access to vaccines, reproductive and other primary health care, education, and livelihood support need to be strengthened, and sustainable recovery policies will need to ensure they leave nobody behind, so that excluded groups realise a fair share of the benefits from both COVID recovery and the low-carbon transition.[115]

Box 7: Update on Helsinki Principle 2

As we implement recovery programs, Helsinki Principle 2 highlights the importance of capacity-building and training, which is key to mainstreaming climate action into Ministry of Finance work and processes. Beyond developing capacity within Ministries of Finance, this is also about being able to draw in the support needed, particularly from institutional partners and the wider research community.

The work under Helsinki Principle 2 includes the preparation of a report reviewing examples of good practice in Finance Ministries' strategies, governance and research capacities to support the mainstreaming of climate considerations in economic and financial policies, and identify key research areas. The Coalition aims to launch a capacity-building and training program in 2022 based on a mapping of existing training programs offered by institutional partners and the wider research community.

Box 8: Fiscal Policy and Climate Change: Recent Experiences of Finance Ministries in Latin America and the Caribbean

Drawing on recent experiences from a range of countries in Latin America and the Caribbean, the Inter-American Development Bank prepared a report highlighting the central role of Finance Ministries in mainstreaming climate.[116] The report notes three areas of intervention to ensure that countries make the most of economic opportunities from acting on climate change, while minimising risks to their economies and finances:

1) **Managing economic and fiscal risks,** including transitional risks, financial sector stability and extreme climate events.
2) **Supporting a just transition** that ensures that the uneven distributional impacts on affected economic sectors and workers are addressed.
3) **Improving access to financing** by establishing the necessary frameworks, planning public investments and implementing regulatory reforms.

Part 3) A Supportive Financial System

3.1. Mobilising Finance

In addition to a supportive policy framework, a major ramp up of finance will be needed, given the scale of investments required for a strong recovery and stepped-up climate action. Mobilising the necessary financing will be more challenging in the post-COVID environment due to the pressures on fiscal space and the more difficult debt and financing conditions, especially for low-income and vulnerable countries. As a recent policy note by Amar Bhattacharya and Nicholas Stern emphasises: "Effective finance that matches the scale and nature of challenges facing developing countries is critical if developing countries are to implement a green recovery from COVID-19, raise ambition on climate change mitigation, build climate resilience, and make the necessary investments in restoring natural capital, including biodiversity."[117]

It will be necessary to harness all pools of finance, domestic and international, public and private. At the centre must be a major push on domestic resource mobilisation. As discussed earlier, the fiscal policy framework—on both the revenue and expenditure sides—will be of central importance. A concerted effort will be needed in boosting and improving the effectiveness of tax mobilisation, especially in EMDEs, supported by strong international tax cooperation on tax rates, tax avoidance and equitable tax sharing. Carbon pricing and elimination of fossil fuel subsidies can also generate substantial additional revenues, in the order of $4–5 trillion annually.

International public finance also has a key role to play. Concessional climate finance must be scaled up substantially at this crucial moment. Bilateral concessional climate finance is needed to support investment, structure associated risks, and manage the change necessary to meet climate goals in low-income and vulnerable countries. These needs encompass sustainable infrastructure, agriculture, adaptation and resilience, and protection of nature. Targeted bilateral concessional finance may also be needed for some middle-income countries to help meet adjustment costs linked to the low-carbon transition, including the accelerated phase-out of coal and corresponding emission reductions. This is also the time to step up financing for multilateral concessional financing windows given their important direct and catalytic impact. An ambitious replenishment of International Development Association (IDA) is a priority; additional support is also needed for ongoing as well as planned replenishment also of other instruments, including the African Development Fund, the Climate Investment Funds' clean energy transition facility, the Global Infrastructure Facility and subsequent replenishments of the Green Climate Fund and the Global Environment Facility. The proposal to establish a new Resilience and Sustainability Trust in the IMF to support climate action can inject additional support for vulnerable low- and middle-income countries.[118] There is also scope to tap into the growing flows of private philanthropy to leverage other finance for priority goals such as enhancing energy access and just transitions.

MDBs and development finance institutions (DFIs) have a central role to play in supporting an investment-led recovery. Total climate finance across MDBs has increased, reaching $66 billion in 2020.[119] MDBs have committed to align their financial flows with the goals of the Paris Agreement and most MDBs have defined specific target dates for meeting their alignment commitments. The role of MDBs and DFIs extends beyond their direct financing. In particular, they can help countries in the development of their NDCs, scale-up quality investment programs and translate them into concrete project pipelines that can

attract private investors. In addition to financing priority public investments, they need to bolster the mobilisation of private finance through better platforms, instruments and incentives. All means must be explored to increase the scale and development impact of financing, including the review of capital adequacy methodologies by the taskforce established by the G20, more effective use of lending capacity and further steps on balance sheet optimisation. Shareholders may need to consider options to help alleviate specific lending constraints to facilitate ambitious climate transition programs.

Finally, there is great potential and need to increase private sector investment and finance, given the binding constraints on fiscal space and the dynamism that the private sector can bring to the transformation agenda. A growing proportion of investments can now be undertaken by the private sector. In the important area of energy transformation, the private sector can play a dominant role on both supply- and demand-side investments. However, the mobilisation of private finance today is far too low and will have to increase many times over. In particular, private finance for sustainable infrastructure and climate are being held back 'upstream' by shortcomings in the policy and regulatory framework, by scarcity of well-prepared, bankable projects, and by a lack of financial channels connecting deep sources of funds with investments. There needs to be *action at all three levels* for private finance to grow. Several private-sector-led initiatives have been launched over the past two years to engage the private sector in tackling these constraints, including the Climate Finance Leadership Initiative, FAST-Infra, the Global Investors on Sustainable Development Alliance, and most recently the Glasgow Financial Alliance for Net Zero (GFANZ) that was launched at COP26. The Country Mobilization Platform that was launched at the Venice Climate Conference with the support of the Global Infrastructure Facility can help link and integrate these efforts at both the country and global levels, working in partnership with the international financial institutions.[120]

3.2. Shifting the Financial System

It will be important to accelerate the alignment of the wider financial system to facilitate sustainable growth and climate action.

Over the past year, several key players in the financial system have accelerated their efforts to align finance with the Paris Agreement and sustainable development. Governments, central banks, regulators and the financial industry are working to improve risk management and the information and disclosure of climate risk, aimed at enabling investors to make informed decisions on the climate-readiness of their portfolios. This work should create the foundations for a system in which every financial decision takes climate change into account.[121]

Much of the foundation-building to date has focused on reporting. The Task Force on Climate-related Financial Disclosures (TCFD) has played a key role in seeking to align disclosures from the financial sector. More than 26,000 companies have expressed their support for the TCFD recommendations,[122] while research suggests that over 1,700 major public companies are reporting on most of the TCFD's recommended disclosures.[123] The quality of reporting varies, however, and coverage is limited and reporting is incomplete, particularly around forward-looking metrics. To move forward and increase the quality of disclosure, governments, as well as the G7 and G20, are promoting disclosure requirements and guidelines building on the TCFD framework and have supported or are promoting the establishment of a

new International Sustainability Standards Board, which will produce a climate disclosure standard building on the TCFD framework and the work of other standard setters.[124]

Together with a growing understanding of climate impacts and the urgency of action, reporting can drive a much greater focus on climate risk management. Many central banks and supervisors are embarking on exercises to assess climate-related risks to the financial system. To date, most of these exercises are comprised of scenario analyses, with some authorities considering the development of stress tests. The Network for Greening the Financial System (NGFS), which now involves 90 central banks that represent jurisdictions accounting for over 80% of global emissions, has designed a range of climate scenarios to help understand how climate change (physical risk) and climate policy and technology trends (transition risk) could evolve along different future trajectories.[125]

While the NGFS climate scenarios represent a step forward for the responses of central banks and supervisors to climate change, it is important to recognise the methodological limitations of these scenarios and work on ways to overcome them. Assessments of the NGFS scenarios have recommended several improvements to the underlying methodologies, including better consideration of tail risks, representation of physical risks and tipping points, and inclusion of technological change in the underlying models of different future policy outcomes.[126]

Many similar concerns were raised in an assessment of the recent Bank of England 2021 biennial exploratory scenario[127] exercise.[128] The Bank for International Settlements, NGFS, International Association of Insurance Supervisors and Sustainable Insurance Forum are launching a Climate Training Alliance to build risk management capacity in financial authorities. The Coalition produced a report under Helsinki Principle 5 that provides an overview of how climate-related risks may manifest in different sectors of the economy and affect macroeconomic conditions and the responsibilities of Ministries of Finance.[129]

Finance Ministers can play a key role in managing climate-related financial risks by leading the design of sustainable finance roadmaps that mobilise private sector finance, aligned with long-term strategies. Guidelines or requirements for climate-related risk disclosure could reduce financial losses, as risk surveillance could help to identify and tackle sources of risk. Ministries can work to ensure better data, regulatory consistency and credible commitments to inform climate risk reporting analysis and climate stress-testing exercises. There is also potential for Ministries of Finance, regulators, central banks and supervisors to collaborate on key topics, including macro-financial risk assessments, forward-looking scenario analyses and complementary policies that could jointly create incentives that enable an orderly transition.

A forthcoming report prepared under the Helsinki Principle 5 workstream examines international experience and draws lessons to inform the design and implementation of effective sustainable finance roadmaps. In addition, the G20 Sustainable Finance Group's Sustainable Finance Roadmap, prepared under Italy's 2021 Presidency, will be an important guide for G20 jurisdictions in aligning their financial systems with the Paris Agreement.[130]

Nature-related risks are crucial to consider and the Coalition is exploring this further.[131] The world will not be able to meet its climate goals without taking strong action on nature.[132] Finance Ministers can integrate nature by pursuing policies and regulations that identify and manage financial risks at the climate–nature nexus and mobilise private capital for investments that contribute to meeting global climate and nature goals, ensuring resilience to both climate change and nature loss. Accounting for the

economic value of natural capital and publishing this data can help mainstream the consideration of its value in public and private financial decision-making. The Coalition is supporting Member efforts in these areas.[10]

The task of transforming the financial system to align with the Paris goals needs to go far beyond reporting and risk management. Full alignment will involve transformation of business models across the financial system. The GFANZ, which consists of about 450 financial institutions managing assets of around $130 trillion, aims to guide this transformation of financial institutions. Membership of GFANZ involves a commitment to net-zero by 2050 across investments, lending and insurance underwriting. It involves setting interim targets across scope 1, 2 and 3 emissions, ensuring boards are held accountable, and reporting on progress each year. GFANZ is also planning to define best practice net-zero plans for companies and financial institutions, and will work with organisations such as the Partnership for Carbon Accounting Framework, the Transition Pathway Initiative (TPI) and the Science Based Target Initiative (SBTi). Net-zero plans need to consider the dynamics of the transition to net-zero and the many shades of green through which we will transition along the way.[133] A key issue will be around ensuring the integrity of these and other private sector commitments. To avoid corporate greenwashing, benchmarks and independent assessments of targets will be needed.

A crucial part of the transition will be the assessment of the portfolios of financial institutions relative to net-zero pathways. However, developing suitable metrics and methods for measuring portfolio alignment with the Paris Agreement is a complex and ongoing task. To help inform financial institutions, the TCFD recently conducted an extensive review of metrics and methodologies that measure portfolio alignment with the net-zero transition.[134] The analysis underscores the complexity of the task, and there is much to be done to create standardised metrics that are robust and easy to apply across the financial system. A GFANZ working group will continue this work.[135]

Helsinki Principle 5 has released a paper that summarises the commitments and methods used by the private financial sector to align with the Paris Agreement goals and explores how Ministries of Finance can support these commitments.[136] Both the Coalition and individual members can play an important role in encouraging the implementation of alignment commitments and promoting the use and harmonisation of climate alignment methods in the private sector. Ministries of Finance can facilitate the establishment of financial system-wide climate commitments by engaging with industry associations. They can also raise awareness and educate relevant actors in their financial sector on the different tools and methods that could help them to align their activities with Paris goals and/or national climate objectives. Based on these tools, they can then assess the Paris-alignment of a country's financial system. Additionally, Ministries of Finance have a key role to play in facilitating better data provision and the development of scenarios based on key national climate milestones.

Forward-looking climate disclosure, net-zero plans and portfolio alignment metrics will together help to shift and scale-up the vast amount of finance and investment needed for the transition to net-zero. Crucial to accelerating action will also be credible and predictable climate policies and regulations from governments and supervisory authorities, including carbon pricing, risk management regulations, and capital requirements.[137]

[10] The NGFS has also developed a note on biodiversity risks and is considering this internally.

Conclusion

A strong and sustainable recovery must remain a central priority for Finance Ministers. Eighteen months into the pandemic, the world finds itself in the midst of a protracted and divergent recovery. While advanced economies and China are back on their pre-pandemic growth trajectories, most EMDEs continue to grapple with ongoing impacts. COVID-19 response trackers and the survey conducted among Coalition members highlight the greater firepower of advanced economies, which have spent 20 times more on a per-capita basis than EMDEs on their response to the economic fall-out from the COVID-19 pandemic.

Still, investment-led recovery programs have been slow to build in all countries. While most money in advanced economies has been going towards immediate rescue stimulus, most EMDEs have not been able to put in place significant rescue programs, let alone recovery plans. Particularly for EMDEs, the task of putting in place recovery programs that can resuscitate growth and accelerate the transformation to a low-carbon, climate-resilient economy still lies ahead. The design and implementation of strong recovery packages must therefore remain at the top of Finance Ministers' agendas.

Recovery programs must be anchored in, and closely linked to, national development and growth strategies, particularly NDCs and LTSs. A strong investment push, led by green investments, can lay the foundations for both a sustainable recovery from COVID-19 and the transformation needed to respond to the climate crisis and development imperative. Such green investments are key to jump-starting growth: they can be implemented in a timely way, have strong economic multipliers and can create twice or more jobs per dollar spent than non-green investments. They are also an opportunity to put in place the foundations for reaching carbon neutrality and achieving sustainable and inclusive growth. For this, countries need to design well-articulated investment plans and translate them into concrete and viable project pipelines, with a focus on two priority areas: accelerating the shift to zero-carbon energy, and enhancing adaptation and resilience. To speed up action, country-led platforms focused on key sectoral transitions can tackle policy and institutional constraints to scaling up investment and mobilising the necessary finance at scale, as, for example, South Africa has recently embarked upon.

A growth-oriented macro-fiscal framework is key to exiting the crisis on a strong footing. Experience from the response to the 2008 financial crisis suggests that austerity is likely to slow down the pace of the recovery. By contrast, fiscal expansion, used to finance growth-enhancing investments, will enable economies to recover from the economic shocks caused by the pandemic, while at the same time realising the opportunities resulting from green investments. In addition, domestic fiscal reforms that increase the effectiveness and efficiency of the tax system, as well as efforts to mainstream climate into economic policies through climate informed public financial management, green budgeting and public procurement, will be crucial to increase fiscal space and improve the quality of spending.

Carbon pricing will play an important role in driving sustainable investment and needs to be accompanied by a broader set of policies that accelerate adjustment. Carbon pricing and fossil fuel subsidy reforms are key to addressing market failures, shifting incentives towards sustainable investment and generating government revenue. The Coalition has an important role to play in supporting the wider adoption and acceleration of carbon pricing, recognising that approaches will vary across countries. To be

effective, carbon pricing needs to be supplemented by complementary regulations that solve other market failures and provide clarity and confidence for businesses, investors and consumers. This includes sectoral policies that take into account the technological, economic and institutional possibilities in each sector and ensure efficient deep decarbonisation across the whole economy.

The scale of investments needed for a strong recovery and transformation will require mobilisation of all sources of finance: domestic and international, public and private, bilateral and multilateral. Utilising the complementary strengths of the different pools of finance, and collaborating across countries and institutions, will be key to creating powerful multipliers that can unlock the trillions of dollars needed for the required investments.[138] To support stepped-up finance, it will also be important to accelerate the alignment of the wider financial system with the goals of the Paris Agreement, as the GFANZ, launched at COP26, has committed to do. There is a real opportunity for public and private finance to work together to sharply accelerate the shift to zero-carbon investment with a much greater focus on EMDEs based on transparency and the quality of commitments.

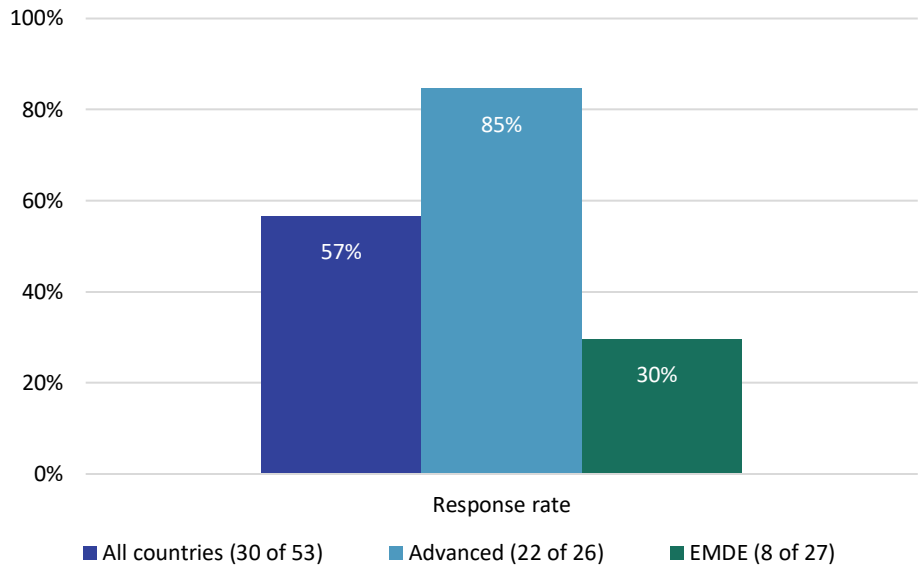
The Coalition of Finance Ministers for Climate Action has a key role to play in spurring coordinated action that can help drive the global agenda for a sustainable recovery. There are tremendous benefits for Finance Ministers in working together and acting in tandem. As countries continue to design and implement their recovery packages, the sharing of expertise and experiences, as well as the ongoing efforts under the Helsinki Principles, will continue to provide important inputs and can inspire the scale of action needed to recover from the pandemic—while propelling the transformation needed to reach climate and development goals. To support a successful global recovery, it will be important to track progress of evolving recovery experiences at the country level and take stock again as part of the Coalition's work in 2022.

Appendix: Results from the Green Recovery Coalition Member Survey

Survey response rate and size of rescue and recovery stimulus packages

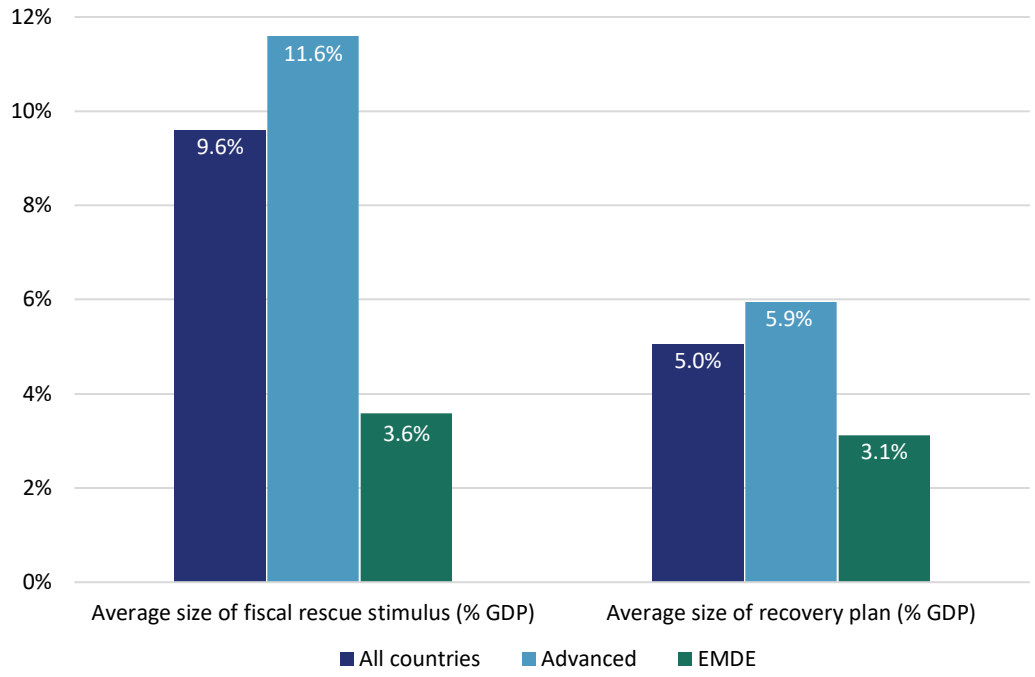
Nearly 60% of Coalition member countries responded to the survey, as of 12 April 2021 (Figure A1). There was a good survey response rate from advanced member countries, with 85% completing the survey. Thirty per cent of Coalition EMDE member countries responded. This implies a strong sample selection bias in the summary results: they are heavily biased in favour of advanced country recovery plans. We extract lessons and insights from the eight EMDE country surveys where the data allows.

Figure A1: Survey Response Rate



The survey data indicates that recovery plans are significantly smaller than stimulus plans, on average, across all member countries (Figure A2). The size of both rescue stimulus and recovery plans was significantly larger in advanced economies than in EMDEs.

Figure A2. Average Size of Rescue Stimulus v. Recovery Plan (% of GDP)



All Advanced member countries, except one, reported that they are considering existing climate strategies and targets in designing their recovery plans. Countries were also asked how important these strategies and targets are. All advanced economies, except two, reported that these strategies and targets are *extremely influential* in designing the recovery plan; the two exceptions reported that climate is *one of many factors considered*. EMDEs reported that climate strategies and targets were either *one of many factors considered* or were *moderately influential* in recovery plan design.

Among advanced countries' responses, 74% reported that low-carbon development is an explicit objective of their recovery plans and 65% reported resilience to be an explicit objective. One of eight EMDEs' responses (13%) reported low-carbon development is an explicit objective of their recovery plans, while this increases to nearly 60% for resilience. One EMDE response indicated that neither of these is an objective.

Investments

Most of the survey results provide an indication of the types of green investments that are planned in recovery. These were very broadly mapped to the major clean investment categories set out in the *Better Recovery, Better World* report of July 2020. For example, if a country mentioned digital investments in its survey, it is ticked off against the 'Circular economy and digitalisation' category. The ticks are then summed to obtain a total (Figure A3).

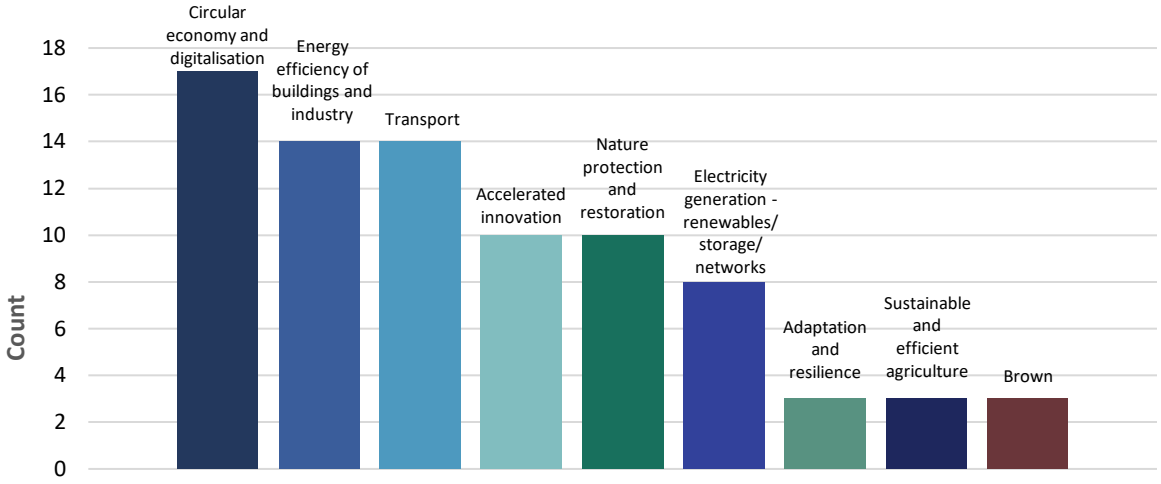
Circular economy and digitalisation investments were mentioned in recovery plans most frequently. This includes investments that develop circular economy models across economic sectors, and digitalisation investments to increase inclusion, manage complex systems, and increase productivity and new working

methods. This was closely followed by **energy efficiency of buildings and industry**. This includes retrofits, enhanced standards for new construction aiming at net-zero buildings and advanced industry production techniques, design and digital building/industry technology.
Other categories include:

- **Transport** – investment for scaling-up charging infrastructure for electric vehicles supporting a transition to zero-carbon road transport, shifting to sustainable aviation (including new fuels) and electric aeroplanes, scaling-up green shipping fuels and zero-emission vessels and rail electrification.
- **Accelerated innovation** – investment to transform 'hard to abate' sectors such as steel and cement and air and sea transport to include hydrogen and carbon capture, utilisation and storage (CCUS).
- **Nature protection and restoration** – investment in forests, peatlands, mangroves, seagrasses and saltmarshes through investment in land, establishment and maintenance of protected areas, and restoration of degraded landscapes, supported by the necessary incentives and institutional changes.
- **Electricity generation** – investment in renewable energy sources, storage and network development (including grids).
- **Adaptation and resilience** – making infrastructure, both physical and natural, more resilient to a changing climate, strengthening early warning systems and enhancing disaster risk preparedness and response (including timely disaster finance).
- **Sustainable and efficient agriculture** – investment in enhancing yields, enabling a shift to regenerative practices, diversifying alternative protein production, and reducing food loss and waste.
- **Brown** – any investment involving unabated fossil fuels with negative environmental impacts.

Four EMDEs reported through the survey that they are considering brown investments in their recovery plans with negative environmental impacts, and three Advanced countries reported brown investments. Where brown projects were disclosed in the surveys, it was mostly stated they were related to oil and gas for power and transport, but further details were not provided. While few detailed descriptions of brown investments were provided in the survey responses, green investments were mostly set out in detail, implying brown investments are likely to be underestimated in these results.

Figure A3. Types of Recovery Investments, Mapped to Major Green Investment Areas



For example, if a country plans one or more green 'Transport' investments,
it is ticked off against the 'Transport' category, and then all the 'ticks' are counted across all surveys.

The top priorities for countries in designing their recovery packages were jobs, multipliers, climate and nature (Figure 4a). The main response in 'other' was digitalisation. Figures 4b and 4c present the results by Advanced countries and EMDEs, respectively. This demonstrates how Advanced countries' survey responses drive the results, but there are insights to be gained from separating out EMDE data in this case. A key insight from the data is that jobs are the main design factor considered by all countries when designing recovery packages, and that climate and nature do not rank highly for EMDEs.

Around 75% of Advanced country surveys ranked jobs as their top priority in designing recovery packages. Where this was the case, they usually ranked each option in the list as '1', a top priority, except for four surveys that ranked 'speed' as second. For EMDE country surveys, 85% ranked jobs as their top or second priority, and over 70% ranked multipliers as their top or second priority.

Other rankings, '3' and up, did not provide much additional insight. Showing the first and second priority in the charts brings out the main messages from the data. This is the case for many reasons, including that many countries only provided first and second rankings; others ranked every option first; and others left some of the options/responses blank. Where rankings of '3' and up do provide useful insights, they are mentioned. For example, Figure A4c shows that nature and climate were ranked fourth to sixth most important in all the EMDE survey responses.

Figure A4a. Top Priorities in the Design of Investment-Led Recovery Plans

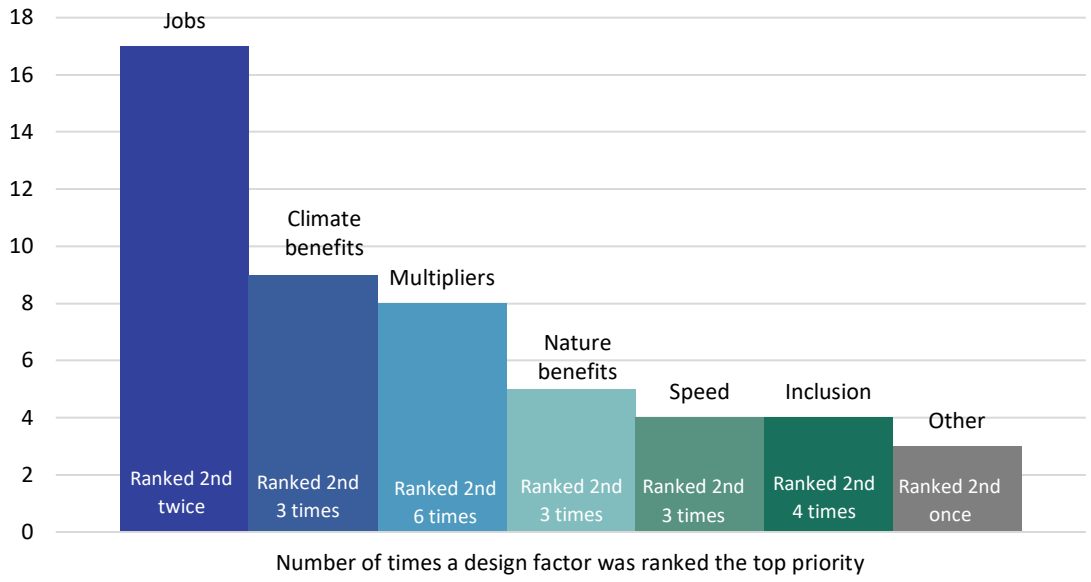
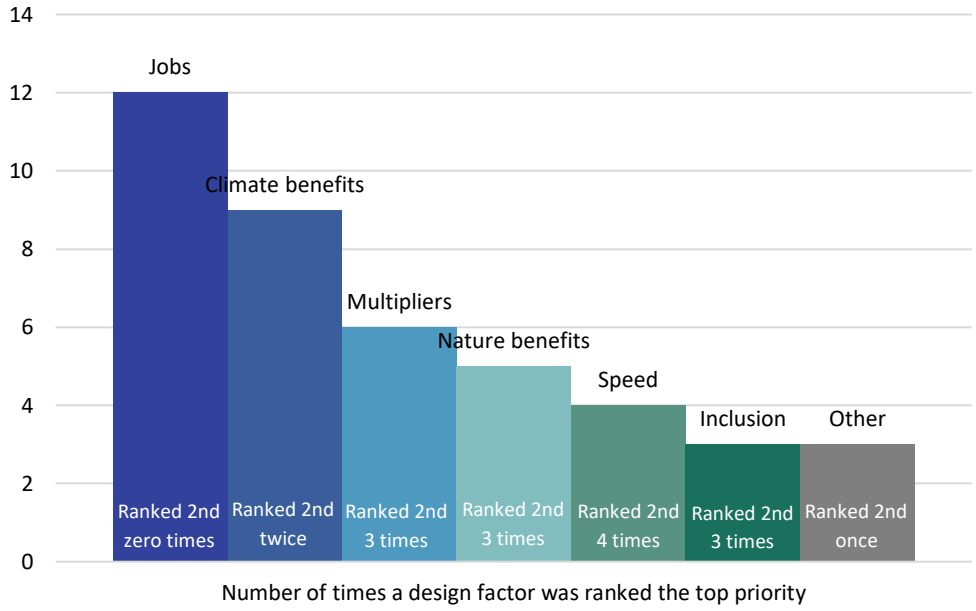
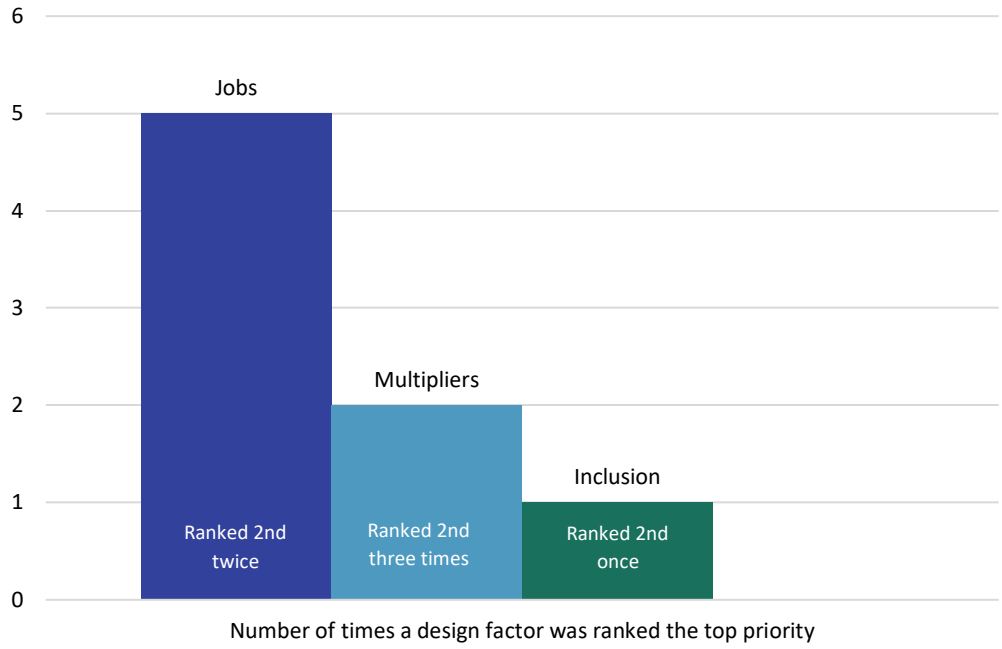


Figure A4b. Top Priorities in the Design of Investment-Led Recovery Plans (Advanced Countries)



(Sample size = 137)

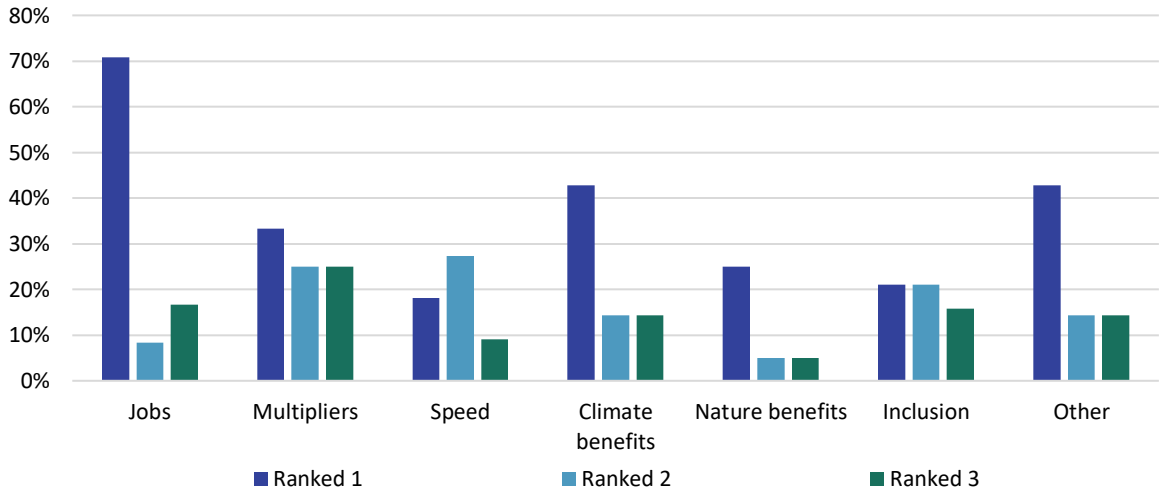
Figure A4c Top Priorities in the Design of Investment-Led Recovery Plans (EMDEs)



(Sample size = 42)

Figure A5 presents the factors that were ranked first (most important), second and third, in designing recovery packages, as a percentage of total rankings given for that factor. For example, where 'jobs' was given a ranking by a country in the survey (1 being most important to 6 least important), it was ranked first around 70% of the time, second nearly 10% of the time and third nearly 20%.

Figure A5. Share of Each Ranking (1 to 3) within a Design Factor (%)

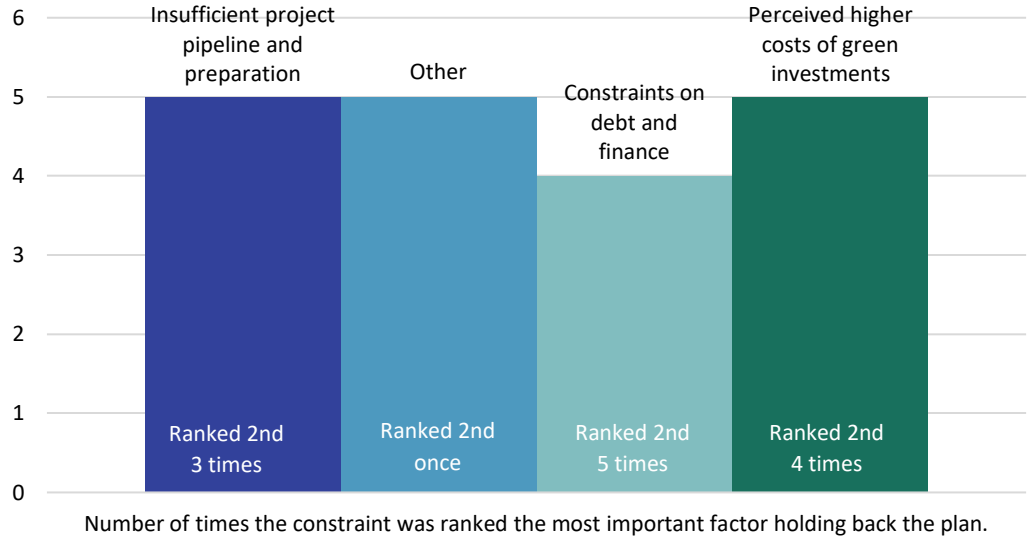


For example, jobs was ranked first (most important) in nearly 70% of the rankings given to jobs.

In total, around 70% of country survey responses (nearly 90% of EMDE responses) reported constraints on green recovery investments, while just over 30% reported no constraints (10% EMDE). Key constraints holding back green recovery plans include constraints on debt and finance, insufficient project pipeline and preparation, and perceived higher costs of green investments (Figure A6).

'Other' was a common response here. A range of constraints were listed under 'other', related to lack of technical capacity and experience, poor cost-efficiency of available projects, supply constraints, lack of data and research, lack of experience in implementing green projects at scale, political economy, weak monitoring and evaluation and low absorptive capacity. One survey comment related to perceived trade-offs between the large levels of resources required for green investments and long-term structural challenges around health, education and social needs—there was a perceived resource constraint on achieving both. (All but one of the 'other' responses were from advanced country surveys.)

Figure A6. Top Constraints Holding Back Investment-Led Recovery Plans

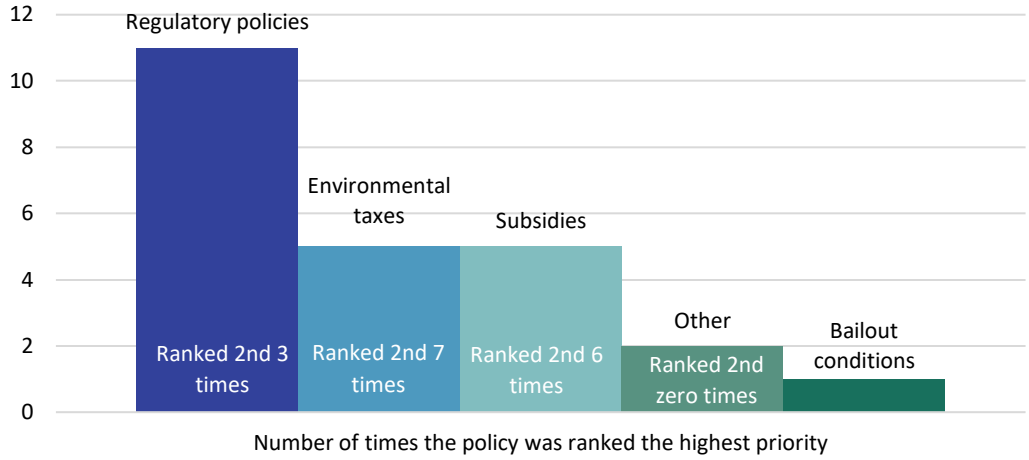


(Total responses = 53)

Policies

Sixty-five per cent of countries reported through the survey they were planning structural policy reforms to support their investments (85% of Advanced country members and nearly 60% of EMDEs). Regulatory reforms were the most frequently stated top priority for countries, followed by environmental taxes (Figure A7). 'Other' includes a range of reforms to increase the capacity of the state to promote growth and stability, for example: new labour legislation; new banking and supervisory reforms; strengthening sector governance; new, more favourable depreciation rates for green investments; and reform of various budget and fiscal tools. Some EMDEs indicated that they were still considering what reforms to implement.

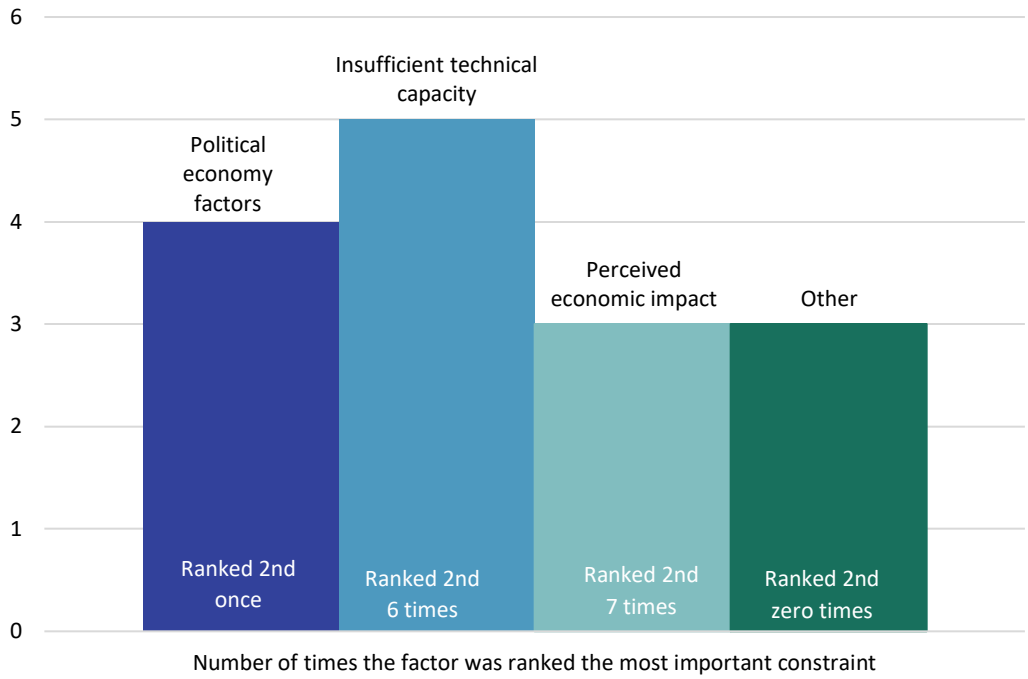
Figure A7: The Top Structural Policy Reforms Countries are Considering to Accompany their Investment Recovery Plan



(Total responses = 57)

Seventy per cent of countries (100% of EMDEs) reported through the survey factors holding back policy implementation; no single factor dominates (Figure 8). Notes in the surveys from Advanced countries further stated: a lack of competencies; lack of data; inadequate scientific researchers; delays linked to poor absorptive capacity; various bottlenecks; poor public administration and procurement; and difficulties initiating and coordinating cross-sector horizontal policies. 'Other' responses related to EMDEs and included: lack of political will; macroeconomic instability and lack of financing that hinders long-run planning; perceived negative impact of policies on the labour market; implications for fiscal sustainability of additional policy spending; and a lack of absorptive capacity of agencies.

Figure A8: The Factors Holding Back the Implementation of Structural Policies



(Total responses = 36)

Many countries' responses (36%), especially from EU member countries and one EMDE country, reported favourable policy changes since the start of the pandemic that will help with implementation of recovery plans. The majority of country responses (60%), including from three EMDEs, reported there were no changes that were helping or hindering their ability to implement supporting policies for their investment-led recovery plans. One EMDE reported that changes were both helping and hindering. Many Advanced EU countries reported that policy and regulatory framework changes at the EU level will help implement structural reforms and green recovery plans. Other countries reported temporary relaxation of fiscal rules as being helpful for recovery plans. EMDEs reported positive factors, including restructuring of external debt and new or amended legislation on fiscal rules and conditions for their relaxation.

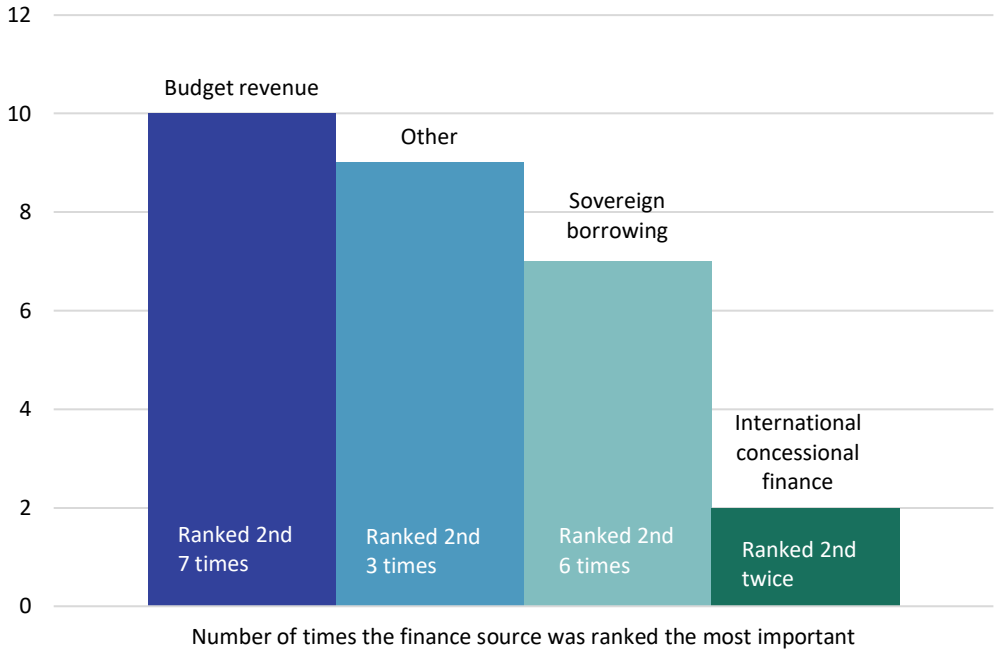
An important insight from the surveys is that ***no countries have reported any relaxation of environmental policies or other rules since the start of the pandemic***. If anything, there has been a strengthening of policy in many countries, including new carbon taxation, increased carbon taxes in existing schemes, and fossil fuel subsidy reform. EMDEs reported no relaxation in actions to combat illegal wildlife trade and protect habitats.

Finance

The top priority for financing recovery plans was government budgets and sovereign borrowing (Figure A9). 'Other' almost exclusively relates to the EU Recovery and Resilience Facility to which EU member countries have access. Other countries are implementing budget system reforms to maximise fiscal revenues. EMDEs also indicated under 'other' that they had accessed grant financing, were seeking to

attract finance through Public–Private Partnerships (PPPs) and from the private sector, and were looking for the cheapest sources of finance.

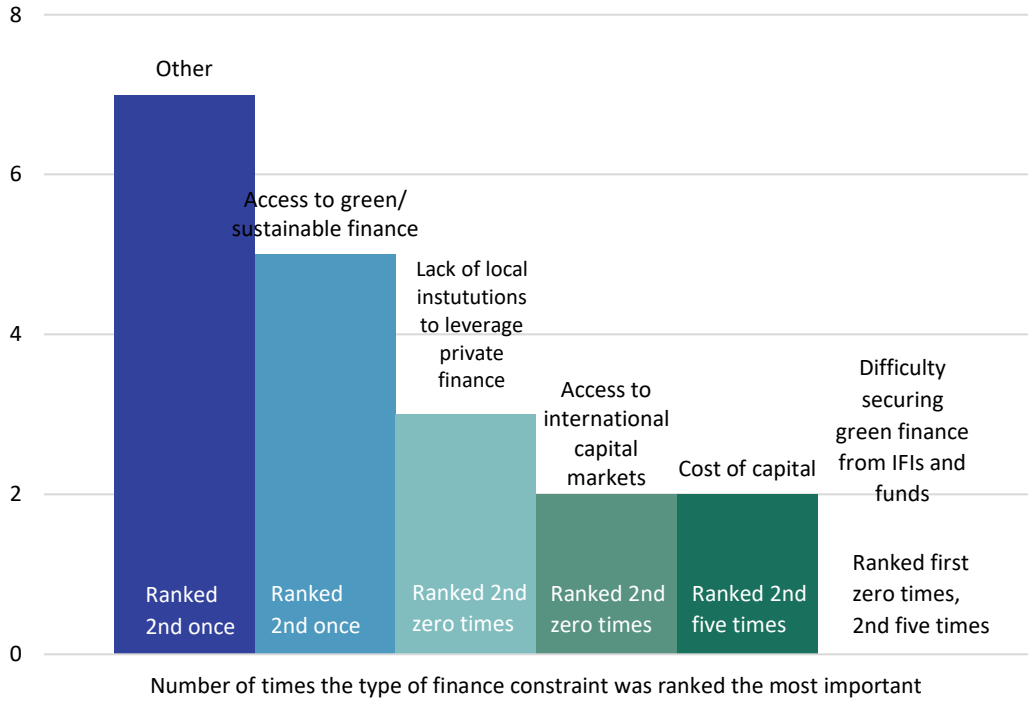
Figure A9: Most Important Types of Finance for Recovery Plans



(Total responses = 57)

A diverse range of constraints on financing were reported (Figure 10). The most common constraint listed in 'other' was keeping budgets within fiscal rules and fiscal sustainability constraints. EMDEs also listed poor data management and legal constraints on issuing certain types of debt.

Figure A10. Most Important Constraints on Financing (Green) Recovery Plans



(Total responses = 53)

Finally, nearly 50% of all countries reported in their responses support from international/ development finance institutions (IFIs/DFIs) for their recovery plans; the rate was nearly 90% for EMDEs. Some EMDE country surveys reported that no green investment conditions were imposed by IFI/DFIs on their support.

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