STIMS

INTERNATIONAL ORDER & CONFLICT

REPORT

BUILDING BACK TOGETHER & GREENER

Twenty Initiatives for a Just, Healthy, and Sustainable Global Recovery



About this report

As COVID-19 took its toll on lives and livelihoods, climate change was also altering daily life worldwide, with heat waves, droughts, wildfires, record rainstorms, and ruinous floods. The trillions of dollars devoted to pandemic economic stimulus by the world's richest countries show that financing can be found to grapple with serious issues when political will is mustered, as it needs to be for climate as least as much as COVID-19. We need the will to battle COVID-19 and the climate crisis both, building toward a future for humanity that works with nature, not against it; that is broad-based and inclusive; and that is driven by creative ideas, clear goals, and urgent timelines. Twenty such ideas are presented in this report, which also advances a strategy to promote timely, effective, and global joint action, beginning with the United Nations and G20, to help advance a broad consensus on, and then set out to build, a future that is healthy, sustainable, and leaves no one behind.

About Stimson

The Stimson Center promotes international security, shared prosperity & justice through applied research and independent analysis, deep engagement, and policy innovation.

For three decades, Stimson has been a leading voice on urgent global issues. Founded in the twilight years of the Cold War, the Stimson Center pioneered practical new steps toward stability and security in an uncertain world. Today, as changes in power and technology usher in a challenging new era, Stimson is at the forefront: Engaging new voices, generating innovative ideas and analysis, and building solutions to promote international security, prosperity, and justice.

Stimson's Global Governance, Justice & Security Program aims to advance more capable global and regional institutions to better cope with existing and emerging global challenges, and to create new opportunities through effective multilateral action, including with the global business community and civil society.

- Visit the new Global Governance Innovation Network, a collaborative project of the Stimson Center, Academic Council on the United Nations System (ACUNS), Plataforma CIPÓ, and Leiden University: www.innovation-network.org.
- Read the interim-report of the Climate Governance Commission, of which Stimson's Global Governance, Justice & Security Program is a member, visit: https://globalchallenges.org/initiatives/partnerships/climate-governance-commission/.

About the Doha Forum

The Doha Forum is a global platform for dialogue, bringing together leaders in policy to discuss critical challenges facing our world, and to build innovative and action-driven networks.

Under the banner 'Diplomacy, Dialogue, Diversity', the Doha Forum promotes the interchange of ideas and discourse towards policy making and action-oriented recommendations. In a world where borders are porous, our challenges and solutions are also interlinked.

Copyright © September 2021, The Stimson Center and Doha Forum. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without prior written consent from the Stimson Center and Doha Forum.

STIMSON

1211 Connecticut Avenue NW, 8th Floor Washington, DC 20036 Tel: 202.223.5956 | Fax: 202.238.9604 www.stimson.org

Cover illustration: Doha Forum



STIMS@N

BUILDING BACK TOGETHER & GREENER

Twenty Initiatives for a Just, Healthy, and Sustainable Global Recovery





Research Team and Acknowledgements

Research Team

Richard Ponzio (Program Director), Cristina Petcu (Research Analyst), Banou Arjomand (Research Assistant), Joris Larik (Senior Advisor and Nonresident Fellow), William Durch (Editor and Distinguished Fellow), Lita Ledesma (Designer), Hasan Aloul (Webmaster), and Researchers: Eliane Shackleton and Emily Todd. The Hamad Bin Khalifa University research team: Reem Al-Hababi, Asma Salim, and Muhammed Kebbeh. The New School's Graduate Program in International Affairs practicum research team: Dalton Bouchles, Maria Villarreal De La Garza, Alexa Joy, Standhope Williams, and practicum supervisors: Barbara Adams and Peter Hoffman.

Acknowledgements

The Report Team (comprised of researchers from ten different countries) wishes to express its appreciation for the support and encouragement provided by the following individuals: Brian Finlay, Oksana Bellas, Tia Jeffress, David Solimini, Lolwah Al-Khater, Nofe Al-Suwaidi, Abdulaziz Al-Thani, Mohammed Al-Attiyah, Sara Al-Saadi, Ghanim Al-Yafei, Maryam Al-Muhannadi, Pippa Martin, Safae El-Yaaquobi, Patrick Gallagher, Leslie Pal, Lise Howard, Steve Killelea, Maja Groff, Magnus Jiborn, and Jens Orback. We also wish to express our gratitude to the following peer reviewers who provided helpful substantive feedback on earlier sections of the report: Adriana Abdenur, Arunabha Ghosh, Reem Al-Mansoori, Barbara Adams, Peter Middlebrook, Tom Buitelaar, Paulo Magalhães, Ben Donaldson, Felix Dodds, Johanna Mendelson Forman, Robert Berg, Joshua Lincoln, Tad Daley, Daniel Perell, Andreas Rechkemmer, and James Shires.

We also wish to extend a special thank you to the State of Qatar for its generous financial support for Stimson's Global Governance, Justice & Security Program. We are pleased to further thank our fellow founding co-sponsoring institutions of the new Global Governance Innovation Network: the Academic Council on the United Nations System, Plataforma CIPÓ, and Leiden University.

Related Publications

- Confronting the Crisis of Global Governance, The Report of the Commission on Global Security, Justice & Governance (2015)
- Just Security in an Undergoverned World (2018)
- An Innovation Agenda for UN75: The Albright-Gambari Commission Report and the Road to 2020 (2019)
- *Reimagining Governance in a Multipolar World* (2019, co-published with the Doha Forum)
- UN 2.0: Ten Innovation for Global Governance 75 Years beyond San Francisco (2020)
- <u>Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty</u> (2020, co-published with the Doha Forum)
- Beyond UN75: A Roadmap for Inclusive, Networked & Effective Global Governance (2021)

Contents

Research Team and Acknowledgements	4
List of Illustrations	6
List of Abbreviations	7
Executive Summary	9
I. Introduction: Slowly Leaving the Pandemic Behind	13
Socioeconomic trends Political and Security Trends. Environmental Trends Technological and Cultural Trends. II. A Broad-based and Green Recovery: Unpacking Concepts, Actors, and Instruments Defining "green recovery" Defining "broad-based recovery". Mapping the Key Actors	1416191919
Mapping the innovative implementing tools and institutions III. Making the Recovery Green and Sustainable	25
Road to a Broad-based and Green Pandemic Recovery	27
Ongoing Challenges and Current Responses Road to a Broad-based and Green Pandemic Recovery V. Making the Recovery Health- and Well-Being Focused	36
Ongoing Challenges and Current Responses	46
Ongoing Challenges and Current Responses Road to a Broad-based and Green Pandemic Recovery VII. Taking the Broad-based, Green Recovery Agenda Forward	54
Major Milestones on the Road to a Global, Broad-based, and Green Recovery	62
Endnotes	70
Ribliography	76

List of Illustrations

Figures

Figure 1.1: Total COVID-19 vaccine doses administered, in countries grouped by income level	.14
Figure 1.2. Changes in global surface temperature	.16
Figure 2.1: Environmental indicators for green recovery	20
Figure 2.2: Some key actors and initiatives for COVID-19 response and recovery	.22
Figure 3.1: Climate financing for developing countries (2013-2018)	26
$ \label{prop:prop:special} $.35
Figure 4.2. Structure of Debt-for-Nature Swaps	.39
Figure 5.1: Share of people who received at least one dose of COVID-19 vaccine	.44
Figure 7.1: Roadmap to the 2022 Green Pandemic Recovery Summit	6
Tables	
Table 1.1: World economic outlook projections	. 15
Boxes	
Box 3.1: A public-private partnership for green recovery	30
Box 4.1: Trade debt for investments in nature in Seychelles	40
Box 5.1: Kenya's innovative finance facility for water	.50
Box 6.1: South Korea's Digital New Deal	.53
Box 7.1: Rethinking global governance of our planet's climate	.61
Box 7.2: Turbocharging a greener and fairer recovery from COVID-19 with a "G2O+"	.63

List of Abbreviations

5G Fifth Generation Mobile Network

AEWA African-Eurasian Migratory Waterbird Agreement

AI Artificial Intelligence

ASEAN Association of Southeast Asian Nations
ASSURE ASEAN Scaling Up Renewables + Storage

AU African Union

BEPS Base Erosion and Profit Shifting

CO2 Carbon dioxide

COP Conference of the Parties

COP26 26th UN Climate Change Conference of the Parties

COVAX COVID-19 Vaccines Global Access

COVID-19 2019 Novel Coronavirus
DNSs Debt-for-Nature Swaps

DSSI Debt Service Suspension Initiative ECOSOC (UN) Economic and Social Council

ECOWAS Economic Community of West African States

EU European Union

FAO (UN) Food and Agriculture Organization
G20 Group of Twenty (intergovernmental forum)
G7 Group of Seven (intergovernmental forum)
GAIN Global Alliance for Improved Nutrition

GAVI The Global Alliance for Vaccines and Immunizations

GDP Gross Domestic Product

GFSIA Global Food Systems Innovation Alliance

GFSP Global Fund for Social Protection

GHGs Greenhouse gas emissions

HLPF High-Level Political Forum on Sustainable Development

ICT Information and Communications Technology

IFFs Illicit financial flows

IHR International Health Regulations
ILO International Labour Organization

IMF International Monetary Fund

IOT Internet of Things

IPBES Intergovernmental Science-Policy Platform on Biodiversity

and Ecosystem Services

BUILDING BACK TOGETHER & GREENER

IPCC (UN) Intergovernmental Panel on Climate Change

ITU International Telecommunication Union

LMICs Low- and Middle-Income Countries

MAR Monitoring, assessment, and reporting

MCM Multisectoral Coordination Mechanism

MENA Middle East and North Africa

MSMEs Micro-, Small-, and Medium-Sized Enterprises

NDCs Nationally Determined Contributions

NGDD New Global Digital Deal

NGOs Non-Governmental Organizations

OECD Organisation for Economic Cooperation and Development

OIE World Organization for Animal Health

(originally Office International des Epizooties)

P5 Permanent Five (members of the UN Security Council)

PACT Partnership to Accelerate COVID-19 Testing

PPP Public-Private Partnerships

RDBs Regional Development Banks

SDGs Sustainable Development Goals

SDR Special Drawing Rights

SIDS Small Island Developing States
SLCP Short Lived Climate Pollutants

UAE United Arab Emirates

UK United Kingdom
UN United Nations

UN75 United Nations' 75th anniversary

UNDP United Nations Development Programme
UNEP United Nations Environment Programme

UNESCO United Nations Educational, Scientific and Cultural Organization

UNFCCC United Nations Framework Convention on Climate Change

UNGA United Nations General Assembly

UNICEF United Nations Children's Emergency Fund

U.S. United States

WASH Water, Sanitation, and Hygiene
WFP (UN) World Food Programme
WHO World Health Organization
WTO World Trade Organization

Executive Summary

"The COVID-19 pandemic once again reminds us: Global crises require global solutions. We must act together to end the pandemic. And we must not forget those who are affected by extreme poverty and hunger. The UN Sustainable Development Goals are, and will remain, our compass for a better world." — Angela Merkel, Chancellor of Germany[†]

While the COVID-19 pandemic continues to top lists of pressing global concerns, the catastrophic effects of climate change are felt daily worldwide—from extreme temperatures and droughts ravaging West Asia-North Africa, and rising sea levels affecting many island states and low-lying countries, to ruinous flooding in Europe and China, and wildfires across America's West and large swathes of Australia. The Intergovernmental Panel on Climate Change predicts that continuation of economic and political business as usual will likely push global warming levels past 1.5°C or 2°C, the aspirational ceilings in the Paris Climate Agreement, to 3-4°C above 1850-1900 levels by the end of the century, further magnifying already intense droughts, fires, flash floods, and sea level rise.

At the same time, exclusionary nationalism and populism, great power competition, increasing inequalities, and the dark side of cyberspace continue to imperil world order. To effectively contest them while meeting the rising public health and environmental challenges, multilateral cooperation is urgently needed—as stressed in last year's UN75 Declaration—to harness the ideas, capabilities, and networks of international organizations, governments, businesses, and civil society groups in the interest of effective global problem-solving.

This report focuses on the emerging agenda essential to achieve a global recovery over the next three to five years that is sustainable, equitable, and inclusive. Such a recovery is arguably more complex, costly, and politically fraught than most leaders have as yet been willing to admit. That does not make it any less necessary:

a recovery plan that goes beyond pandemic response and combats climate change; in other words, a recovery that is broad-based, as well as green. The recommendations in this report are designed to further those goals. Grouped under the headings of climate action, a fair and inclusive economy, health and well-being, especially of the most vulnerable, and digital connectivity, the report offers twenty related recovery initiatives for ratcheting-up the Paris Climate Agreement's ambitions and recalibrating the 2030 Agenda for Sustainable Development to address, in particular, those most adversely affected by the virus and its knock-on effects:

Section III: Making the Recovery Green and Sustainable

1. Prioritize a "green" recovery within the COVID-19 recovery plans of governments and regional and global governance bodies, including by taxing carbon and ending fossil fuel subsidies. To support nationally-tailored mitigation (emissions-reducing) and adaptation (resilience-enhancing) strategies, recovery plans need sufficient resources, technical analysis, and political and societal backing.

2. Incentivize the private sector, within appropriate regulatory frameworks and with external assistance, to invest in a circular economy that reduces waste and promotes environmental sustainability. Tax reforms, leveraging public funding, and public-private partnerships can each motivate the business community to invest in a circular economy.

A recovery plan that goes beyond pandemic response and combats climate change; in other words, a recovery that is broad-based, as well as green.

- 3. Promote more efficient and climate-friendly ways of producing hydrogen for a green recovery through a Global Green Hydrogen Alliance. Priority steps should include setting-up a global inventory of green hydrogen programs, protecting intellectual property and licensing rights while expanding global access, and encouraging alliance-wide standard-setting for safe storage and transportation.
- 4. Treat the protection of forests as a global collective action problem needing active monitoring and support from both governments and business. Establish a technical monitoring body, combined with a mix of external technical collaboration, information exchange, and political pressure, to aid forest governance worldwide.
- 5. Enhance the strategic communications capacities of global and regional organizations to broaden understanding of the local impact from global warming and action needed to counter it. Meaning-making, getting climate framing right, and engaging local influential voices are tested strategies for reaching diverse target audiences.

Section IV: Making the Recovery Fair and Inclusive

6. Invest in human capital and upgrading skills to facilitate a broad-based and green recovery, emphasizing support to people at risk. Planning instruments should privilege investments in low carbon activities and infrastructure with rapid job creation potential to support people at risk of unemployment, including youth.

- 7. Support micro-, small-, and medium-sized businesses to accelerate the private sector transition to more equitable and greener practices. Private sector incentives and public-private knowledge-sharing networks can facilitate the transition away from carbon-intensive industries.
- 8. Create a standardized corporate tax solution to reshape global commerce and address inequality. Adopt the G7's July 2021 decision calling for a minimum 15 percent tax rate on global corporations with more than about U.S. \$900 million in annual revenues.
- 9. Establish a coordination mechanism to trade debt for investments in the environment to address the debt, climate, and biodiversity crises. An "organizing framework" for innovative Debt-for-Nature-Swaps can help to create unity of purpose between debt relief and a developing country's plans for investing in green, resilient, and inclusive development.
- 10. Fill development financing gaps to create sustainable COVID-19 recovery opportunities, focusing on vulnerable economies. In coordination with the World Bank and International Monetary Fund, regional development banks are well-placed to offer tailored and immediate recovery funding to vulnerable countries in their region.

Section V: Making the Recovery Health- and Well-Being Focused

11. Create a Multisectoral Coordination Mechanism as a tool for governments to operationalize the World Health Organization's "One Health" guidelines on climate-related threats to public health and human-animal-environmental interdependence. Fully implementing these guidelines will help to track emerging diseases and respond to outbreaks quickly and cost-effectively.

- 12. Waive intellectual property protections for COVID-19 vaccines and therapeutics through the World Trade Organization as a first step towards greater vaccine availability worldwide. Treat COVID-19 vaccines as global public goods, making them easily accessible and replicable globally.
- 13. Create a Global Fund for Social Protection to assist developing country governments in providing adequate social protection systems. Such a fund would boost coordination efforts, mobilize domestic and external resources, and buffer against economic shocks.
- 14. Create a public-private Global Food Systems Innovation Alliance to fight famine and food insecurity and improve food affordability, safety, and sustainability. Such systems can bring together key public and private sector stakeholders, as well as international organizations and civil society.
- 15. Scale up financing for water infrastructure projects to ensure safe water and sanitation for all. An estimated U.S. \$114 billion is needed annually to meet water, sanitation, and hygiene commitments worldwide. Blended financing mechanisms could pool

public and private resources and reduce the risks associated with large-scale water infrastructure projects.

Section VI: Making the Recovery Digital Everywhere

- 16. Adopt a New Global Digital Deal to expedite the achievement of Sustainable Development Goal 9 on resilient infrastructure, inclusive and sustainable industrialization, and innovation. The initiative would foster modern and resilient digital infrastructure, particularly in the Global South.
- 17. Promote large-scale investment in Information and Communications Technology infrastructure to achieve digital equity. International organizations and governments should partner with businesses to ensure effective and reliable digital connectivity, including through targeted investments in the steady digitalization of most (if not all) public services.
- 18. Fund digital outreach and skills training to combat mis-/disinformation and foster a digitally literate global citizenry. Greater digital literacy can help users leverage these technologies' economic, health, and environmental potential.
- 19. Protect indigenous communities and Small Island Developing States through tailored improvements in digital connectivity. ICT hubs and increased online access can give

Actually marshalling governments, businesses, and global civil society behind a coherent, representative, and sustained global implementation strategy will require a culminating session—a "Green Pandemic Recovery Summit." indigenous and island communities the help needed to forge and implement community post-pandemic recovery plans.

20. Incentivize greener digital technologies and e-commerce via global carbon taxes, agreements governing digital trade, and laws curbing "flash" sales. Such taxes can motivate tech firms to decarbonize, and tax revenues can be used to fund better electronic waste management and recycling programs.

A number of significant international meetings will take place over the next ten months, which allow the international community to take significant steps toward a shared recovery. However, actually marshalling governments, businesses, and global civil society behind a coherent, representative, and sustained global implementation strategy will require a culminating session—a "Green Pandemic Recovery **Summit.**" Orchestrated by the United Nations and G20, and timed to coincide, in September 2022, with the annual UN General Assembly High-Level Week, the proposed two-day summit would help to ensure that political leaders at the highest levels commit to advancing, by all creative means at their disposal, a common approach to climate-forward and equitable socioeconomic development post-COVID-19. Steps to ensure its success would include:

- Establishing a small summit secretariat and building upon existing planning frameworks: It should welcome secondments from the UN, World Bank, IMF, WTO, and G20 Presidency to the organizing team, and integrate these institutions' planning instruments into summit preparations.
- Encouraging citizens' voices, especially women and youth, through global-regional civil society forums and online platforms: These in-person and virtual discussions could facilitate non-governmental advocacy, research, and business-oriented groups to provide a watchdog role and weigh-in on the kinds of green recovery policy prescriptions world leaders need to hear.
- Convening a High-Level Meeting on Green Pandemic Recovery Financing, in conjunction with April 2022 World Bank-IMF

Meetings: This could shine a light on mobilizing domestic revenue, combating illicit financial flows, and public-private (or blended) financing gaps, including serious funding shortfalls for the Sustainable Development Goals.

• Ensuring that the proposed summit results in a focused and action-oriented agenda for a just, health-focused, and sustainable global recovery: It should encompass both programmatic initiatives and structural economic reforms that are carefully prioritized, sequenced, budgeted, and measurable. And it should bring the G20 as a forum into more regular interaction with the UN system, creating a relationship we call the "G20+."

The trillions of dollars in COVID-19 stimulus spent in the richest countries confirm that financial tools are available for serious issues when political will is mustered and creative market incentives are introduced. What is most needed now are the practical operational details of a durable, environmentally sensitive, and equitable socioeconomic path forward, worldwide, with clear goals, timelines, and creative programming ideas (such as the twenty presented in this report). Commitments and resources drawn from related initiatives can also help, building on the 2030 Agenda for Sustainable Development, the Build Back Better World partnership, the Belt-and-Road Initiative, and the wealth of green deals and programs underway around the world.

People and nations are understandably reeling from the present pandemic, the fear that humanity may be nearing the point of no return with respect to catastrophic climate change, and other global threats looming on the horizon. Fortunately, we already possess a system of multilateral institutions, beginning with the United Nations, designed to nurture and help steer, even if imperfectly, a worldwide political consensus toward a mutual, far-reaching action agenda to better cope with the current crises. Time to get to work.

I. Introduction: Slowly Leaving the Pandemic Behind

"Today's IPCC Working Group 1 Report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable: greenhouse gas emissions from fossil fuel burning and deforestation are choking our planet and putting billions of people at immediate risk. Global heating is affecting every region on Earth, with many of the changes becoming irreversible."

— António Guterres, United Nations Secretary-General²

While the COVID-19 pandemic's immediate health threat and longer-term socioeconomic effects continue to top the list of pressing global concerns, the effects of catastrophic climate change are felt now daily worldwide. They range from extreme temperatures and droughts ravaging West Asia-North Africa, and rising sea levels affecting many island states and low-lying countries, to catastrophic flooding in Europe and China, and wildfires across America's West Coast and large swathes of Australia. Meanwhile, the rise of exclusionary nationalism and populism, great power competition, and the dark side of cyberspace continue to imperil common approaches to global challenges. To confront each of these issues, including the "broad-based and green recovery agenda" explored at length in this report, multilateral cooperation is urgently needed that harnesses the ideas, capabilities, and networks of international organizations, governments, businesses, and civil society groups for effective global problem-solving. Equally important is comprehending the global backdrop and specific nature of the transnational threats, challenges, and opportunities facing multilateralism, including socioeconomic, political and security, environmental, and technological and cultural trends.

Socioeconomic trends

The pandemic has caused acute global socioeconomic setbacks. As of September 1, 2021, the pandemic has taken over 4.5 million lives, pushed a further 124 million people into extreme poverty, and seriously impeded progress toward achieving the 2030 Sustainable Development Goals.³ The estimated total of coronavirus infections

has surpassed 200 million globally, 100 million of which have been diagnosed in the past six months.4 COVID-19 has also caused a sharp increase in humanitarian needs, with the UN and its partners seeking assistance for 160 million people in 2021, the highest yearly figure since data was first collected.5 The rapid evolution of new, highly contagious virus variants and growing inequality in vaccine delivery in many countries are causing sharp spikes in cases and hospitalizations. As of September 1, 2021, over five billion vaccine doses have been administered globally with the pace of vaccine rollout varying across countries.6 On average, high-income countries started vaccination campaigns two months earlier than low-income countries, and access to vaccines in low-income countries is still strikingly low, as evident in the almost invisible red line at the bottom of figure 1.1. Roughly 40 percent of the populations of advanced economies have been fully vaccinated, compared with less than half that number in emerging market economies and a small fraction in low-income countries.7 Contrary to appeals from the World Health Organization (WHO) to hold off on COVID-19 vaccine boosters until more people have access to initial doses around the world, Germany, France, and Israel are going ahead with plans to administer them.8 In the United States, the Biden administration has anticipated offering Americans a booster dose starting this fall.9

Although 2020 saw a sharp contraction in the global economy due to COVID-19, a strong, though uneven, recovery is on the horizon. The global economy is projected to expand by 6 percent in 2021 and 4.9 percent in 2022 (see table 1.1). However, this expansion will be driven by major economies such as China, the

■ High income 3000M Total COVID-19 Vaccines Administered 2500M The almost Upper middle income 2000M invisible orange line at the bottom shows the lagging 1500M roll-out in lowincome countries. 1000M 500M Lower middle income Low income JÚL 2021

Figure 1.1: Total COVID-19 vaccine doses administered, in countries grouped by income level, as of July 2021

Source: UNDP, Global Dashboard for Vaccine Equity (July 2021).

European Union (EU), and the United States, which benefit from substantial fiscal space and high vaccine access.11 Meanwhile, sub-Saharan Africa is making little progress in reversing the increase in extreme poverty caused by COVID-19—estimated to affect around 40 million people—obliterating five years of progress in fighting poverty.12 In South Asia, India's recovery is being hindered by the largest outbreak of any country since the beginning of the pandemic, with close to 440,000 officially estimated deaths, as of August 2021, and at least 2 percent of residents reportedly infected.¹³ In West Asia, North Africa, and Latin America and Caribbean, the level of economic growth in 2021 is expected to be less than the magnitude of the contraction in 2020.14

In order to provide more aid to poor countries in their recovery efforts from COVID-19, the World Bank and the International Monetary Fund urged the G20, in May 2020, to set-up the Debt Service Suspension Initiative (DSSI). The initiative allows the World Bank to pause, until December 2021, bilateral debt service payments for low-income countries. Since its inception, the DSSI has deferred U.S. \$6 billion in debt service, releasing much-needed resources for developing countries to advance their economic recovery and expand access to vaccines.

However, the IMF estimates that low-income countries will need U.S. \$450 billion through 2025 to respond to the pandemic and accelerate sustainable investments. Its recent General Allocation of Special Drawing Rights, equivalent to U.S. \$650 billion, of which U.S. \$275 billion is proposed to support emerging markets and developing economies, will help ease economic strain in the latter and address the long-term global need to supplement existing reserve assets. If

COVID-19 has also increased the number of people facing acute food insecurity (an immediate threat to life). The UN World Food Programme (WFP) estimates that around 272 million people are already, or are at risk of becoming, acutely food-insecure in those countries in which it operates. A rise in hunger was evident, however, even before the pandemic amplified the impacts of other stressing factors such as "conflict, socio-economic conditions, natural hazards, climate change and pests." ¹⁷

Political and Security Trends

By the end of 2020, around one percent of the global population (82.4 million people) remained forcibly displaced due to persecution, conflict,

Table 1.1: World economic outlook projections (real GDP, annual percent change), as of July 2021

	Estimate	Projections	
	2020	2021	2022
World Output	-3.2	6.0	4.9
Advanced Economies	-4.6	5.6	4.4
Emerging and Developing Asia	-0.9	7.5	6.4
Emerging and Developing Europe	-2.0	4.9	3.6
Latin America and the Caribbean	-7.0	5.8	3.2
Middle East and Central Asia	-2.6	4.0	3.7
Sub-Saharan Africa	-1.8	3.4	4.1
Low-income Developing Countries	0.2	3.9	5.5

Source: International Monetary Fund, World Economic Outlook Update (July 2021).

and violence. In August of 2021, following the United States military withdrawal, Taliban forces rapidly took control of Afghanistan. The United States has warned that up to half a million Afghans could flee the country by the end of the year, on top of the 2.2 million Afghan refugees in neighboring countries and 3.5 million people forced to leave their homes within Afghanistan's borders. To stem this trend, it remains to be seen whether the Taliban will heed UN Security Council calls for a government that is representative and inclusive.

The COVID-19 pandemic has further exposed and intensified inequality and discrimination, impeded government operations, and impaired countries' human rights and protection systems. It also likely had a significant impact on the level of peace around the world, causing both more and less violence and conflict in countries. According to the 2021 Global Peace Index, the world became less peaceful over the past twelve months for the ninth time in the last thirteen years. At the same time, during this period several regions, including West Asia-North Africa, Europe, and South Asia, saw improvements in peace and stability.19 In 2020, five out of 100,000 people were killed in armed conflicts, and one in seven of those people were women and children.20 Approximately 27 percent of civilian deaths were caused by small arms and light weapons, and 24 percent were caused

by heavy weapons and explosive munitions.²¹

Some political leaders took advantage of opportunities to exploit the pandemic in order to solidify power or pursue interests abroad. The pandemic has caused authoritarian governments and leaders with authoritarian leanings to react in three major ways: consolidate power at home, seek geopolitical advantage amid the crisis, and try to weaken democracies from within—all of which will have lasting effects on their respective populations.²² Other governments initially seemed caught off guard by the rapidity, reach, and danger of the virus. In Brazil, an outbreak in the capital Brasilia infected a large number of officials and politicians. Iran experienced dozens of cases among senior officials and parliamentarians, and in Burkina Faso, there were many cases among cabinet members as its government also struggled with the collapse of state authority in large parts of the country; its second vice-president was the first recorded COVID-19 fatality in sub-Saharan Africa.23

Although the last four years revealed an anti-multilateralist turn (as evidenced by various efforts to withdraw from, defund, or otherwise weaken international organizations and agreements), attempts at reversing this trend have arisen more recently, including in the area of pandemic response. Prominent examples include the global, multi-stakeholder COVAX facility launched in April 2020 to combat

COVID-19, and the Partnership to Accelerate COVID-19 Testing in Africa led by the Africa Centres for Disease Control and Prevention, and the African Union. ²⁴ Throughout 2020 and 2021, the Alliance for Multilateralism, the EU, and the G7 also clearly restated their commitments to multilateralism and a rules-based international order in more general terms. ²⁵

Environmental Trends

November 2021 will mark six years since the international community adopted the Paris Climate Agreement. Yet the most recent findings of the physical sciences working group of the Intergovernmental Panel on Climate Change (IPCC), released on August 7, 2021, report that global warming is accelerating at a rate faster than previously predicted. This means that the world will surpass the 1.5°C and 2°C ceilings on global warming committed to in Paris unless carbon dioxide (CO2) and other greenhouse gas emissions are significantly and quickly reduced (see figure 1.2). These findings, the first in a series that will make up the IPCC's Sixth Assessment Report (AR6), stress that there will be an increased frequency of severe weather such as tropical storms, cyclones, other heavy rainstorms, and droughts.26 Its warnings are both more dire and more definite than the

Panel's last series of reports, released in 2013-14, concluding that the world has little chance to achieve agreed climate change mitigation targets in our lifetimes given mitigation efforts to date and the resulting, continued degradation of the environment.27 These new projections and warnings are also sharper in part because participating scientists have access to more advanced methodological tools, including information derived from paleoclimate archives, new climate modelling, and improved observationally based estimates. This initial IPCC AR6 report also draws on over 14,000 scientific papers and the critiques of well over 1,000 expert reviewers, 46 governments, and the EU to make these grim assessments.28

The behavioral changes that resulted from the pandemic had a wide-reaching effect on the environment, in both positive and negative ways. In the short term, the pandemic reduced global CO2 emissions, lowered deforestation rates in some places, improved air and water quality, and diminished pollution.²⁹ In 2020, global emissions decreased by almost 2 gigatons of CO2 (5.8 percent) compared to 2019 but CO2 still reached "its highest ever average annual concentration in the atmosphere of 412.5 parts per million in 2020." In 2021, CO2 emissions are projected to rise by 4.8 percent.³⁰

1.5
1.0
0.5
0.0
1850
1900
1950
2000
2000
2020

Figure 1.2: Changes in global surface temperature, 1850-2020, with and without human activity factored in

Source: Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis. Summary for Policymakers, 7.

Circular economy principles and the use of debt swaps in return for climate action are innovative methods for promoting biodiversity recovery.

The zoonotic nature of COVID-19 (i.e., being an infectious disease that has jumped from an animal to humans) highlights the strong connection between the environment and health. The earth's biodiversity is being lost at an unprecedented rate with an estimated one million species at risk of extinction. Deterioration of ecosystems due to overexploitation has led to an increased risk of zoonotic diseases.³¹ To mitigate the damage, many countries have incorporated targeted environmental priorities into their national and regional development plans. Colombia's Green Growth Taskforce and the United Arab Emirates' Green Economy Initiative, for instance, address biodiversity loss through commitments to renewable energy, developments in sustainable technology, and increased protected lands—all critical to preserving biodiversity.32 Additionally, application of circular economy principles and the use of debt swaps in return for climate action are innovative methods for promoting biodiversity recovery (see sections III and IV of this report).

Technological and Cultural Trends

COVID-19 has not only pushed people's daily lives into the virtual world but stimulated technological innovation. In Greece, for example, an Artificial Intelligence (AI) algorithm helped to identify nearly twice as many asymptomatic, COVID-19 infected arriving international travelers as did conventional, random surveillance testing.³³ With the market for AI projected to grow at a compound annual rate of nearly 36 percent globally, 2021-2026,³⁴ AI is likely to be used increasingly to address some of the world's most pressing problems.

However, ethical issues relating to privacy, bias, and the destructive potential of so-called "deep fake" simulations, among many other concerns, have emerged in connection with AI's proliferation.35 Moreover, as technology evolves, hospitals, businesses, schools, governments, and others face increased cybercrime risks. For example, in November 2020, the Brazilian Superior Court of Justice suffered a cyberattack, dubbed the country's worst ever, that impeded operations for a week.36 The French Insurer, Axa, also suffered a cyber-attack on their Asia division with the attackers stealing three terabytes of data.³⁷ Though these institutions did not pay ransoms to retrieve their data or resume operations, many do. However, these payments are often not made public as, in most cases, the victimized institutions do not have to disclose them. Current projections are that cybercrime will cost the global economy U.S. \$6.1 trillion in 2021 and more than U.S. \$10.5 trillion annually by 2025.38 The frequency of attacks is, moreover, projected to increase 70 percent by 2024.39

Blockchain is another innovative technology that emerged with cryptocurrency but has since grown to be used in healthcare, by governments, and by banks. Blockchain technology is appreciated for its security, as it uses decentralized ledgers replicated on a host of independent computers to track, announce, and coordinate synchronized transactions.40 In 2019, the Colombian government collaborated with the World Economic Forum's Transparency Project to reduce corruption through blockchain. Blockchain technology was used to create permanent and tamper-proof record keeping, real-time procedural transparency, and automated functionalities with "smart contracts."41 Blockchain creates the option for accountability and security in many industries,

This report charts a vision and strategy for Building Back Together & Greener as the world slowly emerges from the highly traumatic, once-in-a-century (so far) COVID-19 pandemic.

and the global blockchain market is projected to reach U.S. \$56.7 billion by 2026, from U.S. \$6.0 billion in 2021.⁴²

Technology plays a large role in how culture evolves, too. Social media, specifically, has the ability to influence culture in an ever-accelerating fashion given its seeming ability to connect with its estimated (in 2021) 3.94 billion users globally.⁴³ However, the social media experience differs greatly, country-to-country, leading to different cultural norms and offshoots. One such offshoot is disinformation, which has exploded over the past few years, particularly in the United States (with an estimated 17 percent of people's online engagement being with sources deemed unreliable), but it is a growing global issue too.44 For example, the EU recently updated its Code of Practice on Disinformation to strengthen the bloc's policies and to facilitate tools for access to reliable information. 45 China employs a "Great Firewall" to block access to entities like Facebook and YouTube, in favor of comparable Chinese-owned-and-operated firms, and closely monitors critical references to the Chinese Communist Party. 46 This kind of censorship may facilitate suppression of disfavored forms of disinformation, but also prevents the free expression of opinions. Technology, in other words, can be used as a tool to uplift or oppress ideas and people—and hence, shape culture too, putting those who have control over it in powerful positions.

**

Against the complex and threatening global backdrop outlined above, this report charts a vision and strategy for *Building Back Together & Greener* as the world slowly emerges from the

highly traumatic, once-in-a-century (so far) COVID-19 pandemic. Building on analysis and initial recommendations first presented in our 2020 report, Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty, this year's report offers ideas on twenty initiatives for a just, health-focused, and sustainable global recovery. The report's findings are designed to complement the forthcoming interim report of the Climate Governance Commission—led by the Global Challenges Foundation and supported by the Stimson Center, among other partners—and to help take forward the UN75 Declaration, beginning with its first two (of twelve) commitments, "We will leave no one behind" and "We will protect our planet."

Facing up to the global challenges confronted in the present report requires, first, reflection on the principles underlying the goal of making the pandemic recovery both broad-based and green (section II). It further entails investigating ongoing problems and current responses, and highlighting innovative initiatives and proposals for change designed to ensure that the global recovery is sustainable (section III), fair and inclusive (section IV), health- and well-being focused (section V), and digitally connected everywhere (section VI). Finally, it means marshalling governments, businesses, and global civil society behind a coherent, representative, and sustained plan of action for implementation—including a culminating 2022 Green Pandemic Recovery Summit (section VII) building on major milestone gatherings over the next ten months, including COP26 in Glasgow, and momentum generated by the continued rollout worldwide of the coronavirus vaccine.

II. A Broad-based and Green Recovery: Unpacking Concepts, Actors, and Instruments

"There is good news in the finding that a green pandemic recovery could shave up to 25 per cent off the emissions we would expect to see in 2030 with implementation of unconditional NDCs [nationally determined contributions] – bringing the world close to the 2°C pathway." — Inger Andersen, Executive Director of the UN Environment Programme⁴⁷

The triple challenge of preventing future pandemics, getting economies back on track, and fighting climate change and environmental degradation creates both tensions for decision-making and opportunities for issue-linkage in recovery planning. The UN75 Declaration, adopted in September 2020, stressed humanity's "historic opportunity to build back better and greener." Grasping this opportunity means designing and implementing a recovery plan that goes beyond pandemic response and specifically incorporates elements of equity and sustainability, envisioning a recovery that is both broad-based and green.

A recovery defined in terms of equity and sustainability builds on, weaves together, and further advances existing, globally agreed programs and initiatives. These include the 2030 Agenda for Sustainable Development and the Paris Climate Agreement (both adopted in 2015); the United Nations Comprehensive Response to COVID-19 (September 2020); the UN75 Declaration's twelve commitments (September 2020); and the follow-up report by the UN Secretary-General, Our Common Agenda, released on September 10, 2021. Plans for an equitable and sustainable recovery can also draw on contemporary policy and scholarly debates, as well as regional, national, and local initiatives. Ultimately, such a recovery concerns the future shape of the entire global governance system, as well as global resource allocation and use.

This section unpacks concepts that underpin this report's notion of an urgently needed broadbased and green recovery agenda. In addition, it maps the relevant actors and instruments that are needed to realize it. It provides the conceptual foundation for specific recommendations that follow in four subsequent sections to implement and realize fully a progressive, multi-dimensional vision for recovery.

Defining "green recovery"

In this report, "green recovery" is defined as the simultaneous pursuit of economic growth and the achievement of environmental goals, in particular those of the Paris Agreement and the 2030 Agenda for Sustainable Development, through a globally coordinated effort. The term "green recovery" has been in use since the 2008 financial crisis. At the time, it was focused on expanding investments in green energy industries.⁴⁹ However, more recently, it has been repurposed to speak to COVID-19 pandemic recovery, while situated squarely within the growing climate crisis.50 The most recent scientific findings of the Intergovernmental Panel on Climate Change (IPCC), published in August 2021, paint an ever-worrying picture of our future environment and biodiversity, and make the need for a green recovery even more manifest.⁵¹ In his response to the report, the UN Secretary-General stressed that there is "a clear moral and economic imperative to protect the lives and livelihoods of those on the front lines of the climate crisis."52

In 2021, a UN Environmental Management Group dialogue defined "green recovery" as a reorientation of the global economy, which aligns national economic and development planning with a desirable green future and the investment in transformational projects. This reorientation can be operationalized through investing in clean energy and sustainable mobility, incentivizing financial lending towards

Figure 2.1: Environmental indicators for green recovery

	Outcome indicators	Policy indicators
Climate	Carbon intensity Renewable energy in the energy mix	Effective carbon rates Fossil-fuel support
Biodiversity	5. Land cover change	6. Protected areas 7. Economic instruments relevant for biodiversity
Other environment dimensions	8. Exposure to air pollution 9. Material productivity 10. Water stress	11. Research and development12. Environmentally related tax revenue13. Environmental Official Development Assistance

Source: Organization for Economic Cooperation and Development, Making the green recovery work for jobs, income and growth (2020), 14.

net-zero emissions of greenhouse gases, and providing financial support for the most vulnerable members of society.⁵³ Other emphases include building a more climate-resilient economy post-pandemic, and environmentally friendly recovery strategies.⁵⁴

The OECD uses "green recovery" to call for "combining an emphasis on restoring growth and creating jobs with the achievement of environmental goals and objectives." Moreover, the OECD has proposed goals and policy indicators for a green recovery (see figure 2.1).

Examples of green recovery include several "green initiatives" either underway before the COVID-19 outbreak or undertaken as a direct response to it. For example, the 2020 South Korean Green New Deal was a direct response to the pandemic, emphasizing the importance of pursuing environmental protection and economic recovery at the same time. Korea's Green New Deal is part of its larger national recovery plan. This plan has a price tag of U.S. \$144 billion, and it is largely focused on investing in job creation, renewable energy, green infrastructure, and electric cars. ⁵⁶

Colombia's Green Growth Taskforce and the United Arab Emirates' Green Economy Initiative were already mentioned in this report's previous section with respect to their concern for biodiversity loss. In addition, they are placing a spotlight on bioeconomy, clean energy, water use, urban planning, green technology, innovation, and a circular economy.⁵⁷ A circular economy, as distinguished from the usual "linear" model of production, use, and disposal, "is restorative by design—using and reusing natural capital as efficiently as possible and finding value throughout the life cycles of finished products."⁵⁸

At the regional level, the EU presented its plan for a "European Green Deal" in late 2019, pledging to achieve net-zero greenhouse gas (GHG) emissions by 2050, create a circular economy, restore biodiversity, and cut pollution. The European Green Deal is financed by one third of the 1.8 trillion euro (U.S. \$2.14 trillion) from the NextGenerationEU Recovery Plan and the EU's seven-year budget.⁵⁹ There have also been green initiatives from regional banks, such as the African Development Bank's New Deal on Energy in Africa and the Asian Development Bank's Climate Change Operational Framework, which pledge support for climate adaptation and mitigation, lowering GHG emissions, and public-private sector partnerships.60

These green deals and initiatives are all ambitious, which is needed in the face of climate change, though it remains to be seen if they will be fully realized. Moreover, a coordinated global green recovery plan has yet to be defined that draws together and harmonizes the strengths of these disparate programs.

Defining "broad-based recovery"

In addition and closely connected to a green post-pandemic recovery, this report calls for a "broad-based recovery." "Broad-based" is defined here in terms of equity and inclusiveness. Equity means that a global recovery effort must be based on principles of fair burden-sharing, reducing pre-existing inequalities, and protecting those most affected—both by the crisis and the impact of particular recovery initiatives. Inclusiveness means the desirability of engaging all relevant stakeholders in policy design and implementation, so as to increase the legitimacy and local ownership of a global recovery plan.

A lack of equity is manifest in various national responses to the pandemic over the past months concerning the provision of vaccines and economic stimulus packages. While developed countries have secured large amounts of vaccines to cover their populations, many developing countries face vaccine shortages while also struggling with economic downturns and growing socioeconomic inequality. These concurrent challenges have hampered progress on the Sustainable Development Goals (SDGs), as reflected in "elevated levels of poverty, lives upended, careers derailed, and increased social unrest" since the pandemic hit. 63

Vaccine access is critical as widespread vaccinations are expected to lead to herd immunity and allow for the reopening of economic activities. Conversely, vaccine inequality between countries further increases the fragility of global economic recovery. The growing incongruity in vaccine availability, along with instances of vaccine nationalism, impedes global recovery efforts. As noted in section I, vaccination rates remain strikingly low compared to high-income countries. In light of these discrepancies,

discussions about giving additional "booster shots" to people in developed countries have further intensified discussions about a lack of global equity in pandemic response.⁶⁴

Moreover, the ability of developed countries to adopt vast stimulus packages further highlights and potentially exacerbates global economic inequality. The United Nations Economic and Social Commission for West Asia (ESCWA) and the United Nations Economic Commission for Africa (ECA) launched the COVID-19 Stimulus Tracker, a global observatory on social protection and economic policy responses to support UN Member States as they build back from COVID-19.65 The Tracker estimates that out of the total fiscal support provided worldwide of U.S. \$18.7 trillion, the sixty-two high-income countries have provided U.S. \$16.8 trillion, 66 while 103 middle-income countries have put forward U.S. \$1.9 trillion, and 29 low-income countries have been able to muster only U.S \$10 billion (2 percent of their 2020 GDP). In other words, high-income countries have been able to far outspend poorer countries whose citizens risk falling even further behind after the pandemic. In a letter to G20 governments, a group of eminent persons, including several dozen former statespersons and economists, called for global coordination on economic recovery and expressed agreement with developing country leaders that "given the existential threat to their economies, the increasing disruption to livelihoods and education and their limited capacity to cushion people and companies," at least U.S. \$150 billion of international support will be required "for health, social safety nets, and other urgent help."67

Captured within the notion of a broad-based recovery—that is not only equitable but also inclusive—is the notion of a "just recovery," as it relates to COVID-19 recovery and the greening of economies. The concept centers around bringing in voices of marginalized groups, protecting public health, providing economic relief, creating community resiliency, and prioritizing justice for people and the planet. 68 The term has been used not only in reference to COVID-19 but with regard to refugee crises, climate change adaptation, equity challenges, urban planning, and community building. 69 For

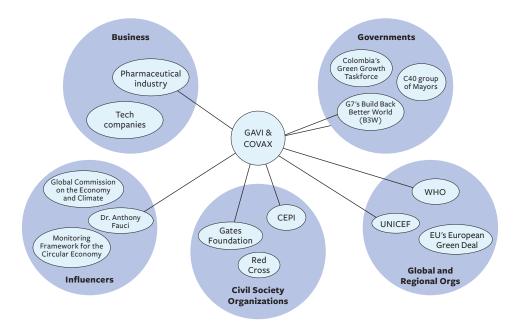


Figure 2.2: Some key actors and initiatives for COVID-19 response and recovery

Source: Report team, drawing on Ponzio et al., Beyond UN75: A Roadmap for Inclusive, Networked & Effective Global Governance (2021), 35.

pandemic recovery, the C40 group of mayors on climate action relied on this concept with respect to training for workers affected by climate change and the transition to clean energy.⁷⁰

Notions of equity and inclusiveness have also been captured in the term "just transition." It has been used in the past in reference to the climate crisis, particularly regarding emission peaks and green investments.71 In terms of pandemic recovery, "just transition" refers to the transition to clean energy, and the policies associated with it. This includes creating jobs in clean energy sectors and providing training to people put out of work by the pandemic, or providing social safety nets for workers affected by the energy transition.72 Just transition must thus respect the needs of communities whose economic security currently depend on fossil fuel-producing or -reliant industries that a green recovery aims to phase out or restructure. Such a transition should provide new jobs, skills, and training to workers whose jobs have depended on such industries, so that they are not left behind.73 The concept is also closely linked to inclusiveness as diverse representation, as it calls for workers, community members, local

businesses, and local governments to be engaged in crafting relevant public policies.⁷⁴

Pandemic recovery is an action-forcing moment for the global community to come together to face the climate crisis, lessen inequalities, and become more inclusive. As an example, combining these different elements, in 2020, the European Union announced a "just transition" mechanism as part of its European Green Deal, pledging to provide 100 billion euros (U.S. \$119 billion) in support to people affected by transitioning away from fossil fuels like coal and oil shale.⁷⁵ The "just transition" mechanism entails tailored financial and practical training support for workers and investments in the areas most affected by the transition.⁷⁶

Mapping the Key Actors

As pandemic response with its reliance on national health systems and other public bodies has made clear, states have been and continue to be central actors. However, over the past decades, non-state actors, including the business community and civil society, have gained in power, resources, and visibility, and hence are increasingly recognized as important actors in global governance alongside states.

Cooperation between public and private entities can be a catalyst in areas such as climate action and digitalization.

Based on this reality, there are calls for more networked and inclusive multilateralism as an approach "that connects, engages, and empowers a larger, more diverse, and representative set of actors, including but also beyond the state, for global problem-solving." The COVID-19 pandemic and the need for a broad-based, green recovery have highlighted the potential for networked and inclusive multilateralism further (see figure 2.2).

A networked and inclusive approach to a broadbased, green recovery does not sideline states, which remain indispensable, and sometime highly successful actors with wide-ranging means and responsibilities. Certain governments have proven rather capable in addressing and containing the effects of COVID-19. Taiwan, Singapore, and New Zealand had low numbers of COVID-19 transmissions, thanks in part to their geographic location, but also because of swift and assertive action by their governments, combining strict regulations with monitoring and the use of technology.78 Taiwan has seen fewer than 16 thousand cases and 800 deaths among a population of more than 23 million.79 Such accomplishments in managing the virus have been rewarded with increased public trust.80

At the same time, states can be major spoilers, as various instances of vaccine nationalism have shown.⁸¹ Whether states choose policy innovation and cooperation in their enlightened longer-term interest, or a short-term focus on national interest in the form of economic nationalism, protectionism, and continuing unsustainable practices, will be a major factor in making the recovery broad-based and green.

Where some states lacked the strong presence and resources that a swift and effective COVID-19 response necessitated, many non-state actors stepped in to provide aid. Non-state actors that stand out in their contributions include the

International Federation of Red Cross and Red Crescent Societies, whose national affiliates together reached more than 650 million people and raised over half of its goal of U.S. \$602 million in funding dedicated to COVID-19 response.82 Public-private partnerships, moreover, are a large part of non-state actors' responses. This is exemplified by GAVI, the Vaccine Alliance. GAVI has assisted the COVID-19 response by acquiring and coordinating the distribution of vaccines and increasing vaccine access in low-income countries, including by co-leading the UN's COVAX Facility. Their June 2, 2021, "One World Protected" conference brought together nearly 40 governments, the private sector, and foundations to raise almost U.S. \$2.4 billion, bringing their total funds to U.S. \$9.4 billion for purchasing and distributing COVID-19 vaccines.83 Public-private partnerships can increase access to resources such as vaccines and encourage better and wider resource distribution. Such partnerships also have enormous potential beyond vaccine distribution.84 As detailed in the subsequent sections of this report, cooperation between public and private entities can be a catalyst in areas such as climate action and digitalization.

Additionally, sub-state entities have led efforts not only in support of immediate COVID-19 recovery, but also long-term green initiatives. For instance, the C40 group of mayors, representing more than 700 million citizens, is committed to addressing climate change, but it has also tackled COVID-19 by promoting vaccine equity and setting up programs for financing sustainable cities through technical assistance, forums, and knowledge sharing. The C40 represents the cross-border, yet sub-national collaboration that is needed to combat climate change and ensure sustainable and equitable recovery from COVID-19.

Mapping the innovative implementing tools and institutions

Just as a variety of actors can contribute and work together to make post-pandemic recovery more equitable and sustainable, there is also a range of different tools and institutions that can be used. A number of these have already been mentioned in the context of early response. As detailed in subsequent sections, such tools and institutions can also help devise and promote a more ambitious strategy for a broad-based and green recovery.

We can distinguish here between normative and policy innovation, and legal and institutional instruments. Normative innovations include concepts such as the abovementioned circular economy, whereas green deals are a prime example of policy innovations. Legal instruments range from international agreements (such as the Paris Climate Agreement and the Biodiversity Convention) to regional, national, and sub-national legislation. In terms of institutional innovation, there are monitoring tools, specialized agencies, courts willing to take a proactive stance in enforcing legally binding climate goals,86 and multi-stakeholder engagement frameworks, which can operate at different levels. These diverse tools can, and indeed should, be linked and combined.

For instance, the European Green Deal is a long-term, large-scale policy initiative. It espouses normative advancements such as the circular economy and seeks to revise existing and introduce new legislation in light of the deal's objectives.87 Examples of legal instruments at the EU level are the 2019 directives on single use plastics and ecodesign. Institutionally, the European Green Deal has introduced various monitoring frameworks. For example, the Monitoring Framework for the Circular Economy tracks progress and manages knowledge on the circular economy in the EU. Engagement with the public and other stakeholders is ensured through the 2020 European Climate Pact, which can

be seen as a manifestation of networked and inclusive governance.⁸⁸

A broad-based, green recovery agenda should seek to close the gap between needs and ambition. Global ambitions, while enshrined in documents like the Paris Climate Agreement and the 2030 Sustainable Development Agenda, need to be matched with strategies that can actually attain them. Advanced economies need to contribute at a level that matches their environmental footprint. For example, according to Climate Action Tracker, the European Green Deal, for all its merits, still falls well short of meeting the commitments of the Paris Agreement with its overall emissions reduction target of 55 percent by 2030, compared to what is needed to avoid a global temperature increase of 2°C, let alone 1.5°C.89 This is worrying as the European Green deal is lauded as one of the most ambitious plans. Elsewhere, with less ambitious or non-existent plans, the needs-ambitions chasm is likely even wider, with many gaps yet to be closed.

In addition, the various tools and institutions need to be used to ensure better coherence between the different imperatives of a durable and equitable recovery from the pandemic, better preparedness for future pandemics, and more effective strides towards meeting the 2030 Agenda for Sustainable Development and Paris Climate Agreement. These will require, above all, a refashioned global governance architecture that is commensurate with this monumental task, but also—at all other levels of governance too—constant innovation, refinement, and readjustment of norms, policies, laws, and institutional responses.

**

This section has unpacked our definition of a broad-based, green recovery in light of current trends and debates and mapped the actors and tools available to implement such a recovery. We now proceed to offer a brief gap analysis and to flesh out corresponding reform recommendations for making the post-pandemic recovery: i) green and sustainable, ii) fair and inclusive, iii) health- and well-being-focused, and iv) digital everywhere.

III. Making the Recovery Green and Sustainable

"Nature is the foundation of our societies and economies. Raising ambition for our planet is raising ambition for people. ... But ambition is also required in deploying more broadbased approaches that engage stakeholders across the breadth and levels of government and society." — Amina Mohammed, United Nations Deputy Secretary-General⁹⁰

Central to a broad-based, green, and sustainable economic recovery coming out of the pandemic are steps for effective climate action, both mitigating the most harmful effects of climate change and adapting to the new normal of a fast-changing climate reality. This section assesses current international responses to the climate crisis and offers five concrete interventions designed to slow down and, over time, reverse the alarming trends detailed in the August 2021 report of the IPCC.91 While public and private sector leaders of the global economic recovery must attend closely to public health and socioeconomic justice, no recovery will long withstand the accelerating pace of climate change. Facing it squarely means stepping up climate action to better finance and protect communities from the changing climate's growing adverse effects, to cap post-industrial global warming as near to 1.5°C as possible, and to set all nations on a course to zero net emissions of greenhouse gases (GHG) by 2050.

Ongoing Challenges and Current Responses

As the international community begins to recover from the political and socioeconomic repercussions of COVID-19, we must look to economic recovery that doubles as effective climate action. According to the UN Environment Programme (UNEP), "global GHG emissions are only projected to be significantly reduced by 2030 if COVID-19 economic recovery is used as an opening to pursue strong decarbonization." If it is so used, global GHG emission levels currently projected for 2030 could be cut by 25 percent, bringing the world closer to a ceiling on warming of 2°C.92 Business as usual, on the other hand, will likely push warming to a

catastrophic 3-4°C by the end of the century.⁹³ But to reach the far safer 1.5° target, the international community must emit 45 percent less carbon dioxide than 2010 levels by 2030—and then achieve net-zero emissions by 2050.⁹⁴

A green recovery can also be profitable. Associated infrastructure policies—including carbon pricing and green investment stimulus—could increase global GDP by 0.7 percent and add 12 million new jobs in total by 2027.95 Green and sustained recovery policies can generate income for governments and businesses, improve the well-being of citizens and ecosystems, and build community resilience.96

UN Secretary-General António Guterres called for green, resilient pandemic recovery policies when speaking at the One Planet Summit in January 2021, a sentiment echoed in the 2021 Sustainable Development Goals Report.97 At the 2021 Global Climate Adaptation Summit, the Secretary-General also called for 50 percent of all climate finance to be spent on adaptation and building resiliency.98 As far back as 2009, at COP 15 in Copenhagen, developed countries committed to spend—through a combination of public and private financing—U.S. \$100 billion annually on climate action.99 They have, however, fallen far short of this goal (see figure 3.1). Although all G7 countries agreed to raise their climate contributions to meet the U.S. \$100 billion goal at their 2021 summit, most of their individual commitments remain unknown.100 At the same time, UNEP estimates that developing countries will need to spend U.S. \$140-300 billion annually on climate adaptation by 2030, and \$280-500 billion annually by 2050, in order to transition to clean energy and sustainable practices that protect both people and property.101

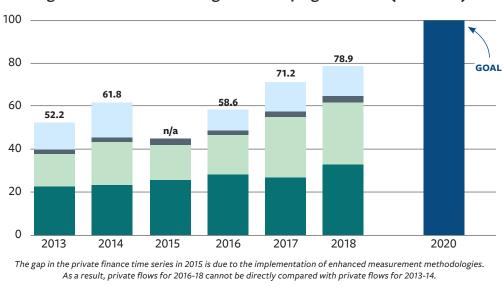


Figure 3.1: Climate financing for developing countries (2013-2018)

Source: Organization for Economic Cooperation and Development, "Climate Finance Provided and Mobilised by Developed Countries in 2013-18" (2020).

Multilateral public

Export credits

Additionally, governments have recently put forward various "new green deal" style proposals and pledges. The EU, Colombia, South Korea, Saudi Arabia, the United Arab Emirates (UAE), the African Development Bank, and the Asian Development Bank have all announced a form of green new deal or similar initiative. Some of these deals were delayed by COVID-19, and others were initiated as a result.102 The delay, however, allowed many countries to include climate action-specific provisions in their COVID-19 responses; for example, the European Union created its NextGenerationEU plan, Colombia is providing economic assistance through credit lines to public transportation, South Korea launched its Green New Deal, and the UAE increased the ambition of its Nationally Determined Contributions (NDCs) in support of the Paris Climate Agreement.¹⁰³ While these green recovery initiatives are welcome, they still fall short in tackling the climate crisis in at least four key areas:

First, high dependency on fossil fuels, which results in continued excessive GHG emissions by nearly all countries. While the pandemic caused a temporary 7 percent drop in GHG emissions, CO2 and methane are expected to rise again as

the global vaccine rollout continues, the lock-down measures are lifted, and countries begin to recover economically.¹⁰⁴ Although U.S. \$14.9 trillion has been invested in COVID-19 recovery worldwide, only 3-5 percent of this amount has been allocated to energy production and consumption.¹⁰⁵ Of that, 47 percent is going towards fossil fuel-intensive industries and 35 percent towards clean energy.¹⁰⁶ Few recovery plans invest more in green energy than they do in fossil fuels.¹⁰⁷ In fact, only the European Union, the United Kingdom, France, and Germany are investing more in green energy, while South Korea is committing the same amount to both.¹⁰⁸

Mobilized private

Second, insufficient investment in green infrastructure. In response to the 2008-9 global recession, only one in six dollars of national infrastructure stimulus packages' spending went to green infrastructure. ¹⁰⁹ For the COVID-19 recovery, investments in green infrastructure can create up to 5.5 million jobs by 2025. ¹¹⁰ However, the OECD estimates that there is currently a green infrastructure spending gap (the difference between targeted spending and need) of U.S. \$2-3 trillion. ¹¹¹ This could grow to as much as U.S. \$15 trillion by 2040. ¹¹² At the same time, investments in green infrastructure, such as water management, can

While there are green elements in some COVID-19 recovery plans, more (and more ambitious ones) are needed, preferably coordinated multilaterally.

actually be cheaper than comparable "gray" or "brown" infrastructure (referring to varying degrees of harm to the environment).¹¹³

Third, failing to stem growing plastic pollution. The pandemic has caused a rise in plastic use, particularly single-use plastics, which are often not accepted at recycling plants.¹¹⁴ From the several initiatives reviewed, most of the green new deals and COVID-19 recovery plans do not advance steps to deter plastic pollution. This issue is also closely tied to the use of fossil fuels, as most plastic today is produced from fossil fuels, and the resins used in plastic production are tied to the oil and gas industries. Reducing the use of plastic will have numerous environmental benefits, including cutting GHG emissions by one third.115 Plastic pollution also has detrimental economic effects, given its impact on marine life (e.g., contributing to "dead zones" in oceans and degrading coral reefs) that costs as much as U.S. \$33,000 per ton per year in lost revenue from the sale of food and tourism for nearby communities.116 With about 8 million tons of plastic entering the oceans annually, that balloons to a cost of U.S. \$264 billion.

Fourth, failing to curb enormous setbacks in biodiversity protection. Half of global GDP is dependent on healthy ecosystems, and the total worth of goods and services tied to biodiversity is estimated at U.S. \$140 trillion.¹¹⁷ Yet, according to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 2019 report, human activity has altered 75 percent of terrestrial environments (and 66 percent of ocean environments), threatening about 25 percent of animal and plant species (around one million in total) with extinction.¹¹⁸ Some countries continue to

weaken biodiversity protection in the name of economic recovery; for example, seventeen major economies have announced stimulus packages that will invest U.S. \$3.5 billion in industries that impact biodiversity (e.g., industrial farms, energy, transportation, and waste management) and only three are investing in biodiversity protection. This is unacceptable as conventional, large-scale economic systems are major drivers of biodiversity erosion and loss. Biodiversity loss is also heavily connected to the climate change fight, as species' health and ecosystem stability are necessary components in keeping global temperature rise to 1.5°C above pre-industrial levels.

Road to a Broad-based and Green Pandemic Recovery

Given the above challenges and urgent need for further innovation and ambition to boost and complement current green pandemic recovery strategies and initiatives, we advance the following five proposals:

3.1. Prioritize a "green" recovery within the COVID-19 recovery plans of governments and regional and global governance bodies, including by taxing carbon and ending fossil fuel subsidies.

While there are green elements in some COVID-19 recovery plans, more (and more ambitious ones) are needed, preferably coordinated multilaterally. For a sustainable, just, and healthy recovery that addresses the full extent of the damage wrought by the virus, all "green" recovery plans should also prioritize support for human rights, public health, social

Through reducing waste and pollution, reusing products, and renewing natural ecosystems, a circular economy can decouple economic growth from resource consumption.

protection systems, robust and fair job-creating economies, and universal digital connectivity (discussed further in sections IV, V, and VI of this report).

To succeed, a green recovery plan must be sufficiently resourced, technically sound, and backedup with sufficient political and societal support. One powerful policy idea that could aid this effort is the (long-debated) carbon tax, which targets the carbon emissions of governments, businesses, and consumers, and adds a price per ton they emit. A carbon tax levied by states would not only cover carbon dioxide, but short-lived climate pollutants (SLCPs) such as methane, facilitating the transition to the low-carbon economy that is fundamental to mitigating climate change.122 Carbon tax policies that start small but grow steadily in accordance with inflation and economic growth can bring countries closer to meeting their respective Paris Agreement NDCs within the next ten years.123

Green recovery plans also need nationally-tailored climate mitigation (emissions-reducing) and adaptation (resilience-enhancing) elements. Government carbon tax revenues and former fossil fuel subsidy budgets can be redirected toward sustainable (climate-friendly) infrastructure and businesses, biodiversity protection, and local adaptation initiatives. It has been estimated that reforming fossil fuel subsidies alone could free up U.S. \$553 billion per year, globally, a decent down payment on the investment that truly fighting and adapting to climate change calls for. 125

Lastly, national green recovery plans coming out of the pandemic must be supported and coordinated by global and regional policies and frameworks. For example, since April 2020, the "UN framework for the immediate socioeconomic response to COVID-19" (alongside UNled global humanitarian response and WHO-led global health response frameworks) has helped to inform developing countries' national responses strategies. It also repurposed the UN's existing U.S. \$17.8 billion sustainable development programs portfolio around COVID-19 recovery priorities, including steps to address the climate crisis. 126 Similarly, green new deals put forth by the European Union and Asian Development Bank have spurred similar kinds of initiatives at the national level in Europe and Asia. Furthermore, the June 2021 Economic Community of West African States (ECOWAS) deliberations on a regional pandemic recovery plan are expected to inspire related national efforts.127 Finally, states must continue to call for bolder, more ambitious action on climate change and economic recovery; these efforts will lead the way for stronger global and regional instruments to promote and reinforce them rather than subsume national recovery plans. These calls must, in turn, include concrete steps towards green recovery, such as a carbon tax and investment in green infrastructure.

3.2. Incentivize the private sector, within appropriate regulatory frameworks and with external assistance, to invest in a circular economy that reduces waste and promotes environmental sustainability.

Through reducing waste and pollution, reusing products, and renewing natural ecosystems,

a circular economy can decouple economic growth from resource consumption and environmental effects, paving the way for long-term, resilient, and green recovery. Offering beneficial societal, ecological, and business opportunities, a circular economy can be aided and improved by the leadership capabilities and financial and technical resources of the private sector. ¹²⁸ Such support could be encouraged through:

First, tax reforms to encourage more private investment in a circular economy. A favorable tax policy can encourage businesses to move towards a more inclusive, circular economy model by, for instance, working with consumers and manufacturers to recycle and redeploy used products. Reforms can increase taxes on natural resources such as oil and gas, reduce taxes on labor, and create tax breaks for appliance repairs and other activities that promote a circular economy. 129 For instance, in Sweden, taxpayers can qualify for a tax break by claiming half the labor cost of an appliance repair (up to around U.S. \$2,800); while in Austria, individuals can secure a grant from the government amounting to 50 percent of an appliance repair's labor costs. 130 Recycling, reuse, and repair is estimated to save 600 billion euros (equivalent to U.S. \$705 billion) in yearly resource spending in the European Union alone.131

Second, leveraging public funding to increase private investment in a circular economy. Public financing (from governments, and global and regional bodies) for the circular economy can further motivate the private sector to contribute. In February 2021, G20 and other major economies have announced up to U.S \$4.6 trillion in COVID-19 stimulus packages directed to sectors, such as agriculture, industry, waste, energy, and transport, which can influence climate change, biodiversity, and local air quality; but of this total, only U.S. \$1.8 trillion supports investments deemed green in nature.132 At the same time, more targeted public investments are required if private sector financing and other capabilities are to be leveraged in the developing world too. They could take the form of government subsidies and other economic incentives, such as low-interest loans and guarantees, price restrictions, and the provision of state resources like land and water at below-market prices.133

Third, building and strengthening Public-Private Partnerships (PPP) for a circular economy. Public-private partnerships can bring more private businesses into the circular economy by co-financing sustainable development projects, reducing the tax burden, and waiving the fees and other charges that businesses would typically have to pay to a government agency.¹³⁴ Two recent examples of how PPPs have reduced countries' carbon footprints are the Cambodia National Solar Park Project, whose initial success in promoting renewable energy is being replicated regionally by the Asia Development Bank's ASEAN Scaling Up Renewables + Storage (ASSURE) initiative, and the Bhutan Green Power Development Project (see box 3.1), which employs renewable hydropower resources to produce energy and has succeeded in averting 500,000 tons of carbon emission on an annual basis from dirtier sources of energy (making Bhutan the only carbon-negative country in the world). 135

3.3. Promote more efficient and climate-friendly ways of producing hydrogen for a green recovery through a Global Green Hydrogen Alliance.

Green hydrogen not only takes greenhouse gas emissions out of the production cycle but also has zero GHG tailpipe emissions. It can serve as an energy storage medium and affords flexibility to power systems. Green hydrogen wields potential as a major source of renewable energy, contributing to economic growth, job creation, and industrial competitiveness, 136 and can help to decarbonize sectors such as long-distance freight, transport, chemicals, fertilizer, and iron and steel industries that depend heavily on fossil fuels.137 The overall demand for hydrogen has increased threefold since 1975, reaching 74 million tons per year in 2018—and could rise to 528 million tons by 2050 to achieve global net-zero GHG emissions.138 This has created a large market for hydrogen and opened up business opportunities for industries to lead the transition towards a carbon-neutral future.139 Yet, most current hydrogen production extracts it from fossil fuels (such as methane), in the process emitting some 830 million tons of carbon

Box 3.1: A public-private partnership for green recovery: Bhutan green power development project

A potential model PPP for post-pandemic green recovery is the Bhutan Green Power Development Project, initiated in 2008 and completed in 2017. Bhutan's mountainous terrain and networks of rivers and streams give it a potential hydropower generation capacity of 26,760 MW, of which only about 6 percent is currently exploited. Of the 1,500 MW of hydropower installed to date, 80 percent is exported to India after meeting domestic consumption, and the state hydropower sector accounts for 13 percent of the country's total GDP. The Bhutan Green Power Development Project sought to assist the government's strategic goal of developing the country's under-utilized hydropower resources in a sustainable way, while leveraging the strengths of the private sector.

The project has two vital components: i) promoting regional clean power trade and ii) promoting renewable energy access for the poor. For the first component, Dagachhu hydropower development supported the production of hydropower for export to India, while for the second element, the project supplied renewable energy to households, educational institutions, medical facilities, and monasteries in remote rural areas. The total cost of the Dagachhu hydropower project was U.S. \$234.6 million.

The Dagachhu hydropower project was developed by a joint venture between Bhutan's Druk Green Power Corporation (DGPC) and Tata Power Company (TPC), the largest integrated power company in India. Bhutan Power Corporation (BPC), a Bhutanese public utility, supports the rural electrification component. Both DGPC and TPC are leading regional public and private entities respectively that brought exceptional technical know-how and leadership capabilities to project implementation. TPC has more than a century of experience in the energy sector in India and 12,808 MW generation capacity, of which 30 percent comes from clean energy sources. DGPC, a public electricity utility company that maintains Bhutan's hydropower assets, was established in 2009.

Among the Bhutan Green Power Development Project's chief benefits to date include: a major source of domestic revenue for the government, significantly increased rural electrification across Bhutan (with attendant cost savings from reduced kerosene, battery, and fuelwood consumption), and less CO2 emissions.

Sources: Asian Development Bank, <u>Completion Report - Bhutan: Green Power Development Project</u> (2017); Asian Development Bank, <u>"What We Do: Bhutan Green Power Development Project: Project Information Document/Identification/Concept Stage (PID)</u> (2020).

annually. Through electrolysis, green hydrogen can be produced with zero carbon emission, if the electrolysis is itself powered by green electric power.¹⁴⁰

The hydrogen supply chain is, however, still in its infancy. Several obstacles, such as the high cost of producing green hydrogen in relation to non-renewable options and the absence of specialized infrastructure, are thus far preventing hydrogen from contributing meaningfully to the green energy transition. Hore specifically, i) materials required in producing green hydrogen, such as fuel cells, refueling equipment, and electrolyzes, are costly and so far discourage scaling-up hydrogen production; ii) infrastructure issues, such as storage, transportation, and refueling stations, remain a challenge; and iii)

government regulations limiting the development of a clean hydrogen industry also stand in the way of scaling-up green hydrogen production and usage.¹⁴²

A proposed Global Green Hydrogen Alliance can help to overcome these obstacles and provide leadership in expanding hydrogen's energy reach, as part of a wider green recovery strategy coming out of the COVID-19 era. Hydrogen alliances already exist in some parts of the world, such as the European Clean Hydrogen Alliance and the MENA Hydrogen Alliance. Hydrogen Alliance, have optimal renewable and other low-carbon resources for producing hydrogen, most hydrogen programs and platforms are concentrated in developed countries. This hinders the

development of green hydrogen technology and its application. Building on these experiences, a larger Global Green Hydrogen Alliance (between regions and eventually globally) is envisioned as a multi-country, multi-institutional network to assess, develop, and design affordable green hydrogen technologies that can be deployed at scale.¹⁴⁴ It could enable governments, civil society organizations, and the private sector to work together to better realize hydrogen's full potential, as it could be the fuel molecule that drives a global green economy.¹⁴⁵

Realizing a Global Green Hydrogen Alliance requires five priority actions: i) create a global inventory of green hydrogen programs and activities to connect and encourage greater collaboration among hydrogen technology developers; ii) undertake a periodic assessment of green hydrogen technology to identify and close technology gaps; iii) promote partnerships between countries and between the public and private sectors for rapid exchange of research and development findings, with targeted and collaborative research aimed at reducing cost or improve material efficiencies; iv) mobilize a pooled fund, initially of U.S. \$500 million in cash and in kind (from developing countries), which could offer partial risk guarantees to underwrite some of the technology risks; v) ensure that intellectual property and licensing rights are protected while expanding global access, to encourage more countries and corporations to join the proposed Global Green Hydrogen Alliance; and vi) develop alliance-wide standard-setting and inspections for safe storage and transportation, as storage and transport of green hydrogen are both complex and costly and will require a high level of public acceptability to ensure a successful transition to green hydrogen.¹⁴⁶

3.4. Treat the protection of forests as a global collective action problem needing active monitoring and support from both governments and business.

The forestry sector offered crucial health products during the COVID-19 pandemic from masks to ethanol supplies for sanitizers. Moreover, forests that are healthy and well-managed act as a natural barrier to zoonotic transmission. Forests have an essential role in strengthening resilience and minimizing the likelihood of future pandemics.¹⁴⁷ But humans are increasing the probability of pandemics such as COVID-19 through heedless deforestation and infrastructural development.¹⁴⁸ Forests are also a critical vehicle for CO2 capture, and the destruction of densely wooded areas, which hold 80 percent of the world's biodiversity, "accounts for 10 percent of all global greenhouse gas emissions."149

Current environmental governance models are insufficient and remain scattered across multiple agreements, conventions, and organizations to manage, protect, and regenerate the forest sector worldwide.150 At least ten environmental and climatic initiatives address deforestation to some extent.¹⁵¹ However, specific pieces of the jigsaw puzzle are missing, including domestic laws and enforcement mechanisms to support these initiatives, reinforced by a legally binding global instrument for forests. 152 This is particularly true in situations where state capability for preventing and responding to illicit deforestation is low, political will is lacking, and predatory and unpunished private sector behaviors around natural resource usage persist. 153

Alongside the COVID-19 outbreak, discussions on the need for better global forestry

Humans are increasing the probability of pandemics such as COVID-19 through heedless deforestation and infrastructural development.

administration have gained a new sense of seriousness.¹⁵⁴ Ultimately, political commitment at all levels is what will guarantee the effectiveness of international forest governance.¹⁵⁵ Given the cross-sectoral character of forests, the global governance of forests should reflect consistent policies and approaches, mirror global best practices, and encourage coordination among global, regional, national, and sub-national governance actors.¹⁵⁶

Improving global forestry governance requires meaningful inputs and participation from diverse stakeholders across civil society, the private sector, and governments. ¹⁵⁷ Encompassing a twin, closely interlinked focus on achieving healthier societies and enhanced carbon capture, five steps toward better global governance of forest are:

First, treat forest protection as a global collective action problem that requires intense collaboration between diverse global, regional, national, and local actors. The protection of forests and implementation of alternative sustainable development strategies are not exclusive to individual nations, nor does any country wield sufficient capacities to safeguard forests on their own. 158 In addition, a number of well-financed illicit deforestation networks operate with sophistical means across national borders, further bolstering the case for global collective action. Global cooperation is also essential for setting norms and regulations (e.g., on trade and investment practices), encouraging the interchange of information and political strategies, and pooling resources to confront major forest management concerns.¹⁵⁹ Universities, secondary schools, and think tanks are also well-placed to increase both general public awareness and literacy and more specialized technical knowledge in forestry science.

Second, establish a technical monitoring body for global forest governance similar to other international environmental conventions. Some biomes are extremely susceptible to land invasions, wildfires, and predatory extractive operations. Hence, comprehensive forest monitoring, assessment, and reporting (MAR), including mechanisms for ensuring follow-through actions, are widely regarded as fundamental to scientifically-informed decision-making. 160

Third, ensure that a mix of technical collaboration, international support, information exchange, and political pressure is applied across the full spectrum of environmental instruments created in the previous thirty years (soft commitments). ¹⁶¹ The UN Decade on Ecosystem Restoration, seeking to reverse ecosystem degradation between 2021 and 2030, is an example of this strategy, which involves steps to share and extend best practices worldwide. Rather than enforceable obligations by states, such an approach underscores three core elements: a worldwide shift toward forest restoration, enhanced political will, and the development of technical and financial capabilities to expand restoration efforts. ¹⁶²

Fourth, connect forest governance to broader efforts to implement the 2030 Agenda for Sustainable Development. The Strategic Forest Plan 2030, for instance, offers a roadmap for managing sustainable forests. It sets-forth six global forest objectives and twenty-six targets and is considered a significant instrument for taking forward the SDGs. ¹⁶³ For example, the global governance of forests maintains direct linkages to SDG 1 "Poverty," SDG 3 "Health," SDG 6 "Clean Water and Sanitation," and SDG 15 "Life on Land." ¹⁶⁴

Fifth, engage the private sector in curbing international forest degradation. The private sector is well-placed to contribute to global forest governance by: i) promoting forest conservation—whether voluntarily or in response to public policies—to reduce the adverse effects of forest management, farming, and mining; ii) providing services to reduce deforestation, including enforcement, training, monitoring, and the development and deployment of technology; and iii) supporting communities (e.g., through health clinics, schools, and roads) where government services are lacking. 165

3.5. Enhance the strategic communications capacities of global and regional organizations to broaden understanding of the local impact from global warming and action needed to counter it.

During a crisis, strategic communication plays a critical role in calming and focusing

the public by instilling confidence, winning trust, and guiding the delivery of solutions.¹⁶⁶ The African-Eurasian Migratory Waterbird Agreement (AEWA), for example, has identified six principles that are fundamental for strategic and effective communications: neutrality, scientific base, content, packaging for audiences' languages, evaluation, and monitoring.¹⁶⁷ Communicating climate change requires getting the framing and facts correct, understanding the audience, and proper messaging.

Counter to these principles, widespread misinformation often pervades a crisis and can be lethal. According to the World Health Organization, COVID-19 is the latest crisis where misleading information has had such an effect, leading to the hospitalization of nearly 6,000 people and probable deaths of 800 in the first three months of the pandemic. Misinformation has also contributed to vaccine skepticism and resistance. 168 Similar to the current pandemic, misinformation regarding the climate crisis has been widespread, hindering mitigation efforts at the national and global level. Some well-organized misinformation campaigns about climate change have gained popularity in recent decades, often initiated or promoted by fossil fuel giants and geared towards discrediting the work of climate scientists.169

In order to fight misinformation and "greenwashing" (where companies misrepresent their full impact on the environment), improve social learning, and build greater public trust and environmental literacy within countries, the following steps should be taken:

First, global and regional organizations should strive for meaning-making. Build trust with local stakeholders about their legitimacy and needed role in solving the global climate crisis. Meaning-making entails employing carefully designed and executed public messaging to influence public opinion during a crisis.¹⁷⁰

Second, get the climate framing right to increase global warming literacy. To this end, linking the consequences of climate change to human health and people's livelihoods is effective for raising climate consciousness. Emphasizing how global warming impedes development and

how climate-compatible development can help move people out of poverty can serve as critical starting points with climate skeptics.¹⁷¹

Third, employ creative and tested communication practices (from diverse sectors and regions) to reach your target audience. Some well-recognized tools and approaches include:

- Engaging local voices to enhance acceptability of public health measures and create trust in public health authorities, as was done in West Africa during the Ebola epidemic;¹⁷²
- Communicating in local languages (including through the radio and TV in areas where literacy is low) to reach large numbers of people affected the most by the climate crisis;¹⁷³
- Crowdsourcing information, where local citizens help to analyze and identify climate risk that can then aid public communication strategies, as demonstrated by the University of the West Indies in assessing the connection between dangerous weather patterns and climate change;¹⁷⁴ and
- Sharing human stories through investigative journalism, where media outlets do thorough human interest documentaries and reports around the climate crisis (the Climate and Development Knowledge Network Journalism Fund, for example, supported eleven investigative reports underscoring the human impact of climate change in Ecuador, Peru, Colombia, Brazil, and Bolivia).¹⁷⁵

**

Taken together, the five distinct initiatives outlined above offer new strategies, tools, and kinds of investment for accelerating climate mitigation and adaptation efforts worldwide. Though important steps, they mainly speak to one significant dimension of global pandemic recovery—environmental sustainability—but a broad-based and green recovery must also be centered around fundamental principles of socioeconomic justice and healthy societies. It is to these latter, fundamental questions of fairness and opportunity in the world economy to which we now turn.

IV. Making the Recovery Fair and Inclusive

"The COVID-19 crisis has not only been worsened by inequalities; the crisis has both exacerbated and deepened inequalities themselves. The experience of the past eighteen months has underscored the need for a new economic system that prioritizes inclusive and sustainable growth, and recognizes the centrality of gender equality for achieving more cohesive and resilient societies." — Gabriela Ramos, Executive Director, Oxfam International⁷⁶

The global disruption caused by the pandemic had scarring effects on financial markets and supply chains, and it damaged both global labor markets and overall productivity. The economic shock compounded the impacts of existing inequalities in wealth, race, gender, age, education, and location, and it led to a sharp rise in poverty too. This section offers an overview of the challenges facing an environmentally viable global economic recovery, and it provides several recommendations for governments, businesses, and civil society to consider for advancing a pandemic recovery over the next three to five years that is sustainable, fair, and opportunity-building.

Ongoing Challenges and Current Responses

Initial COVID-19 responses required unprecedented levels of multistakeholder cooperation to alleviate the associated health and economic crises. The global community still faces an uphill battle in its recovery from the pandemic with funding shortfalls, lack of coordination, and an insufficient international commitment to address immediate humanitarian needs and take bold action for reshaping our economies—at the national, regional, and global levels—to be more sustainable, efficient, and fair.

In 2020, millions more people needed humanitarian assistance, but emergency aid funding stagnated at levels seen just prior to the pandemic: U.S. \$30.9 billion. The UN COVID-19 Response and Recovery Fund was established in March 2020, but it had received just 7.5 percent (U.S. \$84 million) of its U.S. \$1 billion initial, nine-month funding target nearly one year on. The stage of the second stage of the

More recently, efforts such as the International Monetary Fund's largest-ever allocation of U.S. \$650 billion in Special Drawing Rights (SDRs) for COVID-19 recovery are striving to address funding gaps and boost global liquidity, but SDRs still fall short of meeting urgent human needs in the poorest countries, as their distribution is based on quota shareholdings with the wealthiest countries receiving the highest allocations.179 In the first months alone of the pandemic, governments spent U.S. \$10 trillion to prop up their economies, with the U.S., Germany, Japan, and France counting for a large proportion of this spending.¹⁸⁰ Considerable financial resources are needed now to put forward a broad-based and long-term green recovery. However, severe shortfalls in initial pandemic financial support highlight the challenges many developing countries are likely to focus on the road to recovery over the medium to long term. While developed countries provided their economies with fiscal stimulus equivalent, on average, to 28 percent of their GDP, developing countries have only allocated, on average, 2 percent due to limited fiscal capacity.181 A just, healthy, and sustainable recovery from the pandemic will require considerable political commitment, buttressed by innovative public and private financial mechanisms, for more environmentally sound and fairer economies.

According to CDP Worldwide, the 25 percent of financial institutions that disclosed their respective investment portfolios' impact on climate showed that they financed greenhouse gas emissions over 700 times greater than their own firms' operational emissions. The continued financing of ventures that are harmful to the environment undermines efforts for a

green recovery from COVID-19. Governments are not exempt from this practice, as many continue to fail to allocate adequate funds for sustainability, even as the pandemic provides an opportunity for course correction. For instance, as part of their national COVID-19 recovery packages, G20 countries have committed, since early 2020, only U.S. \$53.81 billion for unconditional clean energy (low-carbon with negligible environmental impact) compared to U.S. \$247.41 billion for unconditional fossil fuels (lacking climate targets or other pollution reduction requirements).183 Insufficient commitment toward green investments by G20 governments and financial institutions will also have a disproportionate impact on developing countries. For example, small island developing countries are responsible for less than 1 percent of CO2 emissions, yet they are among the most vulnerable to climate disasters. 184 Continued large-scale investments in fossil fuels is unjust towards those who cannot protect themselves from climate change.

The pandemic has also slowed progress on the 2030 Agenda for Sustainable Development. Estimates show that approximately 255 million full-time jobs were lost in 2020, and 119-124 million people were pushed back into poverty

and chronic hunger.¹⁸⁵ Though more jobs were created in some industries (e.g., medical, IT, and e-commerce), the economic contraction reduced the growth rate of future jobs. Estimates show that, by 2025, approximately 97 million new jobs will be created globally (in addition to those that will reopen in the post-pandemic transition period), while 85 million workers could be displaced due to changes in the labor market (mostly owed to automation).¹⁸⁶ Moreover, a 2021 study on "The future of work after COVID-19" suggests that more than 100 million workers in eight studied countries may need to switch occupations, a 12 percent increase compared to the pre-pandemic period.¹⁸⁷

The double-edged challenge posed by COVID-19 and unintended impact of accelerated automation in the workplace has affected labor markets and deepened inequalities worldwide. Nevertheless, the transition to greener economies could generate millions of low-carbon jobs by 2030.¹⁸⁸ Over 50 percent of global employment depends on, and approximately 90 percent of total businesses worldwide are defined as, micro-, small-, and medium-sized enterprises (MSMEs), which are, in turn, responsible for 70 percent of global pollution and 60 percent of global industrial carbon emissions.¹⁸⁹ They

100% SHARE OF RESPONDENTS 80% 40 Not adapting to 55 59 65 65 62 environmental risks 73 60% Adapting to enviromental risks 40% 45 45 20% 41 35 35 27 0% -Women-led Youth-led Not youth-led Exporter Von-exporter Men-leld

Figure 4.1: Smaller, women-led, and youth-led firms are less likely to invest in climate adaptation

Source: International Trade Centre, <u>SME Competitiveness Outlook 2021</u> (2021), xv.

also represent a large share of global resource consumption and waste generation, and they tend to be the most vulnerable segment of the private sector to climate-related disasters, with women and youth-led MSMEs being less likely to invest in climate change adaptation—generally because they have less capital at their disposal and, therefore, less capacity to invest (see figure 4.1).¹⁹⁰

MSMEs constitute the bedrock of economies where many vulnerable communities reside in both the Global South and North. In emerging markets, for instance, most formal jobs (seven out of ten) are generated by MSMEs. By 2030, it is estimated that 600 million jobs will be needed to absorb the growing global workforce. Prioritizing MSMEs' development is then necessary to sustain economic growth worldwide. They are a key pillar of local, national, and global economies, meriting a central position within COVID-19 broad-based and green recovery strategies. 192

Road to a Broad-based and Green Pandemic Recovery

Given the above challenges and need for further innovation and ambition to complement current green recovery strategies and initiatives, the following five proposals warrant serious consideration:

4.1. Invest in human capital and upgrading skills to facilitate a broad-based and green recovery, emphasizing support to people at risk.

New low-carbon activities and investment in clean energy, alongside labor market disruptions caused by automation and the pandemic, will require the transition of workers into job opportunities that are economically, socially, and environmentally sustainable. Aligned with their green recovery plans and commitments to combat climate change, governments should assess the skills and jobs required for moving toward green economies. According to the UK's Green Jobs Taskforce, governments should ensure that "green job creation and skills demands across the economy and country are matched

with those for training and education provision, infrastructure and technology build and rollout time, the transitioning of the workforce from one sector to the other, and local capacity."¹⁹³ Setting out a strategy and plan to transition to net zero is needed to understand how and where market demand will be generated and which skills and training are needed to match this demand.

Over the medium-term, green recovery plans should invest in low-carbon activities and infrastructure with rapid job creation potential to support people at risk of unemployment, including youth who were disproportionately impacted by the pandemic. The agriculture sector, for example, could be prioritized given that global food production will need to rise by 70 percent by 2050 to feed the world's growing population. Agriculture already accounts for around 1 billion jobs worldwide, and around 3 percent of global GDP.194 Possible green jobs in the agriculture sector suggested by UNEP include: natural resource management, managing intensive livestock systems, organic farming, and reducing food waste. 195 At the same time, the transition to sustainable agricultural practices is necessary to meet society's present food and textile needs without affecting the future generations' ability to meet their own needs.

The transition to green careers should also prioritize investing in relevant education and skills development for growing yet environmentally sound sectors of the global economy. The International Renewable Energy Agency estimates that the renewable energy sector could employ more than 40 million people by 2050, with up to 2.5 million new jobs created annually as part of current recovery efforts.196 However, this transition is dependent on adapting educational systems, modernizing their curricula and making it easier for diverse students and prospective workers to access the learning and training needed for green jobs. Employers should also be encouraged to improve the skills of their workforce by providing training and apprenticeship programs. For example, Unilever's LevelUp initiative aims to educate and upskill 1.5 million young South Africans by 2025 for future work opportunities.197

The shift to green employment also offers an opportunity for governments to drive up workforce diversity and boost the quality of jobs.

The shift to green employment also offers an opportunity for governments to drive up workforce diversity and boost the quality of jobs. A diverse workforce can stimulate innovation and challenge more traditional, unsustainable practices. Employers should consider strategies for improving access to green jobs for employees of diverse religious and political beliefs, education, socioeconomic backgrounds, sexual orientation, cultures, and disabilities. Under-represented groups, such as women and ethnic minorities, should be encouraged and supported to pursue education and careers in green industries where a significantly higher share of employees typically identify as male and/or "white." Emerging green sectors should also lead the way in providing quality jobs, which could entail fair pay; worker satisfaction; opportunities for advancement and participation in decision making; well-being, safety and security; and voice and autonomy. 198 While governments should be responsible for setting up national green plans that allow their labor markets to become more sustainable, regional organizations also play a key role in promoting integrated and unified strategies for green employment and facilitating workers' reallocation and the movement of cross-border workers. The transition to green growth and job creation should also be supported by the World Bank and International Labour Organization (ILO), which can provide expertise for implementing new labor market policies.

4.2. Support micro-, small-, and medium-sized businesses to accelerate the private sector transition to more equitable and greener practices.

The COVID-19 pandemic and its associated economic crisis have severely affected the

business community, particularly MSMEs. Business owners realize the need to build resilience to face future crises, including climate change. In Sub-Saharan Africa, for instance, almost 70 percent of small firms agree that environmental risks are significant to their business. Investing in a green transition that focuses on MSMEs could generate both private and social gains. On the one hand, firms that invest in climate change adaptation and mitigation gain economic opportunities. Many governments are providing subsidies for MSMEs to green their premises, including for installing renewable energy sources such as solar panels. This generates financial savings by lowering energy use and the firm's environmental footprint. On the other hand, MSMEs' lower carbon outputs can also create broader economic and social benefits and contribute to the achievement of the SDGs: SDG 8 on work and economic growth, SDG 9 on industrial development, SDG 12 on responsible consumption and production, and SDG 13 on climate action. 199 For example, MSMEs advance SDG 8 by providing jobs to categories of employees considered vulnerable, such as women, youth, and older people, thus contributing to their economic empowerment. In this regard, two types of intervention can help to facilitate such a green transition:

First, governments should give businesses economic incentives to adopt emission-reducing practices; limit support for carbon-intensive industries and the use of fossil fuels; and encourage "climate-smart entrepreneurship." Public financial institutions, such as state-owned development banks, can support MSMEs through direct green financing involving low-cost credit lines linked to targeted green lending programs.

Civil society, businesses, and governments should work together to create networks for knowledge and information-sharing.

They can also offer investment subsidies for business activities that reduce emissions.²⁰⁰ Moreover, policymakers can leverage green bonds to enhance the business community's capabilities to implement green projects. For example, in 2020, the Swiss-based financing platform Symbiotics used bond proceeds to issue a U.S. \$7.75 million loan to Sri Lanka's Pan Asia Banking Corporation to finance renewable energy and sustainable agriculture projects.²⁰¹

Second, civil society, businesses, and governments should work together to create networks for knowledge and information-sharing. MSMEs tend to have limited capacity to assess risks, or seize opportunities, associated with climate change.202 Addressing this knowledge gap can enhance their ability to modify unsustainable business models and accept new technologies that reduce their environmental footprint. Initiatives such as the Small- and Medium-sized Enterprises Climate Hub can provide businesses with tools and resources to help them take climate action. Founded by the International Chamber of Commerce, the Exponential Roadmap Initiative, the We Mean Business coalition, and the UNFCCC Race to Zero campaign, the Climate Hub helps businesses curb emissions by providing them with tools to set up targets, develop a climate strategy, and measure their emissions.203 This type of support platform offers much-needed capacity building that can help MSMEs understand technical requirements, standards and regulations, and how these apply to their particular circumstances.

The transition to sustainable practices presents both an opportunity and a challenge for MSMEs. Consequently, they must balance the short-term and long-term implications of their actions by calculating the future benefits and costs of climate action or inaction, and this requires access to information that is not always

easily available. Investments in greening a profit-making enterprise must show a demonstrable return on investment. Research conducted by the International Trade Centre shows that some measures (e.g., changing the management of water, chemicals, and electricity) to reduce businesses' environmental footprint can cost nothing or very little. Solar power purchase agreements, for instance, permit the design and installation of solar energy systems on a customer's property at little or no cost, and in return, the developer sells the energy to the host customer at a rate lower than the local utility.204 While some green investment projects might not pay off financially in the short term, others can see a faster return on investment. The International Trade Centre surveys found, for example, that the average cost to small and medium-sized enterprises of changing chemical management practices—best practices for managing the use of chemicals in the production and delivery of a product or a service—was U.S. \$1,000 per company and paid off financially, again on average, within two years.205

4.3. Create a standardized corporate tax solution to reshape global commerce and address inequality.

Globalization facilitated the move of global corporations' headquarters to countries with low tax rates, fueling a cycle of tax avoidance. Given that there is no supranational tax authority, the tax-avoidance phenomenon results in estimated global tax revenue losses of more than U.S. \$240 billion a year. Developing countries rely heavily on corporate tax revenue. In Africa and Latin America, for instance, they make up to 15 percent of total tax revenues, compared to 9 percent in OECD countries.²⁰⁶

While the concept of a global minimum tax on corporations has existed for years (with support

from the UN and the Financing for Development Forum), the recent global corporate tax deal, introduced by the U.S. and supported by the G7, attempts to address the issue of tax avoidance even more directly.²⁰⁷ A global minimum rate of corporation tax, alongside other stringent taxation measures, would make large firms and online tech giants pay more taxes in markets where they profit regardless of physical presence. The proposal aims to put an end to the global race to the bottom on corporate tax rates, leveling the playing field to create more competition, and addressing inequalities in global commerce.²⁰⁸ The tax revenues collected could help finance much-needed investments in green pandemic recovery.

The tax solution rests on two main pillars. Pillar one focuses on changing where large companies pay taxes and would apply to companies with more than 20 billion euros in revenues and a profit margin above 10 percent. A portion of those companies' profits would be taxed in jurisdictions where they have sales, whereas currently, they may only be taxed where their headquarters are located. Pillar two applies to companies with more than 750 million euros (around U.S. \$888 million) in revenues and determines when the foreign income of a company should be included in the parent company's taxable income. The minimum 15 percent tax rate on global corporations is recommended in the second pillar.²⁰⁹

Through this solution, fairer economies can be created by ensuring that corporations contribute their fair share to the global economy.

The G7 global tax deal had gained the support of 132 out of 139 members of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) as of July 9, 2021.210 Such arrangements provide an inclusive space for continuing the dialogue on different tax rates and closely related ideas, as well as finding consensus on a fair tax approach that puts an end to harmful and narrowly focused tax competition between countries. However, some civil society representatives and some countries are dissatisfied with the G7 proposal, asserting that the 15 percent tax rate is too low and ignored the International Commission for the Reform of International Corporate Taxation's call for a 25 percent rate. They argue that a higher rate could make a considerable difference in developing countries' capacity to invest in a green, fair, and equitable recovery from the pandemic.

4.4. Establish a coordination mechanism to trade debt for investments in the environment to address the debt, climate, and biodiversity crises.

Already faced with debt distress, low- and middle-income countries have experienced a growing debt burden since the start of the pandemic.

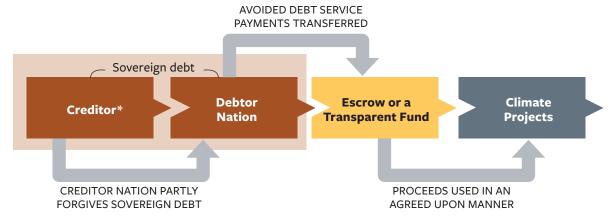


Figure 4.2: Structure of Debt-for-Nature Swaps

*Creditor is likely to be another sovereign, but private sector creditors are also encouraged to participate in a DFC swap.

Source: Singh and Widge, Debt for Climate Swaps (2021), 11.

Box 4.1: Trade debt for investments in nature in Seychelles

In 2018, Seychelles, an island nation in the Indian Ocean, carried out the first Debt-for-Nature Swap aimed at protecting ocean areas. Seychelles has built its economy around tourism. However, plastic pollution, climate change, and overfishing pose major challenges to the nation's marine ecosystem, which threatens the country's economic stability. With public debt reaching U.S. \$910 million and a GDP of only U.S. \$1.586 billion in 2018, the DNS served as a creative solution to tackle the country's sovereign debt crisis while simultaneously addressing major environmental challenges.

Seychelles was able to partner with the Seychelles' Conservation and Climate Adaptation Trust (SeyCCAT), a government conservation organization created in 2015, and with the U.S. conservation group The Nature Conservancy (TNC), to swap U.S. \$22 million of Seychelles foreign debt, which was mostly owed to the UK, France, Belgium, and Italy. TNC bought the debt in exchange for Seychelles committing to build new marine protected areas, which would be overseen by SeyCCAT.

This DNS has already seen success. The environmental aspect of this swap has increased the percentage of Seychelles' waters that are environmentally protected from 0.04 percent to 30 percent, and facilitated better-regulated fishing and oil exploration practices, beach clean-ups, and other green projects. Moreover, TNC allowed Seychelles to buy back part of its debt in order to restructure it and to free up cash flow for even more conservation efforts. Paying disadvantaged and vulnerable women and girls to harvest seaweed on the beaches for compost is an example of an innovative economic and environmental project that was facilitated by this Debt-for-Nature-Swap. Innovative efforts to address local and national environmental challenges are what Seychelles needed when entering this DNS. While arranging DNSs is not an easy task, their proper design, negotiation, and implementation can yield significant environmental and economic benefits, not only at the national but also regional and global levels.

One major takeaway is the importance of careful monitoring and collaboration by SeyCCAT and TNC, which buttressed the government's commitment and capacity for success. This was the first DNS project worldwide focused on oceans, paving the way for similar ventures with the potential to achieve comparable wide-reaching environmental and economic results. Small island nations experience serious environmental challenges, mostly related to climate change, including sea-level rise and loss of biodiversity, while their economies are heavily reliant on tourism and natural resources. Debt-for-Nature-Swaps offer low-income small island nations viable tools that can be scaled up for greater environmental regeneration and other positive impacts.

Sources: Panorama Solutions, <u>Seychelles' first debt-for-nature swap for ocean conservation</u> (2021); OECDiLibrary, <u>OECD Tax Policy Reviews:</u> <u>Seychelles 2020</u> (2020); Gerretsen, Isabelle, <u>The deal that saved Seychelles' troubled waters</u> (2020); SeyCCAT, <u>Seaweed: A Hidden Resource – a Recycling Project</u> (2021).

The average ratio of external debt to GDP in developing countries increased from 23 percent in 2008 to 31 percent in 2020.²¹¹ In 2020, seventy-six low-income countries carried an estimated U.S. \$573 billion in debt.²¹² The Debt Service Suspension Initiative and the Debt Relief Under the Heavily Indebted Poor Countries Initiative have helped to temporarily ease the financing constraints for the poorest countries by freeing up immediate liquidity, but this high level of indebtedness is unsustainable for the future. For many developing countries, restructuring their stock of debt has become a practical imperative.²¹³

Developing countries also face many environmental challenges, including food and water security, extreme weather, and rising sea levels, all of which are exacerbated by climate change.²¹⁴ These challenges necessitate the implementation of—and greater coordination with—innovative Debt-for-Nature Swaps (DNSs).

DNSs have been around for decades, with one of the first initiated in 1998, when the United States provided debt relief to protect tropical forests in developing countries. They allow for the cancellation or reduction of the level of debt servicing by a developing country in exchange for using the saved debt payments for investments in conservation or climate change mitigation projects (see figure 4.2). Many developing countries have participated in successful DNSs.

Climate change and debt are inherently related, as many countries are not able to carry out sustainable practices when they are burdened by debt.

For example, in 2018, Seychelles swapped U.S. \$22 million of debt and committed the funds to ocean conservation (see box 4.1).²¹⁵ Given the worsening climate crisis and economic challenges brought by the pandemic, DNSs offer an innovative path forward for developing countries struggling under debt.

Debt-for-Nature Swaps are carried out globally between governments and nongovernmental partners, and sometimes succumb to coordination and resource challenges. Hence, there is a need for a centralized body to coordinate and provide resources and information for DNSs. An "organizing framework" for DNSs has been proposed by the World Bank and the IMF, aimed at creating unity of purpose between debt relief and a country's plans for investing in green, resilient, and inclusive development. 216 DNSs have the potential to accelerate both socioeconomic recovery and green action in developing countries, and this organizing framework would add to their legitimacy, popularity, and access to resources. Climate change and debt are inherently related, as many countries are not able to carry out sustainable practices when they are burdened by debt. DNSs offer a pathway out, and they should be afforded a higher level of global coordination to function more effectively.²¹⁷

4.5. Fill development financing gaps to create sustainable COVID-19 recovery opportunities, focusing on vulnerable economies.

Developing countries have been adversely affected by the pandemic, with the ILO's projection suggesting an estimated loss of U.S. \$3.7 trillion in income, equivalent to 4.4 percent of the world's GDP in 2019.²¹⁸ The IMF estimates that low-income developing countries will require

close to U.S. \$200 billion in spending for pandemic response and an additional U.S. \$250 billion to regain their pre-pandemic economic equilibrium.²¹⁹ As post-COVID-19 recovery plans are created, technical assistance and financial investments from the international community are required to help developing nations bounce back and enhance their self-sufficiency over time. The Initiative on Financing for Development in the Era of COVID-19, launched by the Prime Ministers of Canada and Jamaica and the UN Secretary-General, in May 2020, provided a roadmap with concrete financing solutions to the COVID-19 health and development emergency.²²⁰ It emphasized that while most recovery packages are focused on efficiency and support to existing structures, "in this critical juncture it is essential to review existing structures and develop new approaches conducive to inclusive, resilient and sustainable development pathways."221

The IMF's historic allocation of U.S. \$650 billion in Special Drawing Rights, referenced earlier in this section, provides additional liquidity to countries whose fiscal space has severely shrunk over the past year, but it is insufficient to compensate for the broader, far-reaching financial needs for pandemic recovery. An international consensus and commitment to capital access for developing countries must be reached by the international community.

In 1944, the Bretton Woods conference met to discuss new financial arrangements needed to ensure post-Second World War prosperity through economic cooperation. As the world is faced with multiple converging global challenges, all requiring significant resources to address them effectively, a Bretton Woods II as proposed recently by the Brookings Institution, much like the original conference, could foster

a sense of international collective action and financial commitment. However, unlike the original, this conference should be hosted and led by countries from the Global South, as the results should take into account their needs and interests. One objective of the conference could be strengthening the development finance system, with an emphasis on regional development banks (RDBs). Operating in the shadow of the bigger global institutions (the World Bank and IMF), RDBs have played a key role in COVID-19 response by providing financial and technical assistance in the form of concessionary loans or grants for development in low- and middle-income countries within their regions. However, and however, and middle-income countries within their regions.

RDBs are well-placed to not only coordinate with global development banks, but also to offer tailored, more immediate funding to their region. Globally, they have already disbursed about U.S. \$230 billion for COVID-19 recovery.²²⁴ RDBs are a strong alternative to countries that are wary of facing credit downgrades within the G20 Common Framework. Through RDBs, they can coordinate with debtor countries to form a coalition of interests.²²⁵ The Bretton Woods II conference could bring international attention and investment from the international community to RDBs, aiding in filling the estimated U.S. \$1-1.5 trillion infrastructure and the U.S. \$2.5 trillion annual SDG investment gaps.²²⁶

COVID-19 offers an opportunity to refocus the international community on sustainability. The EU green recovery plan aims to create 2.3 million jobs by 2023. ²²⁷ While this level of job creation may not be possible in developing countries, the milestone set by the EU suggests the relative level of ambition that other regions must strive for in their green recovery. The proposed Bretton Woods II conference could inform RDBs' future funding

efforts with a focus on green infrastructure and green jobs creation. The conference could also suggest a roadmap for accelerating investments in existing environmental plans, implementing fossil-fuel subsidy reform, and minimizing unsustainable practices in resource extraction.²²⁸ For example, the Green Climate Fund allocated U.S. \$300 million for the Asian Development Bank's first Green Recovery Program in Southeast Asia. The program aims to bridge a major gap in financing green infrastructure in Southeast Asian countries, which was estimated at U.S. \$210 billion per year before COVID-19.229 Having RDBs coordinate with the wider international community, and work on sustainably focused and regionally targeted plans can help developing countries address their recovery financing gaps in a skillful and expeditious manner.

**

The pandemic's impact on the global economy continues to affect millions of people's livelihoods, both in formal and informal sectors. Across the world, but particularly in developing countries, the shock has only made more acute long-standing issues such as inequality, poverty, and a persistent lack of funding from public and private sources. These pre-pandemic legacy issues will only intensify unless international institutions, governments, businesses, and civil society come together, side-by-side, to lay the foundations for an economic recovery that is fair, sustainable, and opportunity-building. The recommendations presented in this section suggest a few steppingstones for consideration over the next three to five years. The next section addresses the attention that a green and equitable recovery must pay not only to the ongoing public health crisis but to the prevention of future health crises, giving special attention to the most vulnerable populations.

A Bretton Woods II, much like the original conference, could foster a sense of international collective action and financial commitment.

V. Making the Recovery Healthand Well-Being Focused

"The pandemic is a reminder of the intimate and delicate relationship between people and the planet. Any efforts to make our world safer are doomed to fail unless they address the critical interface between people and pathogens, and the existential threat of climate change, that is making our Earth less habitable." — The World Health Organization²³⁰

Beneath the macro-economic and distributional effects of the global crisis brought on by COVID-19 are the very personal and primary effects of the pandemic on human health and well-being, which have shaken both richer and poorer countries—but with significantly greater impacts on the least well-off populations of each. An effective and just and equitable recovery requires recognition of those differences and of the opportunity—indeed, the moral necessity to build back together, especially as recovery efforts relate to human health, well-being, and fundamental rights. Specifically, this section addresses rights and recovery-related imperatives in public health, including vaccine availability, social protection, access to quality food, and access to water.

Ongoing Challenges and Current Responses

Due to lack of universal health coverage, nearly 40 percent of the world's population without effective health coverage had to resort to out-of-pocket payments or forgo healthcare altogether during the pandemic.231 While access to health services is considered a human right, an estimated 2.7 million people—many in low- and middle-income countries (LMICs)will die from zoonotic diseases (as COVID-19 is widely suspected of being) every year.232 As infections spread, socioeconomic inequalities and lack of adequate healthcare translate into increased deaths and loss of livelihoods for the most vulnerable. These diseases can be traced to environmental factors such as deforestation, use of aggressive, industrial-scale agricultural practices, loss of biodiversity, and the unsafe management and consumption of wildlife. All of these actions erode environmental buffers to zoonotic disease.²³³ In many instances, the climate crisis significantly amplifies such public health challenges.

To effectively tackle such threats to public health, an impressive array of global institutions—including the World Health Organization, the UN Food and Agricultural Organization (FAO), the World Organization for Animal Health (OIE),234 the United Nations Children's Fund (UNICEF), the UN Environment Program (UNEP), the Pan American Health Organization (PAHO), and the World Bank—advocate for an approach called "One Health" that highlights the interdependence of human, animal, and environmental health. One Health looks to create multisectoral partnerships that can bring climate and environmental science together with human and animal medical science to increase coordination and communication between these critical sectors for better human health and well-being. This collaboration would, in turn, help prevent and track emerging diseases and respond quickly and effectively to outbreaks in a more cost-efficient way.235 But despite these endorsements, implementation of the One Health approach has been sporadic, reactive rather than proactive, and too small in scope. In addition, the lack of institutional guidelines for universal implementation, ineffective coordination among institutions, poor data sharing mechanisms, and limited budgets have made it difficult to operationalize.²³⁶

Worldwide discrepancies in access to healthcare have been bluntly highlighted over the past few months by widely varying access to COVID-19

vaccines. At the beginning of September, 40 percent of the world population had at least one dose of COVID-19 vaccine, and 27 percent were fully vaccinated, but vaccination rates vary widely by region (see figure 5.1). Over 50 percent of people in Europe and in North and South America had received at least one vaccine dose, compared to roughly 44 percent of people in Asia and only 4.8 percent of people in Africa.²³⁷ This disparity follows from such factors as poor vaccine rollout and countries' inability to afford vaccine purchases, to intellectual property rights constraints. Multilateral initiatives, such as COVAX, are obtaining vaccine donations and coordinating distribution to countries in need, as widespread access to COVID-19 vaccines is necessary for achieving global immunity and paving the way for an equitable and fair global recovery from the pandemic. However, while G7 leaders have pledged to donate close to 1 billion vaccine doses to poorer countries, their commitment falls short of the estimated total need of 11 billion doses.²³⁸

One major obstacle hampering vaccination efforts in low-income countries is patent protections on COVID-19 vaccines.²³⁹ Prominent world leaders, international organizations, and

civil society, including the People's Vaccine Alliance, have called for waiving such protections on COVID-19 treatments and vaccines.²⁴⁰ WHO, the UN, and GAVI argue that since disease eradication is a public good and COVID-19 vaccines contribute to it, the vaccines themselves should be treated as global public goods, that is, made sufficiently abundant that one person's shot does not reduce another person's opportunity to obtain a shot themselves (i.e., opportunity is "non-rivalrous") and vaccinations are available equally to all who want them (access is "non-exclusive").²⁴¹

Beyond the issue of health care, more than 4 billion people lack access to adequate and comprehensive social protections. Among these are workers in the informal sector, which accounts for 89 percent of jobs in Africa, 66 percent in West Asia and North Africa, and 53 percent in Latin America. While current pandemic recovery plans have applied emergency social protection measures to prevent even deeper social damage, many of them are temporary, minimal, and have excluded some of the most vulnerable groups in society, such as migrants and informal workers. Even before the COVID-19 pandemic

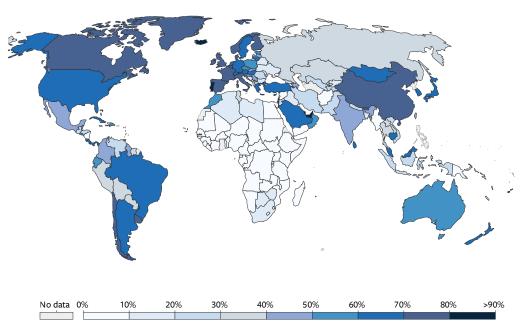


Figure 5.1: Share of people who received at least one dose of COVID-19 vaccine, Sept. 1, 2021

Source: Our World in Data, Coronavirus (COVID-19) Vaccinations (2021).

The economic slowdown that resulted from restrictive measures on mobility has adversely impacted food systems around the globe and threatened people's access to food.

the ILO, UNICEF, the World Bank, African Union, and EU had joined forces to advocate for a universal social protection system.²⁴⁵ In 2009, the UN also adopted a social protection floor initiative, which covered universal access to public services, protections for the poor and vulnerable, and enhanced food and economic security.²⁴⁶

Social protection systems can also contribute to climate change adaptation by targeting populations that are highly vulnerable to environmental risks and natural disasters, including family farmers, pastoralists, forestry-dependent laborers, fishers, and landless agricultural workers. According to FAO, social protection systems can contribute to environmental sustainability by cushioning the impact of environmental crises and "enhancing household capacity to invest in sustainable, climate-smart interventions that progressively promote environmental and social well-being."247 But despite such potential benefits, and the availability of infrastructure to support such a Fund, there is a lack of commitment to mobilize the necessary resources.

The pandemic and its containment measures have further weakened already fragile food security and nutrition systems.²⁴⁸ Since 2014, food insecurity has been rising "due to various factors including conflict, socioeconomic conditions, natural hazards, climate change, and pests."²⁴⁹ COVID-19 has further disrupted food systems around the world. The economic slowdown that resulted from restrictive measures on mobility has adversely impacted food systems around the globe and threatened people's access to food.²⁵⁰ In 2020, a mid-range estimate of 768 million people faced hunger, up 15 percent over 2019, while 2.37 billion experienced

at least moderate food insecurity.²⁵¹ All forms of malnutrition, especially among children, are exacerbated by the pandemic's effect on household income and the availability and affordability of nutritious food.²⁵² Women in rural areas were particularly impacted by the pandemic and governments' measures to contain it, given their role in the household and informal food markets. All of this heightens the challenge of achieving SDG 2 on ending hunger by 2030.253 Short-term responses of international organizations such as the World Bank, the World Food Programme, and the FAO to rising food insecurity have included financing new and existing food projects, cash transfers, and urgent humanitarian food assistance.254 But long-term response plans, such as the World Bank's International Development Association food security program, are needed to address the drivers of food insecurity by enhancing the resilience of food systems, building capacities for sustainable and safe food systems, and improving natural resources management.255

Malnutrition, of course, has many knock-on effects. It increases healthcare costs, reduces productivity, and hinders economic growth as well as social and economic development.²⁵⁶ However, existing food system practices, such as intensive agriculture and unsustainable use of freshwater for irrigation, also damage the environment and deplete natural resources, worsening food insecurity in the long run.²⁵⁷ Addressing food insecurity thus requires investments to make food systems more equitable, safe, and sustainable.²⁵⁸

LMICs face major challenges in integrating food security and sustainability into their

development plans, especially in rural areas. Challenges include institutional, infrastructural, financial, and technical capacity constraints, as well as limited guidance and support from various levels of governance.259 Thus, the transformation of food systems requires the active engagement of many stakeholders, local and global.260 The complexity and distinctiveness of food systems mean that solutions cannot be easily replicated, and need to be context-sensitive and locally informed.261 But food systems, increasingly, have been globalized, and food governance-related issues are becoming more complex. The increase in the number of undernourished people reflects, in part, the weakness of global food system governance pre-COVID-19.262

Another challenge is posed by the unbalanced structure of food systems in LMICs. A handful of multinational corporations seem to increasingly dominate the food supply chains, while the income-generating capacities and economic opportunities for local food and agri-businesses and workers remain limited as they have to trade in a less competitive environment.263 Moreover, the vast majority of profits that are generated from global food value chains usually accrue to multinational corporations, rather than local businesses and workers in countries where production takes place.²⁶⁴ There is a challenge in aligning the interests of food and agri-multinational corporations, while simultaneously advancing food security and improving food affordability, safety, and sustainability.

Finally, the pandemic has highlighted the urgent need for better global access to water, sanitation, and hygiene (WASH) to combat the spread of the virus and stimulate a healthy, equitable, and green recovery. Although access to WASH services increased between 2015 and 2020, gains were modest and remaining deficits profound. Water security has been emerging as a global challenge due to overexploitation of natural resources, poor water management, and the growing effects of climate change. ²⁶⁵ In 2020, around 2 billion people still lacked access to "safely managed" drinking water, of whom 771 million did not have access to "basic" drinking water. ²⁶⁶

Similarly, 3.6 billion people lacked safely managed sanitation, while 2.3 billion people lacked basic hand washing facilities at home.²⁶⁷

The pandemic has only worsened deep-rooted inequality of access to water and sanitation between and within countries.268 Communities with limited access to water and sanitation are at higher risk of COVID-19 outbreaks. Large cities with high population density, informal settlements, and inadequate sanitation services have been identified as pandemic hotspots.²⁶⁹ People in rural areas and informal settlements were already struggling due to limited access to water supply networks. Pandemic-related restrictions on mobility have worsened this struggle by limiting access to public standpipes and water delivery services.270 On the other hand, pandemic-induced economic slowdowns have lessened industrial demand for water by 27 percent, causing a drop in water utilities' revenues. Many countries also exempted or deferred water billing for vulnerable groups, which further reduced revenues, by an overall global average of 15 percent, with implications for expenditures on maintenance and investment in new water sector projects.271

Road to a Broad-based and Green Pandemic Recovery

Given the challenges and need for further innovation and ambition to complement current green recovery strategies and initiatives that address the inherent inequalities vulnerable groups face with regards to climate threats to health, social protection systems, and food and water security, the following five proposals are recommended:

5.1 Create a Multisectoral Coordination Mechanism as a tool for governments to operationalize the World Health's Organization's "One Health" guidelines on climate-related threats to public health and human-animal-environmental interdependence.

A Multisectoral Coordination Mechanism (MCM) is needed to: i) operationalize One

Health guidelines at the national level; ii) ensure sustainable coordination and data sharing among different stakeholders, specifically ministries with policy-influencing authority responsible for human and animal health, wildlife, science, and the environment; and iii) to work with civil society actors that operate within the same thematic frameworks. As proposed by the Tripartite Alliance of the WHO, FAO, and OIE, the MCM is intended to improve on and adapt existing national agencies and resources under a One Health paradigm. This mechanism would entail both multisectoral leadership and coordination, technical coordination activities, strategic planning and emergency preparedness, surveillance and information sharing, outbreak investigation and response, joint risk assessment, risk reduction, communication strategies and community engagement, and workforce development.272

Because the MCM would be intended to function within existing national infrastructure, the financial and human resources that government agencies already have at their disposal could be utilized and reoriented to achieve One Health targets. Furthermore, its multisectoral coordination could help reduce costly duplication of activities. Additional funding could also be sourced from the private sector.

In May 2021, the WHO, FAO, OIE, and the UNEP convened the One Health High Level Expert Panel to reflect on COVID-19 lessons and strengthen the MCM guidelines. Going forward, the Panel will consider a long-term plan of action to reduce the risk of zoonotic diseases with pandemic potential, elaborate a monitoring and early warning framework, and develop the synergies needed to institutionalize the approach.²⁷³ Governments should subsequently update the MCM guidelines to reflect the Panel's final recommendations, expected for release in September 2021.

5.2 Waive intellectual property protections for COVID-19 vaccines and therapeutics through the World Trade Orga-

nization as a first step towards greater vaccine availability worldwide.

In 2020, South Africa and India submitted a proposal to the WTO to waive intellectual property rights on COVID-19 vaccines and allow local, generic drug manufacturers to produce them. The proposal argued that international intellectual property rights hinder the development and production of vaccines in low- and middle-income countries and, hence, global efforts to battle the pandemic. The proposal also called for global sharing of vaccine technology and an annual review of this waiver until global herd immunity to the SARS-COV-2 virus is reached.²⁷⁴ Supported by over 100 countries, lately including the United States, and prominent international organizations, such as WHO and the Joint United Nations Programme on HIV and AIDS, the concept has faced strong opposition from pharmaceutical companies.²⁷⁵ They argue that vaccine development and production are unpredictable and costly, and therefore they require strong intellectual property protections to incentivize research, development, and production. They stress low manufacturing capacity, rather than intellectual property disputes, as the root cause of low vaccine availability in lower-income countries.²⁷⁶ Others agree that closing the global vaccine supply gap requires expanded vaccine production capacity, but in addition to waivers, it also requires greater governmental support for vaccine production technology transfer.²⁷⁷ Proponents of waivers also stress that it was government support (e.g., U.S. Operation Warp Speed), not patent protections, that allowed for rapid COVID-19 vaccine development and rollouts. As of this writing, negotiations at the WTO are ongoing.278

Accelerated vaccine rollout is clearly imperative, especially in low- and middle- income countries, as the pandemic will not end until global herd immunity is reached. IMF staff research suggests that a minimum 60 percent vaccination rate in all countries by the first half of 2022, along with the continued enforcement of public health measures, could add around U.S. \$9 trillion to the world economy by 2025, about 40 percent of which would redound to advanced economies—a clear incentive for them to invest

A Global Fund for Social Protection (GFSP) is needed to improve multilateral coordination towards establishing social protection floors worldwide.

in wider vaccine production, distribution, and delivery.²⁷⁹ While high-income countries should continue to help low-income countries access vaccines in the short-term, nimble action by the WTO on waiving intellectual property rights for COVID-19 vaccines could accelerate and broaden global vaccine availability in the medium-term.

5.3 Create a Global Fund for Social Protection to assist developing country governments in providing adequate social protection systems.

A Global Fund for Social Protection (GFSP), as called for originally by the UN Office of the High-Commissioner for Human Rights and restated by the Special Rapporteur on Extreme Poverty and Human Rights, is needed to improve multilateral coordination towards establishing social protection floors worldwide. Crippling external debts, poorly diversified economies, depreciating currencies, and lower influx of remittances hinder the ability of low-income countries to implement adequate social protection floors for their populations.280 The GFSP could add value in four different areas: i) boost coordination efforts for establishing social protection floors globally; ii) strengthen low-income countries' ability to mobilize domestic resources; iii) address the funding gap for social protection floors in low-income countries; and iv) provide risk insurance to those economies that are highly vulnerable to shocks.281 The Fund could be composed of two branches: a financial facility that could work towards closing the funding gaps for low-income countries to adopt comprehensive social protection floors, and a reinsurance branch that could provide temporary funding against risks that might threaten a country's capacity to provide and pay for increases in demand for social protection. ²⁸²

Resources for the Fund could come from different sources, including development aid budgets from high-income countries, earmarked global, international, or national sources, global financial transaction taxes, carbon taxes, donations from charitable organizations, and from individuals in the form of voluntary add-ons to their national social security contributions. It is estimated that the annual volume required for the Fund to be successful is U.S. \$10-15 billion, but it is recommended that it starts on a smaller initial budget and scope to pilot methodologies that can later be scaled up.²⁸³

The Fund could be governed by a board encompassing multiple stakeholders, including the United Nations, the ILO, the United Nations Development Programme, donors, recipient governments, and members of civil society.²⁸⁴ In terms of structure, it is recommended that the fund be composed of five bodies: a political alliance involving the ministries of labor, social welfare, and finance from recipient governments, the board as outlined above, a secretariat in charge of reviewing country requests for funding, a multi-partner trust fund in charge of allocating resources approved by the board and the secretariat, and an independent accountability unit for monitoring and evaluation.²⁸⁵

The universal adoption of social protection floors through a Global Fund for Social Protection could significantly further the 2030 Agenda for Sustainable Development. Its implementation in the ten poorest countries could help pull 120 million people out of poverty and social insecurity.²⁸⁶

Seen as both a human right and key element of the 2030 Agenda for Sustainable Development, a comprehensive, rights-based approach to universal social protection systems is imperative and can have a multiplier effect that leads to increased school enrollment, improved health outcomes, higher labor market participation, reduced poverty, gender equality, and social, economic, and environmental sustainability.²⁸⁷ Additionally, extending social protections to people working in the informal economy can help to create more resilient and productive economies that further workers' livelihoods.²⁸⁸

5.4 Create a public-private Global Food Systems Innovation Alliance (GFSIA) to fight famine and food insecurity and improve food affordability, safety, and sustainability.

Robust mechanisms are needed to facilitate global coordination on food security and to improve food systems. As recommended by the Working Groups of the UN Food Systems Summit, Global Alliances and Innovations Hubs for food systems are two mechanisms needed to bring together actors and stakeholders from the public and private sectors, as well as international organizations and civil society, to work on the common goal of advancing food security and improving food affordability, safety, and sustainability.²⁸⁹

The global alliance concept has been used to address similar global challenges, such as enhancing nutrition and access to vaccines.290 For example, the Global Alliance for Improved Nutrition (GAIN) increased the affordability of nutritious food in some LMICs through context-specific designed programs. In Indonesia, GAIN established a "Premix Facility" to address the high cost of high-grade micronutrients required for sustainable food fortification programs. Using economies of scale, the Facility was able to reduce the cost of targeted food materials by 14.5 percent in the domestic market.291 In a similar manner, the recommended alliance would design and apply food systems solutions that are "fit for purpose" and target gaps in LMICs' food markets, including food

fortification, food markets development, and post-harvest loss reduction programs.

The global alliance structure pioneered by GAIN and GAVI could be applied to food security, to stimulate cooperative design and implementation of food system solutions that are context-sensitive and locally informed. It could be formed as a multistakeholder platform that brings together UN bodies, representatives of local government agencies, private food sector businesses, researchers, civil society groups, and donors to work on improving food systems to become more equitable and sustainable. The headquarters of the new Global Food Systems Innovation Alliance (GFSIA) could coordinate the activities of regional Food System Innovation Hubs, the operational focal points of the alliance, supporting participating states' programs to enhance food accessibility, safety, and sustainability, co-generating knowledge and building the capacities of national institutions and food sector entrepreneurs and workers, and mobilizing money and other resources.²⁹² More specific forms of support could include establishing food safety surveillance systems, advising on or developing food safety standards, gathering data on local food markets, offering training for food handlers and on better production, preparation, and delivery practices, and identifying organizations and individuals working in formal and informal food markets as candidates for working groups for capacity-building across regions within and between countries.293

Scale and scope would determine the financial requirements for operating such a platform. For example, GAIN works in nine low- and middle-income countries, and their programs are mainly supporting food fortification. Its average annual operating expenses are estimated at U.S. \$47 million.²⁹⁴ For a global entity like WFP, on the other hand, staffing expenses alone totaled U.S. \$1.15 billion in 2020.²⁹⁵ The necessary funding for GFSIA would fall somewhere in between, depending on the scale and scope of its work. Required funding could be pooled by international organizations, governments, and other donors.

The Innovation Hubs, as suggested by the Working Groups of UN Food Systems Summit, WFP, and World Economic Forum, could also aim to scale up innovative approaches for food systems by joining up stakeholders and facilitating technology and knowledge transfer, connecting those who need innovative technology, those who develop it, and those who would be interested to finance it.²⁹⁶

5.5 Scale up financing for water infrastructure projects to ensure safe water and sanitation for all.

A robust mechanism is needed to mobilize and facilitate global financing for WASH and to advance access and the quality of water services in LMICs, where water infrastructure is often underfunded and underdeveloped.²⁹⁷ The pandemic has stressed the importance of water infrastructure for health, hygiene, safety, and the urgent need to enhance vulnerable households' access to reliable, affordable, and sustainable water services.²⁹⁸ Enhanced water and

sanitation infrastructure are also considered climate adaptation and mitigation measures. For example, cities become more resilient with appropriate flood and drought management, and ecosystems and biodiversity are better protected with wastewater treatment. Moreover, the use of recycled wastewater in agriculture contributes to food security. Improving water and sanitation is, therefore, fundamental to a green pandemic recovery and for building climate-resilient systems.²⁹⁹

Enhancing water infrastructure and the quality of water services to meet the Sustainable Development Goals requires substantial investment. The annual funding needs to meet SDG 6 on water, sanitation, and hygiene for all by 2030 is estimated at U.S. \$114 billion annually.³⁰⁰ This means that the current water sector funding in LMICs would need to be multiplied two to four times current levels to achieve the targets set forth in SDG 6.³⁰¹ Funding sources for water infrastructure projects are also less diverse. Capital for water infrastructure projects

Box 5.1: Kenya's innovative finance facility for water

The Kenya Pooled Water Fund (KPWF) was established in 2016 as the first initiative of the Kenya Innovative Finance Facility for Water (KIFFWA), with support from the Swedish International Development Agency, Netherlands Embassy in Nairobi, United States Agency for International Development, Netherlands Development Organisation, and several Kenyan governmental agencies. KPWF acts as the national water blended finance facility, and develops and finances bankable options for water utilities.

KIFFWA intends to create water investment opportunities by providing early-stage capital and technical support, thereby reducing water projects' risk and attracting private investors. The facility uses donor guarantees to facilitate the issuance of bonds for water projects to investors. The funds raised are lent to creditworthy water utilities at reduced rates. The first pooled bonds were issued in 2018, with a 1 percent risk-free rate. The bonds are also listed on the Nairobi Securities Exchange. The exchange of bonds at approximately U.S. \$25 to 40 million provides funds for six water utilities, and this is estimated to have allowed 700,000 people to access water, sanitation, and hygiene services, 27 percent of which are located in Kenya's rural areas. As of 2019, KIFFWA has assisted with co-founding fourteen initiatives across the water sector, including projects on drinking water, sanitation, and hydropower. The initiatives are expected to provide over 8 million cubic meters of clean and safely managed drinking water annually, offer 170 thousand people access to improved sanitation services, secure eco-efficient irrigation for 35 thousand acres of agricultural land, an additional 15 megawatts from renewable energy, and 1,300 direct and indirect jobs. Similar blended finance facilities can be established in other low- and middle-income countries to scale up financing for water infrastructure projects.

Sources: Nagpal et al., Mobilizing Additional Funds for Pro-Poor Water Services - An Exploration of Potential Models to Finance Safe Water Access in Support of Sustainable Development Goal 6.1 (2018), 27-28; World Water Week, "Blended Finance for Water: KIFFWA's Approach for Co-Developing Water Projects"; and Kenya Innovative Finance Facility for Water, Essentials (2020), 6-7.

is usually covered by traditional funding sources, such as governments.302 Achieving the SDG targets on water would require more private and institutional investors, such as pension and sovereign wealth funds, to fill financing gaps.³⁰³ However, water infrastructure projects tend to be less attractive to investors due to their highrisk profiles.304 Water infrastructure projects are usually capital-intensive and require long timelines to be established and fully functioning. This means that such projects involve "a high initial investment with a very long payback period." Additionally, water infrastructure projects are often small and context-specific and tend to have high transaction costs compared to larger, more profitable projects.305

In order to address this financing gap, blended finance facilities could be established to mobilize additional and diverse water access financing from public and private actors, but also to create better water management systems to adapt to the effects of climate change.³⁰⁶ The principle behind the blended finance approach is to use development finance resources from governments and philanthropic foundations to attract "non-development" or private and commercial resources.³⁰⁷

The blended finance approach has been used to address financing gaps in other development areas, such as health, education, agriculture, and climate change mitigation and adaptation.³⁰⁸ Its demonstrated effectiveness in countries such as India, Colombia, and Kenya (see box 5.1) suggests that many countries may benefit from such an approach.³⁰⁹

Blended financing mechanisms could pool resources and reduce the risks that are associated with water infrastructure projects in LMICs.³¹⁰ Blended finance instruments, such as investment funds or collective investment vehicles, are designed to mobilize public and commercial financing within a certain water sub-sector or region. Such a setup lowers the risk-return profiles for investors and reduces the borrowing costs for water utilities. Guarantees are another blended financing mechanism designed to minimize the projects' risk. Guarantees could be issued by the blended finance facility for investors to lower the

commercial risk of funding water infrastructure projects. Such guarantees could increase investors' confidence to finance projects. Other forms of blended finance instruments are grants for water utilities that could be used for the development of projects.³¹¹

As recommended by the World Bank and the OECD, a global blended finance facility should be set up to facilitate the establishment of similar facilities at the national level. The global facility would be donor-funded, while the national-level facilities would facilitate the issuing of bonds and loans to local water utilities and projects. The global blended finance facility would support national facilities by providing funding, financial engineering, consultancy services on transactions, and financial management. National blended finance facilities would provide longer-term, lower-cost financing services to public and private water utilities with limited or no access to commercial finance or only access at unfavorable terms. The financing of water infrastructure projects could be prioritized based on their contribution to meet the Sustainable Development Goals and the Paris Agreement's nationally determined contributions.312

**

How to build a world with equality and justice for all is a long-standing question that we must strive to find answers to in green pandemic recovery plans. As suggested in section II, a broad-based recovery must rebuild more sustainable, equitable, and inclusive societies and economies. The five recommendations presented in this section could serve as means and building blocks towards these goals, but a global commitment to support those most vulnerable is, first and foremost, necessary to ensure that the pandemic winds down as quickly as feasibly possible for all nations and peoples. Learning from past mistakes, the technological revolution that we have witnessed in past decades can be used to find innovative solutions as humanity adjusts to a new normal. The next section presents in detail new opportunities brought about by technology and digitalization for responding immediately to and recovering over time from the pandemic.

VI. Making the Recovery Digital Everywhere

"[T]he COVID-19 pandemic has ensured that the world will be poorer, just as digitalization has made it less equal." — Mark Malloch Brown, President, Open Society Foundations and former UN Deputy Secretary-General³¹³

The COVID-19 pandemic further highlighted the importance of digital connectivity as major parts of people's lives moved online, from working and learning to visits with the doctor. But it has also highlighted a continuing global digital divide, increased the threat of misinformation and disinformation, and raised new questions not previously at the center of debates for developing norms for cyberspace. Tackling these challenges—and capitalizing on the positive potential for digital connectivity—is a key component of any strategy for a broad-based, green recovery.

Ongoing Challenges and Current Responses

As of 2019, 51 percent of the global population had access to the internet.³¹⁴ While proposals to provide internet access to everyone were initiated in developed economies, including the United States and Europe, there continues to be a severe global digital divide within and between countries. For example, in France, 91 percent of people have broadband access, whereas in India, it is only 38 percent.315 Women in lower and middle-income countries are 8 percent less likely than men to own a cell phone, and 300 million fewer women than men in these countries are connected to the internet. The digital divide also affects children, as 436 million of them globally were unable to access any form of remote learning (radio, television, or internet) during the pandemic.316 Moreover, while 9 in 10 children in richer countries have internet access, only 1 in 20 do in lower and middle income countries.317 Furthermore, broadband is becoming a key part of development; an important means of achieving the Sustainable Development Goals by 2030.318 In light of this, a number of scholars are arguing that (fast) internet access is becoming a human right, especially as the global community continues to recover from the pandemic.³¹⁹ But growing digital connectivity has both positive and negative impacts on efforts to create more secure, inclusive, and greener economies.

On the positive side, in addition to the general benefits of increased connectivity and access to information and education, information and communications technologies (ICTs) can be used to reduce communities' carbon footprint, increase crop yields, and enhance awareness of natural disasters in rural areas.320 For example, risks of flooding can be mitigated with real-time mobile updates for citizens. Digitalization of government and business can also cut GHG emissions; according to one estimate, up to 15 percent of global emissions could be cut by implementing digital solutions in the energy, manufacturing, and agriculture sectors, as well as in traffic management and transportation.321

At the same time, digital connectivity requires vast new infrastructure, especially 5G cellular networks providing greater bandwidth.322 The rollout of 5G—still in its early stages—has revealed national security concerns underlying technological development as reflected in Western countries' fears regarding tech giant Huawei and its relationship with the Chinese government, including concerns over espionage-based data breaches arising from the operation of foreign companies expanding into the U.S. market and exploiting the U.S. data system.323 There also has been a significant recent rise in cybercrime: 88 percent of companies worldwide experienced phishing attacks in 2019, and ransomware increased by 33 percent between 2019 and 2020.324 The Kaseya attack alone targeted up to 1,500 companies on different continents. The group responsible for the

Box 6.1: South Korea's Digital New Deal

South Korea is leading the world with its green growth initiatives and digital economic transformation as it implements an ambitious pandemic economic recovery plan. South Korea is considered to be a leader in the 5G and AI revolution on the Asian continent. In June 2020, the South Korean Government launched a New Deal program consisting of a Green New Deal and a Digital New Deal. The former is to prepare the country for rapid yet sustainable economic growth and recovery from COVID-19. The latter has three main pillars: data infrastructure, contactless services, and digitalization of social capital, such as social security programs. The Digital New Deal package involves the spending of 76 trillion won (U.S. \$62 billion) through 2025 to propel South Korea fully into the digital age. The plan calls for accelerating digitalization and includes the establishment of a National Strategy for Artificial Intelligence, which is geared towards establishing the world's first Artificial Intelligence Government. The planned investments of the green and digital new deals are expected to generate more than half a million new jobs in AI and software programming.

Sources: Stangarone, Troy. "South Korea's Digital New Deal" (2020); and International Energy Agency "Korean New Deal - Digital New Deal, Green New Deal and Stronger Safety Net" (2021).

attack demanded U.S. \$70 million to restore the affected data.³²⁵ Such cyberattacks are projected to cost the global economy U.S. \$10.5 trillion annually by 2025.³²⁶

The risk of cybercrime and related data breaches or privacy violations, which can be mitigated, must be weighed against the known and potential good associated with data sharing and digitalization.³²⁷ For example, government digitalization can significantly improve data sharing between public and private sectors, the efficiency of public transportation, and disaster management and mitigation.³²⁸ An especially ambitious program of digitalization is South Korea's Digital New Deal, which was launched as a part of its national recovery (see box 6.1).

At the same time, digitalization produces an environmental footprint of its own, which is becoming increasingly deep. Data centers (providing the proverbial "cloud" to purportedly keep our data safe) are estimated to account for 3.2 percent of worldwide carbon emissions by 2025 and to consume no less than a fifth of global electricity.³²⁹

Cryptocurrencies are contributing to that demand. For example, Bitcoin production ("mining") generates some 22 million metric tons of carbon dioxide each year, consuming more energy than entire countries such as Sweden or Malaysia.^{33°} Regulating these currencies in some capacity could reduce their energy cost.

For example, the Ethereum Foundation suggests that a switch to a different verification method could potentially cut the energy cost for each digital transaction (i.e. the purchase or sale of bitcoin) by nearly 100 percent.³³¹ Other cryptocurrency companies have signed the Crypto Climate Accord, which pledges to decarbonize the industry by 2030.³³² Thus, some steps have been taken, but more work is needed to achieve actual reductions in environmental footprints—while remaining wary of potential efforts to mislead the public about the soundness of industry practices, an approach better known as "greenwashing."

The pandemic also led to a surge in e-commerce, which has had a mixed environmental impact. Although people were not driving to stores (thus lowering their personal carbon footprints), the increase in delivery vehicles and product packaging increased net global GHG emissions and waste.³³³ Digital retail giants exacerbate the environmental impact by staging big annual sales.

In addition, countries have been introducing e-commerce into their latest trade agreements. This was seen in a trade deal between the UK and Japan signed in October 2020.³³⁴ Trade digitalization (digitally-enabled transactions in goods and services) can enable businesses to retain economic activities, increase trade efficiency, and recover more quickly economically from COVID-19, though this may increase

environmental stress unless strong environmental protection commitments are built into such agreements.

With the digital age has come the generation of electronic waste, only a fraction of which is being recycled. The world generated 53.6 million metric tons of electronic waste in 2019: an increase of an estimated 9.2 million metric tons since 2014. Electronic waste is expected to grow by 2030 to about 74.7 million metric tons annually. In 2019, only about 17 percent of electronic waste was recycled, and less than half of the world's countries undertake electronic waste recycling.³³⁵ Many countries, particularly those in North America and Western Europe, used to send their waste to China, which stopped accepting waste from abroad in 2017.³³⁶

Moreover, to date, only parts of discarded electronic products can be recycled. Some components contain hazardous materials such as lead or mercury, posing health risks to waste management workers, and environmental risks to soil, air, and groundwater.³³⁷ Additionally, as the upgrade cycles of many electronic products shorten, both the amount of electronic waste and the need for proper waste management are growing. Electronic waste management is closely tied to fulfillment of the Sustainable Development Goals.³³⁸ Without proper waste management worldwide, the harmful environmental consequences of electronic waste will likely multiply.

In sum, digital technologies harbor great potential to improve, for example, access to education and disaster mitigation, but also entail threats and risks. More recently, the environmental dimension of the digital revolution is becoming clearer as well, including its sizable footprint but also potential for sustainable innovation.

Road to a Broad-based and Green Pandemic Recovery

Given the above challenges and need for further innovation and ambition to complement current green recovery strategies and initiatives, the following five proposals are recommended for the domain of digital connectivity:

6.1 Adopt a New Global Digital Deal to expedite the achievement of Sustainable Development Goal 9 on resilient infrastructure, inclusive and sustainable industrialization, and innovation.

Seeing the cross-cutting importance of digital connectivity for post-pandemic recovery, the adoption of a New Global Digital Deal is recommended as a normative basis for putting digital technologies in the service of a broad-based, green recovery. This would entail a special focus on taking forward SDG 9 on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation. Such a commitment should ideally be made at the level of the UN General Assembly, with due involvement of relevant non-state stakeholders from the business sector and civil society. There must also be commitments made by national government departments and agencies for follow-through of such a global deal.

On July 18, 2020, UN Secretary General António Guterres observed that the "COVID-19 pandemic has brought home ... the huge gaps in governance structures and ethical frameworks. To close those gaps ... we need a New Global Deal to ensure that power, wealth, and opportunities are shared more broadly and fairly at the international level." 339 As a specific manifestation of

More recently, the environmental dimension of the digital revolution is becoming clearer as well, including its sizable footprint but also potential for sustainable innovation. the Secretary-General's call for a New Global Deal in the digital domain, we lend our support to the call, by Bengaluru-based IT for Change, for a New Global Digital Deal (NGDD), to be negotiated by governments, in collaboration with international institutions, NGOs, the private sector, and civil society to establish the new model for digital global governance.³⁴⁰

The New Global Digital Deal would encourage wide multi-stakeholder participation and buttress the post-COVID-19 recovery. With close to half the world's population lacking access to the internet (particularly communities in the Global South), this initiative sees bridging the digital divide as beneficial to both global justice and sustainability.³⁴¹ In order to ensure the broadest possible participation, it would be administered by national and regional task forces under UN auspices, comprising representation across various sectors of the society, including remote and rural populations.

The New Global Digital Deal would commit its signatories to help make contemporary technologies available to disenfranchised regions, including through direct aid and subsidies for telecommunications companies to deliver them, in the spirit of the UN75 Declaration's commitment to "leave no one behind." This includes the dissemination, where practical and cost effective,342 of 5G networks through international consortia, rather than individual countries or companies. Many countries in the Global South are lagging behind with outdated digital technologies, including previous generations of cellular networks, which means slower speeds, less bandwidth, and lower data capacity.343 The 4G and 5G networks offer high data capacity and facilitate multiple device connectivity, cost-effectively. The 5G protocol is expected to revolutionize the use of the internet and has propelled the concept of the "Internet of Things" (IOT) into the consciousness of the wider public. The IOT will integrate digital technology with people, places, and processes. It has the potential to incorporate and transfer data across extensive networks of industries with minimum human interaction. The IOT will further facilitate Artificial Intelligence (AI).344 The IOT is emerging as the

new frontier of the digital transformation revolution, which will also have to be made safe and protected from abuse by both state and non-state actors. In doing so, it will become central to a New Global Digital Deal.

The New Global Digital Deal should further include a commitment from governments that these technologies not only be made more widely available, but that they are used to foster modernization, build resilient infrastructure (particularly in the Global South), and promote sustainable industrialization in fulfillment of SDG 9. This far-reaching initiative, akin to the SDGs, should adopt more specific targets and milestones to be achieved over time. These could be tracked by special NGDD monitoring and implementation units, in collaboration with UN Agencies such as UNDP and UNESCO.

6.2 Promote large-scale investment in Information and Communications Technology infrastructure to achieve digital equity.

Key to operationalizing the New Global Digital Deal and advancing digital connectivity, in general as part of the post-COVID-19 recovery, is closing the digital divide through large-scale investment in ICT infrastructure, including 4G and 5G networks. Reaching disconnected parts of society—especially in the Global South—through such a program must become a matter of priority, endorsed by the UN and led by a coalition that further enhances global legitimacy (e.g., the UN Secretary-General's Envoy on Technology and the ITU), political and economic clout (e.g., the G2O), and technical expertise and financing from the private sector.

The roll-out of the program should be done, in particular, through public-private partnerships to ensure digital effectiveness and readiness, limit interruptions of essential services, and advance the steady digitalization of most (if not all) public services. Governments, supported by international and regional organizations, should work with the private sector and in consultation with local populations to accelerate access to broadband connectivity, especially in rural areas. Priority should be given to projects where increased connectivity comes with

a demonstrable dividend, in terms of inclusivity and sustainability—that is, where this initiative is likely to make significant contributions to closing the digital divide and lead to more sustainable ways of working and living too.

While providing internet access may not always mean providing 5G ultrafast access to everyone, in accordance with the principle of Net Neutrality, access should be provided in a non-discriminatory fashion and be fast enough to make secure, full use of contemporary internet applications. Along with increased internet access must come improved electronic waste management and new technologies to ensure that increased access does not lead to more GHG emissions. An inspiring new initiative led by the International Telecommunication Union and UNICEF, along with digital infrastructure companies and service providers, aims to accelerate access to broadband connectivity for everyone in the post-COVID-19 world by bringing together relevant public and private sector stakeholders.345 It also intends to support a repository of good practices and case studies that can be used by policymakers, regulators, and other stakeholders to deploy resources for and remove barriers to expanding internet access worldwide.346 This initiative can be expanded to include businesses and governments that lack large-scale connectivity.

A program on a global scale would undoubtedly entail enormous costs. For the United States alone, it was estimated that providing everyone with broadband access would cost around U.S. \$80 billion.³⁴⁷ To make a significant global expansion of internet connectivity financially possible, the proposed ICT infrastructure program could be (co-)financed by a portion of the proposed minimum 15 percent tax rate to be paid by large corporations, in keeping with the recently announced recommendation by the G7 (see section IV).

6.3 Fund digital outreach and skills training to combat mis-/disinformation and foster a digitally literate global citizenry.

Governments, alongside international organizations and the private sector, need to undertake more effective and timelier digital outreach

to communicate essential information to the public, far beyond earlier calls to promote "cyber hygiene" and data security.³⁴⁸ Needed going forward is a more proactive approach to educating wider parts of the population on how to handle the onslaught of online information to safeguard their own health and well-being and that of the planet.

In rich and lower-income countries alike, an abundance of inaccurate information (and a lack of timely information) has hampered the effective channeling of critical COVID-19 information, guidelines, and statistics to the public. The pandemic offers lessons for future global crises about the value of prompt and accurate public information in maintaining public trust. A global digital literacy program, spearheaded by UNICEF and UNDP, in a consortium with industry and civil society organizations, could help wider segments of the population take full advantage of new technologies and internet connectivity. For example, the Coronavirus Information Hub, an initiative of UNDP, UNICEF, WHO, and WhatsApp, has helped governments to distribute up-to-date, verified information to health workers, educators, and local businesses and communities across Africa.349

Governments, with the support of the abovementioned coalition, should offer digital-skills training in disadvantaged countries. In Sub-Saharan Africa, where COVID-19 hit economies hard, new technologies can provide greater social and economic security. The International Finance Corporation estimated that revenue opportunity from "digital capacity-building" to Sub-Saharan Africa could amount to U.S. \$130 billion by 2030, along with 230 million new jobs in the digital economy.³⁵⁰ In the program proposed here, priority would be given to job creation that increases sustainability.

This digital training can also include ways to fight misinformation and the spread of conspiracy theories that have flourished online due to the COVID-19 crisis. Addressing these issues is critical for building trust in institutions, ensuring that people receive the vaccine, and driving home the seriousness of the climate emergency. Misinformation can be extremely harmful and

Further multilateral cooperation is needed to curb the environmental impacts of cryptocurrencies and avoid exploitation of regulatory loopholes.

even kill. It is estimated that, in the first three months of the pandemic, nearly 6,000 people were hospitalized, with at least 800 fatalities, due to COVID-19 misinformation.³⁵¹ It is paramount that governments come together to solve this growing problem. While there has been some progress in this area, such as the UN and the EU stepping up their efforts to fight misinformation, more is clearly needed.³⁵²

Misinformation, as well as intentional disinformation and conspiracy theories, pose a threat not only to digital literacy, but also to the fight against climate change (see also section III, recommendation 3.5).³⁵³ Innovative approaches, led by governments and supported by regional and international bodies are, therefore, needed urgently to fight this threat. These can include steps such as digital training, improved media literacy, and access to factual information. Ultimately, these efforts can help to increase amenability to vaccines, trust in institutions, and support for environmental action.

6.4 Protect indigenous communities and Small Island Developing States through tailored improvements in digital connectivity.

Given that many indigenous communities and Small Island Developing States (SIDS) face the double challenge of a lack of digital connectivity and exposure to environmental harm, digitalization to safeguard their citizens' human security merits special attention.

The empowerment and engagement of indigenous peoples are central to the 2030 Agenda for Sustainable Development and a green recovery.³⁵⁴ While all seventeen SDGs apply to indigenous peoples, SDG 4 is particularly important, as it includes a target on the access to quality

and equitable education for indigenous peoples. This objective must include digital education and digitalization of indigenous communities across the globe to ensure they are not deprived of the opportunities that these new technologies bring. To achieve this goal, governments, in collaboration with UNDP, the World Bank, multilateral corporations, and Development Finance Institutions, and with the full participation of the local governments and communities, should join forces to urgently promote the digitalization of indigenous communities.

The remoteness and uniqueness of indigenous communities makes it important that ICT hubs (a location with information and communications technology used to facilitate development) become the catalyst for the digital transformation of these indigenous communities and states more broadly speaking.355 ICT hubs and increased online access will provide the necessary infrastructure and digital connectivity needed to implement post-pandemic recovery in these communities.³⁵⁶ In addition to the ICT hubs, promoting digital literacy and other online training for indigenous peoples, who traditionally lack access to technology due to poverty and inequality, can benefit from services such as e-governance.357 With the introduction of e-governance, crucial government services, such as obtaining documents like birth and death certificates, passports and national identification cards, can be accessed digitally by indigenous peoples who were previously cut-off from the digital mainstream. At the same time, e-governance and other types of information and data sharing over the internet will also create opportunities for cybercrime and the concomitant need for cybersecurity, in remote locations as anywhere else.358

Digitalization is also vitally important to SIDS globally. Being among the first states to suffer the adverse effects of climate change in sea level rise and more intense, global warming-driven natural disasters in recent years, they depend on climate resilience for their physical survival and economic viability.³⁵⁹ Improved digital connectivity can enhance disaster preparedness and communications, improving not only crisis response capabilities but many other aspects of SIDS' green and blue economies (their terrestrial and aquatic environments).360 A common focus on both kinds of economies will fulfill SDGs 13 (Climate Action), 14 (Life below water) and 15 (Life on land).361 Fragile ocean ecosystems are increasingly impacted by environmental pollution that is either directly harmful to aquatic life or not biodegradable and increasingly drawn into the human food chain. The blue economy is particularly vital to the economies of SIDS, but protecting it will require international collaboration to help digitize blue and green economies alike, with funding sourced through a partnership of governments, the World Bank, Development Finance Institutions, and the Green Climate Fund.

6.5 Incentivize greener digital technologies and e-commerce via global carbon taxes, agreements governing digital trade, and laws curbing "flash" sales.

Due to the deep environmental footprints of digital technologies such as data centers and e-commerce, there needs to be more stringent regulation of these technologies and practices with the aim of achieving their full carbon neutrality. This can be done through global agreements, and through actions by governments and regional bodies, where there are some promising initiatives now underway. For example, the EU and several American states are pursuing cryptocurrency guidelines. The environmental dimension is clearly recognized by a bill passed in the New York State Senate that would make the authorization of new cryptocurrency mining centers conditional upon "a full generic environmental impact statement review and a finding that such center[s] will not adversely affect the state greenhouse gas emission targets."362 However, further multilateral

cooperation is needed to curb the environmental impacts of cryptocurrencies and avoid exploitation of regulatory loopholes.

Such cooperation can take the form of a global carbon tax, which could be promoted by the G7 following their breakthrough agreement on a minimum global corporate tax (as discussed in sections III and IV of this report). It can also entail international or regional agreements that govern digital trade. Additionally, e-commerce regulation can be tied to business incentives to decarbonize; this can include, for example, laws curbing flash sales by e-commerce firms, as enacted in India.³⁶³ Similarly, the U.S. state of California is considering a rule limiting air pollution associated with the warehouses that are the (ironically physical) staples of e-commerce companies.364 Similar laws must be enacted worldwide in order to successfully mitigate the environmental costs of digital shopping and currencies.

In terms of electronic waste, money generated from these taxes can fund better waste management and recycling programs or boost public awareness of those that already exist. Readily recyclable or reusable packaging and investment into sustainable ways to get packages to consumers should also be urgent near-term objectives. E-commerce is not going away, so it is imperative that it be made more sustainable in the post-COVID-19 world.

**

Digital technologies have the potential to make significant contributions to a broad-based and green recovery from the pandemic. At the same time, they are far too often also shown to contribute to insecurity and the stress placed on an already beleaguered environment, including a fragile climate. Through the recommendations presented here, the positive potential of technologies can be maximized, while curbing some of their harmful impacts on people and the planet. For these and earlier proposals presented in this report, a carefully calibrated and sequenced strategy is necessary to channel the political will created by the pandemic into a longer-term reform agenda. The following section sets out the pillars of such a strategy and its accompanying global green recovery plan.

VII. Taking the Broad-based, Green Recovery Agenda Forward

"We recognize the economic impact [COVID-19] has unleashed, which continues to dominate the global economic and social landscape. In recognizing that these events have different effects on countries, we affirmed our sympathy and solidarity with hardest hit. We also stress that there is the opportunity to cooperate for finding joint responses to existing challenges and turning them into opportunities to build forward better towards an inclusive and sustainable, prosperous climate and nature-positive future." — Communiqué, first G20 Climate-Energy Ministerial (July 2021)³⁶⁵

Although COVID-19 has been one of the greatest global challenges to confront the United Nations since its founding in 1945, the initial international response to the crisis was often fragmented, delayed, ad hoc, and under-resourced.³⁶⁶ The UN's COVID-19 Response Summit in December 2020, convened a full ten months after the WHO declared the virus to be a public health emergency, failed to mobilize new resources to fight the pandemic; it did not even generate a consensus statement from attending world leaders.³⁶⁷

Looking ahead to the coming three-to-five years, the recovery agenda proposed in this report covers, arguably, a more complex, costly, and politically fraught set of transnational challenges than most leaders have as yet been willing to admit. The twenty post-pandemic initiatives for a sustainable and equitable global recovery presented in preceding sections will require additional strategic planning in the form of detailed budgeting, sequencing of activities, and a logical operational division of labor among relevant global, regional, national, sub-national, and non-state actors. Moreover, and akin to the Sustainable Development Goals and Paris Climate Agreement's Nationally Determined Contributions, these recovery initiatives will require sustained political support from leaders at all levels of governance, from global to local. Fortunately, many important international gatherings in 2021 and 2022 are well-posi-

tioned to draw the attention and catalyze the support of many influential governmental,

business, and civil society leaders. Together, they could culminate in a UN-G20 orchestrated "Green Pandemic Recovery Summit," in September 2022, during UNGA High-Level Week in New York. Such a gathering could chart a global path out of the COVID-19 crisis that also better positions the world to avoid climate catastrophe.

Major Milestones on the Road to a Global, Broadbased, and Green Recovery

Thirteen global gatherings, recently completed or planned for this year and next, can lay the foundations for a broad-based and green recovery strategy in the near-term.

May 2021: G20 Global Health Summit. This meeting, convened by the Italian G20 Presidency and the European Commission, culminated in the Rome Declaration, which commits the G20 and other signatory countries to, among other things, "[e]nable equitable, affordable, timely, global access to high-quality, safe and effective prevention, detection and response tools ... and to strong, inclusive, and resilient health systems; and support robust vaccine delivery systems, vaccine confidence and health literacy."368 Given that access to vaccines is a prerequisite to wider socioeconomic and environmentally sustainable recovery, the G20's timely prioritization of vaccinations in the developing world responds to both a practical and moral imperative.

June 2021: *G7 Summit*. This meeting, convened by the United Kingdom G7 Presidency, culminated in the Carbis Bay G7 Summit Communiqué, which commits G7 members, alongside like-minded partners, to support a Build Back Better World (B3W) partnership that will:

orient development finance tools toward the range of challenges faced by developing countries, including in resilient infrastructure and technologies to address the impacts of climate change; health systems and security; developing digital solutions; and advancing gender equality and education. A particular priority will be an initiative for clean and green growth to drive a sustainable and green transition in line with the Paris Agreement and Agenda 2030.³⁶⁹

Global in scope—from Latin America and the Caribbean to Africa and the Indo-Pacific—the B₃W initiative aims, in the coming years, to catalyze infrastructure investments totaling hundreds of billions of dollars for low- and middle-income countries.³⁷⁰

July 2021: UN High-Level Political Forum (HLPF) on Sustainable Development. Held under the auspices of the UN Economic and Social Council, the 2021 HLPF focused on "sustainable and resilient recovery from the COVID-19 pandemic that promotes the economic, social and environmental dimensions of sustainable development: building an inclusive and effective path for the achievement of the 2030 Agenda in the context of the decade of action and delivery for sustainable development." Focusing on nine of the seventeen Sustainable Development Goals at the start of the "Decade of Action" for the SDGs, the HLPF paid special attention to the kinds of policies and international cooperation needed to control the pandemic and its impacts.³⁷¹

July 2021: G20 Climate and Energy Ministerial: This first of its kind meeting, convened by the Italian G20 Presidency, resulted in an agreed joint communiqué among G20 Energy and Climate Ministers, which welcomed, inter alia, "new commitments made by some of the members of the G20 to each increase and improve their overall international public climate finance contributions through to 2025 and look

forward to new commitments from others well ahead of COP26."372

September 2021: UNGA High-Level Week. Though scaled back for a second year due to COVID-19, the general debate for the High-Level Week of the UN General Assembly's 76th session is slated for September 21-27. The overarching theme is: "Building resilience through hope—to recover from COVD-19, rebuild sustainably, respond to the needs of the planet, respect the rights of people, and revitalize the United Nations."373 UNGA High-Level Week is expected to feature broad-based and green recovery themes prominently, especially with two Secretary-General-convened high-level dialogues taking place that week on food security and energy, and with a critical UN climate change conference (COP-26) taking place only six weeks later.³⁷⁴ On September 10, 2021, the Secretary-General also released his Our Common Agenda report, which speaks to achieving a more just, healthy, and sustainable global recovery through greater solidarity, intergenerational equity, and practical investments in a new social contract centered around respect for basic human rights.

October 2021: G20 Summit. Building on commitments made at the G20 Global Health Summit (May) and G20 Climate and Energy Ministerial (July), the G20 Summit, to be held October 30-31 in Rome, is expected to give special attention to sustainable recovery from COVID-19.³⁷⁵ The related priority issues of overcoming poverty and inequality will be underscored, as will the commitment of G20 countries to preserving the global climate—in particular, by keeping global temperature rise from exceeding 1.5°C—and ensuring a clean and inclusive energy transition.³⁷⁶

November 2021: COP-26. The 26th United Nations Climate Change Conference of the Parties (COP-26), to be held from October 31 to November 12 in Glasgow, will bring together governments, the business community, and global civil society to accelerate action toward the goals of the Paris Climate Agreement and the UN Framework Convention on Climate Change. Specifically, countries are encouraged to: i) come forward with ambitious 2030

Box 7.1: Rethinking global governance of our planet's climate

Established in 2019 by the Stockholm-based Global Challenges Foundation with strategic support from the Stimson Center and other partner institutions, the Climate Governance Commission aims to fill a crucial gap in confronting the global climate emergency, by proposing ambitious yet feasible, high-impact improvements to the global governance architecture for urgent, exponential climate action, to limit global temperature rise to (or below) 1.5°C. The Commission builds on existing knowledge about climate and the environment, by both facilitating and leveraging innovative climate solutions identified by the Exponential Roadmap Initiative (https://exponentialroadmap.org/) and related efforts.

The Commission's forthcoming report, entitled *Governing Our Climate Future*, will diagnose obstacles to climate action and propose effective global governance responses. Among the climate governance innovations to be featured are: Climate Clubs, an International Court for the Environment, a Global Resilience Council, a Global Environment Agency, and Climate Policy Councils. The Commission also works to rethink the climate action roles of existing global institutions, including the UN Security Council, UN Peacebuilding Commission, World Trade Organization, World Bank, and International Monetary Fund.

Source: Global Challenges Foundation, "Climate Governance Commission" (2021).

emissions targets (Nationally Determined Contributions) that align with securing global net zero emissions by mid-century; ii) prepare for climate change by taking precautionary (adaptation) measures and restoring ecosystems; iii) ensure that developed countries deliver on their promise to raise U.S. \$100 billion in climate finance per year; and iv) finalize the Paris Rulebook (the rules needed to implement the Paris Climate Agreement), which can accelerate collaboration on climate action between governments, businesses, and civil society.³⁷⁷

January 2022: Global Policy Dialogue on Global Governance Innovation. Convened by the Global Governance Innovation Network and Global Chanllenges Foundation, this Dialogue will bring together scholars, civil society advocates, business leaders, and UN Mission and Secretariat representatives to take forward the UN75 Declaration's twelve commitments and the Secretary-General's vision of a more inclusive and networked multilateralism through, in part, a dedicated intergovernmental process to strengthen and reform the UN system. The Dialogue will also consider and build on the results of COP-26 and the recommendations of the Climate Governance Commission for innovating climate action (see box 7.1).

February 2022: UN Environment Assembly (UNEA) Declaration and UN Environment

Programme+50. The next UNEA, to be convened in Nairobi, will consider a High-Level Political Declaration on the Environment and commemorate the fiftieth anniversary of the UN Environment Programme. Onsite consultations will allow more sectors of global society to elaborate and contribute to the Declaration.³⁷⁸

March 2022: Twentieth Anniversary Doha Forum & Green Recovery Global Policy Dialogue. Under the banner of "Transforming for a New Era," one of the forum's core thematic focus areas will be "Climate Change and Sustainability." During this twentieth edition of the Doha Forum, a select group of policy practitioners, scholars, activists, and former statespersons will consider the broad-based and green recovery-related findings and recommendations put forth in this Building Back Together & Greener report.

April 2022: World Bank and International Monetary Fund Spring Meetings. Deliberating upon and adopting some of the proposals put forth by the World Bank and IMF High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth,³⁷⁹ the Spring Meetings offer another opportunity for Finance Ministers to consider key elements of a still nascent broad-based and green recovery agenda. It is also a promising setting for a related High-Level

Orchestrated by the United Nations and G20 ... the proposed two-day summit would help to ensure that political leaders at the highest levels commit to advancing ... a common approach to climate-forward and equitable socioeconomic development post-COVID-19.

Meeting on Green Pandemic Recovery Financing (see further details below).

June 2022: Stockholm+50 Declaration. The Declaration is expected to be endorsed by governments attending the international meeting, "Stockholm+50: a healthy planet for the prosperity of all—our responsibility, our opportunity," planned for June 2-3. The meeting will mark the fiftieth anniversary of the landmark 1972 United Nations Conference on the Human Environment (known as the Stockholm Conference). This new instrument aims to deepen environmental connections with the broader 2030 Agenda for Sustainable Development, including by focusing on a sustainable recovery from the coronavirus pandemic.³⁸⁰

July 2022: UN High-Level Political Forum on Sustainable Development. One year prior to the mid-point review (July 2023) of the 2030 Agenda for Sustainable Development provides an opportune time for the HLPF to further recalibrate the seventeen Sustainable Development Goals, in light of UN Member States' identified broad-based green recovery objectives and the need to provide urgent help to those most adversely affected by the coronavirus and its knock-on effects.

By trial ballooning many novel and creative proposals in support of a broad-based and green recovery—and mobilizing political support for ideas with widespread appeal among diverse stakeholders—these meetings will help to develop a lasting, environmentally-sustainable, and socioeconomically-sensitive roadmap out

of the pandemic. To make good use of it, however, states and their leaders will also need to grow beyond zero-sum mindsets and narrow definitions of national interests, not only to defeat COVID-19 but to come to grips with the simultaneous and increasingly urgent needs of the climate crisis and global inequality.

Preparing for the proposed September 2022 Green Pandemic Recovery Summit

The above-noted meetings can take significant steps toward a common approach to a broad-based and green recovery, but actually marshalling governments, businesses, and civil society behind a coherent, representative, and sustained global implementation strategy will require a culminating session—a "Green Pandemic Recovery Summit." Orchestrated by the United Nations and G20 and timed to coincide, in September 2022, with the annual UN General Assembly High-Level Week, the proposed two-day summit would help to ensure that political leaders at the highest levels commit to advancing, by all creative means at their disposal, a common approach to climate-forward and equitable socioeconomic development post-COVID-19.

Without such public commitment, initiatives such as those laid out in the preceding sections are unlikely to come to fruition, or will do so in a—long-familiar—lackluster and fragmented manner. But even drawing on new thinking and

Box 7.2: Turbocharging a greener and fairer recovery from COVID-19 with a "G20+"

The G20 group of leading economies can play a key role in bringing about socioeconomic recovery that is not only effective but equitable and sustainable, recouping some of the shine that it gained initially from its responses to the 2008–9 financial crisis. The Pittsburgh G20 Summit in September 2009 vowed to make the G20 the "premier forum" for overseeing international economic and financial cooperation, and it established the Financial Stability Board to implement reform of international financial regulation and supervision. However, in the intervening decade, economic inequality increased sharply in many parts of the globe, concentrating income and wealth in a small and shrinking percentage of the world's population. In both advanced industrialized and developing countries there is, unsurprisingly, a spreading sense of resentment against such inequality, and the economic globalization to which it is linked, among those who have benefited least and see themselves as left behind.

The G20 members (nineteen countries and the European Union) account for more than 80 percent of world GDP, 75 percent of global trade, and 60 percent of the population of the planet. Still, the G20 does not give representation to 174 other countries, many in the Global South, or provide for other forms of structured, inclusive, and transparent engagement with those outside the club. But those non-members are also concerned with sustaining and sharing in global economic growth, while maintaining economic stability, reducing global inequality, and addressing the economic, social, and political threats posed by future pandemics and the accelerating effects of climate change.

For the G20 to become a globally legitimated "premier forum" of global economic and financial governance, it needs a modest upgrade to what the 2015 Albright-Gambari Commission called a "G20+." The main policy focus of the "G20+" should remain—as is the case for the G20—priority-setting on critical issues for the world economy, including in response to economic crises (beginning with the current one, where recovery efforts to date are mixed globally and inequalities within and between states are intensifying). An upgraded G20 should develop its own institutional memory by means of a modest, standing secretariat, enabling the group to establish formal links with intergovernmental organizations, for substantive inputs, greater coherence among economic, social, and environmental policies, and rallying support for effective implementation and follow-through.

G20 Heads of State should meet every two years at UN Headquarters in the G20+ formation, timed to coincide with the gathering of all 193 Member States' leaders at the start of the UN General Assembly in September in New York. In accounting for the concerns of all countries, whether large, small, advanced industrial or developing, the proposed inaugural September 2022 G20+ Summit (on "Green Pandemic Recovery" at the United Nations) detailed below—and the forward agenda outlined above, in 2021 and early 2022—would privilege inclusive and sustainable socioeconomic recovery priorities, such as strategic investments in public transport and power grids that source energy from renewables.

Source: Ponzio and Larik, "<u>Deepening G20-UN System Cooperation to Foster Socio-Economic Recovery from the Pandemic and Reduce Inequality Worldwide: Towards a G20+"</u> (2021).

the diverse experiences of scholars, non-governmental organizations, and the private sector, the proposed summit's impact is likely to correlate most closely with the strength and consistency of support it receives from the world's richest and most powerful countries. Here is also where a modest evolution of the G20—to a "G20+," first conceived in 2015 by the Albright-Gambari Commission on Global Security, Justice & Governance, and developed

further over time—could offer valuable and timely support (see box 7.2). 381

As detailed in figure 7.1, a comprehensive roadmap to the summit could entail a series of forums, studies, and preparatory and public outreach activities to maximize the gathering's potential to adopt, and its participants to implement, a global green recovery plan. These activities are discussed below, grouped under three general headings: Enhancing the effectiveness of Summit preparations, Broadening dialogue and ideas, and Catalyzing key supportive efforts.

Enhancing the effectiveness of Summit preparations

Summit preparations will need a dedicated preparatory team, an effective communications strategy (before, during, and after the Heads of State gathering), the ability to integrate ambitious ideas emerging from the roster of meetings highlighted above, and the ability to support Member State working groups developing the summit's agenda and drafting potential summit language for Heads of State approval.

Establish a small summit secretariat and build upon existing planning frameworks: Based in an office shared by the UN's Department of Economic and Social Affairs and Development Coordination Office, the summit's small secretariat team should also welcome secondments from the World Bank, IMF, WTO, and G20 Presidency country (India in 2022). Reporting directly to the UN Deputy Secretary-General, Amina Mohammed (who also chairs the UN Sustainable Development Group), the secretariat should be entrusted with backstopping Member States' pre-summit work groups and drafting the summit's global green recovery plan under their supervision, building directly upon relevant, existing international climate/COVID response planning frameworks. These include the United Nations Comprehensive Response to COVID-19 (encompassing: i) the WHO-led COVID-19 Strategic Preparedness and Response Plan; ii) the Global Humanitarian Response Plan; and iii) the UN Socio-Economic Response Framework, which positions climate action as a priority);³⁸² the World Bank and IMF's High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth;³⁸³ the WTO's High-Level Dialogue with the WHO on "Expanding COVID-19 vaccine manufacture to promote equitable access";384 and the G20's Health Summit,385 Climate and Energy Ministerial,386 and annual Leaders' Summit Declarations.

Ensure an effective communications and social media plan: A robust communications and social media outreach plan, developed

and led by the summit's secretariat, should be prioritized early in the summit's preparations, underscoring initial progress (e.g., from the currently scheduled international meetings noted above) and early wins that can improve conditions for achieving more ambitious milestones as the summit nears. Special attention should also be given to reframing narratives to counter public messaging from potential spoilers, as well as engaging formal and informal non-traditional, local-level spokespersons such as television and radio personalities, religious clergy, tribal elders, and civil society leaders—to make the case for the summit's global green recovery plan over the short-, medium-, and long-term.

Integrate ambitious ideas from major pre-scheduled international meetings, while standing up working groups in New York to develop the summit's agenda: As noted above, the summit will take full advantage of major upcoming international gatherings to generate momentum for a common approach to broadbased and green recovery and begin to signal high-level political support for the Green Pandemic Recovery Summit in September 2022. At the same time, working groups are needed in New York at UN Headquarters to prepare a coherent, joined-up plan for recovery from COVID-19 that underscores coordinated macroeconomic, social, and environmental policies and programs across countries and regions. Organized under the four proposed thematic headings—sustainable recovery, fair and inclusive recovery, a health-focused recovery that protects the most vulnerable, and a digitally connected recovery—half of each manageably-sized working group could consist of G20 country representatives (with total participation balanced between the Global North and Global South) and be co-led by a developed and developing country UN Permanent Representative appointed by the President of the General Assembly. The working groups should also engage actively with representatives from civil society, the business community, parliamentarians, and think tanks through several carefully designed consultative tracks (see figure 7.1).

Intergovernmental (and Civil Society-led Track Multistakeholder) Track* (with UN/Government participation)* OCT 2021 DEC APRIL JULY OCT 2022 2021 2022 2022 NOV JAN JUNE **SEPT** 2021 2022 2022 2022 2021 Roll-out communica-High-Level **GPR Summit** Establish UN-Convene Green Political Forum secretariat G20 tracking Pandemic Recovery & social on Sustainable set up & G20 mechanism Financing meeting media plan Development Summit Commence Green Pandemic UNGA to Focus Stockholm+50 working groups Recovery (G20+) on COVID-19 Declaration to prepare GPR Summit to Response COP-26 endorsed Summit agenda endorse plan PREPARATION OF THE GPR SUMMIT'S GLOBAL GREEN RECOVERY PLAN Global Policy Global Green Pandemic Commence Initiate Track 1.5 UN Parliamentarians Recovery Dialogue Parliamentarians Ambassador-Expert on Global Forum on Green research GPR online Roundtables Governance Doha Forum Pandemic Recovery presented to dialogue Commence UNGA New GPR Innovation & Green Civil Society research com-Pandemic Civil Society Civil Society Forums missioned from Recovery events groups monitor and Online independent Global Policy SEPT NOV JAN **APRIL SEPT** post-GPR **Platforms** organized at institutes Dialogue 2021 2021 2022 2022 2022 High-Level Summit Political Forum progress OCT DEC MAR JULY ОСТ 2021 2021 2022 2022

Figure 7.1: Roadmap to the 2022 Green Pandemic Recovery Summit (recommended)

Ensure that the summit results in a focused and action-oriented agenda for a just, healthy, and sustainable global recovery: Convened in a G20+ formation (see box 7.2) during 2022's UN General Assembly High-Level Week (20-26 September), the Heads of State and Government-level Green Pandemic Recovery Summit will conclude negotiations around a comprehensive global green recovery plan (see first bullet above). The adopted by consensus plan would encompass both programmatic initiatives—ideally, inspired by many of the ideas floated in this and related studies—and structural economic reforms that are carefully prioritized, sequenced, budgeted, and able to be monitored closely (over the short-, medium-, and long-term) given their concrete, time-bound, and measurable character. Instead of reinventing the wheel, the summit's global green recovery plan would

build directly upon—and ensure close win-win synergies with relevant earlier international planning frameworks, as well as to acknowledge the wealth of green deals and programs underway around the world.

Broadening dialogue and ideas

It is critical that summit organizers reach out to a wide range of potential idea contributors and be seen to be doing so. That effort should elevate voices of women and youth, national legislators, and scholars, as well as sponsor a series of Track 1.5 dialogues to help feed ideas to the working groups charged with developing summit content.

Elevate citizens' voices, especially women and youth, through global-regional civil society forums and online platforms: Organized in different regions to engage a broad cross-section

^{*} Only select recommended activities listed.

of global civil society and sometimes in conjunction with the aforementioned international meetings culminating in next September's summit, a series of global-regional civil society forums could encourage non-governmental advocacy, research, and business-oriented groups to provide a watchdog role and weighin on the kinds of broad-based and green recovery policy prescriptions world leaders need to hear. Women and youth leaders should be given prominent speaking roles at these forums, especially since national female leaders have, to date, outperformed their male counterparts in managing the COVID-19 crisis and its recovery, and young leaders, such as Greta Thunberg, have shown moral authority and climate action ambition far beyond older generations. These in-person discussions should also be complemented by virtual dialogues to extend this outreach effort's reach and the participation of diverse stakeholders from across civil society.

Organize a two-part dialogue with Global Parliamentarians on Green Pandemic Recovery, in conjunction with the summit: Legislators associated with national and regional parliaments can bring fresh ideas—as well as strong constituent connections—to the preparation of a global green recovery plan. To maximize their substantive inputs and visibility vis-à-vis global media, the parliamentarians' participation could begin with the preparation of a declaration through a legislators-only online dialogue (April-May 2022), followed by a presentation of the declaration to the summit's four thematic working groups (June 2022), active public promotion of the declaration in each parliamentarian's constituency (July-August 2022), and finally, through the convening of a Global Parliamentarians Forum on Green Pandemic Recovery, immediately prior to the summit in New York (September 2022), to rally further support for a progressive forward agenda.

Commission independent research to inform summit deliberations: To ensure that policy-makers can access up-to-date analysis based on the latest empirical evidence, the summit's secretariat should commission independent

research in the form of both policy briefs and more in-depth studies on major issues and broad-based and green recovery proposals under consideration. This would usefully include a focus on resource mobilization and "right-financing"³⁸⁷ in order to crowd in private capital, made necessary by the global macro-fiscal crisis. In addition to both synthesizing earlier research and challenging conventional assumptions, the studies commissioned should give priority to creative and actionable green recovery reform proposals for which world leaders and international institutions could be held accountable.

Undertake a Track 1.5 exercise to feed well-researched and creative proposals into summit preparations: A series of Track 1.5, off-the-record global policy dialogues would help governments and international organizations think carefully through the implications of policy and institutional reform ideas under consideration in the lead-up to the summit. The series could involve the co-lead UN Permanent Representatives for the summit's four proposed thematic working groups, leaders from international organizations, academia, think tanks, the business community, and global civil society, and former world leaders associated with the Club de Madrid, The Elders, and Group of Women Leaders for Change and Inclusion. Facilitated by the new Global Governance Innovation Network, this multi-stakeholder exercise could draw upon and help to peer review—the independent research and creative proposals commissioned by the summit's secretariat.

Catalyzing key supportive efforts

Summit outcomes will need financing, and the Spring Meetings of the World Bank and IMF would offer a compelling backdrop for such financial planning. Summit outcomes will also require monitoring and assessment, something that the recommended G20+ should have both the interest and the ability to support.

Convene a High-Level Meeting on Green Pandemic Recovery Financing, in conjunction with April 2022 World Bank-IMF Meetings: The Green Recovery Financing High-Level Meeting—akin in many ways to the July 2015 The trillions of dollars in COVID-19 stimulus spent in the richest countries confirm that financial tools are available for serious issues when political will is mustered and creative market incentives are introduced.

Addis Ababa Financing for Development Conference that preceded the adoption of the 2030 Agenda for Sustainable Development could give special attention to addressing public-private (or blended) financing for a broadbased and green recovery from the coronavirus. This would entail addressing—in part, through integrated national financing frameworks³⁸⁸ the financing gap to achieve the Sustainable Development Goals estimated at U.S. \$2.5 trillion annually, with some U.S. \$1.7 trillion attributed to growing needs and declining resources associated with COVID-19.389 It could also underscore the importance of mobilizing domestic revenue, combating illicit financial flows, and ensuring that all Green Pandemic Recovery Summit commitments are financially supported to incentivize follow-through. Held in conjunction with the April 2022 World Bank-IMF Meetings, it should forge linkages with the midpoint review of the 2030 Agenda for Sustainable Development by the UN High-Level Political Forum in July 2023. It should also integrate ideas for a "Bretton Woods II Conference", as presented in section IV (see recommendation 4.5).

Establish a joint, UN-G20 mechanism for tracking post-summit progress and taking corrective action, as and when necessary: Even the best-designed and well-financed global green recovery plan will require careful gardening and high-level political attention to facilitate its full, time-sensitive implementation, because setbacks of various kinds are inevitable. Servicing this new mechanism for tracking progress, a small UN successor office to the summit's secretariat could, together with the

proposed G20+ secretariat (box 7.2), prepare and disseminate both quarterly and annual progress reports, assess implementation gaps, and recommend early corrective action.

Potential bottlenecks to progress

Potential obstacles of both a practical and high-level political nature are foreseen for taking forward the proposed global green recovery plan and related Green Pandemic Recovery Summit to facilitate the plan's deliberation, adoption, and implementation. On the practical side, traditional donor countries, corporations, and foundations expected to help mobilize resources worldwide for broad-based and green recovery collectively took a major hit in 2020 (with a 3.3 percent contraction in the world economy). A balance will, therefore, need to be struck between competing domestic and international recovery demands, and between an equitable and thoughtful distribution of resources across the major thematic components of the recovery plan.

On the high-level political side, two major considerations stand out:

First, as noted above, the G7's new Build Back Better World (B3W) partnership aims to catalyze infrastructure investments totaling hundreds of billions of dollars for low- and middle-income countries, driving green growth in line with the Paris Climate Agreement and the 2030 Agenda for Sustainable Development.³⁹⁰ Meanwhile, since 2013, China's Belt-and-Road Initiative (BRI) has poured billions into transport, energy, and other kinds of major infrastructure projects across the developing world,

and the BRI's focus going forward will have enormous implications for post-pandemic recovery too.³⁹¹ Sooner rather than later, some degree of coordination between the B₃W and BRI—including steps to avoid unnecessarily working at cross-purposes within a specific country or region—would be prudent, especially where shared goals may co-exist around, for example, climate action and employment generation. Indeed, in this regard, the proposed Green Pandemic Recovery Summit could serve as an important first step.

Second, the close, mutually reinforcing relationship between the global green recovery plan and the 2030 Agenda for Sustainable Development needs to be defined early in preparations for the summit. Especially with the 2030 Agenda's midpoint review being planned for the July 2023 High-Level Political Forum, the September 2022 summit during UNGA High-Level Week offers an opportunity to recalibrate and endorse the updated seventeen Sustainable Development Goals to better meet urgent socioeconomic, environmental, and human rights needs that target communities and individuals adversely affected by COVID-19 and its severe knock-on effects. This will also entail updating national Sustainable Development Goals action plans (under development and implementation since 2016) to incorporate tailored strategies for broad-based and green recovery coming out of the pandemic. Fortunately, plans are now afoot to fully integrate, by early 2022, the UN's comprehensive COVID-19 response plans into the UN system's normal country-level program cycle organized around the UN Sustainable Development Cooperation Framework (with its focus on national level implementation of the 17 Sustainable Development Goals by 2030).392

Toward a Broad-based and Green Global Recovery for All

UN Secretary-General António Guterres has spoken with growing alarm about the "Triple Planetary Emergency" of global warming, nature loss, and pollution.³⁹³ From the 1987

coining of the term "sustainable development" by the World Commission on Environment and Development to other more recent conceptual advances, such as just transition, circular economy, and global green growth, humanity is collectively starting to comprehend the chief elements of how to respond to these three, interlocking environmental crises—and, at the same time, the contours of a broad-based and green global recovery coming out of the pandemic. Moreover, the trillions of dollars in COVID-19 stimulus spent in the richest countries confirm that financial tools are available for serious issues when political will is mustered and creative market incentives are introduced. What is most needed now are the practical operational details of a durable, environmentally-sensitive, and equitable socioeconomic path worldwide going forward, with clear goals, timelines, and creative programming ideas (such as the twenty presented in this report). Commitments and resources drawn from related initiatives can also help, building on the 2030 Agenda for Sustainable Development, the Build Back Better World partnership, the Belt-and-Road Initiative, and the wealth of green deals and programs underway around the world.

People and nations are understandably reeling from the present pandemic, the fear that we may be nearing the point of no return with respect to catastrophic climate change, and other global threats looming on the horizon. History teaches us that in times of great tumult and human anguish—think the two World Wars, the 1918-20 Great Influenza, severe depletion of the ozone layer in the 1980s, and recurrent famines—leaders have emerged, and their governments and citizens have mobilized to effectuate mammoth and seemingly improbable changes through global collective action. Fortunately, we already possess a system of multilateral institutions, with the United Nations at its heart, designed to nurture and help steer, even if imperfectly, a worldwide political consensus toward (and activate governments, businesses, and civil society groups in the service of) a shared just, health-focused, and sustainable action agenda to better cope with the current crises. Let's get to work.

Annex

List of resources on global governance innovation from the Stimson Center and its partners:

Reports and Books:

- Confronting the Crisis of Global Governance (June 2015)
- Just Security in an Undergoverned World (Oxford University Press, 2018)
- Beyond UN75: A Roadmap for Inclusive, Networked & Effective Global Governance (June 2021)
- An Innovation Agenda for UN75: The Albright-Gambari Commission Report and the Road to 2020 (June 2019)
- Reimagining Governance in a Multipolar World (co-published by the Doha Forum and Stimson Center, September 2019)
- UN 2.0: Ten Innovations for Global Governance 75 Years beyond San Francisco (June 2020)
- <u>Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty</u> (co-published by the Doha Forum and Stimson Center, December 2020)
- Fulfilling the UN75 Declaration's Promise: An Expert Series' Synthesis of Major Insights and Recommendations (June 2021)

Action Plans from the UN75 Global Policy Dialogues series:

- <u>Preventive Action, Sustaining Peace & Global Governance</u> (Doha: Doha Institute for Graduate Studies, December 2018)
- Global Security, Justice & Economic Institutions (Washington, D.C.: Stimson Center, June 2019)
- <u>Climate Governance: Innovating the Paris Agreement and Beyond</u> (Seoul: Global Green Growth Institute, October 2019)
- Global Economic Institutions (Washington, D.C.: World Bank, November 2019)
- Roadmap for the Future We Want & UN We Need: A Vision 20/20 for UN75 & Beyond (UN75 Global Governance Forum, September 2020)

UN75 Global Governance Innovation Perspectives policy brief series:

- <u>Towards Multiple Security Councils</u> (June 2020)
- *Multilateralism for Chronic Risks* (June 2020)
- Closing the Governance Gap in Climate, Security, and Peacebuilding (September 2020)
- Strengthening the Rules-Based Global Order (September 2020)

UN75 Regional Dialogues summaries:

- <u>UN75 Regional Dialogue for Africa: Toward Innovation and Renewal of Global and Regional Governance</u> (online, March 30–May 10, 2020)
- <u>UN75</u> Regional Dialogue for the Americas: Toward Innovation and Renewal of Regional and Global <u>Governance</u> (online, March 20-April 26, 2020)

Background Briefs from the UN75 Global Policy Dialogues series:

- Preventive Action, Sustaining Peace & Global Governance
- Global Security, Justice & Economic Institutions
- Climate Governance: Innovating the Paris Agreement and Beyond

Endnotes

- Global Citizen, "18 Inspiring Quotes From World Leaders in Support of the 'Recovery Plan for the World'."
- 2. United Nations, "Secretary-General's statement on the IPCC Working Group 1 Report on the Physical Science Basis of the Sixth Assessment"
- United Nations News, "UN chief says race to reach SDGs 'can and must' be turned around."; and World Health Organization, "WHO Coronavirus (COVID-19) Dashboard."
- 4. Santora and Kwai, "Covid Updates: Known Global Toll Reaches 200 Million Virus Infections."
- 5. Associated Press, "UN Chief: World Faces a 'Hurricane of Humanitarian Crises'."
- 6. Our World in Data, "Coronavirus (COVID-19) Vaccinations."
- 7. International Monetary Fund, World Economic Outlook Update, 2.
- 8. Kar-gupta and Copley, "Ignoring WHO call, major nations stick to vaccine booster plans."
- 9. Weixel, "Biden risks global backlash on COVID-19 booster shots."
- 10. International Monetary Fund, World Economic Outlook Update, 1.
- 11. World Bank, Global Economic Prospects, xvii-xviii.
- 12. World Bank, "The World Bank in Africa."
- 13. New York Times, "Tracking Coronavirus in India: Latest Map and Case Count."
- 14. World Bank, Global Economic Prospects, xvii-xviii.
- 15. Kharas and Dooley, "How to balance debt and development."
- 16. Reuters, "IMF \$650 billion reserves distribution clears last hurdle in "unprecedented" move."; and International Monetary Fund, World Economic Outlook Update, 13.
- 17. United Nations World Food Programme, WFP at a Glance; and World Bank, "Food Security and COVID-19."
- 18. The Visual Journalism Team, "Afghanistan: How many refugees are there and where will they go?"
- 19. United Nations, *The Sustainable Development Goals Report* 2021, 58-59; and Institute for Economics & Peace, *Global Peace Index* 2021, 2.
- 20. United Nations, The Sustainable Development Goals Report 2021, 58.
- 21. Ibid, 59.
- 22. Lamond, "Authoritarian Regimes Seek To Take Advantage of the Coronavirus Pandemic." $\,$
- 23. International Crisis Group, COVID-19 and Conflict: Seven Trends to Watch, 9.
- 24. Ponzio et al., Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty, 30-31.
- 25. European Union. External Action Service, "Joint Communication to the European Parliament and the Council on strengthening the EU's contribution to rules-based multilateralism"; Alliance for Multilateralism, "Agenda"; and Stevis-Gridneff and Jakes, "World Leaders Join to Pledge \$8 Billion for Vaccine as U.S. Goes It Alone."
- 26. Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis. Summary for Policymakers, 5, 10.
- 27. Irfan and Leber. "The devastating new UN report on climate change, explained." $\,$
- 28. Intergovernmental Panel on Climate Change, *Climate Change* 2021: *The Physical Science Basis. Summary for Policymakers*, 5; and "IPCC confirms release date and approval session details for next report."
- 29. Science Daily, "Environmental impacts of the COVID-19 pandemic, as observed from space."
- 30. International Energy Agency, Global Energy Review 2021, 10.
- 31. Nature Conservancy, COVID-19 Response and Recovery: Nature-based Solutions for People, Planet and Prosperity, 4.
- 32. Global Green Growth Institute, "Colombia Presents a 2030 Green Growth Roadmap"; and United Arab Emirates, "Green Economy for Sustainable Development."
- 33. Knowledge at Wharton, "How Artificial Intelligence Can Slow the Spread of COVID-19."
- 34. Globe Newswire, "Global Artificial Intelligence Market Size 2021."
- 35. International Data Corporation, "IDC Forecasts Improved Growth for Global AI Market in 2021."

- 36. Mari, "Brazilian Superior Electoral Court hit by major cyberattack."
- 37. Reuters Staff, "Axa division in Asia hit by ransomware cyber attack."
- 38. Morgan, "Cybercrime To Cost The World \$10.5 Trillion Annually By 2025."
- 39. Poremba, "The Future of Cybercrime: Where Are We Headed?"
- 40. Sofi, "How Safe is Blockchain? Blockchain Security Guide."
- World Economic Forum, Exploring Blockchain Technology for Government Transparency: Blockchain-Based Public Procurement to Reduce Corruption, 11.
- 42. Business Wire, "Global Blockchain Markets 2021-2026: Analysis & Forecasts with Focus on Over 80 industries."
- 43. Kemp, Digital 2020: Global Digital Overview.
- 44. Fischer, "Unreliable" news sources got more traction in 2020."
- 45. European Commission, "Code of Practice on Disinformation \mid Shaping Europe's digital future."
- 46. Jackson, "Social Media Platforms and Authoritarian Censorship in Asia."
- 47. United Nations Environment Programme, Emissions Gap Report for 2020, 2.
- 48. United Nations, General Assembly, Declaration on the commemoration of the seventy-fifth anniversary of the United Nations, paras. 7-8.
- 49. International Energy Agency, "Green stimulus after the 2008 crisis."
- 50. Carbon Brief, "Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions."
- 51. Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis.
- 52. United Nations, Secretary-General Calls Latest IPCC Climate Report 'Code Red for Humanity', Stressing 'Irrefutable' Evidence of Human Influence.
- 53. United Nations, Environmental Management Group, Defining Green Recovery Outcome Document.
- 54. Georgieva, "Securing a Green Recovery: The Economic Benefits from Tackling Climate Change"; and Organization for Economic Cooperation and Development, "Focus on Green Recovery: to green or not to green."
- 55. Organization for Economic Cooperation and Development, Making the green recovery work for jobs, income and growth, 7; and United Nations Environment Programme, Green Pandemic Recovery Essential to Close Climate Action Gap UN Report.
- 56. Chowdhury, "South Korea's Green New Deal in the year of transition."
- 57. Global Green Growth Institute, "Colombia Presents a 2030 Green Growth Roadmap"; and United Arab Emirates. "Green Economy for Sustainable Development."
- 58. McKinsey & Company Center for Business and Environment, *The circular economy: Moving from theory to practice*, 5.
- 59. European Commission, "The European Green Deal."
- 60. African Development Bank, "The Bank Group's Strategy for The New Deal on Energy for Africa 2016 2025"; and Asian Development Bank, "Climate Change Operational Framework 2017-2030: Enhanced Actions for Low Greenhouse Gas Emissions and Climate-Resilient Development."
- 61. This definition is inspired by Amartya Sen, who argues that more attention should be paid to how institutions affect the well-being and capabilities of individuals and emphasizes the importance of public dialogue at the global level. Sen, *The Idea of Justice*.
- 62. United Nations News, "Vaccine equity at heart of new \$50 billion plan to end pandemic, drive recovery"; and United Nations Sustainable Development, "Economic recovery under threat amid surging COVID cases and lagging vaccination in poorer countries."
- 63. Jackson et al, Global Economic Effects of COVID-19, 2.
- $64.\;$ Nature editorial, "The WHO is right to call a temporary halt to COVID vaccine boosters."
- 65. United Nations, "New COVID-19 Stimulus Tracker shows policy response to pandemic."
- 66. United Nations, COVID-19 Social Protection and Economic Policy Responses of Governments: Lessons for Social Protection Readiness and Building Forward Better, 5.

- 67. Berglöf et al, "A Letter to G20 Governments."
- 68. Chernyak, "What is a Just Recovery? An Interview with Davin Cardenas"; and 350 Organization, "Principles for a #JustRecovery" from COVID-19."
- 69. Climate Justice Alliance, "Just Recovery: Policy Stances and Priorities."
- 70. C40 Knowledge, "Mayors' Agenda for a Green and Just Recovery."
- 71. Ghosh and Chaturvedi, "Inflection Point: Before net-zero, comes the peak"; and Chawla and Ghosh, "Greening New Pastures for Green Investments."
- 72. Gass, "Just Transition Measures for a Green Recovery."
- 73. Smith, Just Transition: A Report for the OECD.
- 74. Palmer, "This Is What a Just Transition Looks Like."
- 75. European Commission, "Launching the Just Transition Mechanism for a green transition based on solidarity and fairness."
- 76. European Commission, "Launching the Just Transition Mechanism."
- 77. Ponzio et al, Beyond UN75: A Roadmap for Inclusive, Networked & Effective Global Governance, 33.
- 78. Bremmer, "The Best Global Responses to the COVID-19 Pandemic, 1 Year Later."
- 79. Ritchie et al, "Coronavirus Pandemic (COVID-19)."
- 80. Colmar Brunton: A Kantar Company, COVID Times, 2.
- 81. Bollyky and Brown, "The Tragedy of Vaccine Nationalism: Only Cooperation Can End the Pandemic," 96–108.
- 82. International Federation of Red Cross and Red Crescent Societies, COVID-19 Outbreak 12-month Update, 14.
- 83. GAVI: The Vaccine Alliance, "World leaders unite to commit to global equitable access for COVID-19 vaccines."
- 84. Ponzio et al, UN 2.0: Ten Innovations for Global Governance 75 Years beyond San Francisco, 44-50.
- 85. C40 Cities, "Financing Sustainable Cities Initiative."
- 86. Nollkaemper and Burgers, "A New Classic in Climate Change Litigation: The Dutch Supreme Court Decision in the Urgenda Case."
- 87. European Commission, A new Circular Economy Action Plan: For a cleaner and more competitive Europe.
- 88. European Commission, European Climate Pact, 4.
- 89. Climate Action Tracker, "EU."
- 90. United Nations, Investing in Ecosystem Conservation Yields More than Subsidies to Agriculture, Deputy Secretary-General Tells 'Raising Ambition for Nature' Event.
- 91. Intergovernmental Panel on Climate Change, "Climate Change 2021: The Physical Science Basis. Summary for Policymakers."
- 92. United Nations Environment Programme, Emissions Gap Report 2020.
- 93. Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis, 16.
- 94. Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C. Summary for Policymakers, 12.
- 95. Georgieva, "Securing a Green Recovery: The Economic Benefits of Tackling Climate Change." $\,$
- 96. Organization for Economic Cooperation and Development, "Making the Green Recovery Work for Jobs, Income, and Growth," 4.
- 97. United Nations Secretary-General, Secretary-General's Remarks to the One Planet Summit.
- 98. United Nations, "António Guterres: 50% of All Climate Finance Needed for Adaptation."
- 99. United Nations, Background note on the USD 100 billion goal in the context of UNFCCC process, in relation to advancing on SDG indicator 13.a.1, 1.
- 100. Schomberg and Piper, "More Needed: G7 Nations Agree to Boost Climate Finance."
- 101. United Nations News, "The trillion dollar climate finance challenge (and opportunity)."
- 102. Brandon, "Europe Must Overcome These Three Challenges to Seal European Green Deal."
- 103. New Climate Organization, "Overview of Recently Adopted Mitigation Policies and Climate Relevant Policy Responses to COVID-19," 7, 8, 11, 13.
- 104. McSweeney and Tanden, "Global Carbon Project: Coronavirus causes 'record fall' in fossil-fuel emissions in 2020."
- 105. International Institute for Sustainable Development, Achieving a Fossil Free Recovery, iv.

- 106. Ibid.
- 107. Evans and Gabbatiss, "Tracking How the World's 'Green Recovery' Plans Aim to Cut Emissions."
- 108. Ibid
- 109. United Nations Web TV, "Mark Carney (Special Envoy) on financing for development in the Era of COVID-19 and beyond."
- 110. International Renewable Energy Agency, Post-COVID recovery: An agenda for resilience, development and equality, 13.
- 111. Organization for Economic Cooperation and Development, "Executive Summary" in *Green Infrastructure in the Decade for Delivery:*Assessing Institutional Investment.
- 112. George and Losavio, "The world is facing a 15 trillion infrastructure gap by 2040. Here's how to bridge it."
- 113. Denchak, "Green Infrastructure: How to Manage Water in a Sustainable Way."
- 114. United Nations Conference on Trade and Development, "Growing plastic pollution in wake of COVID-19: How trade policy can help"; and Lindwall, "Single Use Plastics 101."
- 115. Scot et al, Phasing Out Plastics, 8.
- 116. Beaumont et al., "Global ecological, social and economic impacts of marine plastic."
- 117. Organization for Economic Cooperation and Development, Biodiversity and the economic response to COVID-19: Ensuring a green and resilient recovery, 7.
- 118. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, "Summary for Policymakers" in *The Global Assessment Report on Biodiversity and Ecosystem Services*, 11-12, 24.
- 119. Organization for Economic Cooperation and Development, Biodiversity and the economic response to COVID-19: Ensuring a green and resilient recovery, 9.
- 120. Sandbrook, Gomez-Baggethun, and Adams, Biodiversity conservation in a post-COVID-19 economy, 3.
- 121. Bittel, "In the Fight Against Climate Change, Humans and Wildlife Are Allies."
- 122. Center for Climate and Energy Solutions, "Carbon Tax Basics."
- 123. Organization for Economic Cooperation and Development, Green budgeting and tax policy tools to support a green recovery, 2.
- 124. World Wildlife Fund, "What's the difference between climate change mitigation and adaptation?" $\,$
- 125. Roth, "Green Taxation and Fossil Fuel Subsidy Reform: Two tools for a green recovery."
- 126. United Nations, "A UN framework for the immediate socio-economic response to COVID-19," 2.
- 127. Economic Community of West African States, "Eighty-Sixth Ordinary Session of the ECOWAS Council of Ministers opens in Accra."
- 128. Ellen MacArthur Foundation, The circular economy: a transformative Covid-19 recovery strategy.
- 129. The Ex'Tax Project et al., *New Era. New Plan: A Fiscal Strategy for an Inclusive, Circular Economy*, 215; and Mikolajczak, "Right to Repair is blossoming all over Europe."
- 130. Ibid.
- 131. Green Budget Europe, The Circular Economy: Practical Steps to Enhance the EU Package, 4.
- 132. Vivid Economics, Greenness of Stimulus Index, 3, 7.
- 133. Ellen MacArthur Foundation, "Unlocking circular investment opportunities to meet key public priorities."
- 134. World Bank. Public-Private Resource Center, "Government Support in Financing PPPs."
- 135. Asian Development Bank, Green Finance Strategies for Post-COVID-19 Economic Recovery in Southeast Asia: Greening Recoveries for People and Planet, 31; and Asian Development Bank, Completion Report Bhutan: Green Power Development Project, 9.
- 136. International Renewable Energy Agency, Green Hydrogen: A Guide to Policy Making, 4.
- 137. International Energy Association, The Future of Hydrogen: Seizing today's opportunities, 13.
- 138. Ghosh and Chhabra, "Speed and Scale for Disruptive Climate Technologies: Case for a Global Green Hydrogen Alliance," 4.
- 139. European Clean Hydrogen Alliance, "Vision and Mission."
- 140. Iberdrola, "Green hydrogen: an alternative that reduces emissions and cares for our planet." $\,$

- 141. International Renewable Energy Agency, Green Hydrogen Supply: A Guide to Policy Making, 15, 17.
- 142. International Energy Association, The Future of Hydrogen: Seizing today's opportunities, 14.
- 143. European Clean Hydrogen Alliance, "Kick-starting the EU Hydrogen Industry to Achieve the EU Climate Goals"; and Dii Desert Energy, "About MENA Hydrogen Alliance."
- 144. Ghosh and Chhabra, "Speed and Scale for Disruptive Climate Technologies," 24.
- 145. Lovato, MENA Hydrogen Alliance.
- 146. Ghosh and Chhabra, "Speed and Scale for Disruptive Climate Technologies," 26-27.
- 147. United Nations Department of Economic and Social Affairs, The Global Forest Goals Report 2021, vi.
- 148. Tollefson, "Why Deforestation and Extinctions Make Pandemics More Likely."
- 149. Abdenur, "A Global Forest Treaty Is Needed Now."
- 150. Abdenur, "What can Global Governance do for Forest Protection?"
- 151. Ruis, "No forest convention but ten tree treaties."
- 152. Lucena and Gummer, "Why Rio failed in the past and how it can succeed this time"
- 153. Abdenur, "What can Global Governance do for Forest Protection?"
- 154. Ibid.
- 155. Braatz, International Forest Governance: International Forest Policy, Legal and Institutional Framework.
- 156. United Nations, The Global Forest Goals Report 2021, vi.
- 157. Abdenur, "A Global Forest Treaty Is Needed Now."
- 158. Abdenur, "What can Global Governance do for Forest Protection?"
- 159. Ibid
- 160. United Nations, The Global Forest Goals Report 2021, 3.
- 161. Abdenur, "What can Global Governance do for Forest Protection?"
- 162. Ibid
- 163. United Nations, The Global Forest Goals Report 2021, 3.
- 164. Abdenur, "What can Global Governance do for Forest Protection?"
- 165. European Forest Institute Proforest, "Working with the private sector on REDD+," 2.
- 166. Zemke, "Role of Strategic Communication in Crisis Management and Business Continuity."
- 167. United Nations Environment Programme, Communication Strategy for the African-Eurasian Migratory Waterbird Agreement, 7.
- 168. World Health Organization, "Fighting misinformation in the time of COVID-19, one click at a time"; and World Health Organization, *How to respond to vocal vaccine deniers in public.*
- 169. Gramlin, "Climate change disinformation is evolving. So are efforts to fight back."
- 170. Boin et al., The Politics of Crisis Management: Public Leadership under Pressure, 69.
- 171. Dupar et al., Communicating climate change: A practitioner's guide, 14.
- 172. Ponzio et al., Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty, 43.
- 173. Mellor and Seyfeddinipur, "The Value of Communicating in the Local Language." $\,$
- 174. Dupar et al., Communicating Climate Change, 58.
- 175. Ibid.
- 176. United Nations Educational, Scientific, and Cultural Organization, "Second Inclusion and Dialogue Series Conversation: Exploring inclusive post-COVID recovery with Gabriela Bucher (Executive Director of Oxfam International)."
- 177. Development Initiatives and Global Humanitarian Assistance, Global Humanitarian Assistance Report 2021, 13.
- 178. Wandel, Early Lessons and Evaluability of the UN COVID-19 Response and Recovery MPTF, 16.
- 179. Lawder and Nienaber, "IMF \$650 billion reserves distribution clears last hurdle in "unprecedented" move."
- 180. Cassim et al., The \$10 trillion rescue: How governments can deliver impact.
- 181. Kharas and Dooley, "Long-run impacts of COVID-19 on extreme poverty."

- 182. Power, CDP Financial Services Disclosure Report 2020: The Time to Green Finance, 3.
- 183. Energy Policy Tracker, "G20 Countries."
- 184. Durant, "The developing world must get ready to adapt its trade to climate change."
- 185. Fleming, "COVID-19 is threatening the SDGs here's what needs to happen." $\,$
- 186. World Economic Forum Center for the New Economy and Society, Building Back Broader: Policy Pathways for an Economic Transformation, 17.
- 187. McKinsey Global Institute, "Executive Summary" in The future of work after COVID-19, 7.
- 188. United Nations News, "More than 65 million 'low-carbon jobs' can be created by 2030: UN-backed Climate Summit urges action 'to the next level'"; and Organization for Economic Cooperation and Development, Making the Green Recovery work for jobs, income and growth, 10.
- 189. Based on the number of full-time employees, the enterprises are defined as: i) Micro: 0 to 4 employees, ii) Small: 5 to 19 employees, and iii) Medium: 20 to 99 employees. International Trade Centre, SME Competitiveness Outlook 2021: Empowering the Green Recovery, 3.
- 190. International Trade Centre, SME Competitiveness Outlook 2021, xiv, 36, 45.
- 191. United Nations, "MSMEs: Key to an inclusive and sustainable recovery."
- 192. United Nations Conference on Trade and Development, "The International Day of Micro, Small and Medium Enterprises (MSMEs)."
- 193. United Kingdom Department for Business, Energy, and Industrial Strategy, Green Jobs Taskforce: Report to Government, Industry, and the Skills Sector. 31.
- 194. World Economic Forum, Building Back Broader, 7.
- 195. Herren et al., Green Jobs for a Revitalized Food and Agriculture Sector, 7.
- 196. Organization for Economic Cooperation and Development, Making the Green Recovery work for jobs, income and growth, 10.
- 197. World Economic Forum, Building Back Broader, 19.
- 198. United Kingdom Department for Business, Energy, and Industrial Strategy, *Green Jobs Taskforce: Report to Government, Industry, and the Skills Sector*, 38, 42.
- 199. International Trade Centre, SME Competitiveness, xii, 33, and 45.
- 200. International Trade Centre, SME Competitiveness, 47; and Chatterjee, Small businesses can help drive a green recovery from the pandemic.
- 201. Symbiotics, "Symbiotics launches first USD 7.75 million Green Bond with Pan Asia Banking Corporation."
- 202. International Trade Centre, SME Competitiveness, 46.
- 203. SME Climate Hub, Where SMEs come to future proof their business.
- 204. Solar Energy Industries Association, "Solar Power Purchase Agreements." $\,$
- 205. International Trade Centre, SME Competitiveness, 40.
- 206. International Commission for the Reform of International Corporate Taxation, "Today's deal is not historic or sufficient. ICRICT calls on G7 leaders to show real leadership and make a much more ambitious commitment."
- 207. World Bank, "First Global Conference of the Platform for Collaboration on Tax Taxation and the Sustainable Development Goals"; and Deutsche Welle, "G7 agrees 'historic' global minimum corporate tax rate"
- 208. Rappeport, "Finance Leaders Reach Global Tax Deal Aimed at Ending Profit Shifting."
- 209. Bunn, "What's in the New Global Tax Agreement?"
- 210. OECD/G20 Inclusive Framework on BEPS, Statement on a Two-Pillar Solution to Address the Tax Challenges Arising From the Digitalisation of the Economy, 1.
- 211. United Nations Conference on Trade and Development, Developing country external debt: From growing sustainability concerns to potential crisis in the time of COVID-19.
- 212. Parker, "The debt crisis looming for poor countries."
- 213. Ponzio, et al., Beyond UN75. A Roadmap for Inclusive, Networked & Effective Global Governance, 62.
- 214. U.S. Global Leadership Coalition, Climate Change and the Developing World: A Disproportionate Impact, 1.

- 215. Sheikh, Debt-for-Nature Initiatives and the Tropical Forest Conservation Act: Status and Implementation, 11; Asian Development Bank, Green Finance Strategies for Post-COVID-19 Economic Recovery in Southeast Asia: Greening Recoveries for People and Planet, 36; and Ainio, "How debt for climate swaps could spur a green recovery."
- 216. Shalal, "IMF, World Bank to unveil 'green debt swaps' option by November, Georgieva says."
- 217. International Monetary Fund, "Transcript of the IMFC Press Briefing"; and Elston, Leigh, "How debt-for-climate swaps can help fund the energy transition."
- 218. International Labour Organization, ILO Monitor: COVID-19 and the world of work. Seventh edition, 1.
- 219. International Monetary Fund, World Economic Outlook Update July 2021. 7.
- 220. United Nations, "Financing for the Development in the Era of COVID-19 and Beyond Initiative (FFDI)."
- 221. United Nations, Financing for Development in the Era of COVID-19 and Beyond: Menu of Options for the Consideration of Heads of State and Government Part I, 3.
- 222. Kharas, Global development cooperation in a COVID-19 world, 13.
- 223. Goldin, "Regional development banks play a critical role in COVID-19 response and recovery."
- 224. African Development Bank, "Regional Development Banks Heads discuss common challenges, opportunities to build back better post COVID-19."
- 225. Arezki and Bolton, "To recover from COVID-19, support regional development banks."
- 226. Organisation for Economic Co-operation and Development, "Overview" in *Global Outlook on Financing for Sustainable Development* 2021: A New Way to Invest for People and Planet, 16; and United Nations, Closing the infrastructure gap.
- 227. Mendiluce and Whittington, "Green Recovery Plans Can Unlock Millions More Jobs Than 'Return-to Normal' Stimulus."
- 228. Organization for Economic Cooperation and Development, "Making the green recovery work for jobs, income and growth," 11.
- 229. Asian Development Bank, \$300 Million from Green Climate Fund to Support ADB's First Green Recovery Program in Southeast Asia.
- 230. World Health Organization, $Manifesto\ for\ a\ healthy\ recovery\ from\ COVID-19.$
- 231. International Labor Organization, A Policy Framework for Tackling the Economic and Social Impact of the Covid-19 Crisis, 12.
- 232. Zoonotic infectious diseases are those such as Zika, Ebola, and salmonella that spread between animals and people. Pena, "CDC Emerging & Zoonotic Infectious Diseases."
- 233. Andersen, "Prevention versus Cure: The Climate and Health Agendas." Speech prepared for delivery at "Public Health from Climate-Related Threats," on the margins of the 2021 United Nations High-level Political Forum on Sustainable Development.
- 234. The Office International des Epizooties (OIE) was created 1924 to fight animal diseases at a global level. In May 2003 it was renamed the World Organisation for Animal Health but kept its historical acronym. U.S. Animal Health Association.
- 235. United Nations Environment Programme, Preventing the Next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission, 9, 45–48.
- 236. Ribeiro, van de Burgwal, and Regeer, "Overcoming Challenges for Designing and Implementing the One Health Approach," 1-3, 5-6; and Aggarwal and Ramachandran, "One Health Approach to Address Zoonotic Diseases."
- 237. Our World in Data, "Statistics and Research: Coronavirus (COVID-19) Vaccinations"; and United Nations News, "WHO calls for moratorium on COVID-19 booster jabs."
- 238. BMJ, Covid-19: G7 vaccine promises fail to meet scale of challenge, say critics.
- 239. Transparency International. Working Group on COVID-19
 Vaccines, Time to Suspend Intellectual Property Protections on COVID-19
 Vaccines
- 240. People's Vaccine Alliance, "Our Demands."

- 241. World Health Organization Director General, "WHO Director-General's speech at the Paris Peace Forum Panel: ACT-A: Covid-19 Vaccines, Tests and Therapies, the Global Public Good Solution"; United Nations Secretary-General, "COVID-19 Vaccines Must Be Global Public Good, Secretary-General Says, Announcing 'Only Together' Campaign to Encourage Sharing of Technology, Doses"; and GAVI, "Are vaccines a global public good?"
- 242. International Labour Organisation, "Plug social protection gaps in developing countries to prevent future crises, ILO says."
- 243. World Economic Forum Centre for the New Economy and Society, "Building Back Broader: Policy Pathways for an Economic Transformation," 21.
- 244. United Nations, Special Rapporteur on Extreme Poverty and Human Rights, Looking Back to Look Ahead: A Rights-Based Approach to Social Protection in the Post-COVID-19 Economic Recovery, 7–12.
- 245. Global Partnership for Universal Social Protection, "Together to Achieve Universal Social Protection by 2030."
- 246. United Nations, The Social Protection Floor: A joint Crisis Initiative of the UN Chief Executives Board for Coordination on the Social Protection Floor.
- 247. United Nations Food and Agriculture Organization, FAO Social Protection Framework: Promoting Rural Development for All, 23-27.
- 248. United Nations, Food and Agriculture Organization, Response to COVID-19: Building to Transform, 1.
- 249. World Bank, "Food Security and COVID-19."
- 250. United Nations Sustainable Development Goals, The Sustainable Development Goals Report 2021, 28.
- 251. United Nations (FAO, IFAD, UNICEF, WFP and WHO), In Brief to The State of Food Security and Nutrition in the World 2021, 5.
- 252. United Nations, The Sustainable Development Goals Report 2021, 28.
- 253. FAO et al., The State of Food Security and Nutrition in the World, 5.
- 254. U.S. Global Leadership Coalition, COVID-19 Brief: Impact on Food Security.
- 255. World Bank International Development Association, *Responding to the Emerging Food Security Crisis*, 18; and Béné, et al, "When food systems meet sustainability Current narratives and implications for action," 113.
- 256. World Health Organization, The double burden of malnutrition, 6.
- 257. Béné et al, "When food systems meet sustainability," 118-119.
- 258. Alarcon et al, "The Importance of a Food Systems Approach to Low and Middle Income Countries and Emerging Economies: A Review of Theories and Its Relevance for Disease Control and Malnutrition," 1.; and Global Network Against Food Crises, New and old challenges: Conflict, climate change and COVID-19 impacts on rising acute food insecurity.
- 259. United Nations. Food and Agriculture Organization, Local Government Planning for Community Food Systems Opportunity, Innovation and Equity in Low- and Middle-Income Countries, 13-14.
- 260. McCarthy et al, "Global food security Issues, challenges and technological solutions," 11.
- 261. United Nations, Local Government Planning for Community Food Systems Opportunity, Innovation and Equity in Low- and Middle-Income Countries, 109.
- 262. von Braun, Global institutions: Governance reform for food, nutrition, and agriculture, 63-64.
- 263. Béné et al, "When food systems meet sustainability," 119; and United Nations, $\it The global food crises, 71.$
- 264. United Nations, Food and Agriculture Organization, Food security and international trade Unpacking disputed narratives, 13.
- 265. Paudel, "Nexus between Water Security Framework and Public Health: A Comprehensive Scientific Review," 2.
- 266. Safely Managed Water refers to "drinking water from an improved water source that is located on premises, available when needed, and free of fecal and priority chemical contamination." Basic Drinking Water refers to "drinking water from an improved source provided collection time is not more than 30 minutes for a roundtrip including queuing." World Health Organization and United Nations Children's Fund, "Safely managed drinking water," 12.
- 267. United Nations, Sustainable Development Goals Report 2021, 38. 268. United Nations Office of the High Commissioner for Human Rights, Accountability for the Elimination of Inequalities in the Water, Sanitation and Hygiene (WASH) COVID-19 Response.
- 269. International Finance Corporation, Impact of COVID-19 on the Water and Sanitation Sector, 3-4.

- 270. United Nations ESCWA, The Impact of COVID-19 on the Water-Scarce Arab Region, 2-3.
- 271. International Finance Corporation, Impact of COVID-19 on the Water and Sanitation Sector, 3-4.
- 272. Tripartite Alliance, A Tripartite Guide to Addressing Zoonotic Diseases in Countries, 41.
- 273. World Health Organization, "26 International Experts to Kickstart the One Health High Level Expert Panel (OHHLEP)."
- 274. World Trade Organization. Council for Trade-Related Aspects of Intellectual Property Rights, Waiver From Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of COVID-10.
- 275. Nature Staff, "A patent waiver on COVID vaccines is right and fair," 478.
- 276. Siripurapu, "The Debate Over a Patent Waiver for COVID-19 Vaccines: What to Know"; and Blenkinsop, "What does waiving intellectual property rights for COVID-19 vaccines mean?"
- 277. Lindsey, "Why intellectual property and pandemics don't mix."
- 278. International Institute for Social Development, "Policy Brief: WTO Chief Hopeful for Deal to Get More COVID-19 Jabs to Developing Nations."
- 279. Agarwal and Gopinath, A Proposal to End the COVID-19 Pandemic, 9.
- 280. de Schutter, "The Global Fund for Social Protection."
- 281. United Nations, Office of the High Commissioner for Human Rights, Call for Reactions: Proposal for a Global Fund for Social Protection.
- 282. de Schutter and Sepulveda, *Underwriting the Poor: A Global Fund for Social Protection*, 12.
- 283. Global Coalition for Social Protection Floors, A Global Fund for Social Protections, 3-4.
- 284. Global Coalition for Social Protection Floors, A Global Fund for Social Protections, 2.
- 285. de Schutter, Global Fund for Social Protection: International Solidarity in the Service of Poverty Eradication, 19–20.
- 286. Global Coalition for Social Protection Floors, A Global Fund for Social Protections, 3-4.
- 287. United Nations, Food and Agriculture Organization, FAO Social Protection Framework: Promoting Rural Development for Al, 32.
- 288. World Economic Forum, Building Back Broader, 21.
- 289. United Nations Food Systems Summit, Action Track 1: Ensure Access to Safe and Nutritious Food for All Potential Game Changing and Systemic Solutions: An Initial Compilation, 29–31, 38-40, 52-54.
- 291. Jallier et al, "The global, centralized approach of the GAIN Premix Facility has made oil fortification in Indonesia more affordable," 43.
- 292. United Nations Committee on World Food Security, Multi-stake-holder partnerships to finance and improve food security and nutrition in the framework of the 2030 Agenda, 15.
- 293. United Nations Food Systems Summit, Develop a Global Alliance on Safe Food for All; and Food and Agriculture Organization, "Global Alliance for Improved Nutrition (GAIN)."
- 294. Average annual expenditure of Global Alliance for Improved Nutrition (GAIN) for years 2012-2019. Global Alliance for Improved Nutrition, *Annual Reports* and *Annual Report* 2018 2019, 6-9.
- 295. World Food Programme Executive Board, Audited Annual Accounts, 2020, 17.
- 296. Bora, Kowatsch, and Desai, "How Food Innovation Hubs Will Scale Technology To Transform Our Food System."
- 297. World Bank, "Public-Private Partnership Legal Resources Center Water & Sanitation PPPs."
- 298. Ajami and Kane, "The hidden role of water infrastructure in driving a COVID-19 recovery."
- 299. de Albuquerque, "Bridging the Financial Gap: Investing in SDG 6." 300. Organization for Economic Cooperation and Development, *Making Blended Finance Work for Water and Sanitation Unlocking Commercial Finance for SDG* 6, 2.
- 301. Alaerts, "Financing for Water—Water for Financing: A Global Review of Policy and Practice," 1.
- 302. Organization for Economic Cooperation and Development, "Green Infrastructure in the Decade for Delivery: Assessing Institutional Investment."

- 303. Climate Bonds Initiative, "Water Infrastructure Criteria under the Climate Bonds Standard," 5.
- 304. Alaerts, "Financing for Water," 12.
- 305. Organization for Economic Cooperation and Development, "Financing Water Investing in Sustainable Growth," 5; and Alaerts, "Financing for Water—Water for Financing: A Global Review of Policy and Practice," 10.
- 306. Alaerts, "Financing for Water," 13.
- 307. Organization for Economic Cooperation and Development, Blended finance Mobilising resources for sustainable development and climate action in developing countries, 6.
- 308. International Development Association, "Blended Finance Facility (BFF)."
- 309. Nagpal, Malik, and Eldridge, Mobilizing Additional Funds for Pro-Poor Water Services An Exploration of Potential Models to Finance Safe Water Access in Support of Sustainable Development Goal 6.1, 27.
- 310. Organization for Economic Cooperation and Development, "Blended finance Mobilising resources for sustainable development and climate action in developing countries," 6.
- 311. Organization for Economic Cooperation and Development, "Making Blended Finance Work for Water and Sanitation; Unlocking Commercial Finance for SDG 6."
- 312. Climate Finance Lab, "Water Financing Facility."
- 313. Malloch-Brown, "Slow Death or New Direction for the UN?"
- 314. International Telecommunications Union, "Statistics."
- 315. Ovide, "We Can Do Better': One Plan to Erase America's Digital Divide"; European Parliament, "Digital Agenda for Europe"; and Schumacher and Kent, "Eight Charts on Internet Use Around the World as Countries Grapple with COVID-19."
- 316. Pangetsu and Granyard, "Equal Access to Digital Technologies: A Key to Resilient Recovery"; and United Nations Children's Fund, COVID-19: At Least a Third of the World's Children Unable to Access Remote Learning, New Report Says.
- 317. United Nations Children's Fund, Two thirds of the world's school-age children have no internet access at home, new UNICEF-ITU report says.
- 318. International Telecommunications Union, "The State of Broadband: Broadband as a Foundation for Sustainable Development."
- 319. See Pollicino, "The Right to Internet Access: Quid Juris?"
- 320. International Telecommunications Union, "Backgrounder: ICTs to Achieve United Nations Sustainable Development Goals."
- 321. Ekholm and Rockström, "Digital technology can cut global emissions by 15%. Here's how."
- 322. Organization for Economic Cooperation and Development, "Enhancing Access and Connectivity to Harness Digital Transformation."
- 323. Maizland and Chatzky, "Backgrounder: Huawei: China's Controversial Tech Giant"; and Williams, "To enhance data security, federal privacy legislation is just a start."
- 324. Varonis, "134 Cybersecurity Statistics and Trends for 2021."
- 325. Satter, "Up to 1,500 businesses affected by ransomware attack, U.S. firm's CEO says."
- 326. Morgan, "Cybercrime To Cost The World \$10.5 Trillion Annually By 2025."
- 327. Ursillo and Arnold, "Cybersecurity Is Critical for all Organizations Large and Small."
- 328. Rozenberg and Wellestein, "How to use digital infrastructure and technology for a sustainable, inclusive future."
- 329. Trueman, "Why data centres are the new frontier in the fight against climate change." $\,$
- 330. Reuters, "Factbox: How big is Bitcoin's carbon footprint?" and Browne, "Why everyone from Elon Musk to Janet Yellen is worried about bitcoin's energy usage."
- 331. Beekhuizen, "A country's worth of power, no more!"
- 332. United Nations News, "Sustainability solution or climate calamity? The dangers and promise of cryptocurrency technology."
- 333. Whiting, "Online shopping is polluting the planet but it's not too late."
- 334. Organization for Economic Cooperation and Development, "Leveraging Digital Trade to Fight the Consequences of COVID-19"; and Morita Jaeger and Ayele, "The UK-Japan Comprehensive Economic Partnership Agreement: Lessons for the UK's future trade agreements."

- 335. Forti et al, "The Global E-waste Monitor 2020: Quantities, flows and the circular economy potential," 9,13,26.
- 336. Renee, "What Can We Do About the Growing E-waste Problem?" 337. Ibid.
- 338. Forti et al, "The Global E-waste Monitor 2020."
- 339. United Nations, "A New Contract for a New Era."
- 340. United Nations, Sustainable Development Goals, "A New Contract for a New Era"; and IT for Change, "Concept Note for a Digital New Deal, Visions of Justice in a Post-Covid World."
- 341. United Nations, General Assembly, Road map for digital cooperation: implementation of the recommendations of the High-level Panel on Digital Cooperation.
- 342. Since 5G requires dense cell networks, 4G broadband technology might in some cases remain the preferable option for getting more people internet access. For a comparison see Fruhlinger, "What is 5G? Fast wireless technology for enterprises and phones."
- 343. International Telecommunications Union and UNESCO, "The State of Broadband: Broadband as a Foundation for Sustainable Development."
- 344. Organization for Economic Cooperation and Development, "Enhancing Access and Connectivity to Harness Digital Transformation."
- 345. Giga, "About."
- 346. Giga, "Giga: An initiative to connect every young person in the world to information, opportunity and choice."
- 347. Wheeler, "5 steps to get the internet to all Americans: COVID-19 and the importance of universal broadband."
- 348. Ponzio al., UN 2.0: Ten Innovations for Global Governance 75 Years beyond San Francisco, 39.
- 349. United Nations, Development Programme, COVID-19: WHO, UNICEF and UNDP Partner with WhatsApp to get Real Time Information to Billions Around the World.
- 350. International Finance Corporation, Digital Skills in Sub-Saharan Africa: Spotlight on Ghana, 10 -11.
- 351. World Health Organization, Fighting misinformation in the time of COVID-19, one click at a time.
- 352. United Nations, Department of Global Communications, 5 Ways the UN is Fighting 'Infodemic' of Misinformation; and Claesson, "Coming Together to Fight Fake News: Lessons from the European Approach to Disinformation."
- 353. Union of Concerned Scientists, "Climate Disinformation."
- 354. United Nations Development Programme, "The SDGs in Action."
- 355. Link-Group, "ICT Hub."
- 356. International Telecommunications Union, "ITU's approach to using ICTs to achieve the United Nations Sustainable Development Goals."
- 357. United Nations, 2018 E-Governance Survey, 39.
- 358. Ibid, 12.
- 359. United Nations Industrial Development Organization, "Digitalization crucial to SIDS' COVID-19 recovery, long term development."
- 360. World Bank and United Nations Department of Economic and Social Affairs, "The Potential of the Blue Economy." "Blue economy" is defined in the report as "the range of economic sectors and related policies that together determine whether the use of oceanic resources is sustainable." (at vi).
- 361. United Nations Development Programme, The SDGs in Action.
- 362. National Conference of State Legislatures, "Cryptocurrency 2021 Legislation."
- 363. Aditya Kalra, "India plans tighter e-commerce rules amid complaints over Amazon, Flipkart."
- 364. Hokiro, "E-Commerce Warehouses, A Smog Source, Face New Pollution Rule."
- 365. Group of 20, "The G20 Climate and Energy Ministerial meeting adopts a joint communiqué."
- 366. Ponzio et al., Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty, 7.
- 367. Ibid, 7.
- 368. Global Health Summit, The Rome Declaration.
- 369. White House, "Carbis Bay G7 Summit Communiqué."
- 370. White House, "FACT SHEET: President Biden and G7 Leaders Launch Build Back Better World (B3W) Partnership."

- 371. United Nations Sustainable Development Goals, "High-Level Political Forum 2021." The nine SDGs included #1: poverty; #2: hunger; #3: health; #8: decent work; #10: inequality; #12: consumption; #13: climate action; #16: peace; and #17: partnerships.
- 372. Group of 20, "The G20 Climate and Energy Ministerial meeting adopts a joint communiqué."
- 373. United Nations, "PGA letter Theme of the General Debate of the 76th session."
- 374. United Nations, "President's proposal for High-level Week (HLW) for the 76th session of the UN General Assembly (UNGA76)."
- 375. Group of 20, "About the G20."
- 376. Group of 20, "The G20 Climate and Energy Ministerial meeting adopts a joint communiqué."
- 377. UN Climate Change Conference UK 2021, COP26 Explained, 13.
- 378. Magalhães, "Can the 2022 declaration be a game changer?"
- 379. International Monetary Fund, "World Bank, IMF Launch High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth"
- 380. United Nations, "Modalities for the international meeting entitled "Stockholm+50: a healthy planet for the prosperity of all our responsibility, our opportunity"
- 381. Commission on Global Security, Justice & Governance (Albright-Gambari Commission), *Confronting the Crisis of Global Governance*, 67, 87-89.
- 382. United Nations, *United Nations Comprehensive Response to COVID-19*, 14. By early 2022, it is expected that the UN's comprehensive response plans will be fully integrated into the UN system's normal country-level program cycle organized around the UN Sustainable Development Cooperation Framework (with its focus on implementing the 17 Sustainable Development Goals by 2020). Interview with Brian Williams, Chief of the Programme and Policy Branch, UN Development Coordination Office, 11 August 2021.
- 383. International Monetary Fund, "World Bank, IMF Launch High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth."
- 384. World Trade Organization, "News archive: COVID-19 and world trade"
- 385. Group of 20, "Global Health Summit: The Rome Declaration."
- 386. Group of 20, "The G20 Climate and Energy Ministerial meeting adopts a joint communiqué."
- 387. Organization for Economic Cooperation and Development, "OECD DAC Handbook on Security Sector Reform: Supporting Security and Justice."
- 388. United Nations Development Programme, "Integrated National Financing Framework for Sustainable Development: Financing the SDGs at the national level."
- 389. Organization for Economic Co-operation and Development, Global Outlook on Financing for Sustainable Development 2021, 19.
- 390. The White House, "FACT SHEET: President Biden and G7 Leaders Launch Build Back Better World (B3W) Partnership"; and The White House, "Carbis Bay G7 Summit Communiqué."
- 391. Mouritz, "Implications of the COVID-19 Pandemic on China's Belt and Road Initiative," 3, 5-7.
- 392. United Nations, *United Nations Comprehensive Response to COVID-19*, 14; and interview with Brian Williams, Chief of the Programme and Policy Branch, UN Development Coordination Office.
- 393. United Nations, Alongside Pandemic, World Faces 'Triple Planetary Emergency', Secretary-General Tells World Forum for Democracy, Citing Climate, Nature, Pollution Crises.

Bibliography

- 350.org. "Principles for a #JustRecovery from COVID-19." Accessed August 18, 2021. https://350.org/just-recovery/.
- Abdenur, Adriana. "A Global Forest Treaty Is Needed Now." PassBlue,
 December 10, 2020. Accessed August 11, 2021. https://www.
 passblue.com/author/adriana-erthal-abdenur/.
- Abdenur, Adriana. "What can Global Governance do for Forest Protection?" UN University Center for Policy Research (forthcoming).
- Aditya Kalra. "India plans tighter e-commerce rules amid complaints over Amazon, Flipkart." Reuters, June 21, 2021. Accessed July 15, 2021. https://www.reuters.com/world/india/india-plans-tighter-e-commerce-rules-amid-complaints-over-amazon-flipkart-2021-06-21/.
- African Development Bank. "Regional Development Banks Heads discuss common challenges, opportunities to build back better post COVID-19." December 9, 2020. Accessed July 19, 2021. https://www.afdb.org/en/news-and-events/press-releases/regional-development-banks-heads-discuss-common-challenges-opportunities-build-back-better-post-covid-19-39808.
- African Development Bank. "The Bank Group's Strategy for The New Deal on Energy for Africa 2016 – 2025." June 2017. Accessed July 23, 2021. https://www.afdb.org/fileadmin/uploads/afdb/ Documents/Generic-Documents/Bank_s_strategy_for_New_ Energy_on_Energy_for_Africa_EN.pdf.
- Agarwal, Ruchir, and Gita Gopinath. A Proposal to End the COVID-19 Pandemic. IMF Staff Discussion Note. SDN/2021/004. May 2021. Accessed September 1, 2021. https://www.imf.org/en/Publications/ Staff-Discussion-Notes/Issues/2021/05/19/A-Proposal-to-End-the-COVID-19-Pandemic-460263.
- Aggarwal, Divya, and Anandhi Ramachandran. "One Health Approach to Address Zoonotic Diseases." *Indian Journal of Community Medicine* 45, no. 5 (2020): 6-8. Accessed July 26, 2021. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7232973/.
- Ainio, Silvia Anna. "How debt for climate swaps could spur a green recovery." World Economic Forum, October 7, 2020. Accessed July 10, 2021. https://www.weforum.org/agenda/2020/10/debt-climate-swaps-spur-green-recovery/.
- Ajami, Newsha, and Joseph W. Kane. "The hidden role of water infrastructure in driving a COVID-19 recovery." *The Brookings Institution*, October 20, 2020. Accessed July 30, 2021. https://www.brookings.edu/blog/the-avenue/2020/10/20/the-hidden-role-of-water-infrastructure-in-driving-a-covid-19-recovery.
- Alaerts, Guy. "Financing for Water—Water for Financing: A Global Review of Policy and Practice." Sustainability 11, no. 3 (February 2019). Accessed July 27, 2021. https://www.mdpi.com/2071-1050/11/3/821.
- Alarcon, Pablo, Paula Dominguez-Salas, Eric Fevre, and Jonathan Rushton. "The Importance of a Food Systems Approach to Low- and Middle-Income Countries and Emerging Economies: A Review of Theories and Its Relevance for Disease Control and Malnutrition." Frontiers in Sustainable Food Systems 5 (April 2021). Accessed August 14, 2021. https://www.frontiersin.org/articles/10.3389/fsufs.2021.642635/full.
- Alliance for Multilateralism. "Agenda." Accessed on August 26, 2021. https://multilateralism.org/agenda/.
- Andersen, Inger. "Prevention versus Cure: The Climate and Health Agendas." United Nations Environment Programme, July 7, 2021.

 Accessed July 26, 2021. https://www.unep.org/news-and-stories/speech/prevention-versus-cure-climate-and-health-agendas.
- Arezki, Rabah, and Patrick Bolton. "To recover from COVID-19, support regional development banks." *The Brookings Institution*, March 23, 2021. Accessed July 19, 2021. https://www.brookings.edu/blog/future-development/2021/03/23/to-recover-from-covid-19-support-regional-development-banks/.

- Asian Development Bank. "Climate Change Operational Framework 2017-2030: Enhanced Actions for Low Greenhouse Gas Emissions and Climate-Resilient Development." June 2017. Accessed July 23, 2021. https://www.adb.org/sites/default/files/institutional-document/358881/ccof-2017-2030.pdf.
- Asian Development Bank. "What We Do: Bhutan Green Power Project." Last updated August 2017. <u>https://www.adb.org/sites/default/files/project-documents/37399/37399-013-pcr-en.pdf.</u>
- Asian Development Bank. \$300 Million from Green Climate Fund to Support ADB's First Green Recovery Program in Southeast Asia.

 March 22, 2021. Accessed July 26, 2021. https://www.adb.org/news/300-million-green-climate-fund-adb-first-green-recovery-program-southeast-asia.
- Asian Development Bank. Completion Report Bhutan: Green Power

 Development Project. August 2017. Accessed August 11, 2021. https://www.adb.org/sites/default/files/project-documents/37399/37399-013-pcr-en.pdf.
- Asian Development Bank. Green Finance Strategies for Post-COVID-19
 Economic Recovery in Southeast Asia: Greening Recoveries for People
 and Planet. 2020. Accessed August 11, 2021. https://www.adb.org/sites/default/files/publication/639141/green-finance-post-covid-19-southeast-asia.pdf.
- Associated Press. "UN Chief: World Faces a 'Hurricane of Humanitarian Crises'." U.S. News, July 16, 2021. Accessed July 22, 2021. https://www.usnews.com/news/world/articles/2021-07-16/un-chief-world-faces-a-hurricane-of-humanitarian-crises.
- BBC Visual Journalism Team. "Afghanistan: How many refugees are there and where will they go?" BBC, August 31, 2021.

 Accessed September 1, 2021. https://www.bbc.com/news/world-asia-58283177.
- Beaumont, Nicola, et al. "Global ecological, social and economic impacts of marine plastic." *Marine Pollution Bulletin* 142 (May 2019): 189-195. Accessed July 14, 2021. https://www.sciencedirect.com/science/article/pii/S0025326X19302061.
- Beekhuizen, Carl. "A country's worth of power, no more!" Ethereum Foundation Blog, May 18, 2021. Accessed August 12, 2021. https://blog.ethereum.org/2021/05/18/country-power-no-more/.
- Béné, Christophe, Peter Oosterveer, Lea Lamotte, Inge Brouwer, Stef de Haan, Steve Prager, Elise Talsma, and Colin Khoury. "When food systems meet sustainability - Current narratives and implications for action." World Development 113 (January 2019): 118-119. Accessed August 12, 2021. https://doi.org/10.1016/j. worlddev.2018.08.011.
- Berglöf, Erik et al. "A Letter to G20 Governments." *Project Syndicate*, April 6, 2020. Accessed July 21, 2021. https://www.project-syndicate.org/commentary/a-letter-to-g20-governments-by-erik-berglof-et-al-2020-04.
- Bittel, Jason. "In the Fight Against Climate Change, Humans and Wildlife Are Allies." *Natural Resources Defense Council*, July 22, 2020. Accessed August 16, 2021. https://www.nrdc.org/onearth/fight-against-climate-change-humans-and-wildlife-are-allies.
- Blenkinsop, Philip. "What does waiving intellectual property rights for COVID-19 vaccines mean?" World Economic Forum, May 6, 2021.

 Accessed July 27, 2021. https://www.weforum.org/agenda/2021/05/could-the-world-be-about-to-waive-covid-19-vaccines/.
- BMJ. Covid-19: G7 vaccine promises to fail to meet scale of challenge, say critics. June 14, 2021. Accessed August 17, 2021. https://www.bmj.com/content/373/bmj.n1520.
- Boin, Arjen, Paul Hart, Eric Stern, and Bengt Sundelius. The Politics of Crisis Management: Public Leadership under Pressure. Cambridge University Press: 2005. https://www.cambridge.org/core/books/politics-of-crisis-management/D91A08EC1089E0463A1BEDBF244176FA.

- Bollyky, Thomas J., and Chad P. Brown. "The Tragedy of Vaccine Nationalism: Only Cooperation Can End the Pandemic." Foreign Affairs 99, no. 5 (September/October 2020): 96–108. https://www.foreignaffairs.com/articles/united-states/2020-07-27/vaccine-nationalism-pandemic.
- Bora, Saswati, Bernhard Kowatsch, and Noopur Desai. "How Food Innovation Hubs Will Scale Technology to Transform Our Food System." Forbes, November 20, 2020. Accessed August 15, 2021. https://www.forbes.com/sites/worldeconomicforum/2020/11/20/how-food-innovation-hubs-will-scale-technology-to-transformour-food-system/?sh=7087be853630.
- Braatz, Susan. International Forest Governance: International Forest Policy, Legal and Institutional Framework. September 21-28, 2003. Accessed August 11, 2021. http://www.fao.org/3/XII/1053-C5.htm.
- Brandon, Simon. "Europe Must Overcome These Three Challenges to Seal European Green Deal." World Economic Forum, June 11, 2020. Accessed July 14, 2020. https://www.weforum.org/agenda/2020/06/3-challenges-covid-19-european-green-deal-european-commission/.
- Bremmer, Ian. "The Best Global Responses to the COVID-19 Pandemic, 1 Year Later." *Time*, February 23, 2021. Accessed July 23, 2021. https://time.com/5851633/best-global-responses-covid-19/.
- Browne, Ryan. "Why everyone from Elon Musk to Janet Yellen is worried about bitcoin's energy usage." CNBC, May 13, 2021.

 Accessed July 15, 2021. https://www.cnbc.com/2021/05/13/why-elon-musk-is-worried-about-bitcoin-environmental-impact.html.
- Bunn, Daniel. "What's in the New Global Tax Agreement?" *Tax Foundation*, July 1, 2021. Accessed July 11, 2021. https://taxfoundation.org/global-tax-agreement.
- Business Wire. "Global Blockchain Markets 2021-2026: Analysis & Forecasts with Focus on Over 80 industries." July 9, 2021. Accessed August 25, 2021. https://www.businesswire.com/news/home/20210709005139/en/Global-Blockchain-Markets-2021-2026-Analysis-Forecasts-with-Focus-on-Over-80-industries---ResearchAndMarkets.com.
- C40 Cities. "Financing Sustainable Cities Initiative." C40
 Programmes, Accessed July 23, 2021. https://www.c40.org/programmes/financing_sustainable_cities.
- C40 Knowledge. Mayors' Agenda for a Green and Just Recovery. July 2020. Accessed August 18, 2021. https://www.c40knowledgehub.org/s/article/C40-Mayors-Agenda-for-a-Green-and-Just-Recovery?language=en_US.
- Carbon Brief. "Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions." June 16, 2020. Accessed August 17, 2021. https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions.
- Cassim, Ziyad, Borko Handjiski, Jörg Schubert, and Yassir Zouaoui. The \$10 trillion rescue: How governments can deliver impact. McKinsey & Company, June 2020. Accessed August 20, 2021. https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20Sector/Our%20Insights/The%2010%20trillion%20dollar%20rescue%20 How%20governments%20can%20deliver%20impact/The-10-trillion-dollar-rescue-How-governments-can-deliver-impact-vF.pdf.
- Center for Climate and Energy Solutions. "Carbon Tax Basics."

 Accessed July 14, 2021. https://www.c2es.org/content/carbon-tax-basics/.
- Chatterjee, Arup Kumar. Small businesses can help drive a green recovery from the pandemic. Asian Development Blog, July 20, 2021. Accessed July 29, 2021. https://blogs.adb.org/blog/small-businesses-can-help-drive-green-recovery-pandemic.
- Chawla, Kanika, and Arunabha Ghosh. Greening New Pastures for Green Investments. CEEW, September 2019. Accessed August 18, 2021. https://www.ceew.in/sites/default/files/CEEW-Greener-Pastures-for-Green-Investments-20Sep19.pdf.
- Chernyak, Masha V. "What is a Just Recovery? An Interview with Davin Cardenas." Latino Community Foundation, May 23, 2018. https://latinocf.org/just-recovery/.

- Cho, Renee. "What Can We Do About the Growing E-waste Problem?"

 Columbia University News, August 27, 2019. Accessed July 15, 2021.

 https://news.climate.columbia.edu/2018/08/27/growing-e-waste-problem/.
- Chowdhury, Sarwat. "South Korea's Green New Deal in the year of transition." UNDP Blog, February 8, 2021. Accessed July 23, 2021. https://www.undp.org/blogs/south-koreas-green-new-deal-year-transition.
- Claesson, Annina. "Coming Together to Fight Fake News: Lessons from the European Approach to Disinformation." CSIS, 2019.

 Accessed July 15, 2021. https://www.csis.org/coming-together-fight-fake-news-lessons-european-approach-disinformation.
- Climate Action Tracker. "EU." Last updated September 22, 2020.

 Accessed July 27, 2021. https://climateactiontracker.org/countries/eu/.

 eu/.
- Climate Bonds Initiative. "Water Infrastructure Criteria under the Climate Bonds Standard." 2021. Accessed July 27, 2021. https://www.climatebonds.net/standard/water.
- Climate Finance Lab. "Water Financing Facility." Accessed July 28, 2021. https://www.climatefinancelab.org/project/water-finance/.
- Climate Justice Alliance. "Just Recovery: Policy Stances and Priorities."

 Accessed August 18, 2021. https://climatejusticealliance.org/just-recovery/.
- Colmar Brunton. "COVID Times." April 8, 2020. Accessed July 23, 2021. https://static.colmarbrunton.co.nz/wp-content/uploads/2019/05/CB-COVID-Times_8-April-2020.pdf.
- Commission on Global Security, Justice & Governance. Confronting the Crisis of Global Governance. The Hague and Washington, D.C.: The Hague Institute for Global Justice and Stimson Center, 2015. https://www.stimson.org/wp-content/files/file-attachments/Commission_on_Global_Security_Justice%20_Governance_o.pdf.
- de Albuquerque, Catarina. "Bridging the Financial Gap: Investing in SDG 6." IISD SDG Knowledge Hub, January 25, 2021. Accessed August 17, 2021. https://sdg.iisd.org/commentary/guest-articles/bridging-the-financial-gap-investing-in-sdg-6/.
- de Schutter, Olivier. "The Global Fund for Social Protection."

 Social Europe, November 2020. Accessed July 26, 2021. https://
 socialeurope.eu/the-global-fund-for-social-protection-an-idea-whose-time-has-come.
- de Schutter, Olivier. Global Fund for Social Protection: International Solidarity in the Service of Poverty Eradication. United Nations. July 2021. Accessed July 26, 2021. https://undocs.org/en/A/HRC/47/36.
- de Schutter, Olivier, and Magdalena Sepulveda. *Underwriting the Poor:*A Global Fund for Social Protection. 2012. Accessed July 26, 2021.
 https://socialprotection-humanrights.org/resource/underwriting-the-poor-a-global-fund-for-social-protection-briefing-note-7/.
- Denchak, Melissa. "Green Infrastructure: How to Manage Water in a Sustainable Way." Natural Resources Defense Council, March 4, 2019. Accessed July 14, 2021. https://www.nrdc.org/stories/green-infrastructure-how-manage-water-sustainable-way#important.
- Deutsche Welle. "G7 agrees 'historic' global minimum corporate tax rate." June 2021. Accessed July 19, 2021. https://www.dw.com/en/g7-agrees-historic-global-minimum-corporate-tax-rate/a-57786417.
- Development Initiatives and Global Humanitarian Assistance. *Global Humanitarian Assistance Report* 2021. June 2021. Accessed August 5, 2021. https://devinit.org/resources/global-humanitarian-assistance-report-2021/#downloads.
- Dii Desert Energy. "About MENA Hydrogen Alliance." Accessed August 11, 2021. https://dii-desertenergy.org/mena-hydrogen-alliance/.
- Dupar, Mairi, Lisa McNamara, Maria Pacha, and Charlotte Rye.

 Communicating climate change: A practitioner's guide. Cape Town:

 Climate and Development Knowledge Network, 2019. Accessed

 August 15, 2021. https://unfcc.in/sites/default/files/resource/Communicating%20climate%20change_Insights%20from%20CDKNs%20experience.pdf.

- Durant, Isabelle. "The developing world must get ready to adapt its trade to climate change." UNCTAD, March 3, 2021. Accessed July 27, 2021. https://unctad.org/news/developing-world-must-get-ready-adapt-its-trade-climate-change.
- Economic Community of West African States. "Eighty-Sixth Ordinary Session of the ECOWAS Council of Ministers opens in Accra."

 Last modified June 16, 2021. Accessed July 14, 2021. https://www.ecowas.int/eighty-sixth-ordinary-session-of-the-ecowas-council-of-ministers-opens-in-accra/.
- Ekholm, Börje, and Johan Rockström. "Digital technology can cut global emissions by 15%. Here's how." World Economic Forum, January 15, 2019. Accessed July 15, 2021. https://www.weforum.org/agenda/2019/01/why-digitalization-is-the-key-to-exponential-climate-action/.
- Ellen MacArthur Foundation. "Unlocking circular investment opportunities to meet key public priorities." Accessed August 26, 2021. https://ellenmacarthurfoundation.org/covid-19-unlocking-circular-investment-opportunities-to-meet-key-public.
- Ellen MacArthur Foundation. The circular economy: a transformative Covid-19 recovery strategy. 2020. Accessed August 11, 2021. https://www.ellenmacarthurfoundation.org/assets/downloads/Thecircular-economy-a-transformative-Covid19-recovery-strategy.pdf.
- Elston, Leigh. "How debt-for-climate swaps can help fund the energy transition." *Energy Monitor*, May 20, 2021. Accessed July 11, 2021. https://energymonitor.ai/finance/sustainable-finance/how-debt-for-climate-swaps-can-help-fund-the-energy-transition.
- Energy Policy Tracker. "G2o Countries." Last updated August 4, 2021. Accessed August 9, 2021. https://www.energypolicytracker.org/region/g2o/.
- European Clean Hydrogen Alliance. "Vision and Mission." Accessed August 11, 2021. https://www.ech2a.eu/missionandvision.
- European Clean Hydrogen Alliance. "Kick-starting the EU Hydrogen Industry to Achieve the EU Climate Goals." Accessed August 11, 2021. https://www.ech2a.eu/.
- European Commission. "Code of Practice on Disinformation | Shaping Europe's digital future." Last updated August 6, 2021. Accessed August 25, 2021. https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation.
- European Commission. "Launching the Just Transition Mechanism for a green transition based on solidarity and fairness." January 15, 2020. Accessed July 23, 2021. https://ec.europa.eu/info/news/launching-just-transition-mechanism-green-transition-based-solidarity-and-fairness-2020-jan-15_en.
- European Commission. "The European Green Deal." Last updated July 2021. Accessed July 23, 2021. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.
- European Commission. A new Circular Economy Action Plan: For a cleaner and more competitive Europe. Brussels: March 11, 2020.

 Accessed August 24, 2021. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0098&from=EN.
- European Commission. European Climate Pact. Brussels: December 9, 2020. Accessed August 24, 2021. https://europa.eu/climate-pact/system/files/2020-12/20201209%20European%20Climate%20Pact%20Communication.pdf.
- European Forest Institute Proforest. "Working with the private sector on REDD+." 2014. Accessed August 11, 2021. http://www.euredd.efi.int/documents/15552/154912/ Working+with+the+private+sector+on+REDD%2B/f7c02847-ebd9-4656-aafc-3a2857d905e9.
- European Parliament. "Digital Agenda for Europe." Last updated March 2021. Accessed July 15, 2021. https://www.europarl.europa. eu/factsheets/en/sheet/64/digital-agenda-for-europe.
- European Union. External Action Service. "Joint Communication to the European Parliament and the Council on strengthening the EU's contribution to rules-based multilateralism." February 17, 2021. Accessed August 24, 2021. https://eeas.europa.eu/ headquarters/%20headquarters-homepage/93292/joint-communication-european-parliament-and-council-strengthening-eu%E2%80%99s-contribution-rules_en.

- Evans, Simon, and Josh Gabbatiss. "Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions." *Carbon Brief: Clear on Climate*, June 16, 2020. Accessed July 19, 2021. https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions.
- Evans, Simon, and Josh Gabbatiss. "Tracking How the World's 'Green Recovery' Plans Aim to Cut Emissions." Carbon Brief, June 16, 2020. Accessed July 14, 2021. https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions.
- Ex'Tax Project et al. New Era. New Plan: A Fiscal Strategy for an Inclusive, Circular Economy. 2016. Accessed August 11, 2021. https://www.neweranewplan.com/wp-content/uploads/2016/12/New-Era-New-Plan-Europe-Extax-Report-DEF.compressed.pdf.
- Fischer, Sara. "Unreliable" news sources got more traction in 2020." Axios, December 22, 2020. Accessed August 25, 2021. https://www.axios.com/unreliable-news-sources-social-media-engagement-297bf046-c1b0-4e69-9875-05443b1dca73. html?utm_campaign=organic&utm_medium=socialshare&utm_source=twitter.
- Fleming, Sean. "COVID-19 is threatening the SDGs here's what needs to happen." World Economic Forum, July 13, 2021. Accessed July 19, 2021. https://www.weforum.org/agenda/2021/07/sdgs-covid19-poverty-goals/.
- Food and Agriculture Organization. "Global Alliance for Improved Nutrition (GAIN)." Accessed July 27, 2021. http://www.fao.org/connect-private-sector/search/detail/en/c/1381920/.
- Forti, Vanessa et al. "The Global E-waste Monitor 2020: Quantities, flows and the circular economy potential." United Nations University (UNU)/United Nations Institute for Training and Research (UNITAR). 2020. Accessed July 25, 2021. http://ewastemonitor.info/wp-content/uploads/2020/12/GEM_2020_def_dec_2020-1.pdf.
- Fruhlinger, Josh. "What is 5G? Fast wireless technology for enterprises and phones." *Network World*, April 1, 2019. Accessed August 30, 2021. https://www.networkworld.com/article/3203489/what-is-5g-fast-wireless-technology-for-enterprises-and-phones.html.
- Gass, Philip. "Just Transition Measures for a Green Recovery." IISD Blog, May 21, 2021. Accessed August 18, 2021. https://www.iisd.org/articles/just-transition-green-recovery.
- GAVI: The Vaccine Alliance. "Are vaccines a global public good?"

 September 11, 2020. Accessed July 30, 2021. https://www.gavi.org/vaccineswork/are-vaccines-global-public-good.
- GAVI: The Vaccine Alliance. "World leaders unite to commit to global equitable access for COVID-19 vaccines." June 2, 2021. Accessed July 23, 2021. https://www.gavi.org/news/media-room/world-leaders-unite-commit-global-equitable-access-covid-19-vaccines.
- George, Anita, Rashad-Rudolf Kaldany, and Joseph Losavio. "The world is facing a \$15 trillion infrastructure gap by 2040. Here's how to bridge it." World Economic Forum, April 11, 2019. Accessed July 14, 2021. https://www.weforum.org/agenda/2019/04/infrastructure-gap-heres-how-to-solve-it/.
- Georgieva, Kristalina. "Securing a Green Recovery: The Economic Benefits from Tackling Climate Change." *International Monetary* Fund, April 15, 2021. Accessed August 17. 2021. https://www.imf.org/en/News/Articles/2021/04/15/sp041521-securing-a-green-recovery.
- Gerretsen, Isabelle. "The deal that saved Seychelles' troubled waters." BBC, August 3, 2020. https://www.bbc.com/future/article/20200803-the-deal-that-saved-seychelles-troubled-waters.
- Ghosh, Arunabha, and Sanjana Chhabra. "Speed and Scale for Disruptive Climate Technologies: Case for a Global Green Hydrogen Alliance." Climate Governance Commission (forthcoming September 2021).
- Ghosh, Arunabha, and Vaibhav Chaturvedi. "Inflection Point: Before net-zero, comes the peak." Financial Express, March 25, 2021. https://www.financialexpress.com/opinion/inflection-pointbefore-net-zero-comes-the-peak/2219696/.

- Giga Connect. "About." Accessed July 15, 2021. https://gigaconnect.org/about/.
- Giga: "Giga: An initiative to connect every young person in the world to information, opportunity and choice." August 2020. Accessed July 25, 2021. https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/SiteAssets/Pages/Events/2020/Webinar%200m%20 Greater%20Schools%20Connectivity%20in%20the%20Asia%20 and%20the%20Pacific/Provisional-Agenda-Session-1/Giga%20 Overview%20August%2020.pdf.
- Global Alliance for Improved Nutrition. "Annual Report 2018 2019."

 Accessed July 27, 2021. https://www.gainhealth.org/sites/default/files/annual_reports/annual-report-2018-2019.pdf.
- Global Alliance for Improved Nutrition. "Annual Reports." Accessed July 27, 2021. https://www.gainhealth.org/financials/annual-reports.
- Global Challenges Foundation. "Climate Governance Commission." 2021. https://globalchallenges.org/initiatives/partnerships/climate-governance-commission/.
- Global Coalition for Social Protection Floors. A Global Fund for Social Protections. July 2015. Accessed July 26, 2021. http://www.socialprotectionfloorscoalition.org/wp-content/uploads/2015/05/FfD_GFSP14April2015final.pdf.
- Global Green Growth Institute. "Colombia Presents a 2030 Green Growth Roadmap." Last modified June 14, 2018. Accessed July 23, 2021. https://gggi.org/colombia-presents-a-2030-green-growthroadmap/.
- Global Health Summit. *The Rome Declaration*. Rome: May 21, 2021.

 Accessed May 22, 2021. https://www.governo.it/sites/governo.it/files/documenti/documenti/Approfondimenti/GlobalHealthSummit_RomeDeclaration.pdf.
- Global Network Against Food Crises. New and old challenges: Conflict, climate change and COVID-19 impacts on rising acute food insecurity.

 May 5, 2021. Accessed September 1, 2021. https://reliefweb.int/sites/reliefweb.int/files/resources/GRFC_Joint-statement_EN.pdf.
- Global Partnership for Universal Social Protection. "Together to Achieve Universal Social Protection by 2030." Geneva, February 5, 2019. Accessed July 26, 2021. https://www.oecd.org/dev/inclusivesocietiesanddevelopment/USP2030_Call_to_action.pdf.
- Globe Newswire. "Global Artificial Intelligence Market Size 2021..." June 28, 2021. Last modified June 28, 2021. Accessed August 18, 2021. https://www.globenewswire.com/en/news-release/2021/06/28/2253975/0/en/Global-Artificial-Intelligence-Market-Size-2021-Rise-at-35-6-CAGR-Will-Grow-to-USD-299-64-Billion-by-2026-Facts-Factors.html.
- Goldin, Nicole. "Regional development banks play a critical role in COVID-19 response and recovery." Atlantic Council, October 15, 2020. Accessed July 19, 2021. https://www.atlanticcouncil.org/blogs/new-atlanticist/regional-development-banks-play-a-critical-role-in-covid-19-response-and-recovery/.
- Gramlin, Carolyn. "Climate change disinformation is evolving. So are efforts to fight back." *Science News*, May 18, 2021. Accessed July 18, 2021. https://www.sciencenews.org/article/climate-change-disinformation-denial-misinformation.
- Green Budget Europe. The Circular Economy: Practical Steps to Enhance the EU Package. 2016. Accessed August 11, 2021. https://green-budget.eu/wp-content/uploads/GBE-Circular-Economy-policy-briefing-.pdf.
- Group of 20. "About the G20." Accessed August 27, 2021. https://www.g20.org/.
- Group of 20. "Global Health Summit: The Rome Declaration."

 Rome: May 21, 2020. Accessed August 20, 2021. https://www.governo.it/sites/governo.it/files/documenti/documenti/Approfondimenti/GlobalHealthSummit_RomeDeclaration.pdf.
- Group of 20. "The G20 Climate and Energy Ministerial meeting adopts a joint communiqué." July 27, 2021. Accessed August 27, 2021. https://www.g20.org/the-g20-climate-and-energy-ministerial-meeting-adopts-a-joint-communique.html.

- Herren, Hans, Andrea Bassi, Zhuohua Tan, and Patrick Binns. Green Jobs for a Revitalized Food and Agriculture Sector. United Nations Food and Agriculture Organization. January 2012. Accessed August 5, 2021. http://www.fao.org/fileadmin/user_upload/suistainability/pdf/FAO_green_jobs_paper_March_31.pdf.
- Hokiro Tabuchi. "E-Commerce Warehouses, A Smog Source, Face New Pollution Rule." *New York Times*, May 8, 2021. Accessed July 15, 2021. https://www.nytimes.com/2021/05/08/climate/e-commerce-warehouse-smog-regulation.html.
- Iberdrola. "Green hydrogen: an alternative that reduces emissions and cares for our planet." Sustainability: Green Hydrogen. Accessed August 11, 2021. https://www.iberdrola.com/sustainability/green-hydrogen.
- Institute for Economics & Peace. Global Peace Index 2021. June 2021. Accessed July 30, 2021. https://www.visionofhumanity.org/wpcontent/uploads/2021/06/GPI-2021-web-1.pdf.
- Intergovernmental Panel on Climate Change. Climate Change 2021: The Physical Science Basis. Summary for Policymakers. August 7, 2021.

 Accessed August 19, 2021. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.
- Intergovernmental Panel on Climate Change. "IPCC confirms release date and approval session details for next report." IPCC Newsroom, Last modified June 29, 2021. Accessed August 18, 2021. https://www.ipcc.ch/2021/06/29/wg1-ar6-release-date-and-approval-session-details/.
- Intergovernmental Panel on Climate Change. Special Report: Global Warming of 1.5°C. Summary for Policymakers. 2018. Accessed August 30, 2021. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. The Global Assessment Report on Biodiversity and Ecosystem Services Summary for Policymakers. 2019. Accessed August 16, 2021. https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf.
- International Commission for the Reform of International Corporate Taxation. "Today's deal is not historic or sufficient. ICRICT calls on G7 leaders to show real leadership and make a much more ambitious commitment." June 5, 2021. Accessed July 20, 2021. https://www.icrict.com/press-release/2021/6/5/todays-deal-is-not-historic-or-sufficient-icrict-call-on-g7-leaders-to-show-real-leadership-and-make-a-much-more-ambitious-commitment-iznud
- International Crisis Group. COVID-19 and Conflict: Seven Trends to Watch. March 24, 2020. Accessed July 22, 2021. https://d2071andvipowj.cloudfront.net/B004-covid-19-seven-trends.pdf.
- International Data Corporation. "IDC Forecasts Improved Growth for Global AI Market in 2021." Last modified February 23, 2021. Accessed August 18, 2021. https://www.idc.com/getdoc.jsp?containerId=prUS47482321.
- International Development Association. "Blended Finance Facility (BFF)." Accessed July 27, 2021. http://ida.worldbank.org/financing/ida-private-sector-window/blended-finance-facility-bff.
- International Energy Agency. Global Energy Review 2021.

 Accessed August 17, 2021. https://iea.blob.core.windows.net/assets/doo31107-401d-4a2f-a48b-9eed19457335/GlobalEnergyReview2021.pdf.
- International Energy Agency. "Green stimulus after the 2008 crisis."

 June 29, 2020. Accessed August 17, 2021. https://www.iea.org/articles/green-stimulus-after-the-2008-crisis.
- International Energy Agency. "Korean New Deal Digital New Deal, Green New Deal and Stronger Safety Net." Last updated July 16, 2021. Accessed August 17, 2021. https://www.iea.org/policies/11514-korean-new-deal-digital-new-deal-green-new-deal-and-stronger-safety-net.
- International Energy Association. *The Future of Hydrogen: Seizing today's opportunities*. 2019. Accessed August 11, 2021. https://www.iea.org/reports/the-future-of-hydrogen.

- International Federation of Red Cross and Red Crescent Societies. "COVID-19 Outbreak 12-month Update." February 27, 2021. Accessed July 23, 2021. https://adore.ifrc.org/Download.aspx?FileId=390029.
- International Finance Corporation. *Digital Skills in Sub-Saharan Africa: Spotlight on Ghana*. Washington, D.C.: 2019. Accessed November
 10, 2020. https://www.ifc.org/wps/wcm/connect/ed6362b3-%20a334-42ac-ae9f-c739904951b1/Digital+Skills_Final_WEB_5-7-19.%20pdf?MOD=AJPERES.
- International Finance Corporation. *Impact of COVID-19 on the Water and Sanitation Sector*. Accessed July 26, 2021. https://www.ifc.org/wps/wcm/connect/126b1a18-23d9-46f3-beb7-047c20885bf6/The+Impact+of+COVID_Water%26Sanitation_final_web.pdf?MOD=AJPERES&CVID=ncaG-hA.
- International Institute for Social Development. "Policy Brief: WTO Chief Hopeful for Deal to Get More COVID-19 Jabs to Developing Nations." July 28, 2021. Accessed July 30, 2021. https://sdg.iisd.org/commentary/policy-briefs/wto-chief-hopeful-for-deal-to-get-more-covid-19-jabs-to-developing-nations/.
- International Institute for Sustainable Development. Achieving a Fossil Free Recovery. 2021. Accessed July 14, 2021. https://www.iisd.org/system/files/2021-05/achieving-fossil-free-recovery.pdf.
- International Labor Organization. A Policy Framework for Tackling the Economic and Social Impact of the Covid-19 Crisis. 2020. Accessed July 26, 2021. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745337.pdf.
- International Labour Organization. ILO Monitor: COVID-19 and the world of work. January 25, 2021. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_767028.pdf.
- International Labour Organisation. "Plug social protection gaps in developing countries to prevent future crises, ILO says." May 14, 2020. Accessed August 16, 2021. https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_744708/lang--en/index.htm.
- International Monetary Fund. "Transcript of the IMFC Press Briefing."

 Last modified April 8, 2021. Accessed July 29, 2021. https://www.imf.org/en/News/Articles/2021/04/08/tr040821-transcript-of-the-imfc-press-briefing.
- International Monetary Fund. "World Bank, IMF Launch High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth." June 15, 2021. Accessed August 23, 2021. https://www.imf.org/en/News/Articles/2021/06/14/pr21175-world-bank-imf-launch-hlag-sustainable-inclusive-recovery-growth.
- International Monetary Fund. World Economic Outlook Update.

 July 2021. Accessed August 24, 2021. https://www.imf.org/en/
 Publications/WEO/Issues/2021/07/27/world-economic-outlookupdate-july-2021.
- International Renewable Energy Agency. Green Hydrogen Supply: A Guide to Policy Making. 2021. Accessed August 11, 2021. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/May/IRENA_Green_Hydrogen_Supply_2021.pdf.
- International Renewable Energy Agency. Post-COVID recovery: An agenda for resilience, development and equality. 2020. Accessed July 14, 2021. <u>https://www.irena.org/publications/2020/Jun/Post-COVID-Recovery.</u>
- International Telecommunications Union. "Backgrounder: ICTs to Achieve United Nations Sustainable Development Goals." Last updated February 2019. Accessed July 15, 2021. https://www.itu.int/en/mediacentre/backgrounders/Pages/icts-to-achieve-the-united-nations-sustainable-development-goals.aspx.
- International Telecommunications Union. "ITU's approach to using ICTs to achieve the United Nations Sustainable Development Goals." October 23, 2018. Accessed July 17, 2021. https://news.itu.int/icts-united-nations-sustainable-development-goals/.
- International Telecommunications Union. "Statistics." Accessed July 15, 2021. https://www.itu.int/en/ITU-D/Statistics/Pages/stat/ default.aspx.

- International Telecommunications Union and UNESCO. "The State of Broadband: Broadband as a Foundation for Sustainable Development." September 2019. Accessed July 17, 2021. https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.20-2019-PDF-E.pdf.
- International Trade Centre. SME Competitiveness Outlook 2021:
 Empowering the Green Recovery. Geneva: 2021. Accessed July 27, 2021. https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/ITC_SMECO-2021.pdf.
- Irfan, Umair and Rebecca Leber. "The devastating new UN report on climate change, explained." Vox, August 9, 2021. Accessed August 19, 2021. https://www.vox.com/22613027/un-ipcc-climate-change-report-ar6-disaster.
- IT for Change. "Concept Note for a Digital New Deal, Visions of Justice in a Post-Covid World." July 2020. Accessed July 17, 2021. https://itforchange.net/a-digital-new-deal-visions-of-justice-a-post-covid-world.
- Jackson, Dean. "Social Media Platforms and Authoritarian Censorship in Asia." December 23, 2020. Accessed August 25, 2021. https://www.nbr.org/publication/social-media-platforms-and-authoritarian-censorship-in-asia/.
- Jackson, James K. et al. Global Economic Effects of COVID-19.
 Congressional Research Service. Last updated July 9, 2021.
 Accessed July 21, 2021. https://fas.org/sgp/crs/row/R46270.pdf.
- Jallier, Vincent, Christophe Guyondet, Adeline Provent, Arnaud Laillou, Soekirman, and Regina Moench-Pfanner. "The global, centralized approach of the GAIN Premix Facility has made oil fortification in Indonesia more affordable." Food and Nutrition Bulletin 34, no. 2 (June 2013): 43-49. Accessed July 27, 2021. https:// doi.org/10.1177/15648265130342S106.
- Kar-gupta, Sudip, and Caroline Copley. "Ignoring WHO call, major nations stick to vaccine booster plans." Reuters, August 5, 2021. Accessed August 23, 2021. https://www.reuters.com/world/europe/french-president-macron-third-covid-vaccine-doses-likely-elderly-vulnerable-2021-08-05/.
- Kemp, Simon. Digital 2020: Global Digital Overview. January 20, 2020. Accessed August 25, 2021. https://datareportal.com/reports/digital-2020-global-digital-overview.
- Kenya Innovative Finance Facility for Water. *Essentials*. 2020. Accessed August 15, 2021. https://kiffwa.com/wp-content/uploads/2020/06/KIFFWA-brochure_indiv.-pages-1.pdf.
- Kharas, Homi, and Meagan Dooley. "How to balance debt and development." *The Brookings Institution*, July 6, 2021. Accessed July 29, 2021. https://www.brookings.edu/opinions/how-to-balance-debt-and-development/.
- Kharas, Homi, and Meagan Dooley. "Long-run impacts of COVID-19 on extreme poverty." The Brookings Institution, June 2, 2021. Accessed July 9, 2021. https://www.brookings.edu/blog/future-development/2021/06/02/long-run-impacts-of-covid-19-on-extreme-poverty/.
- Kharas, Homi. Global development cooperation in a COVID-19 world.

 The Brookings Institution, January 2021. Accessed July 29, 2021.

 https://www.brookings.edu/wp-content/uploads/2021/01/Global-Development-Cooperation-COVID-19-World.pdf.
- Knowledge at Wharton. "How Artificial Intelligence Can Slow the Spread of COVID-19." Last modified March 2, 2021. Accessed August 17, 2021. https://knowledge.wharton.upenn.edu/article/how-artificial-intelligence-can-slow-the-spread-of-covid-19/.
- Lamond, James. "Authoritarian Regimes Seek to Take Advantage of the Coronavirus Pandemic." April 6, 2020. Accessed August 24, 2021. https://www.americanprogress.org/issues/security/news/2020/04/06/482715/authoritarian-regimes-seek-take-advantage-coronavirus-pandemic/.
- Lawder, David, and Michael Nienaber. "IMF \$650 billion reserves distribution clears last hurdle in "unprecedented" move." Reuters, August 2, 2021. Accessed August 5, 2021. https://www.reuters.com/article/us-g20-finance-imf-reserves-idUSKBN2F404Q?utm_source=dailybrief&utm_medium=email&utm_campaign=DailyBrief2021Aug03&utm_term=DailyNewsBrief.

- Lindsey, Brink. "Why intellectual property and pandemics don't mix." The Brookings Institution, June 3, 2021. Accessed July 28, 2021. https://www.brookings.edu/blog/up-front/2021/06/03/why-intellectual-property-and-pandemics-dont-mix/.
- Lindwall, Courtney. "Single Use Plastics 101." Natural Resources Defense Council, January 9, 2020. Accessed July 14, 2021. <u>https://www.nrdc.</u> org/stories/single-use-plastics-101.
- Link-Group. "ICT Hub." Accessed August 17, 2021. <u>https://www.link-group.eu/content/ict-hub.</u>
- Lovato, Andrea. "MENA Hydrogen Alliance." *Dii-Desert*Energy, Accessed August 11, 2021. https://dii-desertenergy.
 org/1603213080437/wp-content/uploads/2020/05/MENAHydrogen-Presentation-Andrea-Lovato.pdf.
- Lucena, Cicero, and John Gummer. "Why Rio failed in the past and how it can succeed this time." *Guardian News and Media*, June 12, 2012. Accessed August 11, 2021. https://www.theguardian.com/environment/2012/jun/12/rio20-agenda-politicians-john-gummer.
- Magalhães, Paulo. "Can the 2022 declaration be a game changer?"

 Pathway to the 2022 Declaration, May 11, 2021. Accessed April 21,
 2021. https://www.pathway2022declaration.org/article/can-the-2022-declaration-be-a-game-changer/.
- Maizland, Lindsay, and Andrew Chatzky. "Backgrounder: Huawei: China's Controversial Tech Giant." Council on Foreign Relations, August 6, 2020. Accessed July 15, 2021. https://www.cfr.org/ backgrounder/huawei-chinas-controversial-tech-giant.
- Malloch-Brown, Mark. "Slow Death or New Direction for the UN?"

 Project Syndicate, November 19, 2020. Accessed July 15, 2021.

 https://www.project-syndicate.org/commentary/un-futureprospects-under-new-cold-war-by-mark-malloch-brown-2020-11.
- Mari, Angelica. "Brazilian Superior Electoral Court hit by major cyberattack." ZDNet, November 6, 2020. Accessed August 18, 2021. https://www.zdnet.com/article/brazilian-superior-electoral-court-hit-by-major-cyberattack/.
- May, Camille. "18 Inspiring Quotes from World Leaders in Support of the 'Recovery Plan for the World!" Global Citizen, February 23, 2021. Accessed August 31, 2021. https://www.globalcitizen.org/en/content/recovery-plan-world-leaders-inspiring-quotes/.
- Mc Carthy, Ultan, Ismail Uysal, Ricardo Badia-Melis, Samuel Mercier, Colm O'Donnell, and Anastasia Ktenioudaki. "Global food security Issues, challenges and technological solutions." *Trends in Food Science & Technology* 77 (July 2018): 11-20. Accessed July 27, 2021. https://doi.org/10.1016/j.tifs.2018.05.002.
- McKinsey & Company. Center for Business and Environment. "The circular economy: Moving from theory to practice." October 2016. Accessed August 25, 2021. https://www.mckinsey.com/business-functions/sustainability/our-insights/the-circular-economy-moving-from-theory-to-practice.
- McKinsey Global Institute. The post pandemic economy: The future of work after COVID 19 Executive summary. 2021. Accessed July 27, 2021. https://www.mckinsey.com/-/media/mckinsey/featured%20 insights/future%20of%20work%20after%20covid%2019/mgi_the%20future%20 of%20work%20after%20covid%2019/mgi_the%20future%20 of%20work%20after%20covid-19_executive%20summary-f. pdf?shouldIndex=false.
- McSweeney, Robert, and Ayesha Tanden. "Global Carbon Project: Coronavirus causes 'record fall' in fossil-fuel emissions in 2020." Carbon Brief, December 11, 2020. Accessed July 14, 2021. https://www.carbonbrief.org/global-carbon-project-coronavirus-causes-record-fall-in-fossil-fuel-emissions-in-2020.
- Mellor, Nicholas, and Mandana Seyfeddinipur. "The Value of Communicating in the Local Language." MiiHealth Project Blog, Accessed August 11, 2021. https://www.elrha.org/project-blog/ value-communicating-local-language/.
- Mendiluce, Maria, and Eliot Whittington. "Green Recovery Plans Can Unlock Millions More Jobs Than 'Return-to Normal' Stimulus." International Institute for Sustainable Development, November 19, 2020. Accessed July 19, 2021. https://www.iisd.org/sustainable-recovery/green-recovery-plans-can-unlock-millions-more-jobs-than-return-to-normal-stimulus/.

- Mikolajczak, Chloé. "Right to Repair is blossoming all over Europe."

 Right to Repair, June 25, 2020. Accessed August 11, 2021. https://
 repair.eu/news/right-to-repair-is-blossoming-all-over-europe/.
- Morgan, Steve. "Cybercrime to Cost the World \$10.5 Trillion Annually By 2025." Cybercrime Magazine, November 13, 2020. Accessed August 19, 2021. <u>https://cybersecurityventures.com/cybercrime-damage-costs-10-trillion-by-2025/.</u>
- Morita Jaeger, Minako, and Yohannes Ayele. "The UK-Japan Comprehensive Economic Partnership Agreement: Lessons for the UK's future trade agreements." *UK Trade Policy Observatory*, December 2020. Accessed July 15, 2021. https://blogs.sussex.ac.uk/uktpo/publications/cepa-lessons-for-the-uks-future-trade-agreements/.
- Mouritz, Frank. "Implications of the COVID-19 Pandemic on China's Belt and Road Initiative." *Connections*, no. 2 (2020): 115-124. Accessed August 24, 2021. https://www.jstor.org/stable/26937614?seq=1#metadata_info_tab_contents.
- Nagpal, Taniv, Ammar Malik, and Mathew Eldridge. "Mobilizing Additional Funds for Pro-Poor Water Services an Exploration of Potential Models to Finance Safe Water Access in Support of Sustainable Development Goal 6.1." Center on International Development and Governance: 2018. Accessed August 15, 2021. https://www.oecd.org/water/Background-Document-OECD-GIZ-Conference-Urban-Institute-GIZ-Innovative-Financing-Mechanisms-final.pdf.
- Nagpal, Taniv, Ammar Malik, and Mathew Eldridge. Mobilizing
 Additional Funds for Pro-Poor Water Services an Exploration
 of Potential Models to Finance Safe Water Access in Support of
 Sustainable Development Goal 6.1. Center of International
 Development and Governance, 2018. Accessed August 3, 2021.
 https://www.oecd.org/water/Background-Document-OECDGIZ-Conference-Urban-Institute-GIZ-Innovative-FinancingMechanisms-final.pdf.
- National Conference of State Legislatures. "Cryptocurrency 2021 Legislation." May 14, 2021. Accessed July 15, 2021. https://www.ncsl.org/research/financial-services-and-commerce/cryptocurrency-2021-legislation.aspx.
- Nature Conservancy. COVID-19 Response and Recovery: Naturebased Solutions for People, Planet and Prosperity. November 2020. Accessed August 17, 2021. https://www.nature. org/content/dam/tnc/nature/en/documents/COVID19_ ResponseRecoveryJointPolicyRecs_OCT23_FINAL.pdf.
- Nature editorial. "The WHO is right to call a temporary halt to COVID vaccine boosters." August 17, 2021. Accessed August 31, 2021. https://www.nature.com/articles/d41586-021-02219-w.
- Nature Staff. "A patent waiver on COVID vaccines is right and fair."

 Nature 593, no. 7860 (2021). Accessed July 27, 2021. https://www.nature.com/articles/d41586-021-01242-1.
- New Climate Organization. "Overview of Recently Adopted Mitigation Policies and Climate Relevant Policy Responses to COVID-19." 2020. Accessed July 14, 2021. https://newclimate.org/wp-content/uploads/2020/10/NewClimate_PBL-CLIMA_2020OctUpdate.pdf.
- New York Times. "Tracking Coronavirus in India: Latest Map and Case Count." Last updated August 24, 2021. Accessed August 24, 2021. https://www.nytimes.com/interactive/2021/world/india-covid-cases.html.
- Nollkaemper, André, and Laura Burgers. "A New Classic in Climate Change Litigation: The Dutch Supreme Court Decision in the Urgenda Case." EJIL:Talk! January 6, 2020. Accessed July 27, 2021. https://www.ejiltalk.org/a-new-classic-in-climate-change-litigation-the-dutch-supreme-court-decision-in-the-urgenda-
- OECDiLibrary. "OECD Tax Policy Reviews: Seychelles 2020."

 Overview of key economic and tax challenges. Last modified 2020. https://www.oecd-ilibrary.org/sites/d5eb9d9a-en/index.html?itemId=/content/component/d5eb9d9a-en.

- Organisation for Economic Co-operation and Development.

 Biodiversity and the economic response to COVID-19: Ensuring a green and resilient recovery. 2020. Accessed July 14, 2021. https://read.oecd-ilibrary.org/view/?ref=136_136726-x5msnju6xg&title=Biodiversity-and-the-economic-response-to-COVID-19-Ensuring-a-green-and-resilient-recovery&_ga=2.46090467.658279375.1623869980-822829878.1622830402.
- Organisation for Economic Co-operation and Development. Blended finance Mobilising resources for sustainable development and climate action in developing countries. 2017. Accessed July 27, 2021. https://www.oecd.org/cgfi/forum/Blended-finance-Policy-Perspectives.pdf.
- Organisation for Economic Co-operation and Development. "Climate Finance Provided and Mobilised by Developed Countries in 2013-18." November 6, 2020. Accessed July 14, 2021. https://www.oecd.org/environment/climate-finance-provided-and-mobilised-by-developed-countries-in-2013-18-f0773d55-en.htm.
- Organisation for Economic Co-operation and Development.

 "Enhancing Access and Connectivity to Harness Digital
 Transformation." March 2019. Accessed July 15, 2021. https://www.oecd.org/going-digital/enhancing-access-digital-transformation.pdf.
- Organisation for Economic Co-operation and Development.

 "Financing Water Investing in Sustainable Growth." 2018.

 Accessed August 15, 2021. https://www.oecd.org/water/Policy-Paper-Financing-Water-Investing-in-Sustainable-Growth.pdf.
- Organisation for Economic Co-operation and Development. "Focus on Green Recovery: to green or not to green." Accessed August 17, 2021. https://www.oecd.org/coronavirus/en/themes/green-recovery.
- Organization for Economic Co-operation and Development. Global Outlook on Financing for Sustainable Development 2021. OECD:

 Paris, November 2020. Accessed on August 31, 2021. https://www.oecd-ilibrary.org/development-global-outlook-on-financing-for-sustainable-development-2021_e3c30a9a-en.
- Organisation for Economic Co-operation and Development.

 Green budgeting and tax policy tools to support a green recovery.

 2020. Accessed July 14, 2021. https://read.oecd-ilibrary.
 org/view/?ref=137_137215-2knww1hckd&title=Green-budgeting-and-tax-policy-tools-to-support-a-green-recovery&_ga=2.121217483.2107438645.1622830402-832829878.1622830402.
- Organisation for Economic Co-operation and Development. Green
 Infrastructure in the Decade for Delivery: Assessing Institutional
 Investment. 2020. Accessed August 15, 2021. https://www.oecd.org/environment/cc/policy-highlights-green-infrastructure-in-thedecade-for-delivery-assessing-institutional-investment.pdf.
- Organisation for Economic Co-operation and Development.

 "Leveraging Digital Trade to Fight the Consequences of COVID-19." July 7, 2020. Accessed July 25, 2021. https://www.oecd.org/coronavirus/policy-responses/leveraging-digital-trade-to-fight-the-consequences-of-covid-19-f712f404/.
- Organisation for Economic Co-operation and Development.

 "Making Blended Finance Work for Water and Sanitation
 Unlocking Commercial Finance for SDG 6." 2019. Accessed
 August 15, 2021. https://www.oecd.org/environment/resources/Making-Blended-Finance-Work-for-Water-and-Sanitation-Policy-Highlights.pdf.
- Organisation for Economic Co-operation and Development. Making the green recovery work for jobs, income and growth. Washington, D.C.: October 2020. Accessed July 23, 2021. https://www.oecd.org/coronavirus/policy-responses/making-the-green-recovery-work-for-jobs-income-and-growth-a505f3e7/.
- Organisation for Economic Co-operation and Development. "OECD DAC Handbook on Security Sector Reform: Supporting Security and Justice." Paris: OECD, 2007. Accessed August 31, 2021. https://issat.dcaf.ch/download/478/3015/OECD%20DAC%20 Handbook%200n%20SSR.pdf.

- Organisation for Economic Co-operation and Development /Group of 20 Inclusive Framework on BEPS. Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy. July 1, 2021. Accessed July 20, 2021. https://www.oecd.org/tax/beps/statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-july-2021.pdf
- Our World in Data. "Coronavirus (COVID-19) Vaccinations." Last updated September 1, 2021. Accessed September 1, 2021. https://ourworldindata.org/covid-vaccinations.
- Our World in Data. "Statistics and Research: Coronavirus (COVID-19) Vaccinations." Last updated August 19, 2021. Accessed August 19, 2021. https://ourworldindata.org/covid-vaccinations?country=OWID_WRL.
- Ovide, Shira. "'We Can Do Better': One Plan to Erase America's Digital Divide." New York Times, April 14, 2020. Accessed July 15, 2021. https://www.nytimes.com/2020/04/14/technology/coronavirus-digital-divide.html.
- Palmer, Brian. "This Is What a Just Transition Looks Like." *National Resources Defense Council*, March 2020. Accessed July 23, 2021. https://www.nrdc.org/stories/what-just-transition-looks.
- Pangetsu, Mari Elka, and Mats Granyard. "Equal Access to Digital Technologies: A Key to Resilient Recovery." World Bank Blog, October 20. 2020. Accessed July 15, 2021. https://blogs.worldbank. org/voices/equal-access-digital-technologies-key-resilient-recovery.
- Panorama Solutions. "Seychelles' first debt-for-nature swap for ocean conservation." Last modified March 17, 2021. https://panorama.solutions/en/solution/seychelles-first-debt-nature-swap-ocean-conservation.
- Parker, Ben. "The debt crisis looming for poor countries." *The New Humanitarian*, October 8, 2020. Accessed July 19, 2021. https://www.thenewhumanitarian.org/analysis/2020/10/08/pandemic-debt-crisis-looms.
- Paudel, Sushila, Pankaj Kumar, Rajarshi Dasgupta, Brian Johnson, Ram Avtar, Rajib Shaw, Binaya Mishra, and Sakiko Kanbara. "Nexus between Water Security Framework and Public Health: A Comprehensive Scientific Review." Water 13, no. 10 (May 2021): 1365. Accessed August 16, 2021. https://doi.org/10.3390/w13101365.
- Pena, Lisa. "CDC Emerging & Zoonotic Infectious Diseases."

 InterAction, Accessed August 16, 2021. https://www.interaction.org/choose-to-invest-fy-2021/choose-to-invest-fy-2021/labor-health-human-services-appropriations/cdc-emerging-zoonotic-infectious-diseases/.
- People's Vaccine Alliance. "Our Demands." Accessed August 30, 2021. https://peoplesvaccine.org/our-demands/.
- Pollicino, Oreste. "The Right to Internet Access: Quid Juris?" In the Cambridge Handbook of New Human Rights: Recognition, Novelty, Rhetoric, edited by Andreas von Arnauld, Kerstin von der Decken, and Mart Susi. 263-275. Cambridge: Cambridge University Press, 2020. Accessed July 24, 2021. https://www.cambridge.org/core/books/cambridge-handbook-of-new-human-rights/right-to-internet-access/28533B0871DD91BC1C88F66C245A4DAE.
- Ponzio et al. UN 2.0: Ten Innovations for Global Governance 75 Years beyond San Francisco. Washington D.C.: The Stimson Center.
 June 2020. Accessed July 27, 2021. https://www.stimson.org/wp-content/uploads/2020/06/UN2.0-Ten-Innovations-for-Global-Governance-Final.pdf.
- Ponzio, Richard, and Joris Larik. "Deepening G20-UN System Cooperation to Foster Socio-Economic Recovery from the Pandemic and Reduce Inequality Worldwide: Towards a G20+." T20 (the official engagement group of the G20) policy brief (September 2021). Accessed September 15, 2021. https://www.t20italy.org/wp-content/uploads/2021/09/TF8-PB-Ponzio.pdf.
- Ponzio, Richard, Cristina Petcu, Banou Arjomand, and Joris Larik.

 Beyond UN75. A Roadmap for Inclusive, Networked & Effective Global Governance. Washington D.C.: The Stimson Center. June 2021.

 Accessed August 24, 2021. https://www.stimson.org/wp-content/uploads/2021/06/GGIN-Report-061721.pdf.

- Poremba, Sue. "The Future of Cybercrime: Where Are We Headed?" Security Intelligence, September 18, 2019. Accessed August 18, 2021.https://securityintelligence.com/articles/the-future-ofcybercrime-where-are-we-headed/.
- Power, Joseph, Jordan McDonald, So Lefebvre and Tom Coleman. CDP Financial Services Disclosure Report 2020: The Time to Green Finance. 2020. Accessed July 27, 2021. https://dfefcbb86e61af1b2fc4_c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/005/741/original/CDP-Financial-Services-Disclosure-Report-2020/pdf?1619537981.
- Rappeport, Alan. "Finance Leaders Reach Global Tax Deal Aimed at Ending Profit Shifting." New York Times, June 5, 2021. Accessed July 10, 2021. https://www.nytimes.com/2021/06/05/us/politics/g7-global-minimum-tax.html.
- Reuters Staff. "Axa division in Asia hit by ransomware cyber-attack."

 Reuters, May 16, 2021. Accessed August 18, 2021. https://www.
 reuters.com/article/us-axa-cyber/axa-division-in-asia-hit-by-ransomware-cyber-attack-idUSKCN2CXoBo.
- Reuters Staff. "Factbox: How big is Bitcoin's carbon footprint?" *Reuters*, May 13, 2021. Accessed July 15, 2021. https://www.reuters.com/technology/how-big-is-bitcoins-carbon-footprint-2021-05-13/.
- Reuters Staff. "IMF \$650 billion reserves distribution clears last hurdle in "unprecedented" move." August 2, 2021. Accessed August 24, 2021. https://www.brief.ucmpaign=DailyBrief2021Aug03&utm_term=DailyNewsBrief.
- Ribeiro, Carolina, Linda van de Burgwal, and Barbara Regeer.
 "Overcoming Challenges for Designing and Implementing the One
 Health Approach." One Health 7 (June 2019): 1-3, 5-6. Accessed July
 26, 2021. https://doi.org/10.1016/j.onehlt.2019.100085.
- Ritchie, Hannah et al. Coronavirus Pandemic (COVID-19). Our World in Data. Last modified July 27, 2021. Accessed July 23, 2021. https://ourworldindata.org/coronavirus/country/taiwan#citation.
- Roth, Joachim. "Green Taxation and Fossil Fuel Subsidy Reform: Two tools for a green recovery." IISD Blog, May 19, 2021. Accessed July 14, 2021. https://www.iisd.org/articles/energy-subsidy-reform-taxation-green-recovery.
- Rozenberg, Julie, and Anna Wellestein. "How to use digital infrastructure and technology for a sustainable, inclusive future." World Bank Blog, December 16, 2020. Accessed July 15, 2021. https://blogs.worldbank.org/latinamerica/how-use-digital-infrastructure-and-technology-sustainable-inclusive-future.
- Ruis, Barbara. "No forest convention but ten tree treaties." *Unasylva* 52 (2001): 3-13. Accessed August 14, 2021. https://agris.fao.org/agris-search/search.do?recordID=XF2002407693.
- Sandbrook, Chris, Erik Gomez-Baggethun, and William Adams.

 "Biodiversity conservation in a post-COVID-19 economy."

 Oryx (December 2020): 1-7. Accessed July 14, 2021. https://www.cambridge.org/core/journals/oryx/article/biodiversity-conservation-in-a-postcovid19-economy/296A943A772AE665859
 CE483F35AEB6F.
- Santora, Marc and Isabella Kwai. "Covid Updates: Known Global Toll Reaches 200 Million Virus Infections." August 4, 2021. Accessed August 5, 2021. https://www.nytimes.com/live/2021/08/04/ world/covid-delta-variant-vaccine?campaign_id=60&emc=edit_na_20210804&instance_id=0&nl=breaking-news&ref=cta®i_id=25410015&segment_id=65373&user_id=44f240b465d3e633575_0ecae10102f6f#the-known-global-virus-caseload-has-surpassed_200-million-infections.
- Satter, Raphael. "Up to 1,500 businesses affected by ransomware attack, U.S. firm's CEO says." *Reuters*, July 6, 2021. Accessed July 16, 2021. https://www.reuters.com/technology/hackers-demand-70-million-liberate-data-held-by-companies-hit-mass-cyberattack-2021-07-05/.
- Schomberg, William, and Elizabeth Piper. "More Needed: G7 Nations Agree to Boost Climate Finance." Reuters, June 13, 2021. Accessed July 14, 2021. https://www.reuters.com/business/sustainable-business/g7-leaders-commit-increasing-climate-finance-contributions-2021-06-12/.

- Schumacher, Shannon, and Nicholas Kent. "Eight Charts on Internet Use Around the World as Countries Grapple with COVID-19." Pew Research Center, April 2020. Accessed August 9, 2021. https://www.pewresearch.org/fact-tank/2020/04/02/8-charts-on-internet-use-around-the-world-as-countries-grapple-with-covid-19/.
- Science Daily. "Environmental impacts of the COVID-19 pandemic, as observed from space." Last modified December 8, 2020.

 Accessed August 17, 2021. https://www.sciencedaily.com/ releases/2020/12/201208162957.htm.
- Scott, Andrew, Sam Pickard, Samuel Sharp, and Renilde Becqué.

 Phasing Out Plastics. London: ODI, 2020. Accessed July 14, 2021.

 https://cdn.odi.org/media/documents/odi-et-cp-synthesis-report-sep20-proof02_final2.pdf.
- SeyCCAT. "Seaweed: A Hidden Resource a Recycling Project."

 Last modified 2021. Accessed July 28, 2021. https://seyccat.org/seaweed-a-hidden-resource-a-recycling-project/.
- Shalal, Andrea. "IMF, World Bank to unveil 'green debt swaps' option by November, Georgieva says." *Reuters*, April 8, 2021. Accessed Jul 26, 2021. https://www.reuters.com/article/us-imf-world-bank-climate-swaps/imf-world-bank-to-unveil-green-debt-swaps-option-by-november-georgieva-says-idUSKBN2BV2NU.
- Sheikh, Pervaze A. Debt-for-Nature Initiatives and the Tropical Forest Conservation Act: Status and Implementation. Washington, D.C.: Congressional Research Service, 2018. Accessed July 20, 2021. https://fas.org/sgp/crs/misc/RL31286.pdf.
- Singh, Divjot, and Vikram Widge. Debt for Climate Swaps. Climate Policy Initiative. Briefing. May 2021. Accessed July 20, 2021. https://www.climatepolicyinitiative.org/publication/debt-for-climate-swaps/.
- Singh, Divjot and Vikram Widge. SME Competitiveness Outlook 2021:

 Empowering the Green Recovery. International Trade Centre, 2021.

 Accessed July 27, 2021. https://www.intracen.org/uploadedFiles/
 intracenorg/Content/Publications/ITC_SMECO-2021.pdf.
- Siripurapu, Anshu. "The Debate Over a Patent Waiver for COVID-19 Vaccines: What to Know." *Council on Foreign Relations*, May 26, 2021. Accessed July 27, 2021. https://www.cfr.org/in-brief/debate-over-patent-waiver-covid-19-vaccines-what-know.
- SME Climate Hub. Where SMEs come to future proof their business.

 Accessed July 27, 2021. https://smeclimatehub.org/#how-it-works.
- Smith, Samantha. Just Transition: A Report for the OECD. International Trade Union Confederation, Just Transition Centre, May 2017. Accessed July 23, 2021.
- Sobers, Rob. "134 Cybersecurity Statistics and Trends for 2021."

 Varonis, Last updated March 16, 2021. Accessed August 9, 2021.

 https://www.varonis.com/blog/cybersecurity-statistics/.
- Sofi. "How Safe is Blockchain? Blockchain Security Guide." Last modified February 25, 2021. Accessed 17, 2021. https://www.sofi.com/learn/content/blockchain-security/.
- Solar Energy Industries Association. "Solar Power Purchase Agreements." Accessed August 20, 2021. https://www.seia.org/research-resources/solar-power-purchase-agreements.
- Stangarone, Troy. "South Korea's Digital New Deal: South Korea aims to establish a foundation for competitiveness in the promising fields of the future: 5G, Big Data and AI." *The Diplomat*, June 25, 2020. Accessed July 20, 2021. https://thediplomat.com/2020/06/south-koreas-digital-new-deal/.
- Stevis-Gridneff, Matina, and Lara Jakes. "World Leaders Join to Pledge \$8 Billion for Vaccine as U.S. Goes It Alone." New York Times, May 4, 2020. Accessed August 26, 2021. https://www.nytimes.com/2020/05/04/world/europe/eu-coronavirus-vaccine.html.
- Stimson Center and the Doha Forum. Coping with New and Old Crises: Global and Regional Cooperation in an Age of Epidemic Uncertainty. December 2020. Accessed August 26, 2021. https://www.stimson.org/wp-content/uploads/2020/12/DOHA-report-120120-WEB-VERSION.pdf.
- Symbiotics. "Symbiotics launches first USD 7.75 million Green Bond with Pan Asia Banking Corporation." Press Release. Last modified June 16, 2020. Accessed July 28, 2021.

- Tata Power Company. "About Us." Accessed July 28, 2021. https://symbioticsgroup.com/news/press-release-symbiotics-launches-first-usd-7-75-million-green-bond-with-pan-asia-banking-corporation/.
- Tollefson, Jeff. "Why Deforestation and Extinctions Make Pandemics More Likely." *Nature News*, August 7, 2020. Accessed August 11, 2021. http://www.nature.com/articles/d41586-020-02341-1.
- Transparency International. Working Group on COVID-19 Vaccines. Time to Suspend Intellectual Property Protections on COVID-19 Vaccines. May 7, 2021. Accessed July 30, 2021. https://www.transparency.org/en/press/time-to-suspend-intellectual-property-protections-on-covid-19-vaccines.
- Tripartite Alliance. A Tripartite Guide to Addressing Zoonotic Diseases in Countries. World Health Organization, 2019. Accessed July 26, 2021. https://apps.who.int/iris/bitstream/handle/10665/325620/9789241514934-eng.pdf?sequence=1&isAllowed=y.
- Trueman, Charlotte. "Why data centres are the new frontier in the fight against climate change." Computer World, August 9, 2019. Accessed July 15, 2021. https://www.computerworld.com/article/3431148/why-data-centres-are-the-new-frontier-in-the-fight-against-climate-change.html.
- U.S. Global Leadership Coalition. Climate Change and the Developing World: A Disproportionate Impact. 2021. Accessed July 20, 2021. https://www.usglc.org/blog/climate-change-and-the-developing-world-a-disproportionate-impact/.
- U.S. Global Leadership Coalition. COVID-19 Brief: Impact on Food Security. Last updated April 6, 2021. Accessed July 26, 2021. https://www.usglc.org/coronavirus/global-hunger/.
- UN Climate Change Conference UK 2021. COP26 Explained. Accessed August 27, 2021. https://znsbq1gn1rl23zol93eyrccj-wpengine.netdna-ssl.com/wp-content/uploads/2021/07/COP26-Explained.ndf.
- Union of Concerned Scientists. "Climate Disinformation." Accessed July 15, 2021. https://www.ucsusa.org/climate/disinformation.
- United Arab Emirates. "Green Economy for Sustainable Development."

 Last modified April 20, 2021. Accessed July 23, 2021. https://u.ae/en/about-the-uae/economy/green-economy-for-sustainable-development.
- United Kingdom. Department for Business, Energy, and Industrial Strategy. Green Jobs Taskforce: Report to Government, Industry, and the Skills Sector. 2020. Accessed July 27, 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003570/gjtf-report.pdf.
- United Nations. 2018 E-Governance Survey. 2018. Accessed August 23, 2021. https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2018-Survey/E-Government%20Survey%202018_FINAL%20for%20web.pdf.
- United Nations. Alongside Pandemic, World Faces 'Triple Planetary
 Emergency', Secretary-General Tells World Forum for Democracy,
 Citing Climate, Nature, Pollution Crises. Press release. November
 16, 2020. Accessed August 31, 2021. https://www.un.org/press/en/2020/sgsm20422.doc.htm.
- United Nations. "António Guterres: 50% of All Climate Finance Needed for Adaptation." January 25, 2021. Accessed July 14, 2021. https://unfccc.int/news/antonio-guterres-50-of-all-climate-finance-needed-for-adaptation.
- United Nations. "A UN framework for the immediate socio-economic response to COVID-19. 2020. Accessed August 13, 2021. https://www.ntsg.un.org/sites/default/files/2020-04/UN-framework-for-the-immediate-socio-economic-response-to-COVID-19.pdf.
- United Nations. Background note on the USD 100 billion goal in the context of UNFCCC process, in relation to advancing on SDG indicator 13.a.1. Accessed July 14, 2021. https://unstats.un.org/sdgs/tierIII-indicators/files/13.a.1_Background.pdf.
- United Nations. Closing the infrastructure gap. Inter-agency Task Force on Financing for Development. Accessed July 23, 2021. https://developmentfinance.un.org/closing-the-infrastructure-gap.

- United Nations. COVID-19 Social Protection and Economic Policy
 Responses of Governments: Lessons for Social Protection Readiness
 and Building Forward Better. 2021. Accessed August 24, 2021.
 https://tracker.unescwa.org/External/Global-Policy-BriefCOVID-19%20Stimulus%20Tracker_Social-Protection-AndEconomic-Policy-Responses-Of-Governments.pdf.
- United Nations. "Financing for the Development in the Era of COVID-19 and Beyond Initiative (FFDI)." COVID-19 Response. Accessed July 29, 2021. https://www.un.org/en/coronavirus/financing-development.
- United Nations. Financing for Development in the Era of COVID-19 and Beyond: Menu of Options for the Consideration of Heads of State and Government Part I. October 2020. Accessed July 29, 2021. https://www.un.org/sites/un2.un.org/files/financing_for_development_covid19_part_i_hosg.pdf.
- United Nations. "Investing in Ecosystem Conservation Yields More than Subsidies to Agriculture, Deputy Secretary-General Tells 'Raising Ambition for Nature' Event." Press release. April 20, 2021. Accessed August 31, 2021. https://www.un.org/press/en/2021/dsgsm1572.doc.htm.
- United Nations. "Modalities for the international meeting entitled "Stockholm+50: a healthy planet for the prosperity of all our responsibility, our opportunity;" June 25, 2021. Accessed August 27, 2021. https://www.un.org/pga/75/wp-content/uploads/sites/100/2021/06/PGA-letter-modalities-on-Stockholm50-Consultations.pdf.
- United Nations. "More than 65 million 'low-carbon jobs' can be created by 2030: UN-backed Climate Summit urges action 'to the next level'." UN News, September 16, 2018. Accessed July 27, 2021. https://news.un.org/en/story/2018/09/1019472#:-:text=Humanitarian%20Aid-,More%20than%2065%20million%20'low%2Dcarbon%20jobs'%20can%20be,action%20'to%20the%20next%20level.
- United Nations. "MSMEs: Key to an inclusive and sustainable recovery." Accessed July 27, 2021. https://www.un.org/en/observances/micro-small-medium-businesses-day.
- United Nations. "New COVID-19 Stimulus Tracker shows policy response to pandemic." July 16, 2021. Accessed July 22, 2021. https://www.un.org/pt/node/140052.
- United Nations. "PGA letter Theme of the General Debate of the 76th session." July 7, 2021. Accessed August 27, 2021. https://www.un.org/pga/75/wp-content/uploads/sites/100/2021/07/PGA-letter-Theme-of-the-General-Debate-of-the-76th-session.pdf.
- United Nations. "President's proposal for High-level Week (HLW) for the 76th session of the UN General Assembly (UNGA76)." June 23, 2021. Accessed August 27, 2021. https://www.un.org/pga/75/wp-content/uploads/sites/100/2021/06/PGA-letter-Working-Paper-on-HLW76.pdf.
- United Nations. "Secretary-General Calls Latest IPCC Climate Report 'Code Red for Humanity', Stressing 'Irrefutable' Evidence of Human Influence." Press release. August 9, 2021. Accessed August 24, 2021. https://www.un.org/press/en/2021/sgsm20847.doc.htm.
- United Nations. "Secretary-General's statement on the IPCC Working Group 1 Report on the Physical Science Basis of the Sixth Assessment." August 9, 2021. Accessed August 25, 2021. https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment.
- United Nations. "Sustainability solution or climate calamity? The dangers and promise of cryptocurrency technology." UN News, June 20, 2021. Accessed August 12, 2021. https://news.un.org/en/story/2021/06/1094362.
- United Nations. The global food crises. 2011. Accessed August 29, 2021. https://www.un.org/esa/socdev/rwss/docs/2011/chapter4.pdf.
- United Nations. The Social Protection Floor: A joint Crisis Initiative of the UN Chief Executives Board for Coordination on the Social Protection Floor. October 2009. Accessed August 30, 2021. https://www.un.org/en/ga/second/64/socialprotection.pdf.

- United Nations. "The trillion dollar climate finance challenge (and opportunity)." UN News, June 27, 2021. Accessed July 14, 2021. https://news.un.org/en/story/2021/06/1094762.
- United Nations. "UN chief says race to reach SDGs 'can and must' be turned around." UN News, July 13, 2021. Accessed July 22, 2021. https://news.un.org/en/story/2021/07/1095792.
- United Nations. United Nations Comprehensive Response to COVID-19.

 New York: September 2021. Accessed August 20, 2021. https://www.un.org/sites/un2.un.org/files/un-comprehensive-response-to-covid-19.pdf.
- United Nations. "Vaccine equity at heart of new \$50 billion plan to end pandemic, drive recovery." UN News, June 1, 2021. https://news. un.org/en/story/2021/06/1093112.
- United Nations. "WHO calls for moratorium on COVID-19 booster jabs." UN News, August 4, 2021. Accessed August 19, 2021. https://news.un.org/en/story/2021/08/1097102.
- United Nations. Committee on World Food Security. Multi-stakeholder partnerships to finance and improve food security and nutrition in the framework of the 2030 Agenda. A Report by the High-Level Panel of Experts on Food Security and Nutrition. June 2018. Accessed September 1, 2021. http://www.fao.org/3/CA0156EN/CA0156en.pdf.
- United Nations. Department of Economic and Social Affairs. *The Global Forest Goals Report* 2021. 2021. Accessed August 11, 2021. https://www.un.org/esa/forests/wp-content/uploads/2021/04/Global-Forest-Goals-Report-2021.pdf.
- United Nations. Department of Global Communications. 5 Ways the UN is Fighting 'Infodemic' of Misinformation. April 30, 2020. Accessed July 15, 2021. https://www.un.org/en/un-coronavirus-communications-team/five-ways-united-nations-fighting-%E2%80%998infodemic%E2%80%99-misinformation.
- United Nations. Environmental Management Group. Defining Green Recovery Outcome Document. April 27, 2021. Accessed August 17, 2021. https://unemg.org/wp-content/uploads/2021/05/Defining-Green-Recovery-ND_Outcome-Report_FINAL.pdf.
- United Nations. Food and Agriculture Organization. FAO Social

 Protection Framework: Promoting Rural Development for Al. Rome,
 2017. Accessed August 18, 2021. http://www.fao.org/3/i7016e/
 i7016e.pdf.
- United Nations. Food and Agriculture Organization. Food security and international trade Unpacking disputed narratives. 2015. Accessed August 29, 2021. http://www.fao.org/3/i5160e/I5160E.pdf.
- United Nations. Food and Agriculture Organization. Local Government Planning for Community Food Systems Opportunity, Innovation and Equity in Low- and Middle-Income Countries. 2021. Accessed August 13, 2021. http://www.fao.org/3/cb3136en/cb3136en.pdf.
- United Nations. Food and Agriculture Organization. *Response to COVID-19: Building to Transform*. 2020. Accessed July 26, 2021. http://www.fao.org/3/ne895en/ne895en.pdf.
- United Nations. Food and Agriculture Organization, International Fund for Agricultural Development, UNICEF, World Food Programme, and World Health Organization. In Brief to The State of Food Security and Nutrition in the World 2021. 2021. Accessed July 26, 2021. https://doi.org/10.4060/cb5409en.
- United Nations. Food Systems Summit. Action Track 1: Ensure Access to Safe and Nutritious Food for All Potential Game Changing and Systemic Solutions: An Initial Compilation. Accessed August 14, 2021. https://www.un.org/sites/un2.un.org/files/unfss_at1_synthesis_propositions_round1.pdf.
- United Nations. Food Systems Summit. Develop a Global Alliance on Safe Food for All. Accessed July 27, 2021. https://foodsystems.community/?attachment=2802&document_type=document&download_document_file=1&document_file=225.
- United Nations. General Assembly. Declaration on the commemoration of the seventy-fifth anniversary of the United Nations. A/RES/75/1. September 28, 2020. Accessed July 23, 2021. https://undocs.org/A/RES/75/1.

- United Nations. General Assembly. Road map for digital cooperation: implementation of the recommendations of the High-level Panel on Digital Cooperation. Report of the Secretary-General. A/74/821. May 29, 2020. Accessed July 17, 2021. https://undocs.org/A/74/821.
- United Nations. Office of the High Commissioner for Human Rights.

 Accountability for the Elimination of Inequalities in the Water,

 Sanitation and Hygiene (WASH) COVID-19 Response. Accessed

 August 1, 2021. https://www.ohchr.org/EN/NewsEvents/Pages/

 DisplayNews.aspx?NewsID=26056&LangID=E.
- United Nations. Office of the High Commissioner for Human Rights.

 Call for Reactions: Proposal for a Global Fund for Social Protection.

 December 15, 2020. Accessed July 26, 2021. https://www.ohchr.org/EN/Issues/Poverty/Pages/global-fund-social-protection.aspx.
- United Nations. Secretary-General. "COVID-19 Vaccines Must Be Global Public Good, Secretary-General Says, announcing 'Only Together' Campaign to Encourage Sharing of Technology, Doses." March 11, 2021. Accessed July 30, 2021. https://www.un.org/press/en/2021/sgsm20620.doc.htm.
- United Nations. Secretary-General. Secretary-General's Remarks to the One Planet Summit. January 11, 2021. Accessed July 15, 2021. https://www.un.org/sg/en/content/sg/statement/2021-01-11/secretary-generals-remarks-the-one-planet-summit-bilingual-delivered-scroll-down-for-all-english.
- United Nations. Special Rapporteur on Extreme Poverty and Human Rights. Looking Back to Look Ahead: A Rights-Based Approach to Social Protection in the Post-COVID-19 Economic Recovery.

 September 2020. Accessed July 26, 2021. https://www.ohchr.org/Documents/Issues/Poverty/covid19.pdf.
- United Nations. Sustainable Development. "Economic recovery under threat amid surging COVID cases and lagging vaccination in poorer countries." May 11, 2021. Accessed August 17, 2021. https://www.un.org/en/desa/wesp-mid-year-update-2021.
- United Nations. Sustainable Development Goals. "A New Contract for a New Era." Nelson Mandela Annual Lecture 2020.

 July 18, 2020. Accessed July 17, 2021. https://www.un.org/sustainabledevelopment/a-new-social-contract-for-a-new-era/.
- United Nations. Sustainable Development Goals. "High-Level Political Forum 2021." Accessed August 27, 2021. https:// sustainabledevelopment.un.org/hlpf/2021.
- United Nations. Sustainable Development Goals. The Sustainable Development Goals Report 2021. Accessed July 26, 2021. https://unstats.un.org/sdgs/report/2021/The-Sustainable-Development-Goals-Report-2021.pdf.
- United Nations. Web TV. "Mark Carney (Special Envoy) on financing for development in the Era of COVID-19 and beyond." Uploaded May 28, 2020. Accessed July 14, 2021. https://media.un.org/en/asset/kiw/kiw2aw2osc.
- United Nations. World Food Programme. "WFP at a Glance." Accessed August 26, 2021. https://www.wfp.org/stories/wfp-glance.
- United Nations Children's Fund. COVID-19: At Least a Third of the World's Children Unable to Access Remote Learning, New Report Says.

 August 26, 2020. Accessed July 15, 2021. https://www.unicef.org/press-releases/covid-19-least-third-worlds-schoolchildren-unable-access-remote-learning-during.
- United Nations Children's Fund. Two thirds of the world's school-age children have no internet access at home, new UNICEF-ITU report says. November 30, 2020. Accessed August 31, 2021. https://www.unicef.org/press-releases/two-thirds-worlds-school-age-children-have-no-internet-access-home-new-unicef-itu.
- United Nations Conference on Trade and Development. Developing country external debt: From growing sustainability concerns to potential crisis in the time of COVID-19. SDG Pulse, 2021. Accessed July 19, 2021. https://sdgpulse.unctad.org/debt-sustainability/.
- United Nations Conference on Trade and Development. *Growing plastic pollution in wake of COVID-19: How trade policy can help.* July 27, 2020. Accessed July 14, 2021. https://unctad.org/news/growing-plastic-pollution-wake-covid-19-how-trade-policy-can-help.

- United Nations Conference on Trade and Development. The International Day of Micro, Small and Medium Enterprises (MSMEs).

 June 24, 2020. https://unctad.org/osgstatement/international-day-micro-small-and-medium-enterprises-msmes.
- United Nations Development Programme. COVID-19: WHO, UNICEF and UNDP Partner with WhatsApp to get Real Time Information to Billions Around the World. March 18, 2020. Accessed July 15, 2021. https://www.undp.org/press-releases/covid-19-who-unicef-and-undp-partner-whatsapp-get-real-time-health-information.
- United Nations Development Programme. The SDGs in Action. Accessed July 17, 2021. https://www.undp.org/sustainable-development-goals?utm_source=EN&utm_medium=GSR&utm_content=US_UNDP_PaidSearch_Brand_English&utm_campaign=CENTRAL&c_src=CENTRAL&c_src2=GSR&gclid=EAIaIQobChMI2qOn-bjY8QIV-wytBhqdXQafEAAYAyAAEgLbs_D_BwE.
- United Nations Economic and Social Commission for Western Asia.

 The Impact of COVID-19 on the Water-Scarce Arab Region. Accessed July 26, 2021. https://afsd-2021.unescwa.org/sdgs/pdf/covid-19/en/5-20-00150_covid-19_water-scarcity-en.pdf.
- United Nations Educational, Scientific, and Cultural Organization.

 Second Inclusion and Dialogue Series Conversation: Exploring inclusive post-COVID recovery with Gabriela Bucher (Executive Director of Oxfam International). August 7, 2021. Accessed August 20, 2021. https://en.unesco.org/news/second-inclusion-and-dialogue-series-conversation-exploring-inclusive-post-covid-recovery.
- United Nations Environment Programme. Communication Strategy for the African-Eurasian Migratory Waterbird Agreement. Accessed August 11, 2021. https://www.unep-aewa.org/sites/default/files/ publication/AEWA_communication_strategy_adopted_by_MOP6. ndf.
- United Nations Environment Programme. Emissions Gap Report for 2020. December 2020. Accessed September 2, 2021. https://www.unep.org/emissions-gap-report-2020.
- United Nations Environment Programme. Green Pandemic Recovery
 Essential to Close Climate Action Gap UN Report. Press Release.

 December 9, 2020. Accessed July 27, 2021. https://www.unep.
 org/news-and-stories/press-release/green-pandemic-recoveryessential-close-climate-action-gap-un-report.
- United Nations Environment Programme. Preventing the Next
 Pandemic: Zoonotic Diseases and How to Break the Chain of
 Transmission. July 6, 2021. Accessed July 26, 2021. https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and?
 ga=2.57466723.819121192.1627253766-1258337528.1626033651.
- United Nations Industrial Development Organization. *Digitalization crucial to SIDS' COVID-19 recovery, long term development.*January 12, 2021. Accessed July 17, 2021. https://www.unido.org/news/digitalization-crucial-sids-covid-19-recovery-long-term-development.
- United Nations. World Food Programme Executive Board. Audited
 Annual Accounts 2020. Accessed August 14, 2021. https://executiveboard.wfp.org/document_download/WFP-0000127476.
- Ursillo, Steve, Jr., and Christopher Arnold. "Cybersecurity Is Critical for all Organizations Large and Small." International Federation of Accountants, November 4, 2019. Accessed August 12, 2021. https://www.ifac.org/knowledge-gateway/preparing-future-ready-professionals/discussion/cybersecurity-critical-all-organizations-large-and-small.
- Vivid Economics. Greenness of Stimulus Index. 2021. Accessed
 August 11, 2021. https://www.vivideconomics.com/wp-content/uploads/2021/02/Greennes-of-Stimulus-Index-5th-Edition-FINAL-VERSION-09.02.21.pdf.
- von Braun, Joachim. Global institutions: Governance reform for food, nutrition, and agriculture. Washington, D.C.: 2018. Accessed August 13, 2021. https://doi.org/10.2499/9780896292970_08.

- Wandel, Jens Christian. Early Lessons and Evaluability of the UN COVID-19 Response and Recovery MPTF. United Nations Executive Office of the Secretary-General. April 2021. Accessed July 29, 2021. https://www.norad.no/en/toolspublications/publications/2021/early-lessons-and-evaluability-of-the-un-covid-19-response-and-recovery-mptf/.
- Weixel, Nathaniel. "Biden risks global backlash on COVID-19 booster shots." August 17, 2021. Accessed August 23, 2021. https://thehill.com/policy/healthcare/public-global-health/568294-biden-risks-global-backlash-on-covid-booster-shots.
- Wheeler, Tom. "5 steps to get the internet to all Americans: COVID-19 and the importance of universal broadband." *The Brookings Institution*, May 27, 2020. Accessed July 25, 2021. https://www.brookings.edu/research/5-steps-to-get-the-internet-to-all-americans/.
- White House. "Carbis Bay G7 Summit Communiqué." June 13, 2021.

 Accessed August 27, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/13/carbis-bay-g7-summit-communique/.
- White House. "Fact Sheet: President Biden and G7 Leaders Launch Build Back Better World (B3W) Partnership." June 12, 2021.

 Accessed August 27, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/12/fact-sheet-president-biden-and-g7-leaders-launch-build-back-better-world-b3w-partnership/.
- Whiting, Kate. "Online shopping is polluting the planet but it's not too late." World Economic Forum, January 2020. Accessed August 9, 2021. https://www.weforum.org/agenda/2020/01/carbon-emissions-online-shopping-solutions/.
- Williams, Robert D. "To enhance data security, federal privacy legislation is just a start." The Brookings Institution, December 1, 2020. Accessed July 25, 2021. https://www.brookings.edu/techstream/to-enhance-data-security-federal-privacy-legislation-is-just-a-start/.
- World Bank. "First Global Conference of the Platform for Collaboration on Tax Taxation and the Sustainable Development Goals." February 16, 2018. Accessed July 20, 2021. https://www.worldbank.org/en/events/2017/06/06/first-global-conference-of-the-platform-for-collaboration-on-tax#4.
- World Bank. "Food Security and COVID-19." Agriculture and Food. Last modified July 16, 2021. Accessed August 1, 2021. https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19.
- World Bank. "Public-Private Partnership Legal Resources Center Water & Sanitation PPPs." Last modified June 15, 2021. Accessed July 27, 2021. https://ppp.worldbank.org/public-private-partnership/water-and-sanitation/water-sanitation-ppps.
- World Bank. Global Economic Prospects. June 2021. Accessed July 22, 2021. https://openknowledge.worldbank.org/bitstream/handle/10986/35647/9781464816659.pdf.
- World Bank. Sustainable Hydropower Development Project Information Document/Identification/Concept/PID. September 25, 2021. Accessed August 11, 2021. https://documents1.worldbank.org/curated/en/711541601227609171/pdf/Project-Information-Document-PID-Sustainable-Hydropower-Development-Project-P174327.pdf.
- World Bank. "The World Bank in Africa." June 2, 2021. Accessed August 24, 2021. https://www.worldbank.org/en/region/afr/overview.
- World Bank. International Development Association. *Responding* to the Emerging Food Security Crisis. November 2020. Accessed July 26, 2021. https://documents1.worldbank.org/curated/en/775981606955884100/pdf/Responding-to-the-Emerging-Food-Security-Crisis.pdf.
- World Bank. Public-Private Resource Center. "Government Support in Financing PPPs." Last modified April 16, 2021. Accessed August 11, 2021. https://ppp.worldbank.org/public-private-partnership/government-support-financing-ppps.

- World Bank and United Nations Department of Economic and Social Affairs. "The Potential of the Blue Economy." World Bank, Washington, D.C.: 2017. Accessed July 17, 2021. https://sustainabledevelopment.un.org/content/documents/2446blueeconomy.pdf.
- World Economic Forum. Exploring Blockchain Technology for Government Transparency: Blockchain-Based Public Procurement to Reduce Corruption. June 2020. Accessed August 25, 2021. http://www3.weforum.org/docs/WEF_Blockchain_Government_Transparency_Report.pdf.
- World Economic Forum Centre for the New Economy and Society.

 Building Back Broader: Policy Pathways for an Economic

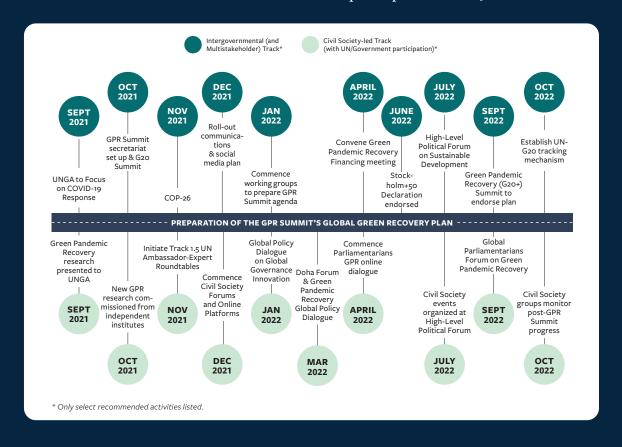
 Transformation. June 2021. Accessed July 26, 2021. http://www3.weforum.org/docs/WEF_GFC_NES_Policy_Pathways_for_an_Economic_Transformation_2021.pdf.
- World Health Organization. "26 International Experts to Kickstart the One Health High Level Expert Panel (OHHLEP)." June 11, 2021. Accessed July 26, 2021. https://www.who.int/news/item/11-06-2021-26-international-experts-to-kickstart-the-joint-fao-oie-unep-who-one-health-high-level-expert-panel-(ohhlep).
- World Health Organization. "Fighting misinformation in the time of COVID-19, one click at a time." April 27, 2021. Accessed August 11, 2021. https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time.
- World Health Organization. How to respond to vocal vaccine deniers in public. 2016. Accessed August 11, 2021. https://www.who.int/immunization/sage/meetings/2016/october/8_Best-practice-guidance-respond-vocal-vaccine-deniers-public.pdf.
- World Health Organization. "Manifesto for a healthy recovery from COVID-19." May 26, 2020. Accessed August 23, 2021. https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19.
- World Health Organization. The Double Burden of Malnutrition. 2017. Accessed August 17, 2021. https://www.who.int/publications/i/ item/WHO-NMH-NHD-17.3.

- World Health Organization. "WHO Coronavirus (COVID-19)
 Dashboard." Last updated August 31, 2021. Accessed September 1, 2021. https://covid19.who.int/.
- World Health Organization. Director General. "WHO Director-General's speech at the Paris Peace Forum Panel: ACT-A: Covid-19 Vaccines, Tests and Therapies, the Global Public Good Solution." November 12, 2020. Accessed July 30, 2021. <a href="https://mca.essensys.ro/director-general/speeches/detail/who-director-general-s-speech-at-the-paris-peace-forum-panel-act-a-covid-19-vaccines-tests-and-therapies-the-global-public-good-solution---12-nov-ember-2020."
- World Health Organization and United Nations Children's Fund. Safely managed drinking water. 2017. Accessed July 27, 2021. https://apps.who.int/iris/bitstream/handle/10665/325897/9789241565424-eng.pdf?sequence=1&isAllowed=v.
- World Trade Organization. News archive: COVID-19 and world trade. Accessed August 23, 2021. https://www.wto.org/english/news_e/archive_e/covid_arc_e.htm.
- World Trade Organization. Council for Trade-Related Aspects of Intellectual Property Rights. Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of COVID-19. October 2, 2020. Accessed July 28, 2021. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669.pdf&Open=True.
- World Water Week. Blended Finance for Water: KIFFWA's Approach for Co-Developing Water Projects. Accessed August 15, 2021. https://www.worldwaterweek.org/event/8553-blended-finance-for-water-kiffwas-approach-for-co-developing-water-projects.
- World Wildlife Fund. "What's the difference between climate change mitigation and adaptation?" Accessed July 21, 2021. https://www.worldwildlife.org/stories/what-s-the-difference-between-climate-change-mitigation-and-adaptation.
- Zemke, Ayme. "Role of Strategic Communication in Crisis Management and Business Continuity." BEEHIVE Strategic Communication, June 13, 2020. Accessed July 18, 2021. https:// beehivepr.biz/strategic-communication-in-crisis/.

BUILDING BACK TOGETHER & GREENER

Twenty Initiatives for a Just, Healthy, and Sustainable Global Recovery

While the COVID-19 pandemic continues to top lists of pressing global concerns, the Intergovernmental Panel on Climate Change predicts that economic and political business as usual will likely push global warming to 3-4°C above 1850-1900 levels by the end of the century, further magnifying already intense droughts, fires, flash floods, and sea level rise. To effectively meet rising public health, environmental, and related socioeconomic challenges, multilateral cooperation is urgently needed—as stressed in last year's UN75 Declaration—to harness the ideas, capabilities, and networks of international organizations, governments, businesses, and civil society groups in the interest of effective global problem-solving. This report focuses on the emerging agenda essential to achieve a global recovery over the next three to five years that is sustainable, equitable, and inclusive. It further calls for a Green Pandemic Recovery Summit in September 2022, orchestrated by the United Nations and G20, to ensure that world leaders commit to advancing, by all creative means at their disposal, a common approach to climate-forward and broad-based socioeconomic development post-COVID-19.



Other collaborative reports between the Doha Forum and Stimson Center:

Reimagining Governance in a Multipolar World (2019)

Coping with New and Old Crises: Global and Regional Crises in an Age of Epidemic Uncertainty (2020)





