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## T7 Task Force Sustainable Economic Recovery

### POLICY BRIEF

# INTERNATIONAL PARTNERSHIPS FOR CIRCULAR ECONOMY, ENERGY TRANSITION, AND INVESTMENT

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**Manal Shehabi**, St. Antony's College, Oxford University

**Linda Faustina Arthur**, Asian Development Bank Institute (ADBI)

**Moekti Handajani Soejachmoen**, Indonesia Research Institute for Decarbonization (IRID)

**Frank Jotzo**, Crawford School of Public Policy, Australian National University

**Derek Hondo**, Asian Development Bank Institute (ADBI)

**Tetsushi Sonobe**, Asian Development Bank Institute (ADBI)



# Abstract

A sustainable and inclusive global economic recovery following the COVID-19 pandemic faces significant unprecedented global challenges, unforeseen during COP26 and exacerbated by the recent Russian invasion of Ukraine. They reduce already-constrained fiscal spaces available for post-pandemic recovery, threaten access to and affordability of clean energy, and impede multilateralism's effectiveness. Consequently, said unprecedented challenges, coupled with difficulties in implementing non-binding international agreements, threaten to derail the energy transitions required to achieve net-zero emissions by 2050 and hinder economic recovery. A sustainable global economic recovery necessitates universal access to clean energy, energy security and affordability, as well as the transition to low-carbon energy and circular economy globally, which requires the transfer of appropriate technologies to the Global South and the mobilisation of private finance. This Policy Brief calls on the 2022 Group of 7 (G7) to develop and support international partnerships and consistent in-country policy implementation that safeguard the energy transition and circular economy advancements in a manner that achieves net-zero emissions targets, a sustainable economic recovery, and global energy access. These partnerships should consist of public-private and bilateral/multilateral development organisations and national governments and should address three interdependent areas: circular economy; energy transition and decarbonisation regulation and incentives; and investment and finance. Such partnership will be indispensable for achieving an environmentally sustainable economic recovery.

# Challenge

In November 2021, representatives of nearly 200 nations unanimously signed the Glasgow Climate Pact at the UN climate conference COP26 in Glasgow in efforts to keep the hope of limiting global rise in temperature to 1.5°C alive. Meeting this target requires rapid cuts in carbon dioxide (CO<sub>2</sub>) and other greenhouse gas (GHG) emissions to net zero around 2050, followed by net negative CO<sub>2</sub> emissions (IPCC, 2021). The world is far off track to achieve this target, however. In addition, a global economic recovery following the COVID-19 pandemic faces global-scale challenges not in sight at the time of COP26. First, as the fallout of Russia's invasion of Ukraine, strong inflationary pressures that were evident by January 2022 were aggravated by the global commodity price hike, especially for fossil fuels and wheat, and the shortage of essential materials, causing disruptions to some manufacturing industries in developed economies. These negative economic impacts of the war, together with plans of to increase military spending in various countries, will reduce the fiscal space which has already been constrained by the COVID-19 pandemic. In this environment, climate sustainability will fall behind other urgent priorities. Thus, these developments threaten the availability of funds for the clean energy infrastructure investments in advanced economies and for climate finance that were committed before and in COP26 to support climate adaptation and mitigation in developing countries.

Second, while universal access to clean energy, through both energy security and affordability, is indispensable for a sustainable global economic recovery, it is severely threatened by the war. Even prior to the COVID-19 pandemic, there were 620 million people without access to electricity (IRENA, 2020) and over 2.6 billion people without access to clean cooking fuel (IEA, 2020). The situation has since been aggravated by the disrupted global energy supply and steep energy price hikes at unprecedented levels since 2014. The ensuing sanctions imposed by various countries to boycott hydrocarbon imports, primarily gas, from Russia will cause significant gas shortages to levels that other gas exporters, such as Australia and Qatar, are unlikely to be able to fulfil. The length and economic magnitude of this shortage and, consequently its economic impacts, remain uncertain in the current circumstances. The war itself and the resulting high energy price are likely to lead countries heavily dependent on Russian gas imports, especially those in Europe, to substitute those imports through accelerating investments in clean energy supply systems. Yet only a limited number of countries can afford such investments, at least in the short run. Furthermore, the significant rise in hydrocarbon prices has seen the revamping of hydrocarbon upstream investments and capital expenditures both to compensate for shortage from Russian imports and to take advantage of rising prices. The net effects of these factors will be prolonged high prices of hydrocarbons for the foreseeable future, which will further render energy unaffordable to poorer nations, thereby exacerbating energy poverty and delaying an eagerly-awaited global economic recovery.

Third, multilateralism is ever more at risk. It should be clear that a global sustainable recovery requires international cooperation in public health, cross-border mobility, and climate change mitigation and adaptation. One of the main outcomes of COP26 is the agreement to substantially increase funds for developing countries to tackle climate change. Yet there are significant limitations of international governance owing to the non-enforceable and the non-binding nature of international agreements. Further, developing economies have a considerable shortage not only in funds for infrastructure investment but also for technological expertise, experience, and knowhow. Among advanced economies, discrepancies in domestic environmental and energy regulations and in designs of subsidies and credits are distorting investment incentives within and across countries. For example, subsidies and credits are implemented on varying thresholds, at times in ways which favour large emitters investing in small green solutions (such as hydrocarbon or other firms) while inadvertently penalising low emitting green technology firms. Further,

disparities in accounting and reporting carbon lead to carbon leakage, disincentive compliance, and discourage investments in green energy technology. North-South and South-South cooperation and global harmonisation and coordination of policies and regulations are indispensable for achieving the 1.5°C target. Nonetheless, the effectiveness of multilateralism has been impeded by rising anti-globalisation sentiments, the coronavirus pandemic, and recently the war in Ukraine.

Staying the course for a sustainable economic recovery in uncertain times requires successful responses to these novel challenges as well as those that were recognized unanimously by the Parties in the COP26 conference in 2021. For said challenges, as for various socio-economic problems, the solution the world needs would comprise the application of science and technology, expansion of finance, and the cultivation of human capital. Nevertheless, a sustainable recovery post-pandemic is inherently a global-scale problem, with countries benefiting from increased capabilities and efforts of other countries. The key issue, therefore, arises as to how the application of science and technology, finance, and human capital cultivation can be coordinated and promoted on a global scale with the leadership of the Group of 7 (G7).

## Proposals

The unprecedented challenges facing the global economy today coupled with the difficulty in implementing international agreements and cooperation have resulted in disparities in the ways decarbonisation and clean energy projects are funded and incentivized. Such disparities threaten to derail the required energy transitions to achieve net-zero emissions by 2050 and hinder economic recovery and global energy access.

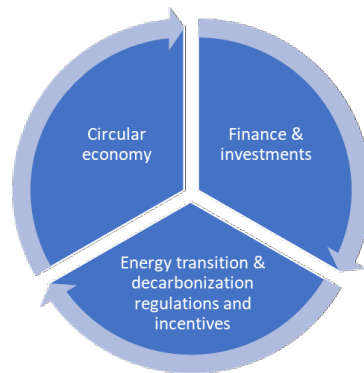
Resolving the challenges requires safeguarding the energy transitions in the current economic and energy market conditions in a way that achieves sustainable economic recovery and energy security. This implementation can only be done through the timely and active combination of the following independent yet complementary elements: technological solutions; clean energy systems to transition away from fossil fuels; the implementation of a circular economy; sustainable climate finance and infrastructure; investment; and consistent climate policies and regulation that incentivise and enforce the adoption and promotion of these elements effectively.

To secure this combination, an international institutional and regulatory landscape should be established to ensure global policy innovation on matters of financing clean energy, technology, and infrastructure, while simultaneously offering flexibility and support for consistent in-country implementation in ways that suit each country's resources, circumstances, and developmental potential.

To that end, this Policy Brief (PB) calls on the 2022 G7 to develop and support international partnerships as well as consistent in-country implementation on decarbonisation and clean energy issues as indispensable elements to achieve a sustainable economic recovery, net-zero emissions targets, and global energy access.

Specifically, this PB recommends that the G7 adopt enhanced international partnerships to safeguard the energy transition and circular economy advancements while also staying the course for a sustainable economic recovery and energy access globally. This international partnership should consist of mixed membership, including public-private and bilateral/multilateral development organisations. It should specifically address the following three interdependent areas, namely: circular economy, energy transition

and decarbonisation regulation and incentives, and investment and finance.



The formation and collective actions of the partnership, as described in Section 4 below, are anchored in a standard created at the global level but implemented locally.

### 1. Circular economy

The current geopolitical upheaval has created an enormous demand for oil and gas, which jeopardises hard-won gains toward net zero emissions. Against this backdrop, it is ever more urgent to adopt new modes of production and consumption, which would drastically reduce resource use and reliance on fossil fuels. Switching to renewable and decarbonized energy sources is essential for keeping global warming below 1.5°C, but it is far from sufficient for achieving the necessary emissions reduction. While the consumption of fossil fuels in homes, buildings, and transport accounts for just over half of GHG emissions, the remaining 45% is directly linked to the production of materials and supply chains, as well as agriculture, forestry, and land use (International Resource Panel, 2020). A circular economy can address the remaining half of GHG emissions by reshaping linear consumption through maximising resource efficiency and designing out waste, thereby recoupling human well-being and economic growth with sustainable consumption within planetary limits.

A transition to a circular economy could make reducing emissions and sustaining economic growth compatible since making an economy circular could create jobs for those upskilled and generate incomes. This is good news for developing and emerging economies. Emerging economies, as the global hubs of production, are in a strong position to take advantage of an enormous opportunity that a transition to a circular economy could bring. The COVID-19 pandemic has also highlighted the unsustainability and vulnerability of global supply chains as lockdowns disrupted raw materials flows and manufacturing. Redesigning supply chains with a circular approach will make them more resilient, by slowing material flows and closing loops through material recovery.

Nonetheless, a transition to a circular economy will not be an easy task. While progress towards a circular economy has gained pace over the last decade, adherence to its key principles is uneven. To drive a faster and less fragmented transition, it will be crucial to build partnerships to ensure cooperation and accountability. The G7 can provide the necessary investments and technology transfer so that developing and emerging economies can ‘leapfrog’ the historically resource-intensive path to development followed by industrialised countries, thereby accelerating the transition to a circular economy and reducing fossil fuel consumption.

## **2. Energy transitions and decarbonisation regulations and incentives**

While energy access is a necessary condition for socio-economic and industrial development, energy transition pathways are the only way to ensure a sustainable economic recovery that is also consistent with climate objectives, for the following reasons. First, traditional hydrocarbon-based energy activities—in heating and cooling, buildings, transportation, and industrial uses—have contributed to over 73% of global emissions (Our World in Data, 2020), hence the need for clean energy technologies to reach net-zero emissions targets. Second, while hydrocarbon prices have become almost at par with those of renewable energies, they remain more affordable than new clean energy technologies. Therefore, it is urgent and necessary to couple hydrocarbon use not only with clean energy sources (such as renewables) but also with decarbonisation and carbon capture, utilization, and storage (CCUS) technologies. Third, where access to energy sources is uncertain and threatened by geopolitical tensions such as the recent war in Ukraine, energy transition pathways offer an energy security solution. Finally, energy transition solutions can replace imports or offer new potential exports, thereby offering economic development opportunities.

Therefore, staying the course for a sustainable economic recovery requires the accelerated adoption of all possible energy transition pathways and decarbonisation technologies both to replace fossil fuels and to decarbonise existing supply, especially the hard-to-abate sectors which are difficult to electrify with prevailing technologies. The rapid transition through all possible pathways is threatened, however. First, common standards to measure, verify, and certify GHG emissions across countries are missing (Shehabi et al., 2021). Although significant progress was made at COP26 through the formal approval of rules for governing carbon market mechanisms (Article 6.4 of the Paris Agreement (UNFCCC, 2015)) and cross-border compliance carbon markets (Internationally Transferred Mitigation Outcomes (ITMOs) under Article 6.2 of the Paris Agreement), these rules can be implemented only inefficiently as the reported carbon is likely to be undervalued. Second, support and finance for clean energy technologies are subject to inconsistent incentives (such as subsidies and credits) and regulations across countries. While subsidies are often awarded to large entities to decarbonise only part of the supply chain (fossil fuel producers, hard-to-abate sectors, and others), they are insufficient to achieve net-zero emissions. An even worse outcome is that they also leave innovators of clean energy technology—which requires significant investments and R&D—at disadvantage. These distorted incentives and markets are thus likely to result in large inefficiencies in the allocation of the limited available funds for energy transition.

This PB, therefore, calls on the G7 to continue its support for energy transitions, green energy and decarbonisation technologies, and to create international partnerships on energy transition and decarbonisation policies and regulations pertaining to two components. The first component is accounting standards of measuring, verifying, and certifying emissions. This PB proposes that the G7 adopt the PB proposed to the 2021 Think 20 (T20) of the Group of 20 (G20) on this topic (Shehabi et al., 2021) and create partnership to implement it, in collaboration with the G20. The second component is standards for awarding subsidies and/or credits.

## **3. Finance and investments**

Access to funding through investments and/or loans is critical for developing and adopting low emissions and CCUS technologies as well as energy transition pathways. Achieving net-zero emissions by 2050 will only be possible if there are sufficient advancements in clean energy technology and adoption by 2030. While prices of electricity from renewable sources may soon be at par with electricity generated from fossil fuels, other clean energy and CCUS technologies remain very expensive and unviable. They require lumpy investments,

significant R&D activities, as well as assurance of sufficient market demand for electricity once the technology is developed. There are also political and socio-economic challenges stemming from the loss of jobs in hydrocarbon and energy-intensive sectors when energy transition pathways or circular economy frameworks replace existing industries. Absent sufficient funding and investments, achieving both economic recovery and climate targets will not be possible.

Thus, this PB calls on the G7 to assist in funding and investments focusing on R&D activities and reducing clean technology develop costs in circular economy projects. Funding should also support the expansion of low-carbon technology in developing countries, especially those dependent on coal-fired power plants. Funding should also be dedicated to assisting in transferring knowledge and technologies from multinational firms in advanced economies to developing countries and building capacity of developing countries to adopt them. Finally, funding can support just energy transitions through supporting and expanding the G7's existing Just Energy Transition Partnership.

## Implementation

### *International Partnerships for Domestic Implementation*

Overcoming the aforementioned goals necessitates collective efforts by all countries and actors, which will require that the proposal of this PB is implemented in a manner that produces global standards and regulations that are also implemented across different countries and regions in a consistent manner.

In efforts to enhance partnership collaboration on the aforementioned areas, the G7 will be challenged by (a) the non-binding nature of international agreements; and (b) competition across countries to create favourable domestic economic conditions and gains to attract capital and trade.

To mitigate these challenges, the G7 should support international public institutions that have expertise in the aforementioned three focus areas to form regional or global partnerships to upgrade and scale their work in each focus area. To ensure that the partnership efforts are achievable as well as supported by both countries and private companies, the partnerships should commence with establishing a global brainstorming and consultation process and work with various global stakeholders of the T20 and the United Nations Framework Convention on Climate Change (UNFCCC), along with neutral or apolitical non-governmental organisations or experts. The consultation process needs to consider input from energy and energy-intensive industries, as well as existing expertise in each of the three focus areas of this Proposal. For enhanced adoption by and global justice across countries, both advanced and developing countries need to be equally consulted and involved in the consultation process. Further, to ensure support and consistent domestic implementation, the G7 members should commit to adopting the agreed global frameworks within their domestic regulations, as well as to call on non-G7 countries to do the same. The partnerships provide finance and capacity building for non-G7 countries in exchange for the latter's support and commitment.

For each focus area, the G7 should leverage existing expertise and organisations by engaging them in the consultation process as well as establishing the regulatory standards and guide domestic implementation. The following sections detail implementation for each focus area.

## ***Specific implementation for each partnership area***

### **Circular economy**

The current “take-make-dispose” linear consumption model is energy and resource intensive, contributes to climate change, and threatens eight additional planetary boundaries. Innovation in design and business strategies is critical for a circular economy transition. The right design can eliminate waste before it happens by increasing product longevity and optimising for re-use, thereby slowing flows of production. Narrowing flows requires new business models and shifting to more efficient modes of utilisation. As product usage intensifies, production of the same item decreases. Slowing and narrowing flows of production can significantly reduce resource extraction and GHG emissions, while decreasing reliance on fossil fuels.

Technological innovation is also essential for transitioning to a circular economy. Developed economies use about one-fifth of natural resources compared with developing economies to produce the same amount of economic output (United Nations, 2019, 2021). Thus, as production shifts from higher- to lower-income countries, there will be a net loss of resource efficiency resulting in more extracted materials and energy and creating more emissions and waste. Since more advanced technology is held by the producers in higher-income countries that shift production sites to lower-income countries, producers could transfer the technology most efficiently with the right incentive. Environmental, social, and governance (ESG) investing and nudging could be effective mechanisms for incentivizing needed technology transfer and behaviour change, even in the absence of government regulation.

Appropriate knowledge sharing, business collaboration and technology transfers, both regional and international, are critical to avoid further environmental impact and emissions. The proposed partnerships can promote ESG investing in general and identify and disseminate best practices of nudging and other methods of supporting circularity, regionally and globally. The partnerships could monitor the process and consequence of such sharing, collaboration and transfers in lower-income countries, while also providing technical, legal and other advice for both sides. Furthermore, partnerships can help foster agreement in setting standards, enforcing regulations, and promoting incentives, all of which are essential for adopting circular design, technology and business strategies.

### **Energy transition regulations & incentives**

It will be critical to create international partnerships on energy transitions and decarbonisation policies and regulations particularly pertaining to two components: carbon measurements and certifying, and standards for awarding subsidies and/or credits. In implementing the proposal pertaining to the first component, this PB proposes that G7 implement the three-point action plan presented in that 2021 T20 PB (Shehabi et al, 2021) as a framework for enhanced cooperation, and that the G7 establish a mixed-membership (public-private) body to implement it. This framework calls for establishing an international institutional and regulatory landscape, while simultaneously offering flexibility and support for domestic implementation in ways that account for each country’s resources and development potential.

On the second component, this PB calls on the G7 to create partnerships dedicated to drafting consistent and efficient standards and policies on allocating subsidies and credits to energy transition and decarbonisation technologies in a way that establishes a minimum emissions threshold for awarding the incentives and favours clean energy technology advancements. The proposed partnerships should develop clear standards



and regulatory frameworks that (a) condition the access to subsidies or credits on emissions' levels; (b) prioritise projects that achieve net-zero emission across the whole supply chain; and (c) prioritise research and development in clean technology and knowledge transfer; and (d) withdraw funds in the case of proven carbon leakage.

The partnerships would ensure that said standards and frameworks are part of local decarbonisation regulations and can be implementable across the G7 and non-G7 countries. The G7 should also allocate international aid funds that support the development of clean energy technologies and the adoption of decarbonisation and net-zero emissions energy transition projects in other jurisdictions.

Critical to the success of these international partnerships will be compliance with them so that they become part of domestic policy and regulations that are consistent across countries. Consistency in implementing said incentives standards will be necessary particularly for decarbonizing the hard-to-abate sectors which are difficult to electrify with existing competitive technologies. As decarbonisation solutions and novel technologies (such as CCUS technologies, battery storage, hydrogen value chain and its derivatives) are currently being examined, the proposed partnerships should design implementable standards on incentives and credits that incentivise technology and clean energy development and adoption. In developing these standards, the partnerships should exchange with the private sector as well as research and industry representatives dedicated to clean energy development.

### **Finance and investments**

The international body or partnerships can identify ways in which governments and international funding organisations can help with capital availability through dedicated market-based mechanisms for green funding. In the current economic environment post-pandemic, it has become increasingly important to use creative funding mechanisms in a way that combines both private and public funds. There are various existing examples that provide templates for successful funding of such mechanisms. For funding to succeed in achieving the energy transition and not to support green washing, it is important the funding be conditional on clear thresholds that require the energy transition away from fossil fuels and achieving net-zero emissions. Furthermore, in instances where energy transition projects will replace existing energy-dependent industries, funding should also be made available to fund and support just transition and the creation of new reskilling and employment opportunities.

At an international organisation level, the Energy Transition Mechanism (ETM) of the Asian Development Bank offers a replicable example of market-based solutions that provide support for developing countries' clean energy expansion while achieving other important targets (such as development, climate justice, and energy access). This scheme intends to accelerate the retirement of coal-fired plants in a country by 10 to 15 years on average through its funding mechanism in order to promote the growth of renewable energy and expedite the energy transition. Importantly, future renewable electricity will need to be complimented with other sources (both for energy storage and/or fossil-fuel sourced electricity). Therefore, for new solutions replicating the ETM structure and scope to be successful, they will require thresholds and mechanisms to ensure that their funding is used in the most efficient way that can achieve decarbonisation and maximise energy access. This PB calls on the G7 to support international collaboration to support such mechanisms and to create different funding models that could be replicated across countries.

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# About the Authors

**Manal Shehabi** St. Antony's College, Oxford University and Oxford Institute for Energy Studies



Manal Shehabi is an Academic Visitor at St. Antony's College, Oxford University, and a Senior Research Fellow at the Oxford Institute for Energy Studies. An applied economist, she has expertise in energy, sustainability, and policy design focusing on hydrocarbon economies. She publishes in high-impact journals, books, and policy reports. Her publications span modeling, economic diversification, subsidy reform, economic and environmental sustainability, decarbonisation, hydrogen, and policies managing the energy transition and hydrocarbon price volatility. Her research's impact on policy includes constructing an economic model for policymaking in Kuwait; reviewing Kuwait's national hydrogen strategy; acting as lead co-author of a Policy Brief to the 2021 T20 Italy; co-authoring a report to the UNFCCC on impacts of response measures in developing countries, presented at COP 26; and being Contributing Author to the 2019 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. A polyglot, her language skills include French, Spanish, Arabic, and Mandarin Chinese. She holds a PhD in Economics, MIA in Economics, and a BA (*Honors*) in International Relations and Economics. She is Founding Director at SHEER Research and Advisory Ltd and advises policymakers and firms.

**Linda Arthur** Asian Development Bank Institute (ADB)



Linda Arthur is a senior specialist at the Asian Development Bank Institute, focusing on improving policymaking to boost economic and development impact in Asia and the Pacific. She works across a range of operational priorities, including circular economy, innovation and human capital development, women's economic participation, and strengthening social protection systems. She is seconded from the Asian Development Bank, where she has worked since 2003, in various positions, including field assignments in Afghanistan and Pakistan. She holds a doctorate in comparative policy analysis from Oxford University and an MA and a BA from the University of Toronto.

**Moekti Handajani Soejachmoen** Indonesia Research Institute for Decarbonization (IRID)



Moekti Handajani Soejachmoen (Kuki Soejachmoen) is currently the Executive Director of the Indonesia Research Institute for Decarbonization (IRID) and one of its Co-founders. She has been working in climate change since early 1990s. Her first area in this issue was scientific modelling in relation to the energy-based sector during her time with the Center for Research on Energy at the Institut Teknologi Bandung. While at Pelangi Indonesia, she was actively involved in the Climate Action Network (CAN) not only in Indonesia but also in CAN Southeast Asia and CAN International. She was on the boards of CAN International and CAN Southeast Asia. Her involvement in international climate negotiations started in the year 2000 during COP6 in the Hague. After her tenure as the Executive Director of Pelangi Indonesia in 2010, she joined the Office of Indonesia's President's Special Envoy (PSE) for Climate Change for 2 terms (2010-2014 and 2015-2019), where she assisted the PSE in international climate negotiations, including during the preparation of the Paris Agreement. After COP21 in Paris, she remained part of Indonesia's Article 6 of the Paris Agreement negotiating team. She has been involved in a number of studies and policy analyses related to climate change, energy, transportation and air quality.

**Frank Jotzo** Australian National University (ANU)



Frank Jotzo is Professor at the ANU Crawford School of Public Policy, where he directs the Centre for Climate and Energy Policy. He is joint editor-in-chief of the journal Climate Policy, and a lead author of the Intergovernmental Panel on Climate Change forthcoming Assessment Report and Synthesis Report. He has been involved in a number of policy research and advisory exercises, including as senior advisor to Australia's Garnaut Climate Change Review, and advisor to national governments and Australian State and Territory governments. He has led collaborative research programs including on decarbonisation, coal transition, and China's climate and energy policy. As an environmental economist, his research focuses on policy relevant aspects of climate change, energy, and broader issues of environment, development and economic reform. He teaches at the Crawford School.

**Derek Hondo** Asian Development Bank Institute (ADBI)



Derek Hondo is a Capacity Building and Training (CBT) Coordinator at the Asian Development Bank Institute in Tokyo, Japan, where he has worked on the ADBI E-Learning program, CBT events and training programs, and other knowledge output. His research interests include climate change, circular economy, solid waste management, environmental policy, and infrastructure financing. He holds an MA in Global Environmental Studies from Sophia University in Tokyo and received his Pre-medicine BSc in biology from Loyola Marymount University in Los Angeles.

**Tetsushi Sonobe** Asian Development Bank Institute (ADBI)



Tetsushi Sonobe is the Dean and CEO of the Asian Development Bank Institute (ADBI), the Tokyo-based think tank of ADB, the vice president of the Japanese Association for Development Economics (JADE), and a co-chair of the 2022 T20 task force on inequality, human capital, and wellbeing and the 2022 T7 task force on economic recovery. Previously he was Vice President of the National Graduate Institute for Policy Studies (GRIPS) and a professor of economics at Tokyo Metropolitan University. He was awarded the Nikkei Economic Book Prize and the Masayoshi Ohira Memorial Prize. He received his PhD in Economics from Yale University.



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D-53113 Bonn

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