ECONOMIC AND SOCIAL SURVEY OF ASIA AND THE PACIFIC 2020

Towards sustainable economies

UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

76th COMMISSION SESSION

*The shaded areas of the map indicate ESCAP members and associate members.**

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FOREWORD

Since the turn of the century, the Asia-Pacific region has achieved significant economic progress that has lifted a billion people from extreme poverty. However, this development transformation also comes with risks. The countries of Asia and the Pacific need to overhaul their economic models and change their development focus from short-term solutions to long-term sustainability to address societal inequalities and realize the vision of the 2030 Agenda for Sustainable Development.

The climate crisis is the most important systemic risk facing the region. Along with growing pressure on the natural resources and ecosystems necessary for sustaining economic growth, climate disruption is imposing heavy costs on societies and economies, undermining the region's development potential. The next phase of the region's economic transformation needs to be much more sustainable, equitable and inclusive.

This year's *Economic and Social Survey of Asia and the Pacific* calls for action from all stakeholders – Governments, businesses and consumers – towards a resource-efficient and low-carbon future. It highlights the challenges and opportunities facing Asia-Pacific countries in bringing about a transformational shift in economic activity. And it recommends a whole-of-government and a whole-of-society approach to mainstreaming sustainable development in policymaking, business models and lifestyles.

Assuring well-being for people and the planet is challenging, but within reach if we make the right investments in people and the planet. I commend this assessment and its policy recommendations to all stakeholders interested in achieving sustainable prosperity throughout the region. Let us commit to a *Decade of Action* to adopt policies and accelerate actions that will achieve the Sustainable Development Goals.

António Guterres
Secretary-General of the United Nations

PREFACE

The year 2020 marks the beginning of the *Decade of Action* to achieve the 2030 Agenda for Sustainable Development. Thus, it is critical to come up with comprehensive and decisive actions that facilitate a shift towards more sustainable economies and avoid a climate crisis. Critical global conferences on climate, biodiversity and oceans are scheduled this year. In the Asia-Pacific region, the ESCAP Commission session in May will address economic, social and environmental cooperation on oceans for sustainable development, and the *Countries with Special Needs Development Report 2020* will be focused on leveraging ocean resources for sustainable development in small island developing States.

This year's *Survey* is aimed at contributing to these deliberations by highlighting the climate emergency and the need for all stakeholders – Governments, businesses and consumers – to act together to create a virtuous cycle in which sustainable lifestyles, innovative business models and forward-looking policies support and reinforce each other in the transition towards a green, low-carbon future.

Recent ESCAP research shows that progress towards achieving socially inclusive and environmentally sustainable economic growth in the Asia-Pacific region has been insufficient. A key finding of this research is that, to realize a better future for our countries, the region must prioritize investments in people and the planet. This year's *Survey* shows how the region could operationalize its ambitions beyond growth by changing the "business-as-usual" approach that we live by without thinking about the detrimental effects of our unsustainable production and consumption patterns on the planet. In line with the Secretary-General's call for action at local, people and global levels, the *Survey* outlines how Governments, businesses and consumers can integrate sustainability into their actions.

At the local level, Governments can embed sustainability in policymaking and implementation, harnessing synergies and trade-offs. At the people level, businesses can factor in environmental concerns into investment decisions and operations, and consumers can be made aware of the environmental impact of their choices. At the global level, countries in the region will also have to step up to their international commitments, as well as raise their ambitions under the Paris Agreement. Regional cooperation will be essential to make our energy consumption sustainable and to develop cross-border responses to the climate emergency.

The Asia-Pacific region stands at a critical crossroad where it can transform itself from an economic growth leader into a sustainable development pioneer. While we face an economic slowdown from rising trade tensions and the evolving health crisis, I urge countries to remain focused on the path of sustainable development. I am confident that this path is eminently navigable towards a worthy destination.

Armida Salsiah Alisjahbana
Under-Secretary-General of the United Nations and Executive Secretary of ESCAP

EXECUTIVE SUMMARY

The 2020 Survey outlines the path to a sustainable future for Asia-Pacific countries

Economic policymaking in Asia-Pacific developing countries has understandably long been focused on maximizing economic growth in view of the imperatives of poverty reduction and job creation. There is no gainsaying that there is a strong case for focusing on economic growth but when this comes at costs that undermine the sustainability of growth itself over the long term, it is time to ask questions.

This is evident in the Asia-Pacific region, where decades of high economic growth have transformed the socioeconomic landscape – lifting a billion people out of extreme poverty in the past two decades and raising living standards of even greater numbers. However, such growth has been accompanied by growing inequality of income and opportunity and is beginning to breach planetary limits, thus endangering the well-being of future generations. Indeed, according to the ESCAP 2020 report on Sustainable Development Goals progress, the Asia-Pacific region is not on track to achieve any of the 17 Goals by 2030 if we continue on our business-as-usual pathway; the region has either stagnated or regressed in efforts to realize several environmental Goals. The largest regression is in Goal 12: Ensuring sustainable consumption and production patterns. This situation calls for a rethink of the economic growth-centric development model.

The *2020 Survey* proposes a transition towards sustainable consumption and production, given consumption and production's fundamental role in economic activities and its broad link with social and environmental well-being. Such a transition calls for all stakeholders, namely Governments, businesses and consumers, to urgently align their own goals with social and planetary goals through internalizing externalities linked to their actions. The 2020 Survey identifies the constraints that different stakeholders face and provides a holistic policy package to power through the challenges.

There is a need to build resilience to current economic challenges

The *2020 Survey* finds that, in an increasingly uncertain global environment, economic growth of the developing countries and territories in the Asia-Pacific region weakened more than expected to 4.3 per cent in 2019, a sharp slowdown from 5.3 per cent in 2018, and is expected to slow further in 2020 and pick up moderately in 2021 as the shocks fade away. Prolonged trade tensions have weighed on China's growth prospects and that of related trade-dependent countries. The novel coronavirus (COVID-19) pandemic and the ongoing containment measures have created mounting uncertainties for the region's productive activities with spillovers through trade, tourism and financial links.

Policymakers should maintain accommodative macroeconomic policies to sustain the economic health of the region, as it is fundamental to sustainable development. In the wake of the pandemic, fiscal and monetary policies should be focused on upholding economic activities by supporting affected enterprises and households and preventing economic contagion. Fiscal spending can also play a significant role in enhancing the ability of health responders to monitor the spread of the pandemic, care for infected people and improve health emergency preparedness. For countries that are not directly affected by the pandemic, accommodative monetary and fiscal policies are still needed to address weak aggregate demand and business sentiment amid an increasingly uncertain economic environment and unresolved trade tensions.

However, policymakers should not lose sight of long-term sustainability. The current economic shock due to the pandemic can serve as a lesson learned that lack of long-term vision, such as ex ante investment to enhance emergency preparedness, not only hurts short-term growth but could also derail the progress towards future development. Hence, when designing macroeconomic policy responses, resilience must be built into every decision. The bright side when tackling the current economic slowdown is that the region still has sufficient policy space due to a relatively low inflationary environment and moderate levels of fiscal deficit and public debt. Countries should take the opportunity posed by these challenging times to rethink the carrying capacity of ecological and economic systems and the composition of stimulus measures in support of a more sustainable and inclusive economy.

Despite current economic weaknesses, policymakers should not slow the transition to sustainable and low-carbon development actions

In accordance with these aspects, the current economic weakness should not slow the region's transition towards sustainable patterns of production and consumption. The current unsustainable patterns have contributed to massive increases in greenhouse gas emissions and, in turn, has put the region into a climate emergency. A continuation of the current pace of progress on decarbonization and inefficient resource utilization is expected to keep the region on the same track, which will further heighten climate risks and fail to improve human well-being within the planetary boundary. Rising temperatures and extreme weather events will bring about significant economic losses, disrupt financial stability and wipe out human development gains.

Policy and market failures constrain stakeholders from moving along the sustainable path

The three major stakeholders in our economy – Governments, businesses and consumers – face different but complementary challenges.

First, faced with competing priorities, Governments put into place fragmented policies to boost short-term economic growth over well-balanced cross-cutting policy actions that promote sustainable development.

Second, conflicting incentives make government actions towards decarbonization insufficient. Although the Paris Agreement requires transition to a decarbonized economy and phasing out fossil fuel-based production and industries, Governments may be reluctant due to vested interests in fossil fuel and construction companies and financial institutions that finance high-carbon projects.

Third, mispricing of carbon leads to overuse of fossil fuels. While carbon pricing has become more widespread in the region over the past decade, current rates and coverage are far below what is required for a significant shift towards a greener, low-carbon economy.

Fourth, current business regulations fall short in measuring a company's carbon footprint. Most countries do not have a consistent standard to guide sustainable investment. Shareholders and regulators are demanding improved data and disclosures from businesses to track the impact of their activities on the environment.

Fifth, current consumption patterns of an increasingly wealthy population are pushing planetary boundaries as consumers are unaware of the impact of their consumption on the environment.

Finally, many resources are not used in an efficient manner, which has led to unnecessary waste and underutilization of resources.

It is clear that business as usual is no longer an option and building a stakeholder economy can pave the path to a sustainable future

Going forward, what is required is an alternative development approach that overcomes these challenges, so that actions are consistent with the ambitions of the 2030 Agenda for Sustainable Development. In particular, a transition to a more sustainable economic model is needed, with cleaner production and less material-intensive lifestyles, supported by enabling policies. Every part of society will have to be a stakeholder in this transition and will have a role to play.

The Decade of Action has just begun…

As we enter the decade that culminates in the deadline for the 2030 Agenda, it has become clear that our efforts so far have not been sufficient. In September 2019, United Nations Secretary-General, António Guterres, called on all sections of society to mobilize for a *Decade of Action* on three levels:

Local action, embedding the needed transitions into the policies, budgets, institutions and regulatory frameworks of Governments, cities and local authorities;

People action, including by youth, civil society, the media, the private sector, unions, academia and other stakeholders, to generate an unstoppable movement pushing for the required transformations; and

Global action to secure greater leadership, more resources and smarter solutions for achieving the Sustainable Development Goals.

Hence, policy recommendations are presented along the local, people and global levels.

Local action led by Governments is required on three fronts:

Embed sustainability in long-term policymaking and implementation

First, assess whether a country is on track, lagging or regressing vis-à-vis the Goals. Do this by understanding the trade-offs and synergies, and determining how much additional investment is required. ***Second***, assess vulnerability to climate risks and understand how to incorporate these considerations into long-term planning. *Third*, mainstream these results into policy actions.

Transition out of fossil fuels

First, commit to decarbonization by preparing the transition action plan. The plan should take place over a period in phases with dedicated resources allocated to implementing the divestment strategy. Governments can start with a mix of legislative and non-legislative actions regarding fossil fuels. ***Second***, adopt carbon pricing to incentivize a shift towards clean energy to reduce the competitiveness of polluting industries and increase the use of green technologies and energy. ***Third***, harness domestic competitive advantage of renewable energy by shifting the annual subsidies (worth $240 billion) from fossil fuels to green energy sources. In the *Decade of Action*, Governments of countries in the Asia-Pacific region must commit to eliminating fossil fuel subsidies.

Create green financial market mechanisms

Central banks and financial regulators need to incorporate climate risks into their supervisory mechanisms. This action should include new systems of management and regulations that consist of monitoring and microsupervision of the financial sector. ***First***, enforce environment-related disclosures and reporting that will address climate risks. ***Second***, adjust inward and outward foreign direct investment (FDI) policy in order to channel investment into sustainable projects. This greening of FDI will reduce carbon-intensive investments and increase green technology transfers. ***Third***, provide monetary and fiscal incentives to foster the growth of green capital market products, green lending and credit enhancement mechanisms.

People action requires businesses and consumers to move towards sustainability

Businesses should integrate sustainability into their core functions

First, understand sustainability as a part of business functions by factoring environmental, social and governance aspects into investment analysis and decisions. Businesses can consider joining the United Nations-supported Principles for Responsible Investment for greater integration of sustainability into business functions. They should adopt sustainability reporting rules, which have been set in financial regulations, in order to increase transparency and climate risk disclosure. ***Second***, introduce internal carbon pricing as a tool to reduce emissions and mitigate climate-related risks to reap opportunities emerging from the transition to a low-carbon economy. ***Third***, account for and disclose full value chain GHG emissions by enhancing resource efficiency through recycling, reusing and better designing and planning, leading to reduced waste. Governments must lead in reforming business regulations to move towards sustainable production.

Consumers should choose sustainable lifestyles

Increase self-awareness of the impact from our lifestyles on the people and our planet. Consumer awareness means knowing how we can make such choices. Governments must play a significant role in influencing consumer behaviour by nudging consumers to change their lifestyles. Nudges are positive reinforcements, small suggestions, or changes in choice, which consist of framing information, changing the physical environment and developing eco-labelling of products. Governments must incentivize the sharing of consumer goods and services which are underutilized by providing strong digital infrastructure and supporting businesses that have positive environmental impacts.

Global and regional actions are needed

The Asia-Pacific region is highly integrated into the global economy - decarbonization cannot happen in isolation. Governments need to develop long-term low-carbon transition plans in line with the Paris Agreement. ***First***, put into place national-level climate standards, which need to be harmonized between countries. If climate-related standards and policies diverge significantly across countries, there is a risk of less robust incentives for businesses operating in globalized sectors and greater potential for trade friction. ***Second***, replace coal plants with renewable sources of energy, such as solar, wind and hydropower. Transboundary power trade can help transmit energy from countries rich in renewable resources to those that are currently reliant on fossil fuels.

At the same time, linking the national and subnational carbon markets in the region would widen the range of emission reduction options and disincentivize carbon leakage to jurisdictions with less stringent climate policies. ***Third***, implement the 10-year Framework of Programmes on Sustainable Consumption and Production Patterns at the regional level. Transboundary cooperation is required to scale up environmental trade and investments, sustainable procurement and eco-labelling, green supply chains, extended life of products, shared economy, and resource recovery and utilization.

Having achieved so much but also being at risk of losing so much, the Asia-Pacific region stands at a pivotal moment in its development journey. The next phase of its economic transformation should adopt green consumption and production systems. Such a vision is within reach through the power of collective action of all stakeholders!

The Survey is arranged in four chapters to highlight these key messages, as follows:

The economic growth-centric development model has failed to achieve broader social-environmental well-being and needs to change. (chapter I)

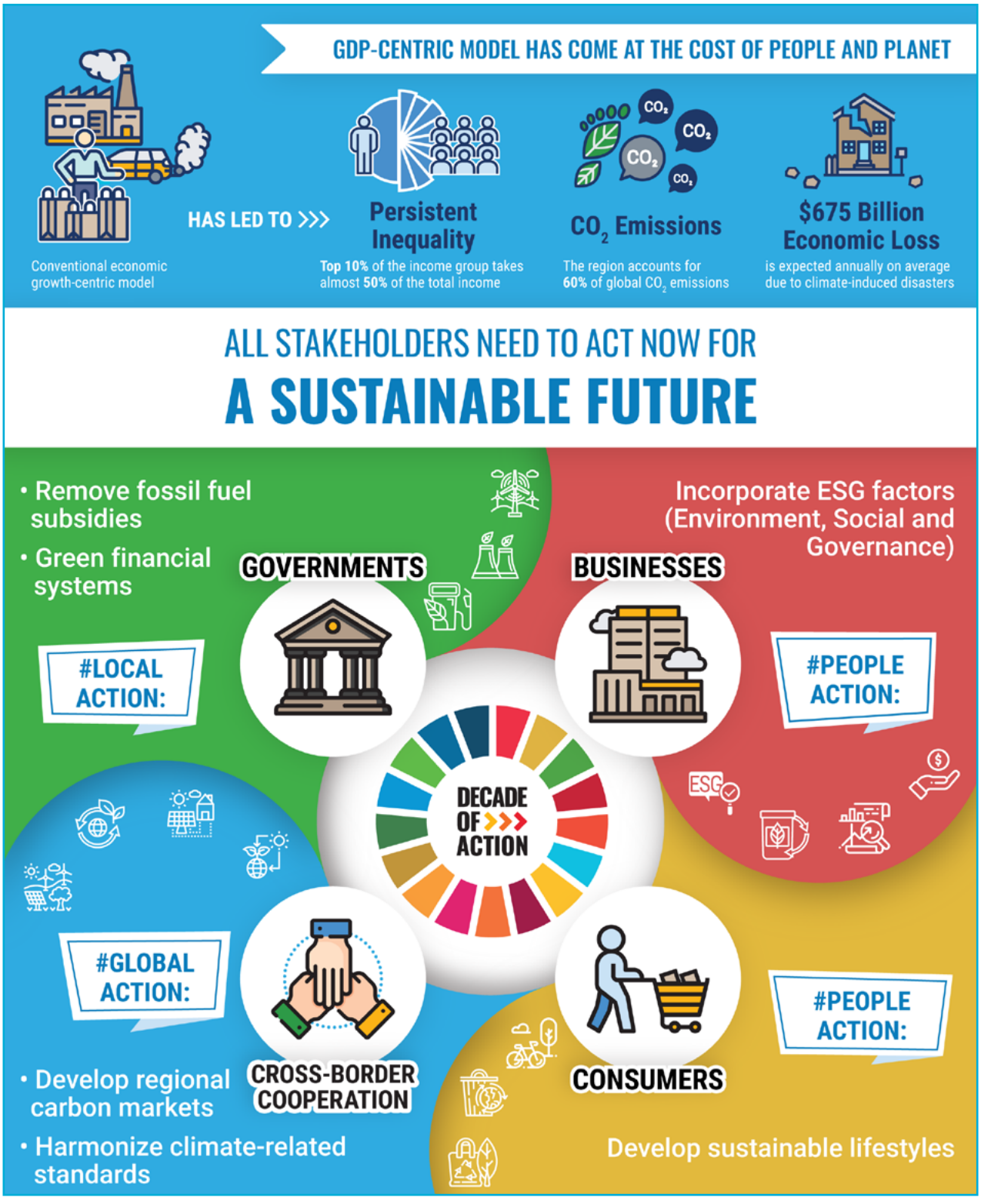
The journey towards the 2030 Agenda should not be deterred by the current economic slowdown. (chapter II)

It requires all stakeholders to move away from their short-term focus towards a long-term vision that deals with climate change. (chapter III)

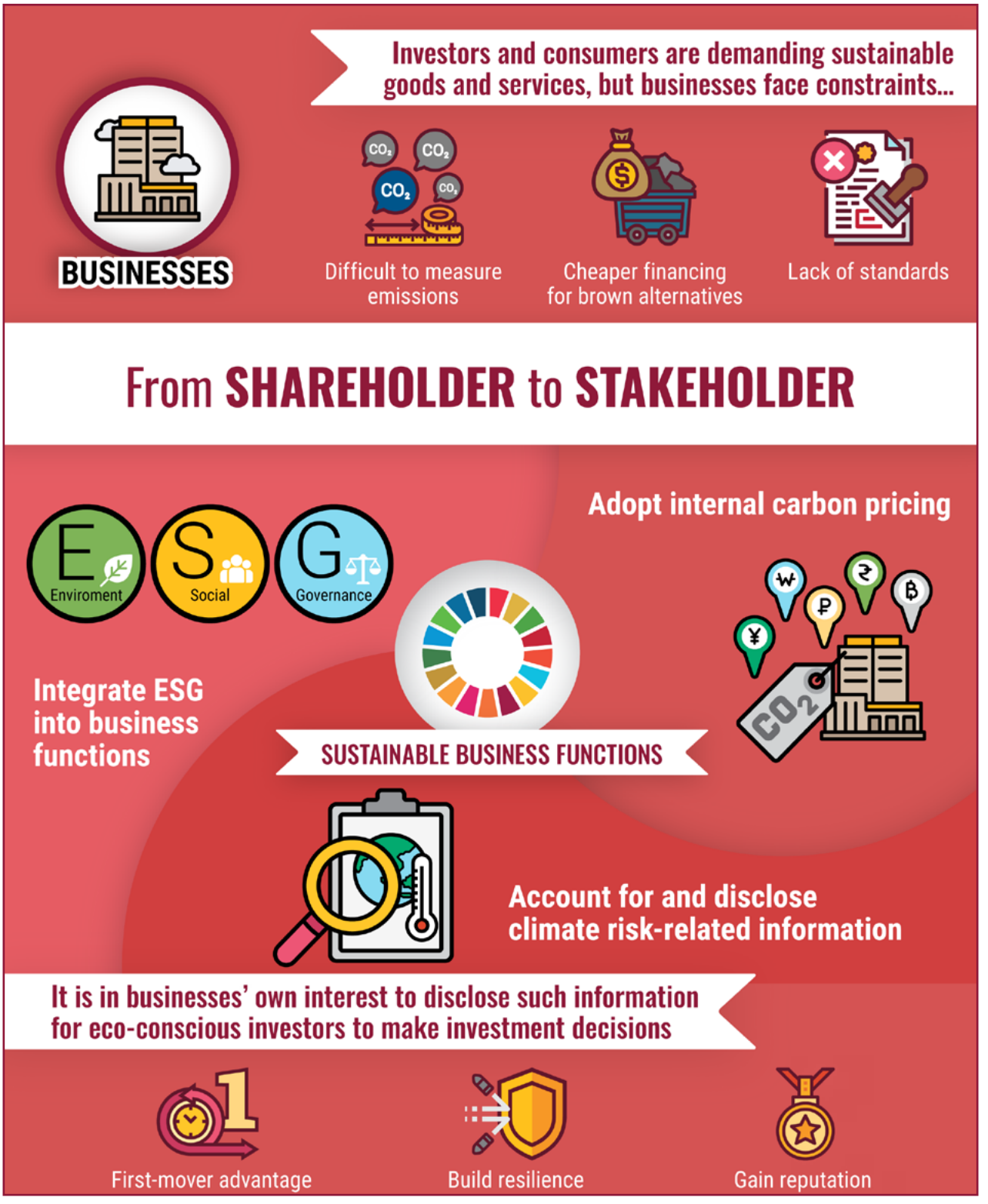
… *requiring large scale policy interventions as Governments design policies towards sustainable development* – through long-term planning and internalizing externalities. (chapter IV, section 1)

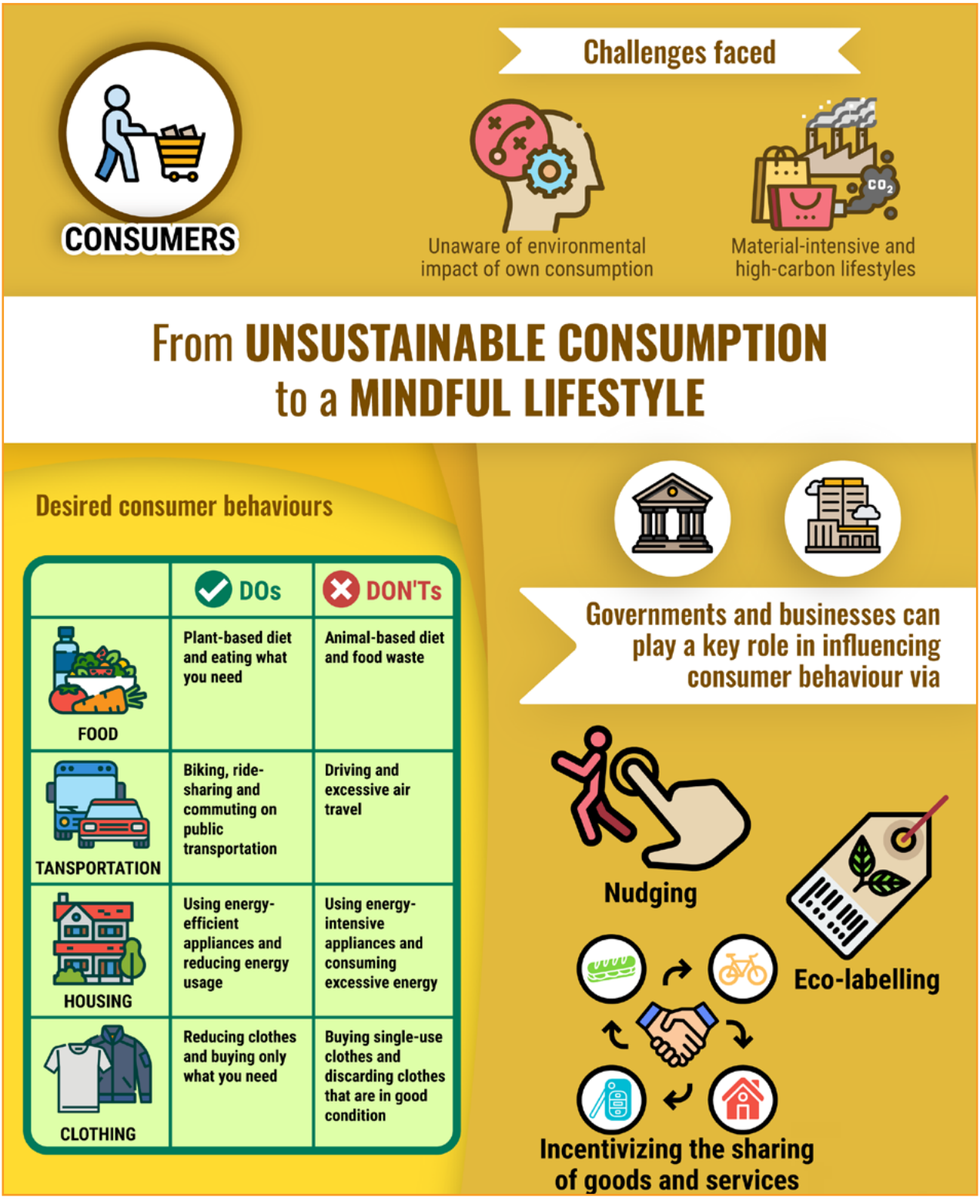
This move will also require engaging with businesses and consumers – policies designed to influence their behaviours with changes in finance and accounting, as well as lifestyles. (chapter IV, section 2)

Regional cooperation is essential in avoiding race-to-bottom policies and in coordinating more ambitious region-wide solutions to climate change. (chapter IV, section 3)


GDP-CENTRIC MODEL HAS COME AT THE COST OF PEOPLE AND PLANET
Conventional economic growth-centric model
HAS LED TO >>>
Persistent Inequality
Top 10% of the income group takes almost 50% of the total income
CO2 Emissions
The region accounts for 60% of global CO2 emissions
$675 Billion Economic Loss
is expected annually on average due to climate-induced disasters
ALL STAKEHOLDERS NEED TO ACT NOW FOR
A SUSTAINABLE FUTURE
• Remove fossil fuel subsidies
• Green financial systems
GOVERNMENTS
#LOCAL ACTION:
Incorporate ESG factors (Environment, Social and Governance)
BUSINESSES
#PEOPLE ACTION:
DECADE OF >>> ACTION
#GLOBAL ACTION:
CROSS-BORDER COOPERATION
• Develop regional carbon markets
• Harmonize climate-related standards
CONSUMERS
#PEOPLE ACTION:
Develop sustainable lifestyles


GOVERNMENTS
Asia-Pacific is NOT on track to achieve the 2030 Agenda and climate change targets
Challenges faced in achieving sustainable development include:
GDP
Competing priorities
Dependency on fossil fuels
Lack of green financing
From SHORT-TERMISM to LONG-TERM VISION
Decarbonize the economy
• Phase out fossil fuel subsidies
• Implement carbon pricing
Embed sustainability in long-term planning and implementation
Actions to take
Create financial and regulatory incentives for sustainable investments


BUSINESSES
Investors and consumers are demanding sustainable goods and services, but businesses face constraints...
Difficult to measure emissions
Cheaper financing for brown alternatives
Lack of standards
From SHAREHOLDER to STAKEHOLDER
Adopt internal carbon pricing
E Enviroment
S Social
G Governance
Integrate ESG into business functions
SUSTAINABLE BUSINESS FUNCTIONS
Account for and disclose climate risk-related information
It is in businesses' own interest to disclose such information for eco-conscious investors to make investment decisions
First-mover advantage
Build resilience
Gain reputation


CONSUMERS
Challenges faced
Unaware of environmental impact of own consumption
Material-intensive and high-carbon lifestyles
From UNSUSTAINABLE CONSUMPTION to a MINDFUL LIFESTYLE
Desired consumer behaviours
DOs
DON'Ts
FOOD
Plant-based diet and eating what you need
Animal-based diet and food waste
TANSPORTATION
Biking, ride-sharing and commuting on public transportation
Driving and excessive air travel
HOUSING
Using energy-efficient appliances and reducing energy usage
Using energy-intensive appliances and consuming excessive energy
CLOTHING
Reducing clothes and buying only what you need
Buying single-use clothes and discarding clothes that are in good condition
Governments and businesses can play a key role in influencing consumer behaviour via
Nudging
Eco-labelling
Incentivizing the sharing of goods and services

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The *Economic and Social Survey of Asia and the Pacific* is a flagship publication of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). Published annually since 1947, the Survey has been a valuable companion to policymakers, civil society, academia and other stakeholders in the Asia-Pacific region for decades, providing forward-looking analyses and recommendations on economic conditions and key sustainable development challenges.

The *Survey* is produced under the direction of the Executive Secretary and the Editorial Board of ESCAP, with contributions of staff from its substantive divisions and subregional offices. It draws on expertise available from across the United Nations system.

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EXPLANATORY NOTES

Analyses in the ***Economic and Social Survey of Asia and the Pacific 2020*** are based on data and information available up to 10 March 2020.

Groupings of countries and territories/areas referred to in the present issue of the Survey are defined as follows:

- **ESCAP region**: Afghanistan; American Samoa; Armenia; Australia; Azerbaijan; Bangladesh; Bhutan; Brunei Darussalam; Cambodia; China; Cook Islands; Democratic People's Republic of Korea; Fiji; French Polynesia; Georgia; Guam; Hong Kong, China; India; Indonesia; Islamic Republic of Iran; Japan; Kazakhstan; Kiribati; Kyrgyzstan; Lao People's Democratic Republic; Macao, China; Malaysia; Maldives; Marshall Islands; Micronesia (Federated States of); Mongolia; Myanmar; Nauru; Nepal; New Caledonia; New Zealand; Niue; Northern Mariana Islands; Pakistan; Palau; Papua New Guinea; Philippines; Republic of Korea; Russian Federation; Samoa; Singapore; Solomon Islands; Sri Lanka; Tajikistan; Thailand; Timor-Leste; Tonga; Turkey; Turkmenistan; Tuvalu; Uzbekistan; Vanuatu; and Viet Nam.
- **Developing ESCAP region**: ESCAP region excluding Australia, Japan and New Zealand.
- **Developed ESCAP region**: Australia, Japan and New Zealand.
- **Least developed countries**: Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Lao People's Democratic Republic, Myanmar, Nepal, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu. Samoa was part of the least developed countries prior to its graduation in 2014.
- **Landlocked developing countries**: Afghanistan, Armenia, Azerbaijan, Bhutan, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Mongolia, Nepal, Tajikistan, Turkmenistan and Uzbekistan.
- **Small island developing States**: Cook Islands, Fiji, Kiribati, Maldives, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu.
- **East and North-East Asia**: China; Democratic People's Republic of Korea; Hong Kong, China; Japan; Macao, China; Mongolia and the Republic of Korea.
- **North and Central Asia**: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Tajikistan, Turkmenistan and Uzbekistan.
- **Pacific**: American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.
- **Pacific island developing economies**: All those listed above under "Pacific" except for Australia and New Zealand.
- **South and South-West Asia**: Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka and Turkey.
- **South-East Asia**: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam.

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Many figures used in the Survey are on a fiscal year basis and are assigned to the calendar year which covers the major part or second half of the fiscal year.

Growth rates are on an annual basis, except where indicated otherwise.

References to dollars ($) are to United States dollars, unless otherwise stated.

The term “billion” signifies a thousand million. The term “trillion” signifies a million million.

In the tables, two dots (..) indicate that data are not available or are not separately reported; a dash (–) indicates that the amount is nil or negligible; and a blank indicates that the item is not applicable.

In dates, a hyphen (-) is used to signify the full period involved, including the beginning and end years, and a stroke (/) indicates a crop year, fiscal year or plan year.

ACRONYMS

5G	fifth generation
ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BAU	business-as-usual
CAREC	Central Asia Regional Economic Cooperation
CBA	cost benefit analysis
CDP	Carbon Disclosure Project
CGIF	Credit Guarantee and Investment Facility
CO_2	carbon dioxide
COP	Conference of the Parties of the United Nations Climate Change Conference
COVID-19	coronavirus disease 2019
CPI	consumer price index
CSR	corporate social responsibility
E&S	environmental and social
EIU	Economist Intelligence Unit
ESG	Environmental, Social and Governance
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ETS	emissions trading system
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
FI	financial institution
FSB	Financial Stability Board
G20	Group of Twenty
GIIN	Global Impact Investing Network
GDP	gross domestic product
GHG	greenhouse gas
GMS	Greater Mekong Subregion
GPIF	Government Pension Investment Fund
GRI	Global Reporting Initiative
GW	gigawatts
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICT	information and communications technology
IEA	International Energy Agency
IFC	International Finance Corporation
IGES	Institute for Global Environmental Strategies
ILO	International Labour Organization
IMF	International Monetary Fund
IPA	investment promotion agency

IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
kg	kilogram (unit of mass)
LDC	least developed country
MRV	measuring, reporting and verification system
NDC	nationally determined contribution
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NGO	non-governmental organization
NTMs	non-tariff measures
OECD	Organisation for Economic Co-operation and Development
OJK	Otoritas Jasa Keuangan (Financial Services Authority of Indonesia)
OPEC	Organization of the Petroleum Exporting Countries
PM	particulate matter
PPP	public-private partnership
RCEP	Regional Comprehensive Economic Partnership
R&D	research and development
SARS	Severe Acute Respiratory Syndrome
SASB	Sustainability Accounting Standards Board
SAARC	South Asian Association for Regional Cooperation
SCP	sustainable consumption and production
SDGs	Sustainable Development Goals
SOE	State-owned enterprise
SME	small and medium-sized enterprise
SRI	socially responsible investing
TCFD	Task Force on Climate-related Financial Disclosure
TFP	total factor productivity
TOD	Transit Oriented Development
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment
UN HABITAT	United Nations Human Settlements Programme
UNPRI	United Nations-supported Principles for Responsible Investment
VAT	value-added tax
WB	World Bank
WDI	World Development Indicators
WHO	World Health Organization
WRI	World Resources Institute
WTO	World Trade Organization

CONTENTS

Boxes

Figures

Tables

Chapter I

Towards a sustainable economy

The economic growth-centric approach to development and the climate emergency

Since at least the start of the millennium, the Asia-Pacific region has been **the engine powering global economic expansion**. The region's strong economic growth has more than tripled people's income and largely improved their access to basic services, such as health care, education and electricity. As a result, about 1 billion people have been lifted out of extreme poverty (mostly in China and India) in the past two decades.

However, **economic prosperity has come at massive social and environmental costs**. For instance, income inequality has increased. For the region as a whole, the top 10 per cent income group takes away almost half of the total income, while the share of the bottom 50 per cent remains stagnant at 12-15 per cent (WID, 2019). Although economic growth has created jobs and kept unemployment rates at low levels, more than 40 per cent of workers in the region live in extreme, moderate, or near poverty levels. Among people who have been lifted out of extreme poverty, they remain vulnerable as many of them still live on less than $3.20 or $5.50 per day (figure I.1a) (ILO, 2020). Meanwhile, a resource-intensive growth model has led to a concomitant rise in greenhouse gas (GHG) emissions and pollution (figure I.1b). The region is now home to 97 of the 100 most air-polluted cities in the world and 5 of the 10 countries most vulnerable to climate change (AirVisual, 2018; Eckstein, Hutfils, and Winges, 2019).

Reducing the social and environmental costs of economic growth is central to the 2030 Agenda for Sustainable Development,[1] which commits countries to balancing the three pillars of sustainable development. Doing so will require **moving away from the focus on economic growth alone, and examining how its adverse impacts on people and the planet can be minimized**.

[1] General Assembly resolution 70/1.

The time to rethink the economic growth-centric approach to development is limited, as we are in an era of climate emergency. Higher temperatures, rising extreme weather events, and damage to ecosystems make it impossible for countries to quickly reach high-income-country status through prioritizing rapid GDP growth over the long-term well-being of people and the planet. If global temperatures rise by more than 1.5°C above pre-industrial levels,[2] the region will face climate-linked disasters, with an annual average loss of $675 billion (equivalent to 2.4 per cent of region's GDP in 2018). This could undo important economic and social development gains through negative impacts on infrastructure, health and education attainment and on income distribution (ESCAP, 2019a).[3] In addition to the significant risks to long-term development, the uncertainty in not knowing exactly where and when the impacts of climate change will occur underscores the need for more immediate collective action.

Raising ambitions beyond economic growth

In building on the message to the region contained in the ESCAP Survey for 2019 **to raise our "ambitions beyond growth"**,[4] the *2020 Survey* calls for concerted policymaking *to put people and the planet first. Tackling the unsustainability of current consumption and production patterns (Sustainable Development Goal 12) is a fundamental requirement for addressing*

[2] IPCC (2018) predicts that global temperatures are likely to rise more than 1.5°C above the pre-industrial levels between 2030 and 2052.

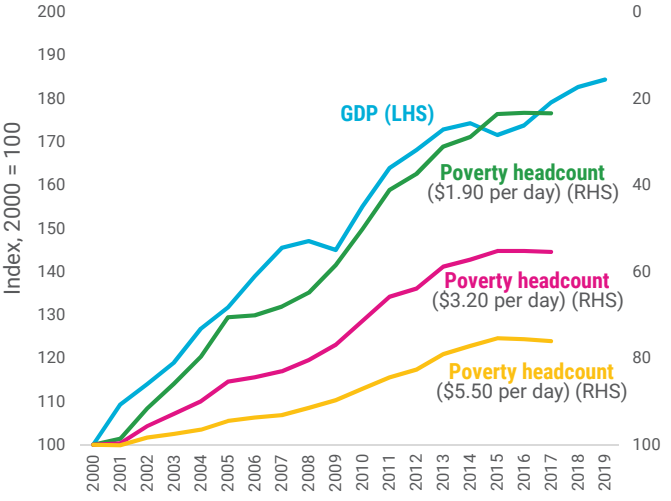
[3] Economic growth undermined by climate disasters could increase the region's Gini coefficient by 0.24, increase under-five mortality rates by 0.3, and decrease education rates by 0.26 percentage points, respectively.

[4] The point to note is that the high economic growth rates of the Asia-Pacific region over the past two decades have only been able to achieve significant progress in eliminating extreme poverty. Here also, if we raise our ambitions to $3.20 per person per day or $5.50 per person per day, progress would appear more mediocre (figure I.1a).

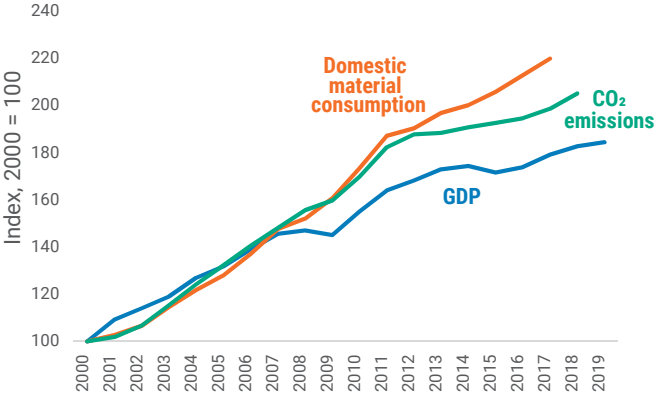
Figure I.1

Economic growth-centric model and its impact on people and the planet in Asia and the Pacific

a. GDP growth contributes to poverty reduction but insufficiently



b. Resource use and CO_2 emissions grow at a faster pace than GDP expansion

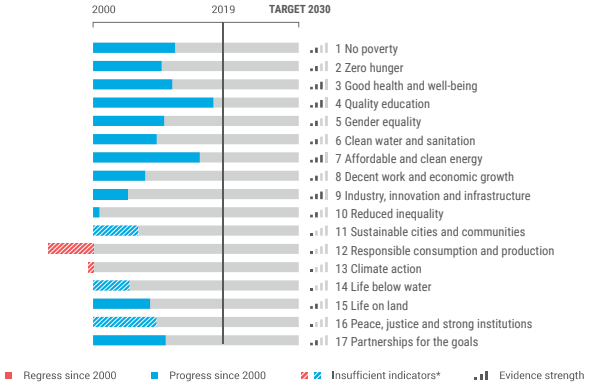


Source: ESCAP data portal (accessed on 4 December 2019); ESCAP calculation based on World Bank, PovcalNet, available at http://iresearch.worldbank.org/PovcalNet/home.aspx (accessed on 13 February 2020); IMF, World Economic Outlook database, October 2019 (accessed on 4 December 2019); Global Carbon Atlas, available at www.globalcarbonatlas.org/en/CO2-emissions (accessed on 13 February 2020).
Note: The lines illustrate by how much the different indicators have grown since 2000. LHS = left-handed side axis; RHS = right-handed side axis.

Figure I.2

The Asia-Pacific region is not on track to achieve the 2030 Agenda for Sustainable Development

Progress towards Sustainable Development Goals in 2019



Source: ESCAP, 2020a.

Figure I.3

Synergies between Goal 12 and other Goals

Source: One Planet Network, 2019.

the environmental consequences of the growth-centric approach for the following reasons. *First*, production and consumption constitute the core economic activities; and *second*, the region has regressed the most on this Goal (figure I.2) along with Goal 13 on climate change to which it is closely linked. Given its interlinkage with many other Sustainable Development Goals, progress on Goal 12 is one of the most cost-efficient and effective ways to achieve economic development, reduce adverse impacts on the environment and advance human well-being (figure I.3). For instance:

- *Goal 12 and people-related Goals*: Reducing food waste at both the consumer and producer levels could help achieve the "no hunger" goal (Goal 2). Managing waste well reduces its adverse impacts on the environment and human health (Goal 3). Providing relevant information and awareness on sustainable choices can help people choose lifestyles in harmony with Nature (Goal 4);

- *Goal 12 and planet-related Goals*: Sustainable public procurement could help increase the demand for energy efficient technologies (Goal 7). Sustainable development and the climate-related Goals also make it synergetic with the Paris Agreement[5] to transform all countries onto a sustainable and low-carbon development path; and

- *Goal 12 and prosperity-related Goals*: More resource-efficient production generates room for productivity increases that can have positive effects on value added and therefore on workers' remuneration (Goal 8). This confirms the need to improve the quality of economic growth and shift to more resource-efficient systems of consumption and production in order to accelerate economic progress in a sustainable manner (ESCAP, 2019b).

Hence, progress in Goal 12 is instrumental for reconciling economic, social and environmental objectives and decoupling GHG emissions from economic growth.[6]

Revisiting the current economic growth framework

The time has come for policymakers to recognize that economic growth has to take place within planetary boundaries. Economic growth has indeed contributed to advances in economic well-being, but the adverse effects on societies and the environment, due to the singular focus on GDP growth, are becoming increasingly unsustainable. Hence, decoupling the benefits of economic activity (production and consumption) from its adverse consequences at all levels is essential to ensure the well-being of people, societies and nature. As stated in a recent report (United Nations, 2019): "*Economic activity*

[5] See FCCC/CP/2015/10/Add.1, decision 1/CP.21, annex.

[6] 2018 HLPF Review of SDGs implementation: SDG 12 - Ensure sustainable consumption and production patterns. For further information, see https://sustainabledevelopment.un.org/content/documents/196532018backgroundnotesSDG12.pdf.

should be seen not as an end in itself, but rather as a means for sustainably advancing human capabilities".

The singular focus on GDP growth as a measure of well-being takes into account neither the distribution of the income generated from economic activity (hence, the well-being of society) nor what people have taken from and returned to the environment. Production valuation does not account for all costs or values because *prices of goods and services produced typically do not reflect the full cost of negative externalities*, such as the waste generated and released into the environment. While social and economic deprivations in many parts of the world can be addressed only through increasing consumption, that needs to be balanced by **shifting global consumption towards goods and services produced with much lower environmental impact, while internalizing on the production side the true costs to the environment**.

Additionally, the negative impacts of treating economic growth as a key yardstick of societal progress with regard to people and the planet may have been exacerbated by hyperglobalization. Although **globalization** has contributed to reducing poverty, generating jobs, enabling greater access to a wider range of products and sparking innovation, the distribution of production across different national jurisdictions **can also result in a race to the bottom in terms of lower environmental and labour standards** (United Nations, 2019).

An alternative to the economic growth-centric approach…

As climate change takes centre stage in public policy debates, a shift in advocacy is occurring from a *singular focus on GDP growth* to *"green growth"*.[7] This view assumes that, with the right policy measures and continued technological progress, we can enjoy high economic growth and prosperity while also reducing carbon emissions and our consumption of natural resources (a phenomenon known as "decoupling"). However, this has also been questioned as it overemphasizes economic development, overlooks people's actual behaviours and often neglects more stringent policy interventions, such as regulations and standards (Sonnenschein, 2019).

Recent research is making a case that high economic growth, as currently being pursued, simply cannot respect planetary boundaries (Smil, 2019; Knight and Schor, 2014). Evidence so far suggests that meeting the human needs of all within planetary boundaries *as currently envisaged* is impossible (O'Neill and others, 2018). Sustainable *human development requires thriving within the limits of our planet*. For *purposes of illustration*, two proxy indicators are used along the dimensions of the people (Human Development Indicators) and the planet (Ecological Footprint) (figure I.4); they show that reaching a higher level of socioeconomic development involves considerable transgression of biophysical boundaries. Hence, an alternative approach to the economic growth needed to sustain higher social standards must address this *trade-off*.

… needs adjustments by all stakeholders

Addressing the challenge of climate change while balancing economic growth with social and planetary well-being requires a **transformational shift in the mindset and behaviour of all stakeholders, namely Governments, businesses and consumers.** Each stakeholder must align his or her own behaviours with social and planetary goals. Doing so requires *internalizing the externalities linked to their actions* by bearing/paying for the environmental costs.[8] Progress is, thus, judged not solely by GDP growth but by advancing towards the social and environmental Goals enshrined in the 2030 Agenda. This transformational shift requires both **managing the trade-offs** during the transition[9] and **defining the new vision** of production and consumption behaviours.[10] To this end, the following changes are needed:

- **Governments** need to take the lead in facilitating the shift towards a sustainable future, by reducing the focus on short-term GDP

[7] For a fuller discussion of this issue, see www.greengrowthknowledge.org/organization/world-bank-group
www.oecd.org/greengrowth.

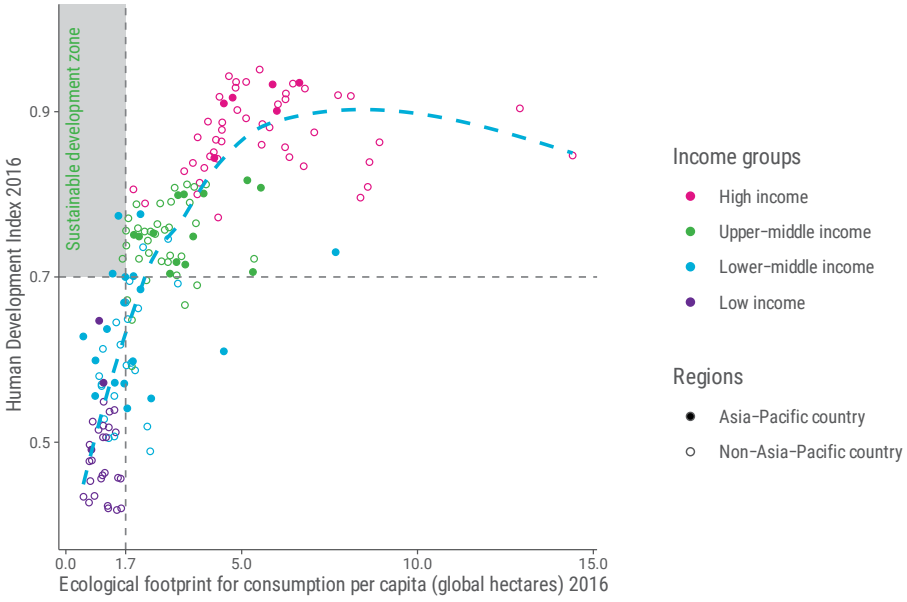
[8] United Nations (2019) background paper recognizes that such a theoretical move is analogous to a shift from a focus on individual cognition to social or structural dimensions of human behaviour.

[9] Based on his work on endogenous growth theory, the 2018 Nobel Laureate Paul Romer emphasized in his Nobel Lecture that working towards a higher social goal is more important than material progress, even if it works to our disadvantage.

[10] For instance, economic theories that support rapid materially and ecologically beneficial transitions must enable politics to acknowledge transformational social goals and the material boundaries of economic activity.

Figure I.4

Human Development Index and the Ecological Footprint: A trade-off?



Source: UNDP, Human Development Data (1990–2018), available at http://hdr.undp.org/en/data# (accessed on 29 February 2020) and Global Footprint Network, available at https://data.world/footprint/nfa-2019-edition (accessed on 29 February 2020).

Note: Country classification by income group is by World Bank definition. The sustainable development zone is defined by a United Nations Human Development Index (HDI) higher than 0.7 and an Ecological Footprint of less than 1.7 global hectares per person. UNDP (2019) considers an HDI higher than 0.7 as "high human development". Global Footprint Network (2018) considers that an Ecological Footprint of less than 1.7 global hectares per person makes the resource demand globally replicable.

growth only and prioritizing longer-term sustainable development.[11] This requires holistic policymaking that integrates the Sustainable Development Goals and brings businesses and consumers into line with this objective through policies, regulations and nudging;

- **Businesses** need to move away from their current practice of underestimating true costs and incorporate environmental, social and governance issues into their operations. This requires truthful reporting on their environmental and social footprints as well as adherence to internationally accepted standards and benchmarks;
- **Consumers** need to develop a lifestyle that internalizes the impact of their consumption behaviour on the environment and change their habits with regard to how they live, move and consume; and
- **Regional cooperation** is crucial to complement national efforts.

Having achieved so much but also at the risk of losing so much, the Asia-Pacific region stands at a pivotal moment in its development journey. The next phase of its economic transformation should be much more sustainable, with cleaner production and less material-intensive lifestyles, supported by enabling policies.

However, the way ahead is not necessarily smooth. The current economic slowdown and mounting uncertainties are impediments in the path towards this economic transformation, which could divert the attention of stakeholders from their long-term goals and actions. Chapter II contains an assessment of the current economic conditions and a discussion of policy options to pave the way for long-term development.

[11] The difference from the development path of "pollute-first-clean-up-later" is no longer a viable option due to such new challenges as climate change. Countries now have to adapt to "second-best" within tighter environmental constraints than previously.

Chapter II

Assessment of economic conditions of Asia and the Pacific

1. Introduction

As discussed in chapter I, the Asia-Pacific region's substantial economic progress during the past two decades has been accompanied by rising concerns for the well-being of people and the planet. Achieving human well-being within planetary boundaries would require considerable changes in economic policies.

However, the current challenging economic conditions add considerable headwinds to an already difficult path towards sustainable development. Amid an uncertain global environment, a continuation of slowing economic growth in the developing countries and territories in the Asia-Pacific region, fuelled by weak trade and investment activities, threatens to set back the progress already achieved towards sustainable development. Challenges include persistent inequality, stagnant income growth, and not generating decent jobs. In this context, this chapter assesses current economic conditions and the near-term outlook. It highlights the novel coronavirus and unresolved trade tensions as the immediate risks to the outlook, and discusses policy options to mitigate and minimize the adverse impacts.

2. Economic performance and outlook

2.1. Global context - deteriorating global economic conditions

The global economy is experiencing a significant slowdown. In 2019, global economic growth is estimated to have expanded at its slowest pace since 2008, at 2.3 per cent, a sharp deceleration from 3 per cent growth in 2018. Growth is forecast to slow to 2.0 per cent in 2020[1] before experiencing a modest pick up in 2021,

[1] On 1 April 2020, the United Nations Department of Economic and Social Affairs updated its GDP growth forecast. In the face of the COVID-19 pandemic, global GDP growth could slow to between -0.9 and 1.2 per cent in 2020 depending on (a) the duration of restrictions on the movement of people and economic activities in major economies; and (b) the actual size and efficacy of fiscal responses to the crisis (United Nations, 2020b).

as the global economy loses growth momentum amid a pandemic and an uncertain economic and geopolitical environment (figure II.1).

Such a slowdown was largely synchronized. Among the developed economies, growth momentum weakened considerably since mid-2018. For the *United States of America*, trade-related policy uncertainty weighed on business confidence and investment, but employment and consumption continued to be robust, supported by cuts in the Federal Funds rate. In *Europe*, the economy grew at a modest rate, as the manufacturing sector was negatively affected by international trade tensions and the impact of Brexit remained uncertain. Developing countries in *Latin America and the Caribbean* remained mired in a prolonged economic slump amid adverse domestic and global conditions. Many *Asian* economies have been exposed to slowing growth in *China* and spillovers from trade tensions. In *Africa*, although growth was steady, the pace of expansion has remained insufficient to address pressing development challenges (United Nations and others, 2020a).

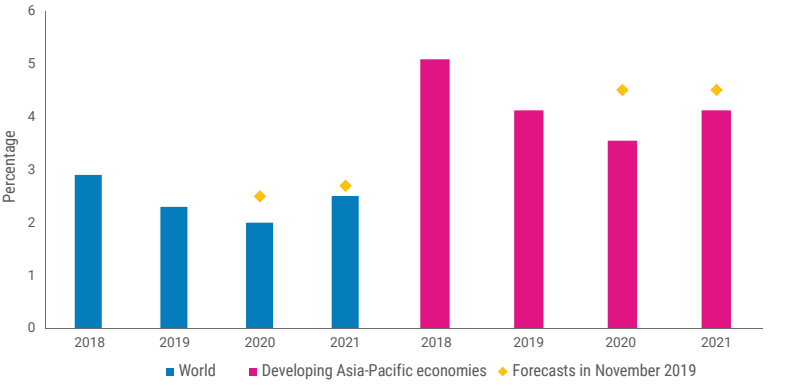
Risks to near-term economic performance are strongly tilted to the downside. *First*, the disease (COVID-19) caused by the novel coronavirus (SARS-CoV-2) has severely affected global supply chains, international tourism, and financial and commodity markets. On 11 March 2020, the World Health Organization (WHO) changed its classification of COVID-19 from a public health emergency of international concern to a *pandemic*.[2] Although the actual economic impact of the ongoing pandemic has yet to be fully revealed, it is likely to be significant. UNCTAD (2020) estimated that COVID-19 could cause a global economic loss of $900 billion to $2 trillion depending on

[2] The announcement changed the focus from containment (quarantine and isolation of the infected) to mitigation (minimizing the impact through public health measures).

Figure II.1

Growth of developing Asia-Pacific region continues to outpace the rest of the world

Real GDP growth, year-on-year



Source: Estimates by the United Nations Department of Economic and Social Affairs, and ESCAP.
Disclaimer: These are very preliminary forecasts based on data and information available up to 10 March 2020. As the COVID-19 pandemic is still evolving rapidly and showing no signs of abating as of 31 March 2020, its negative impacts on economic performance of countries and territories in the world will likely be very significant. On 1 April 2020, the United Nations Department of Economic and Social Affairs updated its GDP growth forecast. In the face of COVID-19, global GDP growth could slow to between -0.9 and 1.2 per cent in 2020.

how the situation evolves (also see section 3.1). Countries' own measures to contain the disease, such as quarantines, border closures and suspension of productive activities, will be disruptive for their economies, with potentially significant spillovers across borders. *Second*, the unresolved trade tensions between the *United States* and *China* and potentially a further escalation could undermine business confidence and investments (see section 3.2). *Third*, with policy rates close to historical lows in many countries and rising global debt levels, policy space could be limited for countering further downturns. *Fourth*, a weakening commitment to multilateralism and potential escalation of geopolitical risks could further disrupt global economic conditions by pushing up commodity prices or hampering trade and financial flows, with tangible regional spillovers. *Fifth*, increasing occurrence of unprecedented natural hazards, including wildfires in Australia and the locust plague in Africa (with spread to the Middle East and South-West Asia), are causing economic losses to infrastructure, farming and tourism as well as financial stress for the insurance sector.

The risks create adverse impacts on people and the planet. People's lives are directly threatened, especially in the light of the COVID-19 pandemic and natural hazards. Public health threats, job losses and destroyed farmland impair people's livelihood. Meanwhile, biodiversity losses, burnt forests and the related pollution from Australia's wildfires alone have adversely affected the global ecosystem and worsened climate feedback loops (UNEP, 2020).

2.2. Developing Asia and the Pacific – challenging economic conditions

Economic growth decelerated considerably and more than that of previous estimates

Against an increasingly uncertain global environment, economic growth in the developing countries and territories of the Asia-Pacific region weakened considerably in 2019 to 4.3 per cent, a sharp slowdown from 5.3 per cent in 2018 and 5.0 per cent projected earlier for 2019 (table II.1). The slowdown was led by the large economies, namely *China*, *India* and the *Russian Federation* (see discussion in the "Highlights" section below). In addition, several economies weakened more than expected, due to internal social unrest, such as *Hong Kong, China*, and weak business sentiment and exports amid trade tensions, such as *Singapore* and *Thailand*.

The economic deceleration was broad based. *External demand* remained weak due to continuing trade tensions. In 2019, the region registered a dip in both trade volume and value. With uncertainties weighing on business confidence, *private investment* growth remained subdued. In contrast, *government spending* and public investments remained steady. *Domestic private consumption* was the major contributor to headline economic growth, and it remained resilient.

At the **subregional level**, all subregions (excluding the developed countries in those subregions)[3] experienced a deceleration in economic growth between 2018 and 2019, except for the Pacific due to post-earthquake recovery in gas and petroleum production in *Papua New Guinea* (table II.1). At the **country level**, about half of the economies experienced a deceleration in economic growth between 2018 and 2019.

Highlights:

- Among the three **largest developing economies** in the region, *China*'s growth hit a 27-year low in 2019, amid external headwinds from trade tensions. However, its relatively robust consumption and buoyant growth of gross capital formation partially offset the downward pressure on headline growth. *India*'s economic growth declined considerably by more than the earlier estimate (5 per cent in 2019 compared with previous estimate of 7 per cent), as uncertainties ahead of the general election and tighter credit conditions weighed on manufacturing activities and investments. Weakness in income growth and a rising unemployment rate[4] also undermined consumer sentiment. Its exports were affected by global trade tensions as well, while extreme weather events - especially rainfall - disrupted agricultural activities. The *Russian Federation*'s GDP growth remained subdued in 2019, amid economic sanctions[5] and weakness in oil prices. An increased value-added tax had impacts on consumer spending, while the slow implementation of large-scale infrastructure projects restrained investment growth;

- Some **export-oriented manufacturers,** which are exposed to the trade tensions between China and the United States, observed slower manufacturing activities due to the decline in external demand, such as the *Republic of Korea*, *Singapore* and *Thailand*. However, some countries which serve as alternatives to China as suppliers of goods and services appear to have benefited from the trade tensions. For example, *Bangladesh* has gained market share in textiles and *Viet Nam* in electronics.[6] This trend of redirection of supply chains has been under way for some time as labour costs are rising in China and the country is moving up the value chain. The trade tensions have served to accelerate the process;

- Some **commodity-exporting countries** sustained their growth momentum in 2019, thanks to improved production in fuels (*Azerbaijan*, *Brunei Darussalam*, *Papua New Guinea* and *Turkmenistan*) and mining (*Mongolia* and *Papua New Guinea*), despite declines in international commodity prices. However, slower economic performance of *Indonesia*'s

[3] According to the ESCAP definition, the developed countries in Asia and the Pacific are Australia, Japan and New Zealand.

[4] India's Labour Force Survey, released in May 2019, showed an uptick in unemployment rates in the period 2017-2018 (the latest available data) (Rampal, 2019).

[5] The Russian Federation faces economic sanctions imposed notably by the United States and the European Union. Sanctions have targeted several sectors, including financial, energy, defence and technologies (European Council, 2019; United States Congressional Research Service, 2019).

[6] In the first 10 months of 2019, Bangladesh became the No. 47 trade partner of the United States compared with No. 51 in the same period one year previously. Most of its exports comprised garments and shoes. For Viet Nam, the share of cell phones and related equipment in the total exports to the United States surged to 21 per cent in the first 10 months of 2019 compared with 13 per cent in 2018 (US Trade Numbers, 2019).

Table II.1

Selected economies in the ESCAP region: rates of economic growth and inflation, 2018-2021
(Percentage)

	Real GDP growth				Inflation[a]			
	2018	2019[b]	2020[c]	2021[c]	2018	2019[b]	2020[c]	2021[c]
Total ESCAP region	**4.0**	**3.3**	**2.8**	**3.4**	**3.2**	**3.6**	**3.7**	**3.5**
Developing ESCAP economies[d]	**5.3**	**4.3**	**3.7**	**4.3**	**3.9**	**4.6**	**4.8**	**4.2**
Developed ESCAP economies[e]	**0.8**	**0.9**	**0.4**	**0.8**	**1.2**	**0.7**	**0.9**	**1.4**
East and North-East Asia[f]	**3.9**	**3.7**	**2.9**	**3.5**	**1.7**	**1.8**	**2.0**	**2.0**
East and North-East Asia (excluding Japan)[f]	**6.0**	**5.4**	**4.4**	**5.2**	**2.1**	**2.6**	**2.8**	**2.3**
China	6.6	6.1	5.1	5.8	2.1	2.9	3.0	2.5
Democratic People's Republic of Korea	..	..	..	..	..	..	..	..
Hong Kong, China	3.0	-1.1	-2.2	0.5	2.4	2.9	4.0	2.3
Japan	0.3	0.7	0.1	0.5	1.0	0.5	0.7	1.3
Macao, China	5.5	-4.6	-4.5	-0.1	3.0	2.8	2.7	3.0
Mongolia	7.1	5.5	4.5	5.2	6.8	7.3	7.6	7.1
Republic of Korea	2.7	2.0	1.2	1.8	1.5	0.4	1.0	1.3
North and Central Asia[f]	**2.8**	**2.0**	**1.6**	**1.8**	**3.7**	**4.9**	**4.8**	**4.7**
North and Central Asia (excluding Russian Federation)[f]	**4.2**	**4.7**	**3.3**	**3.9**	**7.3**	**6.8**	**7.7**	**6.4**
Armenia	5.2	7.6	4.9	5.2	2.5	1.4	4.0	3.2
Azerbaijan	1.4	2.2	2.1	2.1	2.4	2.7	3.3	3.2
Georgia	4.8	5.1	4.2	4.5	2.6	4.9	4.0	4.0
Kazakhstan	4.1	4.5	2.5	3.5	5.3	5.4	6.4	6.0
Kyrgyzstan	3.8	4.5	4.1	4.1	1.6	1.1	2.0	2.0
Russian Federation	2.5	1.3	1.2	1.3	2.9	4.5	4.2	4.3
Tajikistan	7.3	7.2	5.6	5.8	3.9	7.8	8.0	7.7
Turkmenistan	6.2	6.2	5.0	5.2	13.6	11.0	13.0	9.0
Uzbekistan	5.5	5.6	5.0	5.2	17.8	14.6	15.0	10.6
Pacific[f]	**2.7**	**1.9**	**1.7**	**2.2**	**1.9**	**1.7**	**1.6**	**2.0**
Pacific island developing economies[f]	**0.1**	**4.8**	**1.7**	**2.3**	**4.4**	**3.9**	**4.0**	**4.0**
Cook Islands	8.9	4.2	4.5	4.5	0.4	-0.2	1.5	1.5
Fiji	3.5	3.5	1.7	2.9	4.1	4.1	2.5	3.5
Kiribati	2.1	2.2	2.3	2.7	1.9	2.1	2.4	2.8
Marshall Islands	2.6	2.3	2.2	2.0	0.8	0.5	1.0	2.0
Micronesia (Federated States of)	0.4	2.7	2.5	2.5	1.4	0.7	1.5	1.5
Nauru	-2.4	-0.5	0.1	0.5	3.8	2.5	2.0	1.7
Palau	1.5	-0.5	1.0	1.5	2.0	1.0	2.0	2.0
Papua New Guinea	-0.8	5.6	1.6	2.1	4.7	4.3	4.6	4.4
Samoa	-2.2	2.5	3.3	3.5	3.7	2.2	2.0	1.9
Solomon Islands	3.8	2.8	2.2	2.7	3.5	2.0	3.0	3.3
Tonga	0.4	1.6	2.5	2.0	5.3	3.5	3.3	3.5
Tuvalu	4.3	4.1	4.4	4.2	1.8	3.4	3.5	3.7
Vanuatu	3.2	3.0	2.8	2.5	2.9	2.0	2.2	2.3

	Real GDP growth				Inflation[a]			
	2018	2019[b]	2020[c]	2021[c]	2018	2019[b]	2020[c]	2021[c]
Developed countries in the Pacific subregion[f]	**2.8**	**1.8**	**1.7**	**2.2**	**1.9**	**1.6**	**1.6**	**1.9**
Australia	2.7	1.8	1.6	2.2	1.9	1.6	1.6	1.9
New Zealand	3.2	2.4	2.3	2.4	1.6	1.6	1.6	2.1
South and South-West Asia[f,g]	**4.7**	**2.6**	**2.6**	**3.5**	**9.3**	**11.0**	**11.0**	**9.5**
Afghanistan	2.7	3.2	2.7	3.3	0.6	1.7	3.3	3.8
Bangladesh	7.9	8.2	7.8	7.6	5.8	5.5	5.3	5.5
Bhutan	5.3	6.0	6.1	6.5	2.7	3.0	3.0	3.3
India	6.8	5.0	4.8	5.1	3.4	4.8	5.3	3.5
Iran (Islamic Republic of)	-2.0	-7.1	-8.5	-3.0	26.6	36.5	40.0	32.8
Maldives	6.9	5.7	4.7	5.9	-0.1	0.9	1.7	2.2
Nepal	6.7	7.1	6.3	6.5	4.0	4.5	6.3	6.0
Pakistan	5.5	3.3	2.4	3.0	4.7	6.8	11.1	12.0
Sri Lanka	3.3	2.6	3.2	3.8	2.2	3.5	6.0	6.0
Turkey	2.8	0.8	2.1	2.5	16.3	15.4	11.8	12.5
South-East Asia[f]	**5.0**	**4.3**	**3.9**	**4.4**	**2.6**	**2.1**	**2.3**	**2.6**
Brunei Darussalam	0.1	2.5	1.5	2.4	1.1	-0.6	-0.1	0.3
Cambodia	7.5	7.1	6.6	6.8	2.5	1.9	2.3	2.4
Indonesia	5.2	5.0	4.8	5.0	3.2	2.8	3.3	3.4
Lao People's Democratic Republic	6.3	6.2	6.2	6.3	2.0	3.3	4.5	4.3
Malaysia	4.7	4.3	3.9	4.3	1.0	0.7	1.3	2.0
Myanmar	6.4	6.8	6.8	6.9	6.9	8.8	7.8	6.6
Philippines	6.2	5.9	5.6	6.1	5.2	2.5	2.5	3.1
Singapore	3.4	0.7	0.3	1.5	0.4	0.6	0.8	1.1
Thailand	4.2	2.4	1.5	2.5	1.1	0.7	0.4	1.2
Timor-Leste	0.8	4.5	4.3	4.8	2.3	1.2	2.1	2.6
Viet Nam	7.1	7.0	6.0	6.5	3.5	2.8	3.2	3.4
Memorandum items:								
Least developed countries	**6.9**	**7.2**	**6.9**	**6.9**	**5.2**	**5.6**	**5.6**	**5.4**
Landlocked developing countries	**4.4**	**4.7**	**3.5**	**4.0**	**6.8**	**6.4**	**7.4**	**6.3**
Small island developing States	**0.9**	**4.9**	**2.3**	**2.9**	**3.7**	**3.3**	**3.5**	**3.7**

[a] Changes in the consumer price index.
[b] Estimates as of 10 March 2020.
[c] Forecasts as of 10 March 2020.
[d] Developing Asia-Pacific economies consist of all countries and areas listed in the table, excluding Australia, Japan and New Zealand.
[e] The group of developed Asia-Pacific economies consists of Australia, Japan and New Zealand.
[f] Aggregate growth rate calculated using 2015 GDP in 2010 United States dollars as weights. United States dollars GDP weights.
[g] The estimates and forecasts for countries relate to fiscal years. These are defined as follows: 2019 refers to fiscal year spanning from 1 April 2019 to 31 March 2020 in India; 21 March 2019 to 20 March 2020 in Afghanistan and the Islamic Republic of Iran; 1 July 2018 to 30 June 2019 in Bangladesh, Bhutan and Pakistan; and 16 July 2018 to 15 July 2019 in Nepal.

Disclaimer: These are very preliminary forecasts based on data and information available up to 10 March 2020. As the COVID-19 pandemic is still evolving rapidly and showing no signs of abating as of 31 March 2020, its negative impacts on economic performance of countries and territories in Asia and the Pacific will likely be very significant.

main commodity destinations, including China, India and Japan, weakened its growth;

- The economies of **least development countries**[7] in the region are estimated to have grown by 7.2 per cent in 2019, meeting the 7 per cent GDP growth target set by Sustainable Development Goal 8 on decent work and economic growth. This outcome was driven mainly by the strong economic performance of *Bangladesh* and *Nepal*. However, least developed countries in the Pacific subregion continue to remain vulnerable due to their remoteness, lack of infrastructure and natural disaster challenges.

Inflation picked up but remained manageable

Inflation in developing Asia-Pacific countries picked up slightly but remains largely manageable. The headline consumer price index (CPI) increased to 4.6 per cent in 2019 compared with 3.9 per cent in 2018. While inflation has been below the official target for most countries (figure II.2), it exceeded the target for some due to weakness in balance of payments and currency depreciation (*Islamic Republic of Iran*, *Pakistan* and *Turkey*), uptick in food prices (*China*, *India, Nepal* and *Viet Nam*) and energy prices (*Viet Nam*). Core CPI, which excludes goods with high price volatility such as food and energy, remained low in 2019.

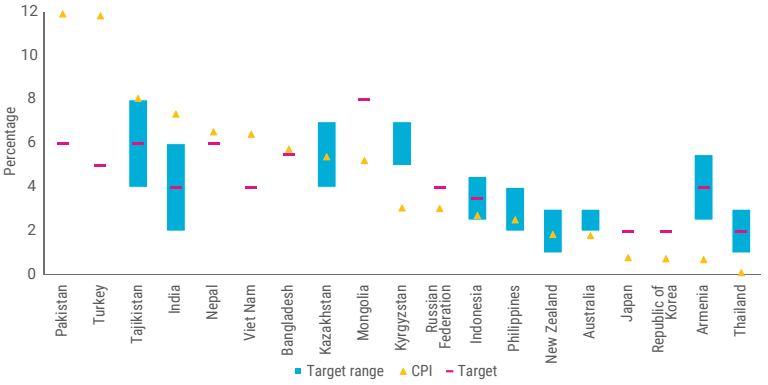
Financial conditions remained largely stable

Despite the economic slowdown, **financial conditions in most developing countries in the region were largely stable in 2019**.

Figure II.2

Inflation in Asia and the Pacific remains largely manageable

Inflation in selected Asia-Pacific countries (in December 2019) and their inflation targets



Source: CEIC (accessed on 29 January 2020).

In the **external sector**, foreign exchange reserves compared with short-term external liabilities improved slightly in many countries (figure II.3a) as current account balances improved[8] (figure II.3b) and net portfolio investment inflows slowed (figure II.3c). Countries that rely the most on remittances observed steady inflows (figure II.3d). Against this backdrop, currencies either strengthened or experienced slower depreciation against the United States dollar. However, currencies weakened for countries that are exposed to the United States-China trade tensions or experienced balance of payment crises.[9]

Meanwhile, **public debt remained at sustainable levels.** For most developing countries in the region, public debt-to-GDP ratios remained at a manageable level, with a regional median at about 40 per cent of GDP[10] (figure II.4). However, public debt levels in several developing countries, especially those in the South and South-West Asian subregion, were comparatively high, including *Bhutan*, *Maldives*, *Pakistan* and *Sri Lanka*. Among them, *Maldives*, *Pakistan* and *Sri Lanka* faced macroeconomic risks due to debt build-up, while *Bhutan*'s public debt levels were considered sustainable as hydropower sector-led borrowing would generate returns to fund debt servicing. The positive side is that these countries' debt levels are forecast to decline in the next five years (figure II.4). In addition, **some countries should remain mindful of their subnational debt.** *China*, for example,

[7] The region has 12 least developed countries: Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Lao People's Democratic Republic, Myanmar, Nepal, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu.

[8] The region maintained current account surplus at the aggregate level. Despite slower export growth, import growth decelerated at a faster speed due to weaker demand (figure II.1). Therefore, the region observed a minor increase in current account surplus as a share of GDP (figure II.4b).

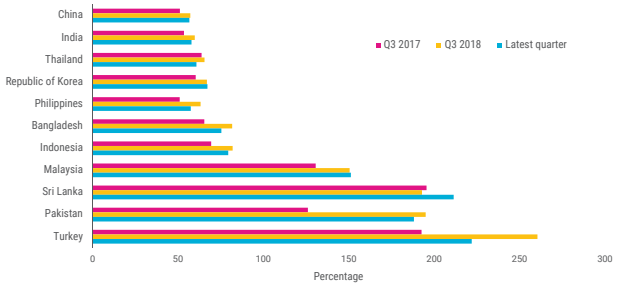
[9] Sri Lanka, Pakistan and Turkey are currently under IMF loan programmes.

[10] Source: IMF, World Economic Outlook database (October 2019), available at www.imf.org/external/pubs/ft/weo/2019/02/weodata/weoselgr.aspx (accessed on 29 January 2020).

Figure II.3

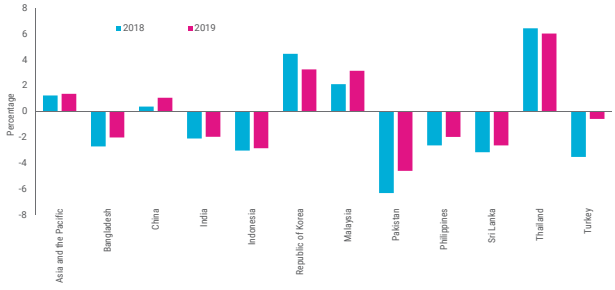
Financial stability largely maintained in Asia and the Pacific

a. Financial vulnerability yardstick as a percentage of foreign reserves in selected economies



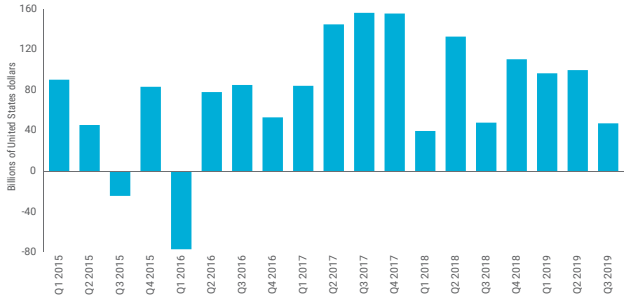
Source: ESCAP calculation based on CEIC and IMF data (both accessed on 15 February 2020).
Note: Financial vulnerability is measured by the sum of short-term external debt, total imports of goods and services and net portfolio investment flows as a percentage of foreign reserves.
"Latest quarter" for Bangladesh, China, India, Indonesia, Pakistan, the Philippines, the Republic of Korea and Turkey refers to the third quarter of 2019; that for Malaysia, to the fourth quarter of 2018; that for Thailand, to the second quarter of 2019; and that for Sri Lanka, to the first quarter of 2019. These countries were selected based on data availability.

b. Current account balance in developing Asia-Pacific region and selected countries



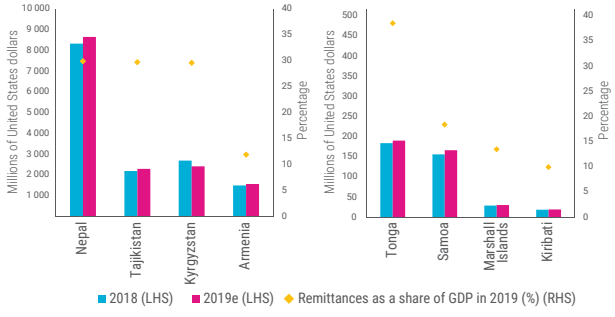
Source: ESCAP calculation based on IMF, World Economic Outlook database (October 2019) (accessed on 10 March 2020).
Note: Current account balance for the region is GDP-weighted.
These countries were selected to be consistent with those in panel a.

c. Net portfolio investment inflows to Asia and the Pacific



Source: ESCAP calculation based on IMF, International Financial Statistics (accessed on 16 March 2020).
Note: In the region, 38 economies (with available data) are covered, including the developed ones.

d. Annual remittance inflows in selected Asia-Pacific economies



Source: World Bank, Annual Remittances Data (updated as of October 2019) (accessed on 8 March 2020).
Note: LHS = left-handed side axis; RHS = right-handed side axis.

is estimated to have a high and growing local government debt – its government debt-to-GDP ratio could surge to 101 per cent by 2024 compared with 73 per cent in 2019, if local government debt is taken into account (IMF, 2019a).

Despite largely stable public debt levels, **countries' exposure to climate change could raise fiscal contingent liabilities**. Given the region's climate vulnerability, countries could face higher fiscal expenditures to cover disaster-induced economic losses or to transform towards a low-carbon economy (see chapter III).

However, **private debt in some countries remained high.** For instance, household debt in the *Republic of Korea* was high; while the share of mortgage loans was on the rise, loan structure had been improving with the share of amortized mortgage loans increasing and their terms lengthening (Kim, Park and Kim, 2018). In *Thailand*, household debt increased, stemming from borrowing for general spending, car and housing loans, credit card charges and existing debt repayments (Arunmas, 2019). *China*'s corporate debt peaked in early 2016 and gradually decreased, thanks to a policy of financial deleveraging. However, it picked up again in the first half of 2019 in the context of global economic weakening and loosening monetary environment. Private debt in *Malaysia* was also on the rise as business expansion continued to be fuelled by debt accumulation over the years (Kana, 2019).

Banks, which dominate the financial sector in most economies in the region, were generally well capitalized. Revenues and profits generated in Asia-Pacific banks continued to grow. In 2018, the region's profits (before taxes) represented nearly 40 per cent of the global banking profit pool (Dahl and others, 2019). Non-performing loan (NPL) ratios remained relatively low in most countries, including in those with higher private debt risks (figure II.5). However, several countries need to pay attention to their NPLs, especially in this time of economic slowdown. For instance, NPLs in India have remained high in recent years despite a slight reduction. One private bank in the country experienced quick deterioration of NPLs since the second half of 2019, but the financial risk was largely contained by the Reserve Bank of India's restructuction scheme (RBI, 2020).

2.3. Developing Asia and the Pacific – weakening economic outlook

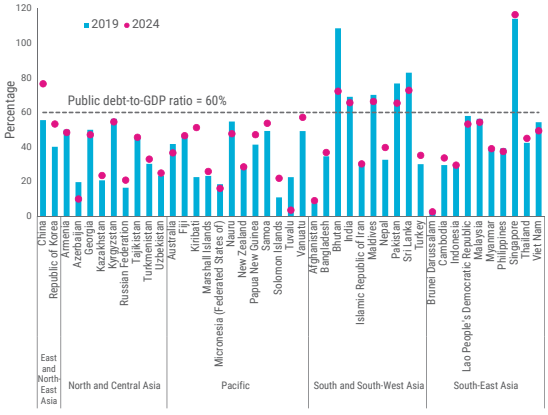
Asia and the Pacific enters 2020 with weaker economic conditions, globally as well as regionally. **The near-term economic growth rate for Asia and the Pacific is expected to soften further, not least because of the evolving COVID-19 situation.** Developing countries in the region are forecast to grow at a slower pace of 3.7 per cent in 2020 and pick up moderately to 4.3 per cent in 2021 (figure II.1). In 2020, all the subregions are expected to observe a slowing or stagnant GDP growth rate (figure II.6a). Uncertainties about the region's short-term economic outlook have increased considerably due to the multifaceted impact of COVID-19, which initially impaired China's economy and has subsequently spread to other countries, impacting the region's economies through supply, demand and financial links (see section 3.1). Although it is too early to assess the full impact of COVID-19 on the region's near-term economic outlook, the repercussions are likely to be significant. Recent oil price declines could also adversely affect fuel-exporting countries (box II.1). In addition, although the "Phase-I" trade agreement between the *United States* and *China* may restore trade and business confidence to some extent, uncertainties over the trade negotiations persist (see section 3.2).

Inflation in the developing Asia-Pacific region is expected to pick up to 4.8 per cent in 2020 then moderate to 4.2 per cent in 2021 (figure II.6b). The inflation uptick is expected to be largely temporary, mainly due to the COVID-19 pandemic, which is anticipated to push up consumer prices of daily essentials, including food and other supplies, primarily in the most affected countries. Meanwhile, currencies in the region could experience volatility due to likely capital outflows during the current economic uncertainty, which may feed into headline inflation as well. For countries that are in balance of payments distress, the improvement in their currencies (thanks to the countries' fiscal consolidation and measures to improve current account deficits) are expected to be delayed given the current economic situation. Recent oil price declines will have adverse impacts on inflation among oil importers and exporters in roughly opposite directions. Possible lower average oil prices in 2020 (compared with 2019) could ease inflation in importing countries but would be unfavourable for oil exporters (box II.1). In addition, natural hazards could lead to higher food prices in affected countries. When temporary factors such as

Figure II.4

Public debt remained at sustainable levels in Asia and the Pacific

Public debt-to-GDP ratio in 2019 and 2024 (estimated)

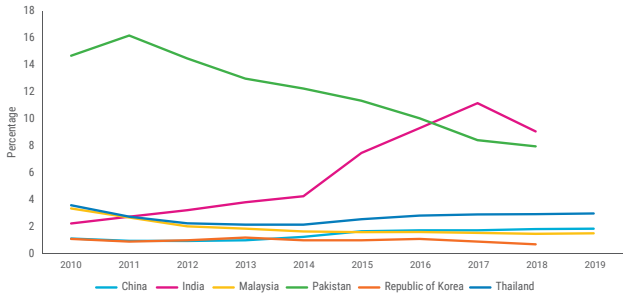


Source: IMF, World Economic Outlook database (updated as of October 2019) (accessed on 19 January 2020).

Figure II.5

Non-performing loan ratios remained relatively low in many Asia-Pacific countries

Non-performing loan ratios in selected countries

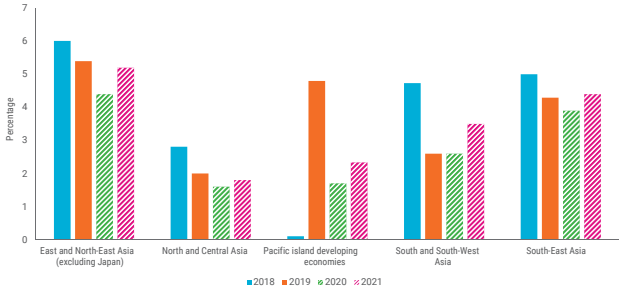


Source: CEIC (accessed on 10 March 2020).

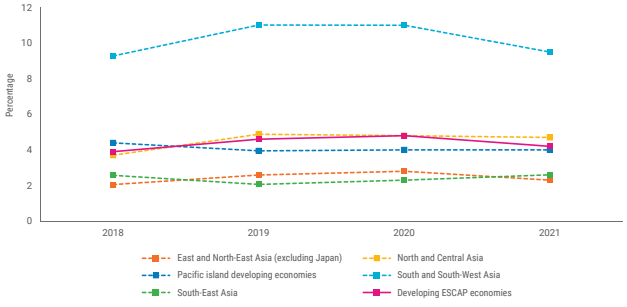
Figure II.6

Near-term economic outlook is expected to soften

a. Economic growth of developing Asia-Pacific countries during 2018 and 2021, by subregion



b. Headline CPI of developing Asia-Pacific countries during 2018 and 2021, by subregion



Source: ESCAP estimates.

Disclaimer: These are very preliminary forecasts based on data and information available up to 10 March 2020. As the COVID-19 pandemic is still evolving rapidly and showing no signs of abating as of 31 March 2020, its negative impacts on economic performance of countries and territories in Asia and the Pacific will likely be very significant.

Box II.1

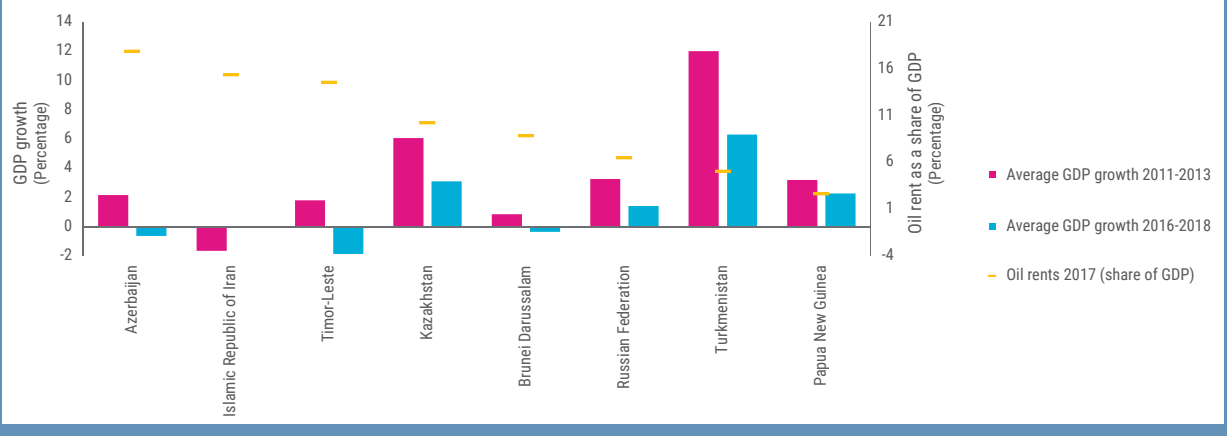
Recent oil price decline and the potential impact on Asia and the Pacific

Global oil prices have undergone large swings since the beginning of 2020 due to shocks from both the supply and the demand sides. In early January, the benchmark Brent crude oil price stood close to $70 per barrel, amid acute geopolitical tensions between the *United States* and the *Islamic Republic of Iran*. Soon after, the novel coronavirus (COVID-19) outbreak triggered a sudden and unanticipated decline in oil demand, pushing down prices. The failure of OPEC-plus, an alliance between OPEC and non-OPEC oil producers, to reach a deal on a production cut in early March sparked a plunge in oil prices to almost $30 per barrel; a decline of more than 30 per cent within two trading days (6 and 9 March). Prior to this recent decline, oil prices were forecast to average $59.50 per barrel in 2020 (United Nations and others, 2020a). However, the subsequent developments and their impact on oil prices during the remainder of the year now depend on how quickly demand recovers and supply stabilizes. Currently, there is considerable uncertainty surrounding oil prices.

Such large swings in oil prices may constitute another significant shock to the region's near-term economic outlook. If oil prices stay low, *oil importers* will expect to see their current accounts and fiscal balances improve and inflationary pressures ease, providing a favourable macroeconomic environment. These benefits, however, may not fully materialize this time. Unresolved trade tensions, the evolving COVID-19 pandemic and domestic financial market pressure in major regional economic growth engines, such as *China* and *India*, may make it difficult for them to boost demand and take full advantage of lower oil prices. Yet, the immediate easing in inflation could provide more space for accommodative monetary and fiscal policies to support the economies (see sections 4.1 and 4.2).

For *oil exporters*, lower than anticipated oil prices could translate into budget shortfalls, pressure on currencies and possible recessions. This is very unfortunate timing. Almost all Asia-Pacific countries with oil rent[a] as a substantial share of GDP took a major "hit" from the 2014-2016 collapse of oil prices, with subsequent growth rates well below the 2011-2013 levels (see figure below). Weaker economic fundamentals could be exacerbated by potentially significant losses in export and fiscal revenues from oil and COVID-19. That said, some countries are better prepared compared with the last oil price crash in the period 2014-2016. For instance, the *Russian Federation* has adopted a fiscal rule which is expected to support budget shortfalls.

Slower economic growth of oil-dependent countries in Asia and the Pacific after the oil price crash in 2014-2016



Source: World Bank Open Data, available at https://data.worldbank.org (accessed on 10 March 2020).

[a] Oil rents are the difference between the value of crude oil production at global prices and total costs of production.

COVID-19 fade away, inflation is expected to moderate. The overall sluggish demand is expected to keep inflation at a relatively low level.

3. Risks and uncertainties to the economic outlook

Headwinds from the COVID-19 pandemic, a deteriorating global environment and distortionary protectionist trade measures tilt the risks to the downside in the region.

3.1. Novel coronavirus – significant near-term impact on the region's economic growth

COVID-19, first reported in *China* and subsequently globally, has significantly increased the downside risks to the region's near-term economic outlook. While the pandemic was initially expected to affect primarily *China*'s economy (mostly in the first quarter of 2020), its spread worldwide, including in the Asia-Pacific region, could result in significant adverse economic impacts. High economic integration regionally and internationally could exacerbate the economic slowdown through multiple channels, such as trade, tourism and financial markets.

Impacts on China's economy

***China*'s economic growth is projected to slow mainly in the first quarter of 2020** in both the manufacturing and services sectors. If COVID-19 could be effectively controlled by April 2020, its impact on headline economic growth in 2020 could be limited to a decline of up to about a 0.5 percentage point. However, if the situation is prolonged, the negative impact could drag Chinese GDP growth down by 1-1.5 percentage points (see appendix at the end of this chapter).

The service sector is expected to feel greater pain. When COVID-19 is controlled successfully, the *manufacturing sector* is likely to rebound quickly given strong domestic demand and sufficient production capacity. However, the *service sector* may not be able to recover fully from the opportunity lost during the Chinese New Year holiday season when people normally would travel and use such services as catering, tourism, movies, transport and logistics.

Potential impacts on small and medium-sized enterprises and the labour market could be more significant, with implications for financial stability. Small and medium-sized enterprises (SMEs) are expected to be affected the most due to the sudden interruption of production and reduction in demand, still-need-to-pay rentals and salaries, and cash flow shortage (Zhu, Liu, and Wei, 2020). Since SMEs provide more than 80 per cent of urban employment, their difficulties could stress the labour market. In addition, financial pressure on SMEs may increase banks' non-performing loans. As of end-2018, bank loans to small and microenterprises accounted for nearly a third of the total loans, with an NPL ratio of 3.16 per cent, higher than the average ratio of below 2 per cent for all loans (PBC and CBIRC, 2019).

Impacts on Asia and the Pacific

People in more than 150 countries around the world have already been infected by COVID-19 as of 10 March 2020, including in the *Islamic Republic of Iran*, *Japan* and the *Republic of Korea* in the region and in the region's major trading partners, such as the United States and countries in the European Union.

Despite measures to contain COVID-19, such as quarantines, suspension of productive activities and the lockdown of cities, **the spread of the novel coronavirus has already adversely affected regional and global economies**. The regional economic impact is anticipated to be greater than that experienced 17 years ago when the Severe Acute Respiratory Syndrome (SARS) broke out. It is not only because of China's growing economic importance[11] but also because of increasingly globalized production structures. The economic losses, however, will be borne unequally. Countries that are highly exposed to infected countries could be affected more through the following links:

- ***Exports***: Several major trading partners are among those most severely affected, including *China*, *Japan*, the *Republic of Korea*, the *United States* and the *European Union*. Within the region, *China* is the largest market for the final demand for the region's exports, absorbing 20 per cent of the region's total exports. Outside of the region, the *European Union* and the *United States* account for 18 per cent and 15 per cent of the region's exports, respectively (ESCAP, 2019d). Weakened demand from these markets could impair the region's trade significantly.

[11] China's economy accounted for about 4 per cent of the world's GDP in 2003; it now constitutes more than 16 per cent of the total. The country has become a global and regional hub for manufacturing and value chains, and is the world's second largest importer.

In this regard, *Viet Nam*, *Mongolia*, *Cambodia* and *Singapore*, in that order, are among the most vulnerable due to their large trade exposure (figure II.7a). Preliminary estimates by ESCAP (2020b) suggest that the region's GDP could experience declines of 0.6-0.8 per cent (valued at $132 billion to 172 billion) as a direct result of the COVID-19 pandemic through trade links alone;

- ***Commodity markets***: As there are many commodity exporters in the region, slower economic activities in major commodity importers will disrupt the markets. For instance, *China* is the world's largest importer of raw materials. Its reduced demand for oil is expected to cause the first quarterly global oil demand contraction in more than a decade (IEA, 2020). In response, oil prices have been on a downward trend in general after peaking in early January 2020 (also see box II.1). As the pandemic continues, it could cause additional shortfalls in demand and exacerbate commodity market volatility. Lower commodity prices can reduce commodity exporting countries' fiscal revenues, worsen their trade positions and put pressure on their currencies. In the region, exporters of primary commodities (excluding fuel) are vulnerable mainly due to China (figure II.7b). For instance, *China* is a major importer of agricultural and mining commodities from *Australia*, *Malaysia* and *Mongolia*. In comparison, fuel exporters' exposure is more broad based, including from the region, the *United States* and the *European Union* (figure II.7c);

- ***Supply chains***: The COVID-19 pandemic has affected supply chains and disrupted manufacturing operations around the world. In *China*, for instance, automobile makers are facing a production delay. As a result, Nissan and Hyundai temporarily closed factories outside *China* in February because they could not get auto parts (ESCAP, 2020b). Meanwhile, the pharmaceutical industry is facing shortages in the supply of raw materials. *India*, which produces 20 per cent of the world's drug supply by volume, imports from *China* 70 per cent of the raw materials for manufacturing such pharmaceuticals. If the COVID-19 pandemic is prolonged, supplies are anticipated to be disrupted (McSweeney, 2020). The technology and electronic sectors are also at risk. An increase in COVID-19 cases in the *Republic of Korea* has disrupted the country's high-tech manufacturers. For instance, in early March 2020, Samsung temporarily closed one domestic smartphone plant due to the rapid spread of the coronavirus (Song, 2020), which could affect the upstream and downstream manufacturers and exacerbate the ongoing cyclical downturn in the global electronics industry.

  The good news is that manufacturers in *China* have gradually been returning to operations since late February 2020, which should support supply chain recovery;

- ***Tourism***: In order to contain the spread of the disease, 97 countries have imposed travel restrictions on nearly 50 countries worldwide as of 11 March 2020, including more than 20 countries in the region (IATA, 2020). For such heavily tourism-dependent economies as *Cambodia*, *Maldives* and *Thailand*, this could become a major source of concern as this sector contributes more than 10 per cent to their GDP, and more than half of their total visitor arrivals are from more severely infected countries (figure II.7d). In *Thailand*, for example, fewer Chinese tourists alone could cause economic losses of 0.3 per cent of GDP, without taking into account tourists from other countries and the wider impact on sentiment and activity (Fitch Solutions, 2020);

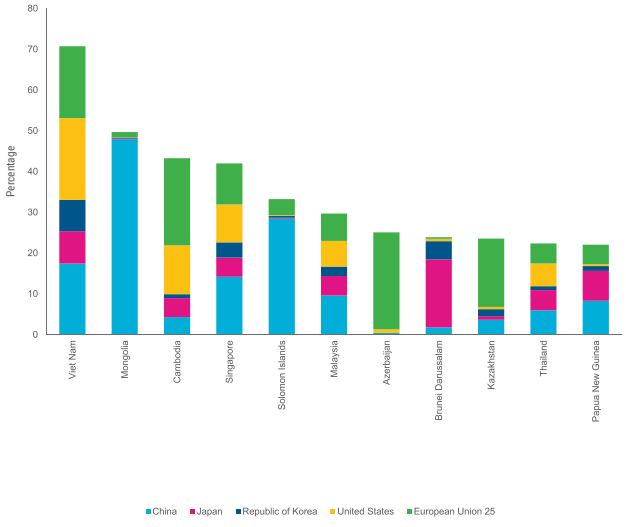
- ***Financial markets***: If COVID-19 spreads further and causes more countries to suspend productive activities, this may trigger capital flight to safe assets outside the region, and in turn weaken the currencies in the region. In addition, as COVID-19 affects companies' supply chains and their revenues and earnings, investors have started to sell off stocks and purchase safe assets, such as government bonds and gold. In this context, stock markets have weakened across the region compared with the beginning of 2020.[12] On 9 March 2020, when the global markets plummeted due to the confluence of oil market shock and the escalated fear of the COVID-19 outbreak, the sell-off carried over into the Asia-Pacific markets. Further weakening in market sentiments could trigger deeper and broader financial instability with regional or global spillovers.

[12] Between 1 January and 10 March 2020, China's Shanghai Stock Exchange Composite dropped by 4.8 per cent; Hong Kong, China's Hang Seng Composite, by 11.9 per cent; Japan's Nikkei 225, by 16.8 per cent; the Republic of Korea's Korea Composite, by 11.3 per cent; and the Stock Exchange of Thailand index, by 27.06 per cent.

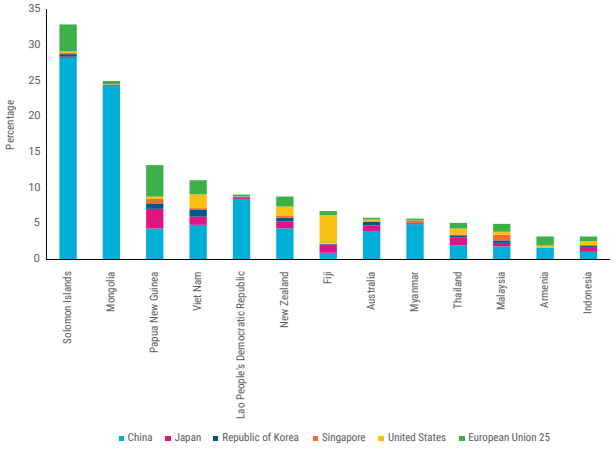
Figure II.7

Channels of COVID-19's impact on the region's economy

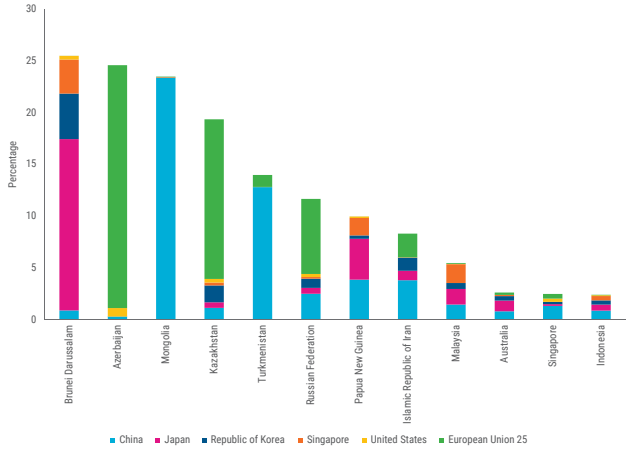
a. Total exports to major trading partners, as a share of GDP



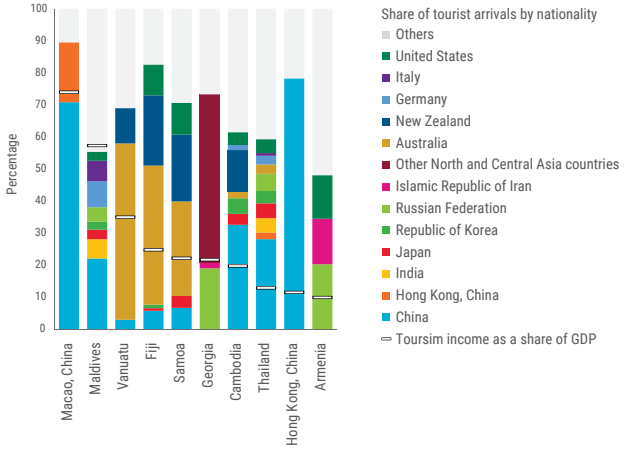
b. Primary commodity exports (excluding fuel) to major trading partners, as a share of GDP



c. Fuel exports to major trading partners, as a share of GDP



d. Tourism revenue as a share of GDP and source of tourist arrivals by nationality



Source: Panels a–c: ESCAP calculation based on UNCTAD STAT (accessed on 10 March 2020) and IMF World Economic Outlook database (updated October 2019 (accessed on 10 March 2020).
Panel d: ESCAP calculation based on CEIC and World Tourism Organization (accessed on 9 March 2020).

3.2. Trade tensions – lingering for longer

Uncertainties over trade tensions between the United States and China remain despite some progress

In the short run, unresolved trade tensions between the *United States* and *China* remain the primary risk to the region's near-term economic outlook. ESCAP (2018f; 2019b) estimated that the tariffs imposed in 2018 could cause GDP losses of $117 billion (or 0.33 per cent of GDP), a net loss of at least 2.7 million jobs in Asia and the Pacific and increased carbon intensity. As new tariffs were introduced in 2019, the actual adverse impact could be larger than previously estimated (ESCAP, 2019d).

In early 2020, the two countries signed an initial trade agreement which could restore trade and business confidence to some extent. However, **uncertainties over trade persist**:

- *First*, the agreement is incomplete. Most of the tariffs imposed remain in place. The agreement did not address the United States' major concerns of systemic issues behind the trade tensions, such as China's subsidies and State-owned enterprises;

- *Second*, the agreed trade targets are not fully realistic due to expected shortfalls in United States exports and China's ability to absorb a sudden increase in imports. Indeed, China may fulfil the promises with the United States by diverting its imports from other trade partners, increasing losses to some exporters in the region (Bown, 2020);

- *Third,* either side may walk away or seek renegotiation in view of the lack of a multilateral framework for the enforcement of the agreement. Such risk is not negligible given that the "engagement" policy of the United States towards China has been replaced by a strategic pivot towards geopolitical "peer competition".

In addition, **trade tensions have expanded from the export of goods to the technology area**. Since May 2019, the *United States* has applied its protectionist measures to include 5G technology and equipment as well as increased surveillance and control on bilateral academic and R&D interactions with *China*. For *China*, the increasing pressure from the *United States* could accelerate its pursuit of technological independence, leading to a downward spiral towards breaking technological linkages. If such concerns materialize, they could cause significant disruptions in global value chains, investment flows, cross-border technological cooperation and fragmentation of technology markets. Countries in the region could be forced to take sides.

Prolonged trade disputes could deepen more adverse impacts. Consumers could face higher prices as increases in tariffs feed through supply chains. Producers who ship intermediate inputs for *China*'s exports to the *United States* will lose. Although competing third country exporters are potential winners, disruption in the global value chain and market segmentation could affect them eventually through higher prices of traded goods, slow spread of technology or even fragmentation in technology. Moreover, escalation in trade tensions could further dent business and financial market sentiment, have negative impacts on emerging market bond spreads and currencies, and slow investment and trade.

Trade tensions are hampering the region's ability to attract foreign direct investment

Trade tensions and related global and regional uncertainties have hampered the ability of the region to attract similar levels of foreign investment as in previous years. Although the Asia-Pacific region is expected to remain a significant destination for FDI in 2019, a decline in FDI inflows is expected for both 2019 and 2020 (ESCAP, 2019c).

Chinese as well as foreign companies operating in *China* for export to the *United States* have been seeking to relocate to other countries in the region not affected by the United States tariffs. Information and communications technology (ICT), automotive and automotive parts, and apparel and ready-made garments are likely to see the largest redeployments. Against this background, prospects for investment inflows into South-East Asia are broadly positive. However, the full effects on FDI will depend on how trade tensions evolve further. An additional concern is the possibility of the *United States* extending tariffs to South-East Asia.

Trade tensions between Japan and the Republic of Korea can further disrupt technology sector supply chains

In addition to the United States-China trade tensions, *Japan* and the *Republic of* the *Korea* have been locked in a trade dispute since mid-2019 related to high-tech exports. *Japan* tightened its procedures for exports to the *Republic of Korea* of materials critical for producing semiconductors and displays; and the two countries removed each other's most-favoured nation status as trade partners. Despite two rounds of bilateral talks in late 2019, the dispute has not yet been resolved.

So far, the impacts have been limited to the two countries. However, **an escalation could affect both economies significantly, with regional repercussions through technology sector supply chains adding to the negative impacts of the United States-China trade tensions.**

Rising protectionism

Outside of bilateral trade tensions, **protectionism is also on the rise in other countries**. Substantial new trade restrictions have increased uncertainty in the global trade environment. Between mid-October 2018 and mid-May 2019, global trade flows worth about $340 billion – 44 per cent higher than the seven-year average – were affected by the newly introduced import-restrictive measures. Moreover, use of non-tariff measures (NTMs) is increasing. In 2018, 1,360 NTMs were initiated in the region, 15 per cent higher than in 2017. While NTMs may be used for achieving legitimate non-trade objectives, these are usually more complex and difficult to monitor than tariffs. As these trade restrictions come into force, more trade flows are expected to become covered in 2020 (ESCAP, 2019d).

4. Economic policy considerations

Economic stability is fundamental for sustainable development. Therefore, in the face of prolonged uncertainties, accommodative macroeconomic policies are appropriate to support economic health, especially for less developed countries. Indeed, many countries adopted expansionary policies in 2019. The relatively low inflationary environment and reasonably stable currencies gave confidence to the authorities to cut policy rates (figure II.8). Meanwhile, many countries pursued an expansionary fiscal policy stance as observed in narrowed fiscal surpluses or widened fiscal deficits as a share of GDP in nearly three fourths of the countries in the region in 2019.[13]

During the forecast period, **countries should continue their accommodative macroeconomic policies, but they need to be careful about the policy mix**. *For countries that are directly affected by COVID-19*, policies should respond to the pandemic directly and focus on containing or mitigating its spread, supporting affected households and enterprises. Policy measures can include tax cuts or rebates and payment delays for affected firms to reduce their operating costs and safeguard employment, as well as monetary easing to secure financial liquidity and prevent economic contagion.

For countries that are indirectly affected, accommodative policies are still needed to maintain economic health amid the global economic slowdown and prolonged trade tensions – fiscal easing could be introduced to support specific sectors, accompanied by policy rate cuts if needed.

4.1. Fiscal policy to mitigate the spread of COVID-19 and uphold economic activities

Investing in health emergency preparedness and social protection

In the context of the COVID-19 pandemic, **fiscal measures can play an important role to contain or mitigate its spread and alleviate its adverse impacts on economies**. Fiscal resources need to be scaled up and allocated to health responders to screen for symptoms, monitor the spread and care for infected people. For this purpose, anti-epidemic expenditure has been included in the budgets of *China* and *Hong Kong, China*. Most economies in the region have sufficient fiscal space for this purpose and should focus on using this approach effectively. Fiscal authorities should not let this crisis go to waste; they should invest heavily in people's health and in providing them with social protection.

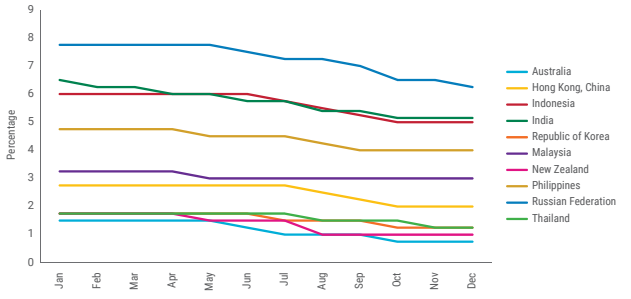
While urgent fiscal measures to address the pandemic may provide relief, **investing in health emergency preparedness ex ante is more important to enhance countries' capacity to deal with such crises in the future**. Lack of health facilities and personnel could delay effective medical treatment and therefore contribute to the spread of disease. At the global level,

[13] Fiscal surplus or fiscal deficit refers to the general government fiscal balance.

Figure II.8

Asia-Pacific countries and areas eased monetary policies, 2019

Central bank policy rates

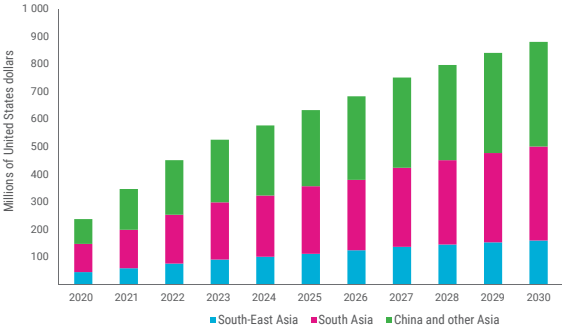


Source: Bank of International Settlement, available at www.bis.org/statistics (accessed on 10 March 2020).

Figure II.9

Asia and the Pacific needs to invest in health emergency preparedness ex ante

Additional investment needs in health emergency preparedness: Asia-Pacific developing countries



Source: ESCAP estimates, based on WHO SDG Health Price Tag.

to protect States with weaker health systems, the international community launched a $675 million preparedness and response plan covering the months of February through April 2020. The plan would be focused on rapidly establishing international coordination and operational support, scaling up country readiness and response operations, and accelerating priority research and innovation (WHO, 2020). For the Asia-Pacific region, similar investment is needed to enhance preparedness for any similar epidemic outbreak in the future. ESCAP (2019b) estimated that the region needs to invest an additional $880 million per year through 2030 in emergency preparedness, risk management and response, as part of overall strengthening of the health system (figure II.9). This would be equivalent to 0.003 per cent of the region's GDP in 2018. Such affordable investment can help Governments respond effectively to such events as the COVID-19 pandemic to contain economic losses and, more importantly, save human lives.

To minimize the social impact of such crises in the future, social protection should be strengthened. Social protection serves as an automatic stabilizer, that is, when unemployment rises and people's incomes decline, it kicks in to protect the most vulnerable. ESCAP (2019b) estimated that establishing a social protection floor in the developing Asia-Pacific region would require an annual additional investment of $317 billion, or 1 per cent of GDP.

Upholding economic activities through fiscal stimulus

Meanwhile, **fiscal stimulus is critical to uphold economic activities during the spread of COVID-19**. Such fiscal stimulus could include tax cuts and increased financial support, aimed at supporting firms' productive activities, safeguarding employment and protecting vulnerable households. For example, *China* has focused on supporting SMEs by waiving or delaying their social security contributions and deferring their land-use rents and property tax (China, State Council of the People's Republic of China, 2020). Local governments are funding transport, including buses, trains and airplanes, to enable migrant workers to get back to work. *Japan* is also supporting SMEs by providing wage supports and consultative services (Japan, Ministry of Economy, Trade and Industry, 2020). *Hong Kong, China*; and *Singapore* have rolled out specific funds to subsidize sectors affected, including retail, food, transport and tourism, and support low-income households. *Singapore* has also provided wage support for enterprises that retain local workers and has delayed a goods and services tax increase (Hong Kong, China, Government Secretariat, 2020; Singapore, Ministry of Finance, 2020).

Countries can also take advantage of fiscal stimulus to enhance productivity, which will in turn enhance economic strength and welfare when the pandemic is under control. For instance, part of Japan's support for SMEs includes subsidies to increase investment in technology (Government of Japan, 2020a).

4.2. Monetary policies to minimize economic spillovers

Relative to fiscal measures, monetary policy's role is limited in directly dealing with COVID-19, as it cannot open suspended factories, heal the sick or end travel restrictions. **Nevertheless, monetary policy can facilitate stimulative aspects of fiscal policy to support activities in pandemic control and sustain business operations in a targeted way.** For instance, *China*'s central bank provides targeted credit support for companies that directly participate in pandemic control, such as those in the healthcare sector. Meanwhile, the country has implemented targeted cuts in the reserve requirement ratio and the relending programme[14] to guide more funds into small companies, the private sector and the manufacturing industry (Government of China, 2020). *Japan* has introduced emergency loans and credit guarantees for SMEs to address supply chain disruptions and those in the tourism sector (Japan, Prime Minister's Office, 2020).

Moreover, **monetary policy should be accommodative to minimize spillover effects**. The policy considerations are threefold. *First*, monetary authorities can consider lowering their estimated levels of neutral interest rates. The decline in the productive capacity of the economy means that the profitability of machines, plants and factories has fallen. In other words, the return to capital has declined, which could adversely affect investment. As a result, there will be less demand for credit, which could bring downward pressure on market interest rates. As a consequence, policy rates, set by central banks, can be lowered. *Second*, monetary policy should be accommodative to offset the decline in aggregate demand. This is because weaker aggregate demand can be translated into a decline in the use of money, which in the absence of appropriate action by central banks could allow monetary conditions to tighten. An accommodative monetary stance could alleviate such concerns. *Third*, in the wake of considerable uncertainty, monetary easing can serve to lift confidence and ensure smooth functioning of financial markets.

The good news is that the region still has ample policy space. Relatively low levels of fiscal deficit and public debt (as a share of GDP) provide room for this round of fiscal stimulus, while relatively low inflation also gives comfort for policymakers to cut interest rates. However, monetary and fiscal stimulus packages are expected to reduce the policy space for future shocks; hence, attention should also be paid to sustainability aspects of these measures after dealing with the pandemic.

[14] Relending programme: China's Central Bank lends money to other banks in the Chinese financial system.

4.3. Revive private investment to enhance economic strength

When COVID-19 has been successfully mitigated, **policies should continue to be focused on addressing weak aggregate demand and enhancing supply-side capacity. Reviving private investment could be a key area**, given investment's high elasticity to aggregate demand, contribution to productivity improvement and its current weak performance.

Based on the region's own experience, the key determinants to sustain high investment rates are cost of capital, financial development, trade openness, macroeconomic stability and regulatory quality (ESCAP, 2018a). Therefore, accommodative fiscal and monetary policies are still needed to curb capital costs. In addition, policies should promote financial development, including that of capital markets. Moreover, enhanced trade integration could help firms gain intermediate inputs for investment and provide economies of scale (also see section 4.4). Furthermore, better governance will improve regulatory quality to enable a favourable environment for robust investment.

However, **a higher level of investment should not come at the cost of human and environmental well-being**. Investment activities should embed low-carbon technologies and support income transfers to the poor and the most vulnerable (see additional discussion in chapter IV). In particular, private investment in sustainable development should be scaled up. ESCAP (2019b) estimated that the region needs to invest an additional annual amount of $1.5 trillion to implement the 2030 Agenda, which requires financial contributions from the private sector, such as investment in infrastructure sectors, including telecommunications, power and renewable energy. Foreign

direct investment can also be aligned to finance sustainable development needs (see further discussion in chapter IV).

4.4 Multilateral cooperation to combat economic risks and challenges

Global and regional cooperation to mitigate COVID-19 and minimize economic risks

To overcome the effects of the global pandemic requires the whole world, including the Asia-Pacific region, to strengthen cooperation and coordination. Only by doing so can the world slow COVID-19 transmission, prevent infections and save lives. To directly mitigate the pandemic and cure cases of COVID-19, countries can share their experience in managing the public health emergency and cooperate in developing vaccines and medicines. Asia-Pacific countries are taking action. For instance, within a week of identifying the unknown virus, *China* successfully sequenced it and reported the genetic information to WHO for use around the world. China shared its experience in pandemic prevention with other infected countries and also sent medical personnel, medical supplies and COVID-19 testing kits to other countries once it had contained the epidemic within its borders (Xinhua, 2020). In terms of macroeconomic policies, countries should coordinate fiscal and monetary stimulus to ensure targeted support for the people and communities that are most affected by the disease and most vulnerable to the negative economic impacts. In this regard, *India* called on South Asian Association for Regional Cooperation (SAARC) leaders to coordinate virus containment measures. India proposed the establishment of a COVID-19 emergency fund under SAARC and offered an initial contribution of $10 million in this regard (Business Today, 2020).

Indeed, COVID-19 could serve as a reason to retreat from globalization, because in a globalized world, one disruption could become a systemic risk. In such a situation, containing/mitigating the pandemic would require reducing connectivity by restricting tourism, trade and financial flows. However, these measures should be considered temporary to lessen short-term adverse impacts and not be a long-term strategy. **Countries should strengthen global and regional cooperation to ensure concerted policy efforts. The world calls for leaders who will step up and provide effective leadership to mitigate the risk.**

Domestic and regional cooperation to tackle unresolved trade tensions

Countries that have been negatively affected by the United States-China trade tensions could consider diversifying trading networks, trading sectors, manufacturing bases, supply chains and demand sources, wherever feasible. Countries can seek new markets. For instance, the *Republic of Korea* started negotiating a new free trade agreement with the Russian Federation to look for new export destinations (Lee, 2018). *Singapore* is pursuing closer economic ties with emerging markets, including the Eurasian Economic Union, the Pacific Alliance and the Southern Common Market in South America, to build strong trade networks and diversify trading sectors (Singapore, Public Service Division, 2020). Since it takes time to reach new trade deals, **countries should also consider simultaneously supporting businesses affected** by reducing their costs (such as through tax relief and preferential interest rates), improving business environment (such as making access easier to government information and resources) and facilitating their access to new markets. In this regard, *Singapore* introduced a corporate income tax rebate and raised government co-funding levels to encourage firms to increase investment aimed at raising productivity (Singapore, Inland Revenue Authority, 2020). In addition, **countries should also continue investing in R&D to create more price-inelastic products,** which could sustain their strength in supply chains.

Countries that have benefited from the trade tensions should try to build on these gains by developing infrastructure and human capital. Indeed, China's strength is its infrastructure, supply chain networks and engineering talent. Firms making goods in China and exporting to the United States take such considerations into account when deciding on setting up businesses. Moreover, enhanced infrastructure and human capability could support benefiting countries to move up the value-added ladders of global value chains. Furthermore, when attracting new foreign investment, countries should take into consideration environmental impacts as long-term environmental problems will outweigh short-term benefits (Ho, Nguyen, and Tran, 2018).

In addition to national policy responses, **multilateral cooperation is indispensable in order to address unresolved trade tensions and rising protectionism.** Trade disputes signal deeper frustrations with gaps in the rules-based multilateral trading system. Without tackling the causes of trade tensions, beneficiaries today could become victims tomorrow. Therefore, efforts should be made to cooperatively address the roots of dissatisfaction with the system and improve the governance of trade. In particular, Asia-Pacific economies should lead in resolving the deadlock over the WTO dispute settlement system's appellate body and the pending WTO reforms towards a universal, rules-based, open, non-discriminatory and equitable trading system. A speedy conclusion of the proposed "Regional Comprehensive Economic Partnership Agreement" could also help to portray a positive investment climate and promote intraregional trade and investment (ESCAP, 2019b; 2019d).

5. Concluding remarks

Asia and the Pacific faces significant headwinds in sustaining growth momentum in 2020. COVID-19 has brought unexpected and serious disruptions to productive activities in the region. Initial urgent measures to contain the outbreak before it became a pandemic led to a sudden slowdown in manufacturing, trade and tourism activities, with many spillover effects. Additionally, unresolved trade tensions continue to weigh on the region's manufacturing activities and weaken businesses and investors' confidence. Although China and the United States have reached "Phase I" of their trade deal, uncertainties remain as not all causes of the trade tensions have been addressed.

The bright side is that the region still has ample policy room to boost economic growth. That being said, policymakers should be careful in choosing the policy mix. In the wake of COVID-19, monetary and fiscal policies should be focused on supporting the affected enterprises and households and preventing economic contagion. In particular, fiscal policies need to play a major role in enhancing health services to contain the further spread of COVID-19, cure infected people and strengthen future health emergency preparedness.

When COVID-19 has been successfully mitigated, policies should continue to address weak aggregate demand. Reviving private investment could be a key area, which can be supported by accommodative fiscal and monetary policies, financial market development, enhanced trade integration and better governance.

Global and regional cooperation is critical to coordinate policy measures to mitigate COVID-19 and related economic risks and to tackle unresolved trade tensions and rising protectionism.

Nevertheless, economic policies to solely concentrate on GDP growth are no longer sufficient to deliver sustainable development. As discussed in chapter I, the region's slow progress towards the 2030 Agenda and the climate emergency call for the broadening of economic policy objectives and transformation of the development path. The following chapters will discuss the challenges if the region continues business as usual, especially under the climate emergency.

In short, the region needs an urgent and profound transition in its production and consumption patterns to ensure a sustainable future.

Appendix

Economists' view on the novel coronavirus' direct impact on China's GDP growth

Impact on the first quarter 2020	Impact on 2020	Source
COVID-19 to be under control by early April 2020		
A decline of 1 percentage point	A decline on the order of 0.1 percentage point	(Wei, 2020)
Slowing to 4.6 per cent	A decline of 0.4-0.5 percentage points	Deutsche Bank[a]
-	*Virus to be under control in the first quarter 2020* A decline of 0.4 percentage points	(IMF, 2020)
COVID-19 to be under control in the first quarter 2020		
Slowing to below 4 per cent	A decline of 0.5 percentage point	(AMRO, 2020)
-	A decline of over 0.5 percentage point	Xunlei Li, Chief Economist, Zhongtai Securities
Significant disruption to economic activities in the first quarter 2020		(Oxford Economics, 2020)
Slowing to 3.8 per cent	A decline of 0.6 percentage point	
Slowing to 4.5 per cent	Slowing to 5.5 per cent	Reuters' poll of 40 economists[b]
-	A decline of 0.4-1.0 percentage point	(Peng, 2020)
Scenario 1: COVID-19 peaks in February/March 2020, with quick recovery		Morgan Stanley[c]
Slowing to 5.3 per cent	Slowing to 5.9 per cent	
Scenario 2: COVID-19 peaks in February/March 2020, with gradual recovery		
Slowing to 4.2 per cent	Slowing to 5.7 per cent	
Scenario 3: COVID-19 peaks in April 2020, with disruption into May		
Slowing to 3.5 per cent	Slowing to 5.6 per cent	
Slowing to 4 per cent	*Scenario 1: COVID-19 peaks in the first quarter 2020* Slowing to 5.4 per cent *Scenario 2: COVID-19 peaks in the second quarter 2020* Slowing to 5.2 per cent *Scenario 3: COVID-19 peaks beyond the second quarter 2020* Slowing to 5 per cent	(Ren, 2020)
-	05-1.5 percentage points	(EIU, 2020)
Scenario 1: COVID-19 is under control within 2 months		(ADB, 2020)
-	GDP decline by 0.32 per cent	
Scenario 2: COVID-19 is under control within 3 months		
-	GDP decline by 0.76 per cent	
Scenario 3: COVID-19 is under control within 6 months		
-	GDP decline by 1.74 per cent	

[a] (Romei, 2020; Khan, 2020).
[b] (Mishra, 2020). The 40 economists are based in China; Hong Kong China; Singapore; the United States; and Europe.
[c] (Lee, 2020).


Sustainable development

Chapter III

Building a sustainable future: understanding the reasons for slow progress

Near-term economic challenges threaten the region's progress towards achieving the Sustainable Development Goals. The region is already off track, as discussed in chapter I. Traditional macroeconomic policies to boost GDP growth in the short run are not enough to address long-term development challenges. In building on chapter I, which underlined the urgency of transforming the region's consumption and production patterns to live in harmony with Nature, chapter III further highlights this urgency and argues that business as usual will not lead to a sustainable future. The chapter then examines why progress has been slow despite this urgency and identifies specific challenges facing different stakeholders – Governments, businesses and consumers – in shifting towards an environmentally sustainable development path. The policies needed to address those challenges are discussed in chapter IV.

1. Urgency of transforming our consumption and production patterns

As argued in chapter I, while social and economic deprivation in many parts of the world can be addressed only through increasing consumption, that needs to be balanced by shifting global consumption towards goods and services produced with much lower environmental impact while internalizing the true cost to the environment on the production side.

This is an urgent priority given that **environmental costs and climate risks are already very high and are expected to increase further** without concerted action. In fact, inaction or delayed action would compromise progress on all three dimensions of sustainable development. In particular, the impact of climate change on people, the planet and prosperity is significant for the Asia-Pacific region:

- *People*: In 2016, of more than 24 million people displaced by natural hazards worldwide, 82 per cent lived in Asia and the Pacific (ILO, 2017). Rising GHG emissions – a key contributor to climate change – are also increasing air pollutants and therefore have a

direct adverse impact on human health. In fact, of the world's top 100 most air-polluted cities in 2018, 97 are from the Asia-Pacific region, with 22 of these top 30 cities being located in India (AirVisual, 2018). Climate change can also worsen inequality as the poor are likely to be the most adversely affected. This is partly because climate risks decrease vulnerable populations' ability to absorb shocks as they try to cope by decreasing nutritional intake or removing children from school;

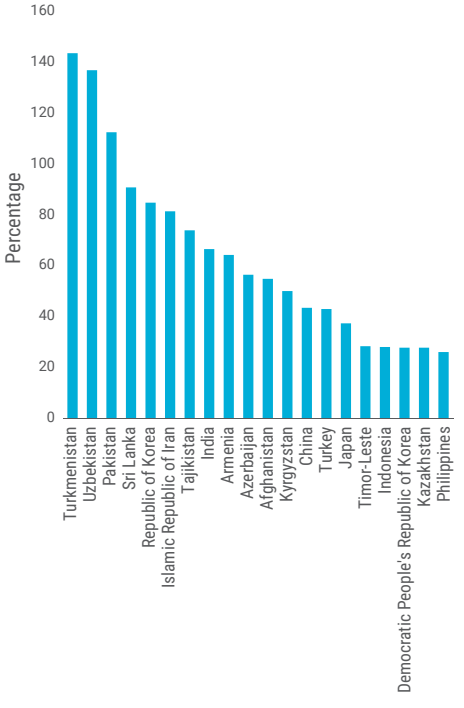
- *Planet*: Climate change affects the region's environment and ecosystem. Forests, grasslands, rivers, lakes and coral reefs provide essential resources for human well-being and sustainable development, including providing food, water, energy and health security. However, these ecosystems and resources are under incredible pressure. For instance, many countries in the region are suffering from water stress and high land degradation (figure III.1a). The region is also witnessing a rapid decline in biodiversity (ESCAP, 2019b);

- *Prosperity*: Between 1970 and 2019, the region lost more than $1.5 trillion because of disasters (ESCAP, 2019b) (figure III.1b). In addition to damage to property and infrastructure, climate disasters have broader impacts on the economy and financial stability. *First*, food prices tend to rise as extreme weather events harm crops and reduce yields and agricultural productivity. *Second*, total factor productivity is adversely affected as uncertainty about future losses leads to higher precautionary savings and lower investments (NGFS, 2019). *Third*, damage to public and private physical assets triggers the need for large post-disaster fiscal support, which increases Governments' fiscal risks due to higher contingent liabilities. *Fourth*, climate risks and transition to a low-carbon development also pose challenges for financial stability, as discussed further in this chapter.

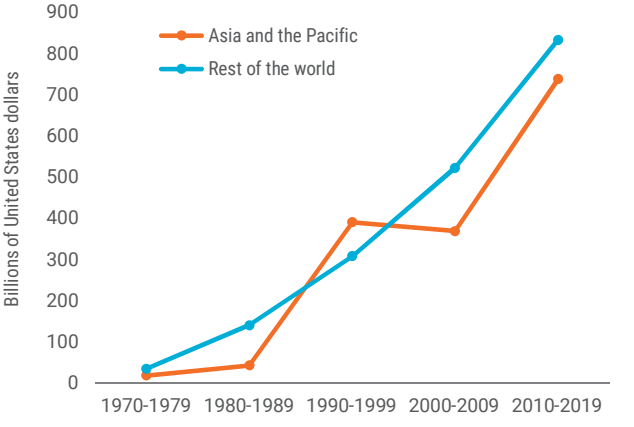
Figure III.1

The cost of inaction is already high but will increase further

a. Water stress, freshwater withdrawal as a proportion of available freshwater resources



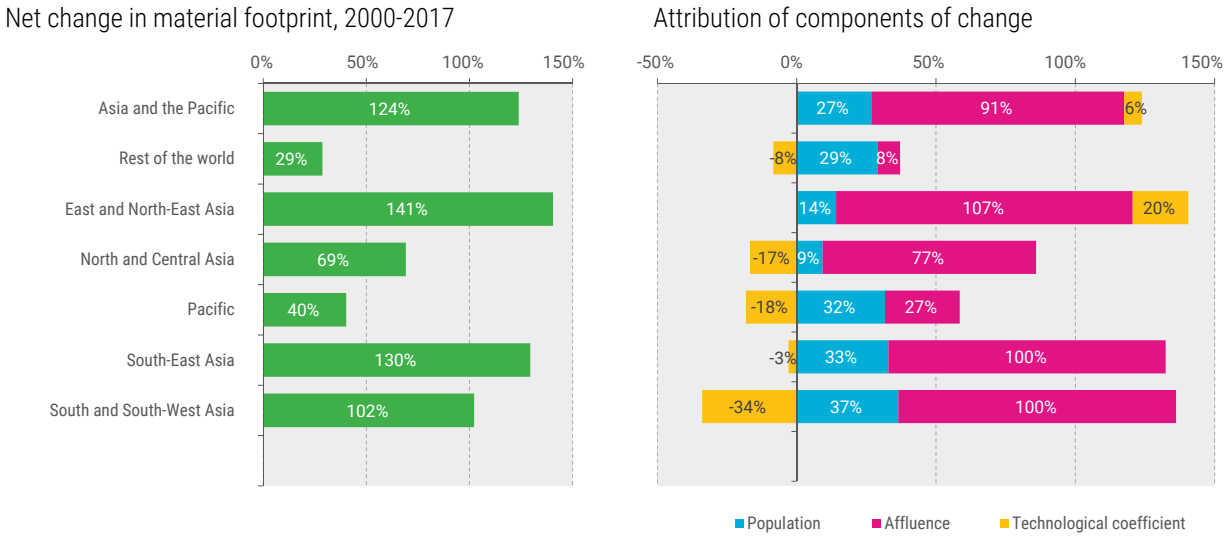
b. Economic losses due to natural disasters



Source: Panel a - United Nations Statistics Division Sustainable Development Goals indicators, available at https://unstats.un.org/sdgs/indicators/database/ (accessed on 3 September 2019); panel b - ESCAP calculation based on the International Disaster Database, available at www.emdat.be/emdat_db/ (accessed on 15 September 2019).

Figure III.2

Natural resource use has increased sharply



Source: ESCAP, based on methodology in UNEP International Resource Panel's *Global Resource Outlook 2019*. Available at www.resourcepanel.org/file/1172/download?token=muaePxOQ.

Resource use more than doubled in the Asia-Pacific region since 2000 while it increased by only 29 per cent in the rest of the world

The urgency of transforming the region's consumption and production patterns can also be seen clearly from its **heavy dependence on natural resources and its adverse environmental impacts.** Resource use increased substantially in the Asia-Pacific region, by some 124 per cent during the period 2000-2017, compared with 29 per cent in the rest of the world, mainly driven by growing affluence and to a lesser extent population growth (figure III.2). Infrastructure, in particular, accounts for a significant share of resource use (i.e. the non-metallic minerals), reflecting the rapid urbanization of the region.[1]

Traditional consumption and production patterns have contributed to GHG emissions

From the *production side*, **material production is a carbon-intensive process**, accounting for more than a fifth of global total emissions. Most materials are used in construction followed by machinery and equipment, production of transport equipment, and electronics (figure III.3a) (Hertwich and others, 2019; UNEP-IRP, 2020). While there is limited information regarding GHG emissions from material use from the production side for Asia and the Pacific, the region's status as a world factory and its lion's share in global domestic material consumption suggest strong contributions to GHG emissions from its resource use. Additionally, the region is **highly dependent on fossil fuels for power generation** (figure III.3b).

From the *consumption side*, **people tend to consume more products when they are richer, increasing their environmental footprint**. For instance, when Japan's economy took off in the 1960s and 1970s, the possession of consumer durables, such as refrigerators, televisions, air conditioners and automobiles, increased quickly from a low base, and similar patterns are predicted in developing countries (Kishita and others, 2018). Moreover, when people become richer, their expenditure rises on transport and housing (figure III.4a), which, based on current modes of consumption and production, are highly energy- and material-intensive.

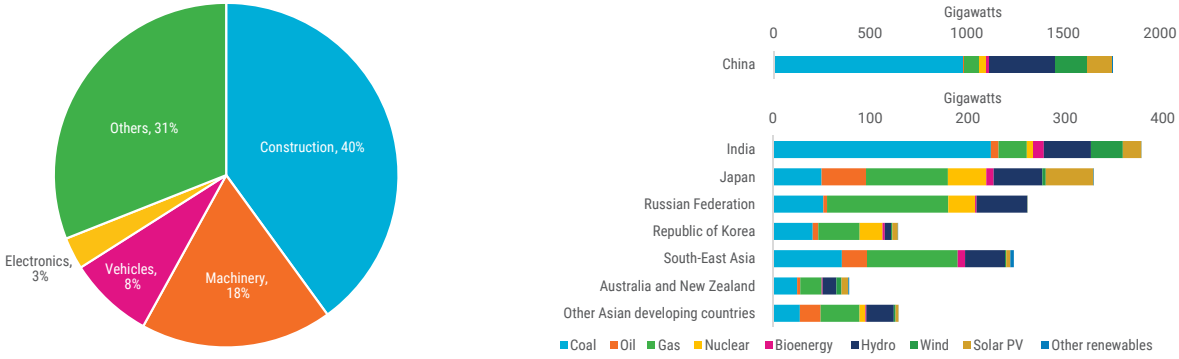
[1] A total of 940 million people moved into Asia-Pacific cities between 2000 and 2015, with an additional 160 million expected to move into them by 2025. Taken together, this additional number is equal to almost the entire population of Africa.

Figure III.3

Current modes of material production and power generation are carbon-intensive

a. Global carbon footprint of materials, by first use of materials by downstream production processes, in 2015

b. Energy mix for power generation capacity in selected Asia-Pacific countries or country groupings, in 2017



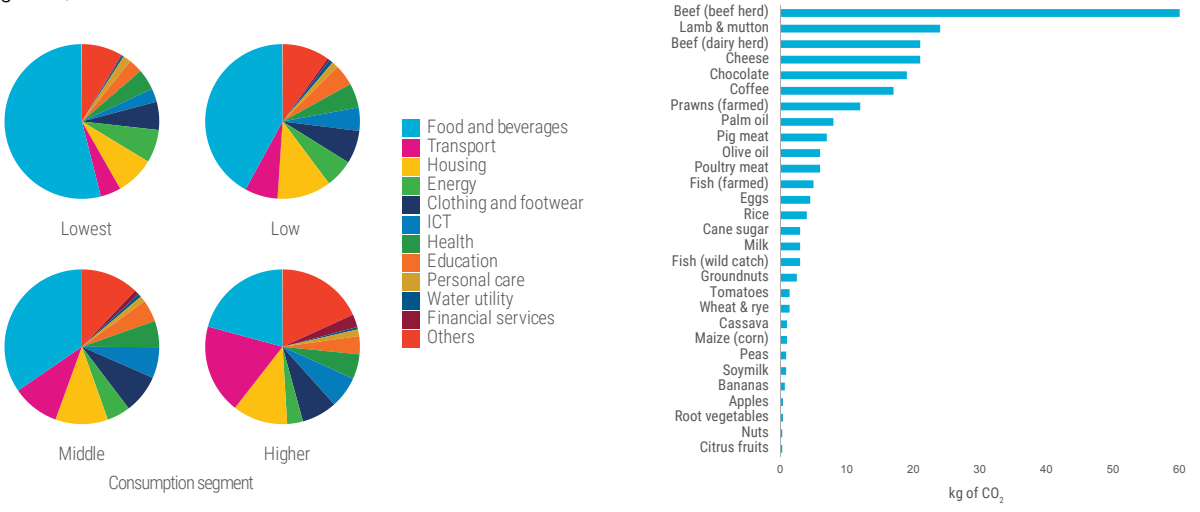
Source: Panel a - Hertwich and others (2019); panel b - IEA (2018).

Figure III.4

Rising consumption of transport, housing and animal protein has environmental costs

a. Share of consumption by sector and consumption segment, latest available data

b. GHG emissions per kilogram of food production

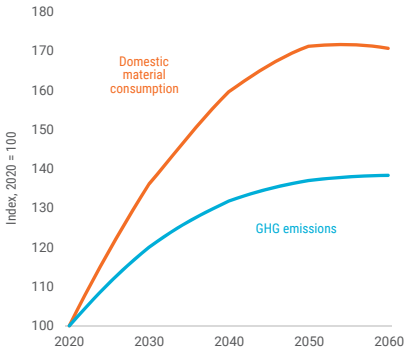


Source: Panel a - World Bank, Global Consumption Database, available at http://datatopics.worldbank.org/consumption/ (accessed on 6 March 2020); panel b - Ritchie (2020).
Note: Panel a - The data cover 92 countries in the world. These thresholds were used to establish the four consumption segments: Lowest - less than $2.97 per capita a day; Low - between $2.97 and $8.44 per capita a day; Middle - between $8.44 and $23.03 per capita a day; and Higher - more than $23.03 per capita a day.

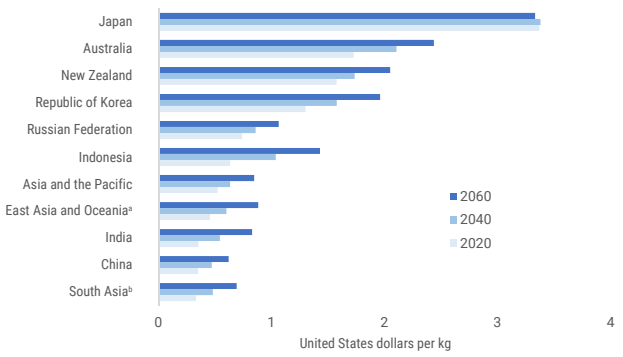
Figure III.5

Business as usual means higher GHG emissions and limited resource productivity gains

a. Domestic material consumption and GHG emissions in 2020-2060, compared with 2020 levels



b. Resource productivity (measured by GDP per unit domestic material consumption) in 2020-2060



Source: ESCAP, based on methodology in UNEP International Resource Panel's *Global Resource Outlook 2019*.
Note: [a] East Asia and Oceania = Brunei Darussalam; Cambodia; Dem. People's Rep. of Korea; Hong Kong, China; Lao People's Democratic Republic; Macao, China; Malaysia; Mongolia; Myanmar; Philippines; Singapore; Taiwan Province of China; Thailand; Timor-Leste; Viet Nam; Federated States of Micronesia; Fiji; Kiribati; Marshall Islands; Nauru; Palau; Papua New Guinea; Samoa; Solomon Islands; Tonga; Tuvalu; and Vanuatu.
[b] South Asia = Afghanistan; Bangladesh, Bhutan; Iran (Islamic Rep. of); Maldives; Nepal, Pakistan, Sri Lanka and Turkey.

Increasing consumption of animal-based protein, for instance, also requires more resources in production, thus resulting in higher GHG emissions (figure III.4b).

Asia and the Pacific cannot continue on the business as usual high-carbon path

In going forward, business as usual will not lead to a sustainable future. As the Intergovernmental Panel on Climate Change (IPCC, 2018) suggested, to avoid a rise in temperature of no more than 1.5°C, the world needs to reach net zero emissions by 2050. However, ESCAP projections suggest that GHG emissions will continue to rise in the Asia-Pacific region through 2050, and so will the use of natural resources under the business-as-usual scenario (figure III.5).[2] This is because limited improvements in carbon intensity and resource productivity will be easily offset by higher levels of production and consumption. **With a business-as-usual path no longer an option, it is necessary to look at what all stakeholders need to do in order to keep the economic activities within planetary boundaries.**

[2] The business-as-usual scenario assumes a continuation of current policy efforts in the policy domains of greenhouse gas abatement, resource efficiency and biodiversity conservation. The energy mix follows the current trend, and the dietary patterns are based more heavily on meat and dairy products.

2. Challenges for stakeholders in moving away from business as usual

For far too long, Governments, businesses and ordinary people have failed to engage in societal priorities and challenges by ignoring the externalities imposed by their own actions, since markets do not automatically price environmental degradation, carbon emissions and pollution. These are classic examples of market failures on a large scale. This section examines challenges facing stakeholders in acting against climate change.

2.1 Governments – from short-termism to long-term vision

As Governments face competing priorities, isolated policies that are focused primarily on boosting GDP growth and promoting economic development take precedence over well-

balanced cross-cutting ones. For instance, economic, energy and environmental policies may run counter to each other.

- *Economic policies:* Pursuing climate-friendly development presents a major challenge for many countries in the region, where *economic development* is the main *priority*, such as rapid and high GDP growth for job creation, energy sufficiency and infrastructure development. Policymakers in developing countries may rightly prefer to meet basic developmental needs before addressing climate issues due to, say, large sections of populations lacking access to modern energy sources. The short-term focus of policymakers ensures that these populations have access to reliable electricity within a time horizon of their country's election cycle. However, coal-fired power plants are sources of quick and dependable energy, with vested interests (see box III.1) contributing to increased GHG emissions. Therefore, short-term needs to develop power generation infrastructure using conventional and well-understood technologies are prioritized over long-term impacts of climate and air pollution;

- *Energy policies* straddle the balance between energy demand and economic development across countries in the region with differing energy bases. For instance, large coal reserves in *China*, *India*, *Indonesia* and *Viet Nam* favour a carbon-intensive energy system, while *Indonesia* and *Malaysia* rely on biofuels, a situation which increases deforestation. On the other hand, *Bhutan*, the *Lao People's Democratic Republic* and *Nepal* are rich in hydropower, which forms the mainstay of power generation in these countries. Therefore, the challenge is to design appropriate energy policies that are neutral enough at this stage to promote the development of the economy and deployment of the country's energy resources, while transitioning to an optimized energy structure;

- *Environmental policies* traditionally are made by public agencies in charge of the environment sector only, which have a stand-alone mandate and do not encompass cross-cutting policies that would holistically address environmental issues. Many local governments in developing countries also shy away from enforcing environmental policies as they often hinder those directed at poverty reduction and economic growth in the short run.

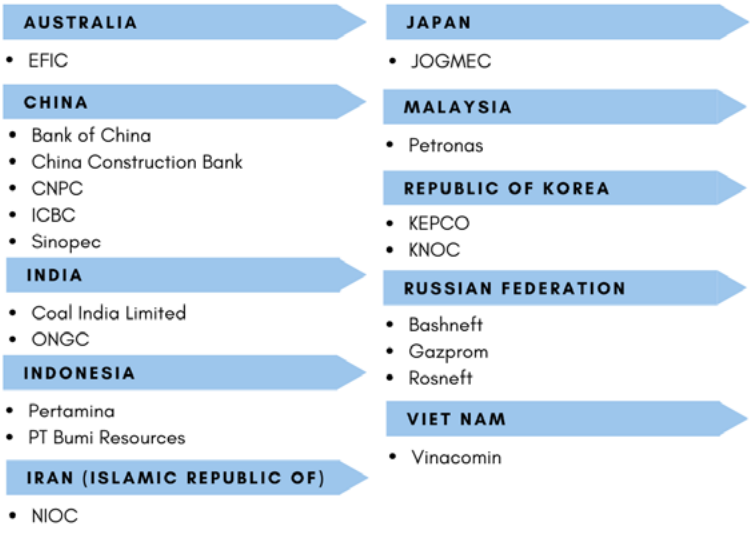
Additionally, the so-called freerider problem associated with environmental degradation and the resulting GHG emissions makes tackling these issues more difficult both at home and internationally. There is a difference between GHG emissions, which mix in the atmosphere no matter where they are emitted, and other air pollutants, which can affect localities or large areas but not necessarily the entire world. As the benefits from reducing local GHG emissions are global, while the costs to reduce them are borne locally, everyone has an incentive to "freeride", relying on others to cut emissions while taking minimal steps themselves. Then, the issue of time preference plays a role as efforts to reduce GHGs require heavy investments upfront while the benefits accrue much later, thus lowering incentives to make concerted efforts towards reducing them.

Local costs coupled with global benefits of GHG reductions mean that no stakeholder wants to act unilaterally

Internationally, the argument remains about who should take the responsibility to cut GHG emissions, given that the current high levels of GHG emissions in the atmosphere are a consequence of more than 150 years of industrial activity in developed countries. The Kyoto Protocol to the United Nations Framework Convention on Climate Change[3] that was adopted in 1997 asked the developed countries to make emission cuts under the principle of "*common but differentiated responsibilities*". However, it failed to meet its commitment due to its short time frame for action, binding targets, limited emission reduction measures and provision for future commitment periods. To get around the mandatory targets, the 2015 Paris Agreement requires all parties to voluntarily put forward their best efforts through nationally determined contributions (NDCs) and report regularly on their emissions and on their implementation efforts. As of 2019, 196 States plus the European Union have become voluntary signatories to this Agreement. However, concrete impacts are not yet visible, as evidenced from a disappointing COP25 Summit in Madrid in December 2019.

[3] FCCC/CP/1997/7/Add.1, decision 1/CP.3, annex.

State-owned entities supporting fossil fuels in Asia-Pacific region



Source: ESCAP.

Fossil fuel subsidies amounting to $242 billion overpower investments in renewable energy by nearly $100 billion

The transition from fossil fuels towards renewable energy faces two constraints:

First, the underpricing of fossil fuel supported by subsidies: In reality, the cost of renewable energy has now fallen to such an extent, that two thirds of the global population lives where wind or photovoltaic solar, or both, are the cheapest new-build electricity option.[4] However, subsidies continue to give coal-fired plants a short-term competitive edge over renewables, even when it is uneconomical and unprofitable to build new coal-fired power plants.[5] For instance, subsidies keep Government-owned fossil fuel and construction companies and financial institutions that finance high-carbon projects in this region economically operational.

Indeed, the region continues to spend $242 billion on fossil fuel subsidies, outweighing government environmental expenditures in most countries. Thanks to these subsidies and other factors, the overall share of renewables has in fact decreased between 1990 and 2017. The share of fossil fuels increased from 80 to 85 per cent, while the share of renewable energy declined from 17 to 12 per cent against the backdrop of a large increase in supply.[6] In fact, the high share of fossil fuels in the energy mix makes the energy sector the largest contributor to GHG emissions and hence to climate change.

Second, the risk of stranded assets: Transitioning from a carbon-dominant world to a renewable-friendly environment means more stringent carbon emission goals and carbon pricing, which will reduce the useful life of carbon-intensive assets and the costs of maintenance or increase the costs of doing business.[7] As the assets turn into liabilities, they will likely become a financial burden for companies and taxpayers (see box III.1). In a region fraught with fossil fuel-based State-owned enterprises, this transition will pose a severe problem to their operations and assets.

Last but not the least, **the economic business cycle can be a constraint to Governments in moving towards longer-term sustainability if short-term economic growth slows**. The current economic slowdown can tempt policymakers to shift the focus away from longer-term development issues, such as a low-carbon economy, to short-term issues, such as boosting economic growth. For instance, China saw stronger environmental policies as being central to its economic transformation away from energy-intensive heavy industry five years ago when it was growing robustly. However, this may be changing now as China is facing its slowest economic growth since

[4] For further information, see https://about.bnef.com/blog/the-first-phase-of-the-transition-is-about-electricity-not-primary-energy/.

[5] For details, see www.carbontracker.org/42-of-global-coal-power-plants-run-at-a-loss-finds-world-first-study/.

[6] Source: Asia Pacific Energy Portal, available at https://asiapacificenergy.org/ (accessed 10 March 2020).

[7] Consider energy companies. If government policies were to change in line with the Paris Agreement, then two thirds of the world's known fossil fuel reserves could not be burned. This could lead to changes in the value of investments held by banks and insurance companies in such sectors as coal, oil and gas. The move towards a greener economy could also have impacts on companies that produce cars, ships and planes, or use a lot of energy to make raw materials, such as steel and cement. See www.bankofengland.co.uk/knowledgebank/climate-change-what-are-the-risks-to-financial-stability.

Box III.1

Trading-off: Why is the Asia-Pacific region finding it hard to phase out coal?

Despite the swift deployment of renewable energy, it is coal that is responsible for the largest upsurge in energy requirements of all energy sources. According to an IPCC Special Report (IPCC, 2018), a nearly total reduction in the use of coal and other fossil fuels for electricity generation by 2050 is necessary to limit global warming to a rise of no more than 1.5°C, with reductions of approximately two thirds by 2030.

The region must break its addiction to coal.[a] Between 2006 and 2016, the region's coal consumption grew by 3.1 per cent a year. Asia now accounts for 75 per cent of global demand for coal, with most of the intake by the power generation sector, the iron and steel industry and households.[b] China is the world's largest producer and consumer of coal. Among the global top 20 producers of coal, 9 are found in the Asia-Pacific region, namely Australia, China, India, Indonesia, Kazakhstan, Mongolia, the Russian Federation, Turkey and Viet Nam. Moreover, four of the five countries that spend the most on coal subsidies are Asian. Coal's share of China's energy mix has fallen by about 10 percentage points over the past decade, to 59 per cent, although about 199 gigawatts (GW) of coal capacity is planned for the future.[c] In 2017, the Government introduced a national carbon-trading scheme, but implementation has been delayed due to a regulatory restructuring that saw responsibility for the carbon market transferred to the new Ministry of Ecology and Environment. India is the second largest consumer, where coal demand grew by 9 per cent in 2018, while in Viet Nam coal demand increased by almost a quarter. Overall, India's coal power generation is expected to grow by 4.6 per cent per year through 2024 with about 94 GW of coal-fired capacity now under construction or planned.[d] Coal demand in South-East Asia is forecast to grow by more than 5 per cent per year through 2024, led by Indonesia and Viet Nam. Plans are underway in Bangladesh and Pakistan to expand the use of coal.[e]

So why do countries continue to support coal despite its deleterious contribution to climate change? There are several reasons for this, but one stands out: **Government support**.[f] Disentangling coal from the region's economies is difficult. Governments have a vested interest in seeing the industry prosper.[g] State-backed coal companies generate revenues and employ people in large numbers. In Indonesia, power tariffs favour coal over wind and solar projects. In India, the Government owns more than 70 per cent of Coal India, a mining State-owned enterprise that produces most of the country's coal.[h] India's State-owned railways depend on the cash generated by transporting coal in order to subsidize passenger tickets (coal provides 44 per cent of freight revenues).[i] Coal provides hundreds of thousands of existing jobs, many in India's poorest states.

In both China and India, the largest financiers are State-owned, and their lending decisions are a function of government policy. In 2018, 65 per cent of funding to coal-fired projects came from government-controlled institutions, whereas three quarters of loans to renewables came from the private sector.[j] Indonesia spends more than $2 billion annually on the consumption of coal-fired power. China supports coal not just at home but abroad, including through its Belt and Road Initiative (BRI).[k] This Initiative will provide $35.9 billion in funding for 102 GW of coal power plant projects across 27 countries in total. In 2019, Japan's development agencies, such as Japan International Cooperation Agency (JICA), loaned ¥143.1 billion ($1.3 billion) to a coal-fired power-generation project in Bangladesh, and Japan Bank for International Cooperation (JBIC) is planning to lend up to $1.2 billion to fund a Vietnamese coal-fired power-generation project, for which Nippon Export and Investment Insurance is providing insurance coverage.[l]

On the private financing side, while most banks acknowledge climate-related risks, they continue to finance coal. According to the non-governmental organization Bank Track report,[m] which was released prior to COP25, since 2017 about 307 commercial banks have provided $159 billion in direct loans to coal plant

developers globally. The top three lenders are Japanese banks; they account for 32 per cent of direct lending to coal plant developers. European banks account for 26 per cent. Although Chinese banks account for only 5 per cent of direct lending to coal plant developers, they account for 69 per cent of underwriting for coal plant developers.

While banks play a central role in helping coal plant developers acquire capital through underwriting their share and bond issuances, the ultimate buyers of these securities are investors. A regional analysis[n] shows that United States investors account for 29 per cent of institutional investments in the shares and bonds of coal plant developers. Japanese investors account for 23 per cent, Indian investors for 12 per cent and European investors for 11.6 per cent of institutional investments in coal plant developers. Of the $32 billion that European investors hold in shares and bonds of coal plant developers, almost 30 per cent are held by investors from the United Kingdom of Great Britain and Northern Ireland. Eventually the costs of transition and disposal of coal assets are borne by citizens, such as pensioners and taxpayers.

Investment in coal and fossil fuels faces the risk of stranding and triggering macroeconomic impacts. The Paris Agreement objective requires turning fossil fuel reserves into stranded resources and existing investments into stranded assets. This would mean that coal power plants, oil fields and fossil fuels themselves will lose economic value well ahead of their anticipated useful life. In fact, while reserves are an important component of fossil fuel firms' valuation, the growth of these reserves has a negative effect on their future value due to their undeveloped reserves.

Unlike developed reserves, undeveloped reserves require major capital expenditures and a longer time before they can be extracted.[o] As a result, the financiers and coal plant owners from the public and private sectors are the first ones to be affected by asset stranding of coal. Financiers typically set aside funds as a risk measure so that an asset receives a "haircut" during crises of stranded assets.

These funds are capital that should be invested in the economy, but large accumulations of this capital typically create an overall slowdown in the economy. On the other hand, coal industry developers with stranded assets go through insolvency proceedings. These proceedings result either in a bankruptcy or lead to an aggregation, with larger plants buying out smaller ones. In most cases, this will lead to an adverse impact on the country's GDP and people's savings while triggering job losses and thus posing a huge burden on the taxpayers.

[a] See remarks of the United Nations Secretary-General to the Group of Friends on Climate. Available at www.un.org/sg/en/content/sg/statement/2020-02-03/secretary-generals-remarks-group-of-friends-climate-delivered.
[b] For details, see Energy Statistics Pocketbook 2009. Available at https://unstats.un.org/unsd/energy/pocket/2019/2019pb-web.pdf.
[c] The entire publication, Managing the Phase-out of Coal: A comparison of actions in G20 countries, may be obtained at www.climate-transparency.org/wp-content/uploads/2019/06/CT-Managing-the-phase-out-of-coal-DIGITAL.pdf.
[d] Ibid.
[e] For details on Coal 2019: Analysis and Forecasts to 2024, see www.iea.org/reports/coal-2019.
[f] For details, see www.economist.com/leaders/2019/08/22/asian-governments-are-the-biggest-backers-of-the-filthiest-fuel.
[g] Ibid.
[h] For details, see www.economist.com/asia/2019/08/22/asia-digs-up-and-burns-three-quarters-of-the-worlds-coal.
[i] Ibid.
[j] For further information, see www.cenfa.org/coal/a-burning-question-for-coals-brightest-star/.
[k] See footnote g.
[l] For details, see www.japantimes.co.jp/news/2019/12/10/national/japan-to-push-coal-in-developing-world/#.XiqRJsgzaUk.
[m] For detail, see Bingler, Jacey (2019).
[n] Ibid.
[o] For a fuller discussion of these aspects, see Atanasova and Schwartz (2019).

the early 1990s. China's investment in renewable energy declined by 39 per cent in the first half of 2019 compared with the same period in 2018, while subsidies were withdrawn for solar panel projects in the middle of 2018.[8]

2.2 Businesses – from shareholder to stakeholder

Businesses typically overlook the negative externalities associated with their activities, such as air and river pollution, that lead to health problems, and **underestimate the real costs**. In other words, the current business practices that ignore the *true costs* of goods being produced means that they do not fully incorporate the costs associated with environmental, social and Governance (ESG) aspects of their activities, such as:

Environmental externalities from GHG emissions, waste and pollution. By not incorporating environmental externalities, the energy mix for the major economies in the region continues to rely on fossil fuel;

Social dimensions that pay attention to fair wages, employees' health and safety or diversity. Ignoring social dimensions, such as higher health-care costs due to air pollution and poor working conditions exacerbate inequalities;

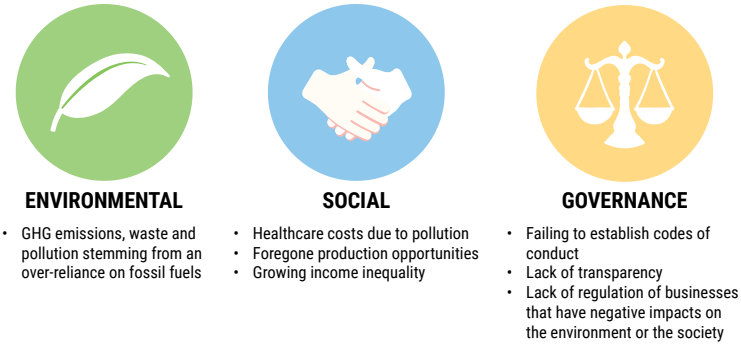
Governance practices include codes of conduct, better transparency and reporting of business activities that have negative impacts on the environment and/or the society.

As the global debate on climate change and inequality is gaining momentum, businesses are seeing an opportunity to factor in these considerations with regard to their activities. From the United States[9] to the United Kingdom[10] and Asia, corporate leaders are expanding their business models by shifting from singular focus on shareholder value to paying attention to all stakeholders and the environment. In Asia, the 10th Asian Business Summit Joint Statement (October 2019) for the first time made climate change a priority agenda, recognizing:

Businesses will need to work hand in hand with the Government to collaborate in setting green production standards, which is an important element in the effort to tackle climate change, to make the best use of river water resources, fostering green growth.[11]

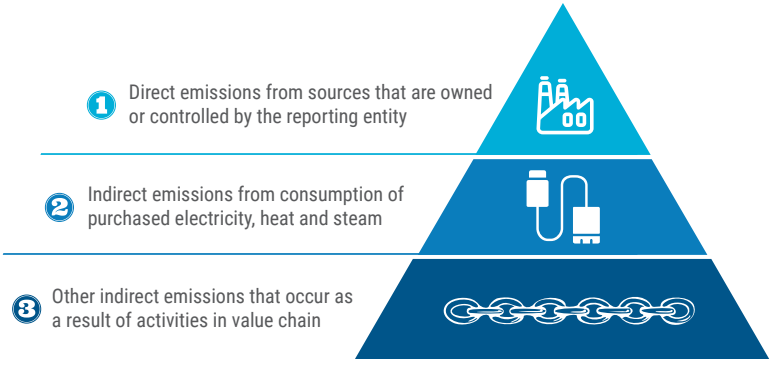
However, **the progress towards accounting for externalities by businesses (see box III.2) has been slow due to three factors**:

Ignored externalities associated with ESG aspects



Source: Morgan Stanley Composite Index, available at www.msci.com.

Scope of GHG emissions



Source: ESCAP, based on WRI and WBCSD (2013).

[8] For details, see www.ft.com/content/be1250c6-0c4d-11ea-b2d6-9bf4d1957a67.

[9] www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans.

[10] The Institute of Directors was founded in 1903 and has been awarded a Royal Charter to support, represent and set standards for business leaders nationwide. For details, see www.timesandstar.co.uk/news/18048535.iod-outlines-plan-boost-corporate-governance/. Accessed on 28 November 2019.

[11] www.keidanren.or.jp/en/policy/2019/086.html?v=p.

Box III.2

Industries and businesses contribute to GMS environmental degradation

On the back of agricultural dependence, Greater Mekong Subregion (GMS) countries have pursued industrialization in recent decades. Their economies are now more diversified and, although this has brought about socioeconomic benefits, it has created severe pollution problems that are worsening. Wastewater coming from different production industries has different effects on water resources. Wastewater from engineering and mechanical industries often contains oil and suspended solids, while wastewater from businesses in food production contains more organic pollutants. Wastewater from the garment weaving and dying industries often contains sodium hydroxide, alum and other chemicals involved in scouring and dying. Mineral mining and processing sites produce dissolving chemicals that flow into surrounding water resources.

Viet Nam's Ho Chi Minh City is a case in point, where industrial and urban wastewater has caused serious water pollution in many channels, including the Tham Luong, Ba Bo and An Ha channels. An assessment of Viet Nam during the period 2005-2015 showed that about 1.1 million cubic metres per day of industrial wastewater was dumped into rivers in 2010. It has been estimated that this wastewater will increase to 2.4 million cubic metres per day by 2020. Dong Nai River in southern Bien Hoa City receives about 111,000 cubic metres of wastewater every day from more than 10,000 industrial production facilities, businesses and hundreds of craft villages.

Reasons: Industrial zones within GMS fail to manage chemically caused water pollution due to a **lack of adequate policies** related to chemical use, poor mechanisms to punish violations, a lack of human resources and poor business practices. **Standards and data constraints** – the lack of skills and tools to measure and assess types of pollution, areas of pollution and levels of pollution is an additional factor. The most industrialized countries in GMS, namely China, Thailand and Viet Nam, are already investing heavily in monitoring and managing pollution in line with their sustainable industrial policies. While Cambodia, the Lao People's Democratic Republic and Myanmar are still in the early stages of their industrialization process, pollution is emerging as a growing concern. In their current state, these countries have inadequate capacity, resources and systems to monitor and manage pollution.

Source: ESCAP, based on http://gms-eoc.org/news/managing-industrial-pollution-in-the-greater-mekong-subregion and www.mekongeye.com/2016/02/23/industrial-zones-polluting-water-with-chemicals/.

First, the difficulty in measuring the environmental impact of business activities, as recommended by the GHG Protocol – an internationally agreed standardization (ISO 14064). For instance, while all GHG emissions which can be directly attributed to an investment (Scope 1) or to energy consumption (Scope 2) are relatively easy to quantify, the complex calculation of emission data from indirect activities (Scope 3), which requires companies to look at their supply chains and how their products are used by consumers, is quite challenging. As a result, many companies do not attempt to report their Scope 3 emissions, but instead stick to the easier task of reporting their Scope 1 and Scope 2 emissions. By omitting Scope 3, companies are giving a false reading of their actual emissions and environmental impact (box III.2).

Lackluster participation by businesses in principles of responsible investment – only 15 per cent of the signatories are from the Asia-Pacific region

Second, the easy availability of financing for non-green activities. For businesses and investors, subscribing to the *United Nations-supported Principles for Responsible Investment* (PRI) means that they must understand the investment implications of environmental, social and governance (ESG) factors.[12] Of the 2,700 signatories of the PRI, only 353 are from the Asia-Pacific region, a situation which is further supported in a report from Asian Private Banker;[13] it shows that banks headquartered in the Asia-Pacific region have the least percentage of clients

[12] www.unpri.org/pri/an-introduction-to-responsible-investment/what-are-the-principles-for-responsible-investment.

[13] https://cdn.asianprivatebanker.com/wp-content/uploads/2018/10/Asian-Private-Banker-2018-ESG-in-Asia-Report.pdf.

who have sustainable investments. This means that the majority of investors in the region have not yet transitioned to making sustainability their priority.

However, awareness among investors and stakeholders is increasing in the region as they are demanding disclosures on the environmental impact of business activities. While carbon emissions remain the most commonly reported environmental metric, demands for other types of resource-use data, such as water and deforestation, are increasing. Of the 930 signatories to the Taskforce on Climate-related Financial Disclosures, 396 are from the Asia-Pacific region.[14] As these disclosures are voluntary, with increased pressure from investors they are likely to grow in number.

Third, the lack of sustainable investment standards makes it difficult to compare and understand the value addition in specific areas of production systems. The currently available sustainability metrics appear unconvincing to shareholders due to their vague criteria and conflicting grades across different providers. For instance, environmental or health campaigners worry that businesses related to oil or tobacco can score higher environmental ratings due to metrics favouring certain policies that fall in line with the providers' frameworks.[15] This is possible because ratings providers generally draw on publicly available datasets to generate scores, which include such variables as company statements, news stories and reports from non-governmental organizations (NGOs). With a virtually infinite pool of data, providers use their discretion in interpreting factors, such as Scope 3 emissions and sustainability metrics.

Currently, **progress on standardization is slow because of issues around the heterogeneity of businesses, as one set of metrics cannot be a "one-size-fits-all solution"**. The matter becomes complicated, however, when firms use terms interchangeably, such as ESG investing, socially responsible investing (SRI), green investing, ethical investing, corporate social responsibility (CSR), and impact investing, when referring to their sustainable activities.

More importantly, **the lack of standards enables many businesses to "greenwash."** Greenwashing occurs when companies use misleading labels and advertising material to create a self-image of environmental responsibility without actually becoming more responsible – for example, meat that comes from "factory farms", or oil companies touting very small renewable projects to bolster their reputation while directing most of their capital towards extracting fossil fuels. For investors who want to invest only in companies with a specific environmental, social or governance issue, greenwashing becomes critical as there is no industry benchmark or scale against which to compare. Hence, as sustainable investing grows, so do concerns about "greenwashing".

2.3 Consumers – from current consumption pattern to understanding the impact on the environment

Consumer behaviour affects the environment in myriad ways. Globally, about 65 per cent of GHG emissions are induced by household consumption (Ivanova and others, 2016), and the Asia-Pacific region is not far behind. Lifestyles in the region are being increasingly influenced by the consumption patterns of its growing middle class, who are emulating the lifestyles of people in advanced and rich countries. The region is expected to be at the forefront of worldwide consumption by 2030, with consumer spending projected to reach $32 trillion and constitute about 42 per cent of global consumption (Chun, Hasan, and Ulubulsgo, 2010), carrying with it implications for the environment.

Household consumption accounts for 65 per cent of GHG emissions

The most important sectors of household consumption-related effects on GHG emissions, both globally and in the Asia-Pacific region, are food, housing, clothing and transport.

- Factors affecting sustainability in the **food sector** include excessive consumption of animal-based products,[16,17] lack of seasonality in

[14] Specifically, Japan (245), Australia (66), Taiwan Province of China (18), Singapore (17), Hong Kong, China (13), India (11), China (6), New Zealand (6), Republic of Korea (6), Malaysia (2), Philippines (2) and Viet Nam (2).

[15] For details, see www.bloomberg.com/news/articles/2019-11-07/how-investors-can-or-can-t-spot-greenwashing-quicktake.

[16] Research shows that, as people become richer, they consume more meat as a source of protein, which is intensive in resource use (land and water) and adds to the process of climate change. For details, see www.ncbi.nlm.nih.gov/pmc/articles/PMC5409751/.

[17] For further information, see https://static1.squarespace.com/static/5991a3f3d2b8570b1d58cc7e/t/5b8de692562fa736b204bcdf/1536026307523/Charting+Asia%27s+Protein+Journey.pdf.

food choices, lack of eating local foods and pollution from disposal of food, beverages and packaging. Consumers appear largely unaware of the extent of the threat to the planet posed by the food system. In a global survey, 91 per cent of respondents were unaware that the food system currently accounts for one quarter of global GHG emissions and 70 per cent of biodiversity loss;

- Regarding the **housing sector**, the current energy efficiency of how people live and run their homes and working establishments is very low. The three main sources of GHG emissions from the housing sector are appliance use, space heating/cooling and waste;
- Second to oil, the **clothing and textile industry** is the largest polluter in the world.[18] Consumers contribute by excessively consuming single-use purchases, insufficiently recycling clothing and not putting enough pressure on companies to use environmentally friendly clothing materials. The effects of pollution from the fashion industry are most prevalent in the Asia-Pacific region, because the region is the largest manufacturer and exporter of clothing and textiles for advanced countries;[19,20]
- Both excessive demand for **transport** and the lack of choice within transport modes are leading to consumption of less efficient and, thus, more polluting modes. This is exacerbated in the region, among other reasons, by urbanization.

Consumers lack information about sustainability impact of their choices

Why are consumers unaware of the impact of their behaviour towards the environment? An important reason is the **lack of information regarding the impact of their choices** on the environment. However, providing greater information about the impact of consumer choices on sustainability alone is usually not enough. Most **sustainable behaviours** involve some immediate cost, such as increased effort, financial cost or inconvenience, **requiring a trade-off** between these drawbacks for the individual and a more sustainable good, the benefits of which appear to lie in the future or in an abstract sense. Consumers also sometimes **perceive products that are more sustainable to be weaker in other dimensions**, such as strength, effectiveness or attractiveness, which might lead them to opt for less sustainable options and behaviours or to use higher quantities of the product than necessary.

Furthermore, *Governments* continue to provide incentives for consumerism rather than promoting sustainable consumption behaviours, prioritizing investment in infrastructure that promotes private over public transport, approving schemes for consumer credit and indebtedness, and providing subsidies for corporatization that comes at the expense of rural communities and micro-level enterprises. Similarly, *businesses* design products that become obsolete in terms of fashion. Smartphone models are updated yearly, fashion is updated according to season and social norms exist that one should be "up to date" or at least avoid being "outdated" (UNEP, Switch-Asia and IGES, 2015).

Besides the quantity of goods produced and consumed, their production is riddled with inefficiencies, thus putting further stress on the planet. Each dollar of GDP in the Asia-Pacific region requires twice the quantity of material resources as inputs compared with the rest of the world (ESCAP, SDG Help Desk, 2019: Resource Efficiency[21]). Data indicate that the Asia-Pacific region consumes two thirds of global resources to produce 40 per cent of the world's economic output. The "*linear*" approach of "*take, make, use and dispose*" may have been successful on the assumption that resources were unlimited. Under the current scenario, these processes need to be rethought.

Increased production is accompanied by declining use of products: think of parked cars, empty buildings and idle electronics. Globally, assets worth approximately $4.5 trillion are underutilized, of which 80 per cent are used just once a month (Durden, 2017). In the United Kingdom, a 10-year-old child, on average, owns 238 toys but plays with only 12 of them daily (Deloach, 2018). Cars, on average, are parked rather than being driven 90 per cent of the time (Morris, 2016).

[18] See the information on the United Nations drive to highlight the environmental cost of staying fashionable at https://news.un.org/en/story/2019/03/1035161.

[19] For information on refashioning the fashion industry, see https://theaseanpost.com/article/refashioning-fashion-industry; www.ellenmacarthurfoundation.org/publications/a-new-textiles-economy-redesigning-fashions-future; and www.globalfashionagenda.com/pulse-2019-update/#.

[20] Additionally, this industry is one of most water-dependent production sectors. The cultivation of cotton, which is used in 40 per cent of all clothing produced globally, is the most water-consuming stage across apparel supply chains, exacerbating water scarcity in several cotton farming regions. For details, see www.sciencedirect.com/book/9780081026335/water-in-textiles-and-fashion.

[21] For specifics, see http://sdghelpdesk.unescap.org/knowledge-hub/thematic-area/resource-efficiency.

Annually $500 billion is lost due to clothing being hardly worn and rarely recycled. Whether it be parked cars, and empty properties, building spaces and unused electronic items, if something remains unused, it becomes idle and redundant.

3. Need to raise ambitions for a sustainable future

As noted in the sections above, both the constraints of stakeholders and market/policy failures have led to unsustainable consumption and production patterns, which have been detrimental for the environment and have added to the climate risks, making it difficult to effectively pursue the climate-related Sustainable Development Goals. This is not to say that no action has been taken. In fact, Governments have begun to pilot or fully implement carbon tax or emission trading systems with a view to reduce emissions in line with their Paris Agreement commitments. Some businesses have also adopted "internal" carbon prices, such as shadow prices or internal fees, in order to influence their operations and investment decisions. Additionally, businesses have begun to issue ESG disclosures, and consumers seem willing to pay a higher price for sustainable goods. However, much more needs to be done.

Progress on carbon pricing is insufficient to bring about a green transition

By pricing carbon emissions, Governments defer to private firms and individuals to find and exploit the lowest cost ways to reduce emissions and invest in the development of new technologies, processes and ideas that could further mitigate emissions. Carbon pricing typically refers to carbon tax and emissions trading system (ETS); whereas the former sets the price, the latter sets the emission reduction target.

A few countries in the Asia-Pacific region have begun to price carbon, but at a scale far too inadequate to bring about a green transition. Fewer than 10 countries currently have an explicit carbon pricing scheme in place, but 26 countries have expressed their interest to engage in the use of market-based approaches in their nationally determined contributions (NDCs) (ESCAP, 2017d). Most recently, *Singapore* introduced a carbon tax, but based on a "fixed-priced, credit-based" approach which offers some flexibility to align it with an ETS of other jurisdictions at a later stage. *China* is transitioning to a national emissions trading system from its eight pilot subnational systems. Although the national system to be rolled out in 2020 will start only with the electric power sector, it is expected that other key sectors considered in earlier proposals will eventually be covered over the next decade.

Thailand is currently in the second phase of its pilot voluntary ETS; after having developed a framework for monitoring, reporting and verification (MRV) in the first phase, it is now engaging companies from several sectors, ranging from petrochemicals and cement to pulp and paper, and food and feed, in order to familiarize them with trading through an online platform. In *Indonesia*, Government Regulation No. 46/2017 on environmental economic instruments provides a policy basis for market-based instruments (namely, carbon pricing) and a mandate to establish an ETS before 2025. Although economists tend to recommend carbon tax on grounds of efficiency, it seems that among Asia-Pacific countries there is a certain preference for ETS, not least because of greater public acceptance or less opposition from industries.

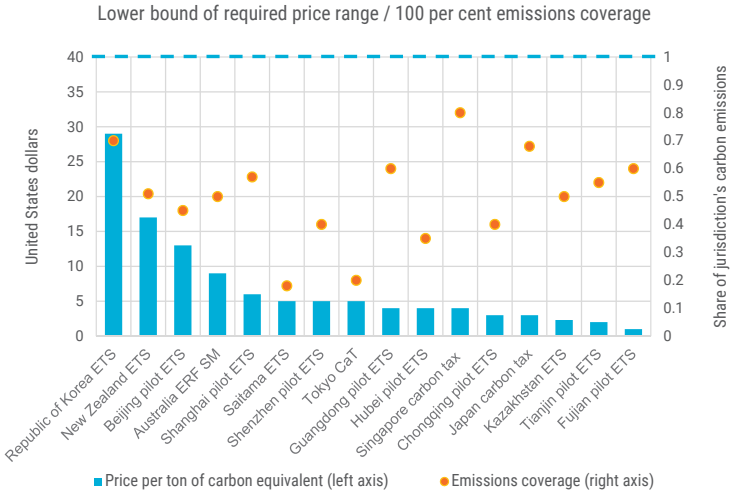
Scaling up carbon pricing is an integral part of climate action

Whether or not a carbon tax or ETS is used, what is clear is that current rates of carbon pricing are simply too low compared with what is required to bring about a green transition and keep global warming at bay. Globally, average rates remain at only $2 per ton of carbon, and existing schemes cover only 20 per cent of total emissions (World Bank, 2019). In the Asia-Pacific region, prices vary considerably across existing schemes, ranging from about $1 to $29 per ton (figure III.6), but these are substantially lower than the required range estimated in most studies, such as the $40 to $80 range estimated by the High-Level Commission on Carbon Prices (World Bank, 2017).

Businesses are internalizing the environmental implications of their activities by assigning a value to their carbon emissions using a variety of approaches, including shadow pricing, internal carbon tax or fee, internal cap and trade, implicit carbon price, emissions trading schemes and hybrids of these. Globally, nearly 1,400 companies, including some 465 companies in the Asian and Pacific region,

Figure III.6

The Asia-Pacific region has begun to price carbon, but at low rates and coverage



Source: ESCAP, based on World Bank, ICAP and IETA data and national sources.
Note: ETS = emission trading system; CaT = cap and trade; ERF SM = emissions reduction fund safeguard mechanism.

Figure III.7

Nationally determined contributions' "fair share" ratings

	Critically insufficient	Highly insufficient	Insufficient	2°C compatible
Australia			●	
Bhutan				●
China		●		
India				●
Indonesia		●		
Japan		●		
Kazahkstan			●	
New Zealand			●	
Philippines				●
Republic of Korea		●		
Russian Federation	●			
Singapore		●		
Turkey	●			
Viet Nam	●			

Source: Climate Action Tracker, December 2019, available at https://climateactiontracker.org.

have disclosed the use of internal carbon pricing or plans to implement one within two years. For instance, Mahindra and Mahindra, a major utility vehicle and farm solutions company in *India*, established an implicit carbon price of $10 per metric ton of carbon dioxide emitted. The *Japanese* company, Hitachi, Ltd., includes in its portfolio a broad range of industries ranging from nuclear power plants to factories producing semiconductors. Hitachi has assigned a monetary value of 5,000 yen ($46.70) for every ton of carbon emission reduced.

Ambitions on nationally determined contributions need to be raised

The 2015 Paris Agreement requires voluntary efforts by signatories to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to no more than 1.5°C. In the Asia-Pacific region, the Agreement has been ratified by all but three countries: the Islamic Republic of Iran, Kyrgyzstan and Turkey.[22]

The ratings by the Climate Action Tracker (in figure III.7) indicate whether a Government is doing its "fair share" towards this global effort and correspond also to the temperature outcomes resulting from a Government's relative ambition level in their emissions-reduction commitments. An "insufficient" rating indicates that a country's climate commitment for 2030 is in the least stringent part of their fair share range and is not consistent with holding warming to below a rise of 2°C, let alone limiting it to no more than 1.5°C, as called for under the Paris Agreement. If a Government's target is "insufficient", warming would exceed 2°C and may reach

[22] For more information, see https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en.

as high as 3°C. If "highly insufficient", a Government's commitment falls outside the fair share range and warming would reach between 3°C and 4°C. The rating "critically insufficient" means that the commitment falls far outside the fair share range and warming would likely exceed 4°C.

2020 is the year to raise ambitions through new Nationally Determined Contributions

Of the 32 countries tracked and rated by Climate Action Tracker, only 14 are from the Asia-Pacific region.[23] Of these 14, only 3 countries have a commitment considered within the range of a fair share in the global effort to hold the rise in temperature to below 2°C (figure III.7). In general, **NDCs of the countries in the region lack ambition and Governments need to raise their levels of commitment, strengthen their efforts and scale up their actions to reduce emissions**. As of 10 March 2020, only three countries, accounting for only about 0.1 per cent of world's GHG emissions, have submitted new NDCs for the twenty-sixth United Nations Climate Change Conference (COP26). Of the 107 Governments that have expressed their intentions to enhance ambitions or actions in their NDCs by the end of 2020 (accounting for 15 per cent of global GHG emissions), 31 are from the Asia-Pacific region.[24,25]

Efforts on providing more information on sustainable goods and investments need to be stepped up

In recent years, both businesses and consumers have been becoming conscious of the impact of their behaviours on the environment. **To help consumers make the right lifestyle choices and investors to put their money into sustainable activities, more information should be provided**. The commitment towards a green lifestyle could reinforce companies' desire to produce sustainable products. It is necessary for companies to highlight their green credentials in order to attract investment. As noted previously, only 13 per cent of signatories to the Principles for Responsible Investing are from the Asia-Pacific region. The greatest hindrance is the lack of standards in defining "green" and "sustainable" products. Even when consumers are willing to pay a higher price for sustainable products, the information for them to make the right choice is not always available. In the absence of such information, greenwashing will remain an issue and a major hindrance in moving towards a low-carbon economy/lifestyle.

Proactive actions by consumers, businesses and investors can reinforce each other

More action is needed on regional cooperation

Climate change has been identified as a priority area of regional cooperation in Asia and the Pacific in such bodies as the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation (SAARC), Central Asia Regional Economic Cooperation (CAREC) and the Pacific Islands Forum. Regional cooperation is instrumental in coordinating more ambitious region-wide solutions to climate change and in building capacities and sharing knowledge, including in the least developing countries. **Such actions as harmonization of standards and practices as well as carbon pricing require cooperation across member States**.

[23] For further information, see http://ndcpartnership.org/toolbox/climate-action-tracker.

[24] www.climatechangenews.com/2020/02/07/world-misses-symbolic-february-deadline-ratchet-climate-action-cop26/.

[25] Afghanistan, Bangladesh, Brunei Darussalam, Bhutan, Cambodia, Georgia, Lao People's Democratic Republic, Japan, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Republic of Korea, Singapore, Solomon Islands, Sri Lanka, Timor-Leste and the following Pacific islands countries and territories: Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Palau, Papua New Guinea, Samoa, Tuvalu and Vanuatu; for the full list, see www.climatewatchdata.org/2020-ndc-tracker.

The Decade of Action has just begun…

As we enter the decade that culminates in the deadline for implementing the 2030 Agenda, it has become clear that our efforts so far have not been enough. In September 2019, the United Nations Secretary-General, António Guterres, called on all sections of society to mobilize for a Decade of Action on three levels:

Local action embedding the needed transitions in the policies, budgets, institutions and regulatory frameworks of Governments, cities and local authorities (chapter IV.1);

People action, including by youth, civil society, the media, the private sector, unions, academia and other stakeholders, to generate an unstoppable movement pushing for the required transformations (chapter IV.2); and

Global action to secure greater leadership, more resources and smarter solutions for the Sustainable Development Goals (chapter IV.3).


PLANNING
CARBON PRICING
ESG
DECARBONIZATION
NUDGING
GREEN FINANCE
COOPERATION

Chapter IV

Building a sustainable future: a discussion of policies needed

As laid out in chapters I and III, the climate emergency calls for countries in the region to significantly adjust their current production and consumption patterns and introduce policies that can facilitate the transition towards a low-carbon economy. This would involve **adjustments in the behaviour of all stakeholders** – Governments, businesses and consumers – supported by an enabling policy environment provided by the Government. One way to embark on this transition is to move to clean energy given that energy sector is one of the major contributors to GHG emissions and climate change. In estimating the investment requirements to achieve the Sustainable Development Goals, the *2019 Survey* showed that the **size and composition of energy sector investments must change dramatically**. An average annual investment of $434 billion would be needed through 2030 to achieve clean energy and climate-resilient infrastructure in Asia-Pacific developing countries.[1] For power generation, countries would have to scale up investments in renewables, such as solar, wind and hydro, while phasing out fossil fuels (figure IV.1). Energy efficiency investments in buildings, industry and transport should also increase.

The climate emergency calls for all stakeholders to act collectively towards a low-carbon economy

In terms of implementation of such investments, this chapter shows that **aligning these investments with climate action will require relevant standards, correct price signals and policy measures** to encourage sustainable business operations and consumer behaviours.

As recommended by the Paris Agreement, Governments need to develop **long-term low-carbon development plans** and build a pipeline for investments in alternatives to carbon-intensive assets, such as solar and wind power, rather than coal-fired plants. While Governments play a central role in directing financial flows and influencing the climate-related behaviours of citizens, investors and businesses, **carbon entanglement of government budgets is a major barrier** to more ambitious climate action. Globally, on average nearly 8 per cent of **government revenues come from the extraction**

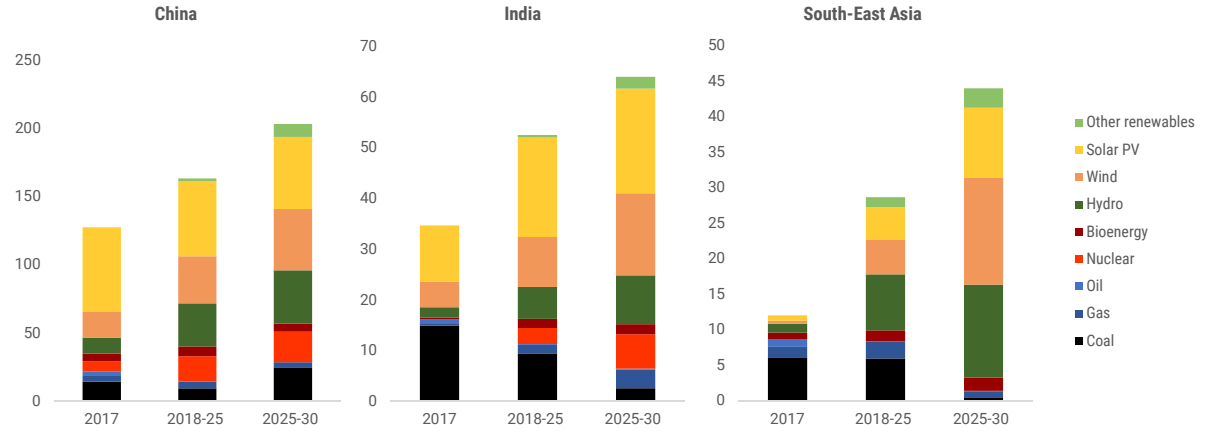
[1] This estimate includes $12 billion in universal access to electricity and clean cooking solutions, $242 billion in renewable energy and $180 billion in energy efficiency.

Figure IV.1

Towards cleaner alternatives

Power generation investments in the sustainable development scenario, 2017-2030

(Billions of United States dollars)

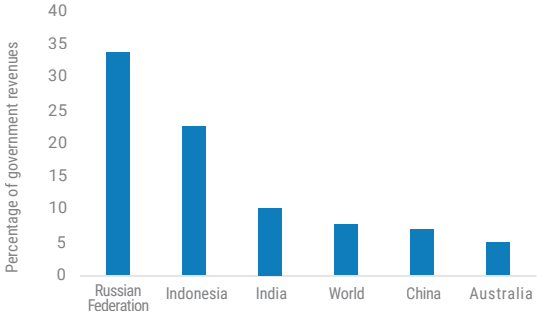


Source: ESCAP (2019b), based on IEA estimates.

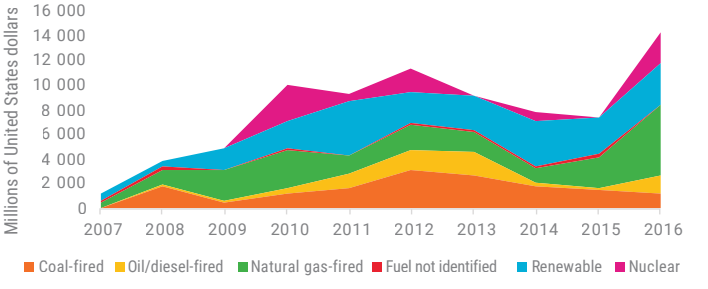
Figure IV.2

Carbon entanglement of government budgets

Estimated rents from the extraction of oil, natural gas, and coal resources



Export credit for power generation projects



Source: OECD, UNEP and World Bank Group (2018).
Note: Export credit for countries reporting to OECD.

of oil, natural gas and coal resources (figure IV.2, left panel). In the Asia-Pacific region particularly, among the Group of 20 countries, for the *Russian Federation* (33 per cent), *Indonesia* (22 per cent) and *India* (10 per cent), the percentage of government revenues is even higher than the global average. In addition to the budgetary processes and instruments, Governments have significant influence over broader sectors of the economy through State-owned enterprises, development cooperation, export credits (figure IV.2, right panel) and public investment funds. In many countries in the region, State-owned enterprises occupy a central role in the electricity generation sector and as a result can be more exposed to climate change and transition risks, as highlighted in chapter III.

Asia-Pacific governments are more dependent on fossil fuel revenues than the rest of the world

To accelerate progress towards implementing the 2030 Agenda, the Secretary-General of the United Nations has called for action at three levels. The policy recommendations are presented in this chapter along those levels – Governments, businesses/consumers and the international community.

1. Local action by Governments

With the current economic slowdown, the temptation to revert to easy stimulus actions, such as building more fixed assets, turning to coal-based power, and increasing untargeted subsidies to State-owned enterprises to spur job growth, **runs high**. Sound policies are needed to address the trade-offs between boosting short-term GDP growth and developing long-term environmental sustainability and to harness the synergies between policies. To **accelerate progress towards a low-carbon economy in a comprehensive manner, Governments need to act on three fronts**: (a) embed sustainability in long-term planning; (b) plan transition out of fossil fuel dependency without adversely affecting development; and (c) create green financial market mechanisms to promote sustainable investment.

1.1. Embed sustainability in long-term planning and implementation

The first action is to take a comprehensive view of development goals and conduct planning in an integrated manner. This involves three critical decision points. *First*, prioritize what is urgent and what is not. *Second*, assess the country's vulnerability and contribution to climate risks and then understand how to incorporate these considerations into long-term planning. *Third*, mainstream the Sustainable Development Goals into economic policymaking in order to integrate planning with objectives. As there is no linear path to take, **Governments should define their own paths.**

Table IV.1

Policies supporting climate change in selected Asian and Pacific countries

	Integrating SDGs into national planning and budgeting	Transitioning out of fossil fuel dependency without impacting development			Creating green market mechanisms for investment		
		Carbon pricing	Renewable Energy policies	Just Transition Policies	NGFS Participation	TCFD Signatory	Green bond market
Australia	●	●	●	●	●	●	●
China	●	●	●	●	●	●	●
India	●	●	●	●	●	●	●
Indonesia	●	●	●	●	●	●	●
Japan	●	●	●	●	●	●	●
Republic of Korea	●	●	●	●	●	●	●
Russian Federation	●	●	●	●	●	●	●
Turkey	●	●	●	●	●	●	●
Viet Nam	●	●	●	●	●	●	●

Legend:
Under consideration, In progress, Implemented
No, Yes
Low participation, Moderate participation, High participation

Source: ESCAP, based on Climate Transparency, Climate Bond Initiative and IGES. For details, see www.iges.or.jp/en/publication_documents/pub/policyreport/en/7048/G20+SDGs-VNR_2019_published.pdf.

Governments should prioritize urgent goals and define their own paths towards sustainability

First, **prioritize urgent and important goals**. Establishing priorities would require understanding *whether the country concerned is on track*, lagging or regressing vis-à-vis achievement of the Sustainable Development Goals; *understanding the trade-offs and synergies*; and *determining how much additional investment* would be required in those respective areas. To set a sustainable *future* in motion, Governments need to set their priorities *today*, and then align policymaking towards achieving them. This means *embedding targets*, policies and stakeholders' interest in the long-term vision rather than attempting to administer policies in isolation.

In doing so, each country must make its own pathway to low-carbon development. For instance, table IV.1 shows that the progress in actions to fight climate change is mixed. For instance, while *India* has taken leadership in renewable energy policies, it is lagging behind on carbon pricing and aligning its financial system along climate risk management. Keeping its NDC targets in mind, an integrated approach to energy transition would be desirable. This would be particularly important to ease the transition (discussed in section 1.2).

Second, **identify and assess climate risks**. Because climate change poses a threat to long-term economic development, countries need to develop a low-carbon

path on a time horizon that extends beyond current political and investment cycles. Adopting such a path *requires climate-related risk testing and finding solutions* that can be implemented today and sustained and adjusted over the medium to long term. Once Governments have identified climate change as a priority in their policies, they need to identify systemic risks which affect all public authorities. For instance, as population growth and urbanization rates in the Asia-Pacific region are rising rapidly, stress on the region's water resources is intensifying. Climate change is expected to worsen the situation significantly. Reduced access to freshwater or water stress will lead to a cascading set of consequences, including impaired food production, the loss of livelihood security, large-scale migration within and across borders and increased economic and geopolitical tension and instability. Over time, these effects will have profound impacts on security throughout the region.

In this regard, the Government of *Bangladesh* identified water stress as a critical issue and is taking steps to be one of the first developing countries to consider the economic value of water in its policy and investment decisions. Undervaluation of water is resulting in misallocation of resources and is having adverse impacts on Bangladesh's socioeconomic development. Its forthcoming "Study on developing operational shadow prices for water to support informed policy and investment decision-making processes" is expected to show how operational shadow prices for water can be applied by the public and private sectors. The case of *Bangladesh* highlights that climate risk assessment should be associated not only with economic decisions but also with the need to have a holistic application to the Sustainable Development Goals.

Similarly, *Australia* faces major challenges in ensuring sustainable water supply in the face of a drier climate and growing demand for water. In response, the Australian Government has been operating a water market since the 1980s. Although initially limited to a small region, the market has expanded to an annual turnover of between A$1 billion and A$3 billion due to national water reforms in 1994 and 2004. One of the main changes was separating water rights from land rights and investing in a strong water accounting model and system. Water entitlements are allocated based on forecasted water availability, among other issues, and traded based on the needs of each stakeholder.[2]

Third, **mainstream the Sustainable Development Goals into economic decisions**. The Goals serve as a useful guideline for integrating climate risks in economic decisions and moving towards low-carbon development. As sustainable development encompasses a broad spectrum of economic, social and environmental issues related to both consumption and production areas, **policymaking should take account of the interconnectedness and complexity of policies and impacts on societal welfare**. There is a need for an integrated approach, with the planning, economic, finance and other ministries working closely with one another and with subnational governments.

In this respect, *New Zealand* has taken an innovative approach in its 2019 budget cycle, especially on social well-being, to resolve this disconnect between short-term actions and their long-term impact.[3] The Government of New Zealand has embedded a well-being approach across the public sector as part of its living standards framework. Public investment decisions are based on several screening assessments, including a cost-benefit analysis,[4] together with unmonetized impacts, evidence base and assumptions. These are considered alongside other factors, such as strategic alignment with government priorities, fiscal constraints and implementation risks. In particular, **cost-benefit analysis includes elements of current and future well-being, as well as risks and resilience**. How this is to be achieved is specific to each country's stage of development and associated needs of its citizens and its Government.

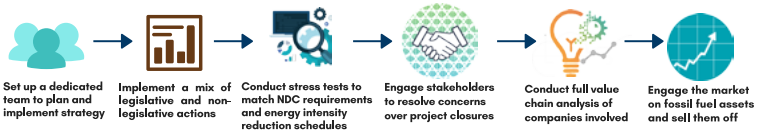
1.2. Plan transition out of fossil fuel dependency

A Government's decision to phase out fossil fuels sends strong signals to investors and thus prevents the lock-in of fossil fuel-based infrastructure. **Transitioning out of fossil fuels offers many benefits**, such as combating climate change, increasing health benefits for citizens, reducing the cost of electricity production and providing lower-cost energy access through such alternatives as off-grid renewables. Hence, it is in Governments' interest to proactively shape this transition by putting into place a plan for phasing out fossil fuels,

[2] For further information, see www.agriculture.gov.au/water/markets/history.
[3] For details, see https://treasury.govt.nz/information-and-services/nz-economy/higher-living-standards/our-living-standards-framework.
[4] The analysis involves the use of a spreadsheet model that contains a database of values to help agencies monetize impacts and do cost benefit analysis, according to the New Zealand Treasury.

Figure IV.3

Committing to phasing out coal



Source: ESCAP.

internalizing carbon pricing and incentivizing renewables and energy efficiency. This would allow them to maintain energy security and to plan for a *"just transition"*. While the process can be complex, the following steps can help policymakers draw up such a plan:[5]

Stakeholder engagement will be crucial to transition out of fossil fuels

Start with **committing to phasing out fossil fuels.** Once a decision has been made to phase out fossil fuels (figure IV.3), it needs to be followed up by a plan that takes place over a period of time. A fully dedicated team would be needed to **plan and implement the divestment strategy** in a productive manner. Governments can start with a mix of **legislative** action, such as banning coal-based power generation, and **non-legislative action**, such as removal of subsidies for fossil fuels. In order to determine which assets to decommission, divest or downsize, Governments could set up **stress tests** to match their NDC requirements and schedules for the reduction of energy intensity. As part of this process, **stakeholder engagement** will be crucial to resolve concerns around future project closures. In fact, Governments can engage the affected people and employees in advance during the planning phase so that the transition is inclusive. A well-grounded divestment strategy should include full value chain analysis of companies involved in fossil fuels, which will extend the analysis beyond primary producers of fossil fuels to such users as railways, electricity utilities and cement plants. Once a divestment strategy is in place, Governments can then **engage the market to value these assets** and market them to be recycled for sustainable purposes.

Carbon pricing can be an effective tool to reduce greenhouse gas emissions

Second, **consider adopting carbon pricing to incentivize the shift towards sustainable alternative fuels**. Climate change stems from the failure to price in the environmental costs of greenhouse gas emissions; carbon pricing can be an effective tool to correct this externality. The path to internalizing carbon pricing will depend on how the mechanism is used, as a penalty or as an incentive combined with changing the energy generation mix and enhancing energy use efficiency. As noted in chapter III, only a few countries in the Asia-Pacific region have begun to price carbon but even that pricing is far too inadequate to bring about a green transition.

Governments would need to raise their level of ambition by **making a strong commitment to implementing carbon pricing**. Depending on each country's environment, Governments can start by looking at **which type of carbon pricing provides the best fit**. The most common systems today are a carbon tax or an emissions trading system (ETS). A carbon tax sets a price on carbon by defining a tax rate on greenhouse gas emissions or – more commonly – on the carbon content of fossil fuels, while ETS sets a market price by creating supply and demand for emission allowances. Although impacts would depend on the country context, table IV.2 highlights some stylized facts. Overall in the region, there seems to be a tendency towards carbon markets, in part due to the potential regional cooperation opportunities they offer. However, carbon tax also has clear advantages, especially for countries with limited administrative capacity. Governments could also consider a hybrid pricing scheme, as practised in California and in the United Kingdom. A recent study suggested that in China a hybrid system where the non-ETS sectors pay a carbon tax would achieve the same carbon reduction targets with lower permit prices and GDP losses compared with a strategy which relies solely on ETS (Cao and others, 2019).

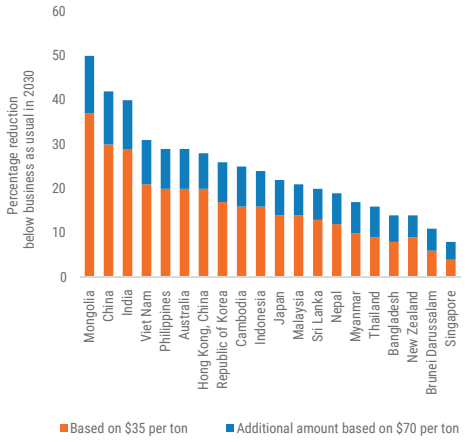
Potential emissions and fiscal impacts of carbon pricing could be significant. Indeed, if carbon taxes of $35 per ton and $70 per ton were imposed in the two scenarios shown in figure IV.4, carbon emissions would fall significantly below

[5] For further information, see climate-transparency.org/wp-content/uploads/2019/06/CT-Managing-the-phase-out-of-coal-DIGITAL.pdf

Figure IV.4

Climate and fiscal impacts of carbon tax

Reductions in carbon emissions

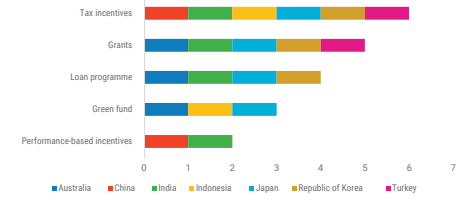


Carbon tax revenue

Source: ESCAP, based on IMF (2019g).

Figure IV.5

Fiscal incentives to make carbon pricing more effective



Source: ESCAP, based on IHS Markit (2018).

the business-as-usual level in 2030. Generally, emissions tend to be more responsive to pricing in coal-reliant countries, such as *China* and *Mongolia* (figure IV.4, upper panel). For instance, in *Mongolia*, it is estimated that a tax of $35 per ton would reduce emissions by 37 per cent below the business-as-usual approach, and $70 per ton would reduce emissions by an additional 13 per cent. At the same time, there could be large fiscal impacts, with carbon tax revenues ranging from below 1 per cent of GDP in high-income countries to more than 3.5 per cent of GDP in *Mongolia* (figure IV.4, lower panel). There are also more indirect ways of pricing carbon, such as through fuel taxes and the removal of fossil fuel subsidies and regulations

Table IV.2

Comparison of carbon tax and carbon market options

CARBON TAX	CARBON MARKET
CONCEPT	
Carbon tax (and environmental taxes in general) is a Pigouvian tax aimed at correcting for negative externalities and reaching socially efficient allocation of resources.	Carbon markets are based on Coase theorem (1960), which shows that clear property rights and low transaction costs could allow individuals to resolve problems through voluntary exchange.
PRICE CERTAINTY FOR INVESTMENT	
A fixed tax rate provides a clear and long-term policy direction for investment.	Susceptible to market price volatility, especially if markets are not deep enough; may also reflect adjustment to changing economic conditions.
CERTAINTY OF ENVIRONMENTAL IMPACTS	
No guarantee of meeting the reduction target, but in practice, broad-based carbon taxes can generally achieve targets.	Capping, if stringent enough, guarantees achieving set emission reduction targets; but in practice, effect is undermined by free allowances of permits.
COST EFFICIENCY (ADMINISTRATION)	
Administration of carbon tax tends to be minimal: for instance, it can be easily integrated into existing road fuel excise or into royalty regimes for extractive industries.	Complexity of the mechanism tends to require higher administrative costs and human resource capacity, including in measuring, reporting and verification, as well as in trading.
COVERAGE	
Can target emissions in all sectors, including transportation, energy and industry.	Tends to focus on the heavy-emitting industries with high reduction potential only.
INNOVATION	
Provides incentives for technology innovation in energy efficiency and renewable energy.	While carbon markets could foster innovation, an invention which reduces the cost of emission reduction could push down the price of permits, reducing investors' returns.
REVENUE	
Can raise significant revenues, which may allow reductions in personal or corporate income taxes or may be directed towards green spending or other development priorities.	In theory, full allowance auctioning can generate similar levels of public revenues as carbon tax, but auctioning may be difficult, especially in pilot phases as it is intended to be a "learning-by-doing" phase for industries.
POLITICAL FEASIBILITY	
Difficult to obtain public acceptance due to the perceived direct impacts on taxpayers' livelihoods.	May be more readily acceptable by the public, partly due to perceived indirect nature of its impacts. In most developing Asian countries, industries seem to prefer carbon markets.

Source: Compiled by ESCAP staff, based on various sources.

that may incorporate a "social cost of carbon".

At the same time, countries could **introduce complementary fiscal policies** as pricing alone will not do the job, and these would have to be combined with broader **green industrial policies and public investments**. Indeed, several major countries in the region have also introduced fiscal incentives to reduce costs and increase the uptake of clean-energy, electric vehicles and energy efficiency (figure IV.5).

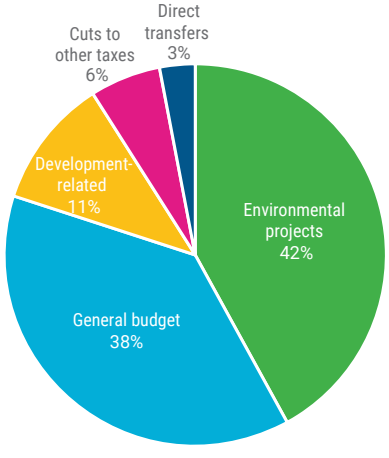
Carbon pricing can rebalance the competitiveness of industries towards sustainability

Besides creating environmental benefits, **carbon pricing** serves as an opportunity to **optimize industrial structures and promote innovation**. Increasing the price of carbon would have strong negative effects on the competitiveness of polluting industries and strong positive effects on that of industries which manufacture sustainably and offer green technologies and services. During the transition, some type of compensation or transition measure may be needed for severely affected industries, such as energy- and trade-intensive industries. However, it is important to deploy targeted measures rather than full exemptions. For instance, Governments could consider such approaches as output-based rebates and combine them with negotiated performance agreements, such as the introduction of an energy management system, so that all industries are incentivized and prepared to shift towards low-carbon trajectories.

Within specific industries, Governments could reassess the way in which carbon pricing is currently implemented. For instance, in the construction sector, which is the world's largest consumer of raw materials and a significant carbon emitter, existing carbon pricing tends to be focused on the bidding stage. However, many actors at the early stages of a project (lenders, developers and engineers) retain significant power and influence over the project's full life cycle carbon emissions in the design phase, choice and sourcing of building materials, operational procedures and associated technologies, including for heating and cooling. A **holistic approach** is needed to define the construction value chain and more resource-efficient operational technologies and procedures, so that all relevant stakeholders can jointly develop a strategy for integrated carbon pricing.

Since carbon pricing can generate large revenues for Governments, it is important to **communicate upfront on how these revenues would be used**. For instance, in *Indonesia* budget savings from the phasing out of fossil fuel subsidies were channelled to social protection and infrastructure development, whereas in *Japan* the new carbon tax was explicitly passed into law in order to fund renewable energy and energy efficiency programmes through green subsidies and research and development (R&D) support. Globally, it is estimated that the majority of carbon pricing revenues have been allocated to environmental projects but also to the general budget, other development-related purposes, cuts to other taxes and direct transfers for households and businesses.

Third, **harness the domestically available renewable sources of energy and increase energy efficiency**: The speed of the transition away from coal to a low-carbon, environmentally friendly alternative in the power sector depends on the speed, costs and scale for advancing renewable sources of energy and energy efficiency. This means defining ambitious renewable energy targets while reducing energy-intensity targets. In order to provide planning stability for investors, countries require long-term targets compatible with the goals of the Paris Agreement. Governments need to support these targets through effective policy environments that include incentives, subsidies, R&D of new technologies and creating enabling conditions for investors. Under the Paris Agreement, *India* has committed to producing 40 per cent of its electricity from renewable sources by 2030. To meet such ambitious targets, the Indian Government has put together

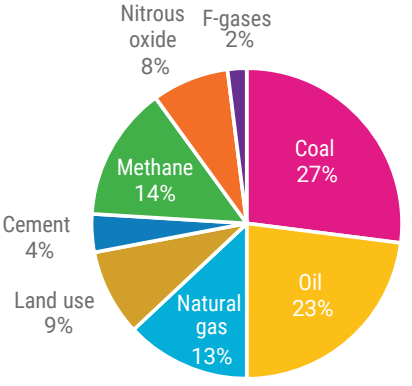


Source: ESCAP, based on Institute for Climate Economics (I4CE) and others (2019).
Note: The percentage reflects the use of carbon pricing revenues at global level.

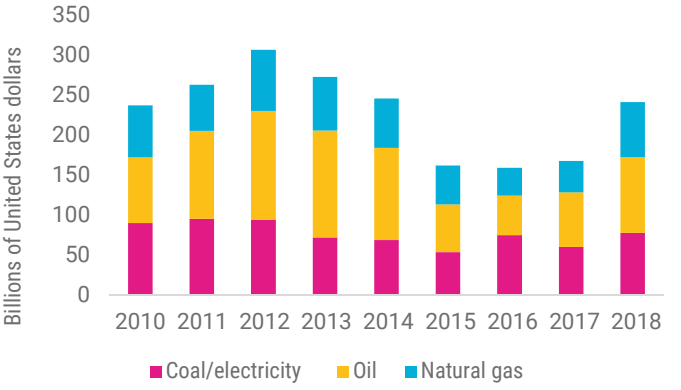
Figure IV.6

Governments continue to subsidize carbon-intensive fuels

Global GHG emissions share



Energy subsidies: Asia-Pacific region



Source: ESCAP, based on Carbon Action Tracker and International Energy Agency estimates.

Note: Subsidies to coal power generation are included in estimates of electricity subsidies. The term "F-gases" refers to fluorinated gases, which are manufactured gases that can stay in the atmosphere for centuries and contribute to the global greenhouse effect: hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

a package of support. In order to promote the use of solar energy among farmers and to boost the country's rooftop solar programme, the Government will provide financial support totalling more than $6.48 billion by 2022. With regard to the regulatory and fiscal aspects, interventions are focused on fostering innovative public-private partnerships, standardizing power purchase agreements, doubling the portion of energy that large-scale consumers must source from renewables and raising the tax levied on coal-derived energy from less than 3 per cent in 2016 to more than 17 per cent in 2019.

Asia-Pacific region continues to heavily subsidize carbon-intensive fossil fuels

The chief constraint in the move towards renewables is fossil fuel subsidies, which give fossil fuels a short-term competitive edge. It is alarming that the Asia-Pacific region continues to heavily subsidize carbon-intensive fossil fuels - by about $242 billion in 2018 (figure IV.6). In order to account for the true cost of carbon, as well as support the energy transition from fossil fuels to renewable energy, **Governments must commit to eliminating subsidies on fossil fuels**.

Coal accounts for 27 per cent of the global share of GHG emissions

The removal of fossil fuel subsidies could have favourable environmental impacts via the reduction of greenhouse gas emissions, as the higher price of fossil fuels would lead to more efficient methods of production, which in turn would lead to a fall in energy demand and hence, energy production. Given that coal accounts for 27 per cent of the global share of GHG emissions (figure IV.6), removing subsidies for fossil fuels, which are a significant contributor to GHG emissions, will help to drastically reduce such emissions. Indeed, statistics from IEA and OECD show that greenhouse gas emissions could decrease by 8 per cent by 2050 if fossil fuel subsidies are phased out.

Fossil fuel subsidies have been justified on the grounds of equity. Eliminating fossil fuel subsidies would increase energy prices, which poorer households may not be able to afford. This argument is especially pervasive in developing countries of Asia, a dynamic region which is home to the majority of the world's energy poor and where more than 400 million people have no electricity (ESCAP, 2018e and 2018g). However, in reality fossil fuel subsidies are highly regressive in nature, and tend to benefit richer people. In a sample of low- and middle-income countries, people in the top 20 per cent of

the income ladder accrued six times more benefits from fossil fuel subsidies than the bottom 20 per cent, who suffered from a lack of access to electricity.[6] Hence, removing fossil fuel subsidies would create substantial budgetary savings, thus freeing up fiscal space for Governments to invest in and implement policies that could better target those poorer households, such as policies related to the Sustainable Development Goals and financing a *just transition*.

Transition to greener economy could create a net gain of 14 million jobs in our region

Lastly, **phasing out fossil fuels will require broad political and societal support.** It is important that phasing out those fuels is considered *just* for those potentially adversely affected by that process: workers, communities, enterprises and lower-income households. What is required therefore is a just transition of the workforce through compensation and retraining for those people who lose their jobs, and national policies to support the development of green and decent jobs. Moreover, phasing out subsidies to coal and coal-fired power generators and establishing carbon pricing can lead to higher energy prices. **To prevent social repercussions, subsidy reforms and carbon pricing can be complemented by compensation for lower-income households.** Revenues generated from carbon pricing and from phasing out fossil fuel subsidies can support public goods, such as energy access, health, education and sustainable infrastructure. Policymakers can ensure that such policies do not have adverse and disproportionate impacts on the poor and workers by simultaneously providing financial support for a just transition. For instance, the ASEAN Declaration on Promoting Green Jobs for Equity and Inclusive Growth of the ASEAN Community, adopted in 2018, outlines nine actions relating to skills development and other priorities. *New Zealand* has established a Just Transition Unit within its Ministry of Business, Innovation and Employment. The Indonesian Government is working on ensuring a *just transition* to a low-carbon economy and feeding findings directly into its 2020-2024 development plan. It is doing so by moving away from coal; increasing renewable energy's share of the power sector to at least 30 per cent by 2045; fully enforcing moratoriums on forests, palm oil production, mining and development of peat lands; meeting existing national and international targets for water, fisheries and biodiversity conservation; and increasing land productivity by 4 per cent each year.[7] It should also be noted that **the transition to a greener economy could create a net of 14 million jobs in Asia and the Pacific**, with gains in fields of renewable energy, construction, manufacturing and sustainable agriculture (ILO, 2018).

[6] For more information, see www.imf.org/external/pubs/ft/wp/2010/wp10202.pdf.
[7] For more information, see www.wri.org/blog/2019/03/indonesia-charts-new-low-carbon-development-path-will-other-countries-follow-suit.

1.3. Create green financial market mechanisms to promote sustainable investment

As noted in chapter III, climate change poses risks for financial stability. A growing number of central banks and financial regulators are beginning to incorporate these into their policy considerations. The financial sector is likely to be adversely affected via lending and investment operations. Importantly, a **robust financial sector may contribute to the green transition** by ensuring continued allocation of risk-adjusted capital. Consequently, central banks and financial institutions should include climate-related risks in their risk management and regulations, and develop new market instruments to serve as conduits for sustainable investment.

Greening the financial markets

Financial markets can play a fundamental role in tackling climate change by mobilizing the resources needed for investment in climate mitigation (reducing GHG emissions) **and adaptation** (building resilience to climate change) in response to price signals, such as carbon prices. In other words, if Governments implement policies to price in externalities and provide incentives for the transition to a low-carbon economy, the financial system can help achieve these goals efficiently. The *2019 Survey* estimated additional investment requirements for clean energy and climate action at $434 billion a year. **Most of these investments are likely to be intermediated through the financial system**. From this point of view, climate change provides the financial sector with as much opportunity as it does risk.

Financial regulators can play a strong role in putting into place regulations and guidelines to catalyse sustainable investment. Globally and in the Asia-Pacific region, while sustainable investing started in equities, strong investor demand and policy support has **stimulated the**

issuance of green bonds, increasing green bond proceeds to as high as $173 billion in 2019, a 31 per cent increase over the level a year previously.[8] The Asia-Pacific region, including Japan, raised a record high amount of $48 billion, up 3.6 per cent from a year previously. China has set up the largest green bond programme in the region. In order to boost the green bond market, banks in China allow companies to use green assets as collateral and work with industry to verify that green bond issuers fulfil their environmental pledges, particularly on reducing carbon emissions and pollution. Banks are also beginning to adjust their lending policies by, for example, giving discounts on loans for sustainable projects. Other countries in the region are catching up and moving towards **greening the banking sector**; an example is provided by the case of Indonesia (see box IV.1).

To scale up private sector green investments, Governments will need to **cooperate with a range of actors** to increase capital flows and develop innovative financial approaches. These actors generally fall into two categories: **capital providers**, which include pension funds, insurance companies, commercial trusts and endowment funds; and **financial intermediaries**, which include commercial banks, investment banks, investment management firms and private equity firms. These actors can provide links to investment opportunities in green projects.

Governments can further enhance the impact of greening by exploiting a variety of tools currently at their disposal. These include both **monetary incentives** by central banks and **fiscal incentives** by the Government. Some examples include the following:

Box IV.1

Indonesia's sustainable finance initiative for banks, capital markets and non-bank financial institutions

The Financial Services Authority of Indonesia (Otoritas Jasa Keuangan, or OJK), an Indonesian government agency which regulates and supervises the financial services sector, is committed to establishing an effective regulatory environment to encourage the development of sustainable finance. In 2017, **OJK issued a specific regulation on sustainable finance – POJK 60 and subsequently guidelines on green bond sustainable banking and blended finance schemes.** The regulation encompasses banks, capital markets and non-bank financial institutions, such as insurance companies, and is being rolled out in phases. The regulation requires standardized sustainability reporting to OJK. Reports include an annual action plan, which sets out implementation of the sustainable finance initiative at the beginning of the year, and an annual sustainability report at the end of the year. In the standardized report, the effectiveness of supervision is determined, including stress testing for sustainable finance. As first movers in 2019, 80 per cent of commercial banks have submitted sustainable finance action plans, which show an increasing portfolio shift to financing sustainable projects: green buildings, ecotourism, renewable energy, organic farming and sustainable infrastructure. Next in line is capital markets reporting. Listed companies are required to submit action plans on the implementation of sustainable finance principles, followed by securities companies in the next two years.

Source: Adapted from the OJK presentation at ESCAP on 18 October 2019, entitled Indonesia's financial sector: contributing to sustainable finance.

Monetary incentives

- *Interest rates designed specifically for green projects*, such as subsidized loan rates and differential rediscount rates for green investments. Subsidized loan rates for green investments increase the willingness and ability of investors to invest in green projects, while differential rediscount rates enable commercial banks extending credit to green investments to rediscount bills at lower rates, thus incentivizing commercial banks to extend loans to green sectors. A case in point is the central bank of *Bangladesh*, which offers a rediscount rate of 5 per cent for commercial banks offering bank loans for projects focused on solar energy, biogas and effluent treatment plants;[9]

[8] For additional information, see https://esg.theasset.com/ESG/39561/global-green-bonds-2019-full-year-review.

[9] For additional information, see www.bangladesh-bank.org/pub/ annual/green_banking/2012/full_rpt.pdf.

- *Differentiated capital requirements*. All commercial banks are subject to a minimum capital adequacy ratio, which determines the minimum amount of capital that a bank must hold in relation to its risk-weighted assets. Lowering capital requirements for commercial banks offering loans to green projects increases their ability to create credit, providing greater incentives for green lending.[10]

Fiscal incentives

- *Specific lending terms and conditions designed specifically for green projects* by State-owned development banks, green development funds, public pension funds and sovereign bonds can lower the **cost of green financing** as they are backed by government credit. *China* offers incentives to banks and businesses in the form of lower borrowing costs and subsidized interest payments on green bonds. For the most environmentally friendly loans, the Government subsidizes up to 12 per cent of the interest rate;[11]

- *Credit enhancement and government guarantees for new startups and technologies*. Green projects sometimes are exposed to risks derived from adopting new technologies or business models, foreign exchange risks and longer investment periods among projects with similar financial returns. Credit enhancement arrangements therefore can be applied to address market barriers by offsetting related risks. *The Philippines* issued its first climate project bond in 2016 for a renewable energy project.[12] As a new product in the market, it required credit enhancement from the Credit Guarantee and Investment Facility, a trust fund of the Asian Development Bank;

- *Cost-sharing for certification and verification services for green investments*. For markets at the nascent stage of green finance, costs related to the green verification are often considered as an extra cost. By introducing **cost-sharing** programmes, such as *Japan's* Financial Support Program for Green Bond Issuance, regulators can nudge the market towards green transition with a reasonable amount of government spending. A similar programme is run by the Monetary Authority of *Singapore*'s Green Bond Grant Scheme, whereby companies purchasing green bonds receive a 100 per cent subsidy for the additional costs of certifying sustainability oriented bonds as green bonds. The significant reduction in cost to purchase green bonds has led to and continues to nurture the growth of Singapore's green bond market;[13]

- *Tax breaks* can be a tool to catalyse substantial private investment in green sectors. The Securities Commission of *Malaysia* has allowed tax incentives for deploying green technologies in energy, transportation, building, waste management and supporting services activities. A 100 per cent investment tax allowance of qualifying capital expenditure incurred on a green technology project can be offset against 70 per cent of statutory income in the year of assessment. Unutilized allowances can be carried forward until they are fully absorbed.[14]

Channelling foreign direct investment into sustainable investments

The scale of FDI and its significant growth give it a crucial role in sustainable investment because of its **potential to transfer environmentally friendly industries and technology that directly contribute to environmental progress.** However, including sustainability into FDI is still not at the level required as many current policies to support domestic firms to expand overseas disregard sustainability. For instance, China, Japan and the Republic of Korea lead the charge to finance coal projects abroad to such countries as Bangladesh, Pakistan and Viet Nam.[15] In China's case, 80 per cent of $160 billion in FDI energy projects supported by the Chinese Government between 2010 and 2016 went to the development of power plants (Gallagher, 2017). If instead the Chinese Government *transferred its financial resources and domestic firms' capabilities in solar and wind power, one could imagine the Government catalysing a similar expansion of FDI in renewable energy investment*. Greening FDI is, of course, challenging. In order to green their FDI, Asia-Pacific countries will need to

[10] More details may be obtained from http://unepinquiry.org/wp-content/uploads/2017/02/On_the_Role_of_Central_Banks_in_Enhancing_Green_Finance.pdf.
[11] For further information, see www.chinadaily.com.cn/a/201903/11/WS5c855866a3106c65c34edc7f.html.
[12] Additional details may be obtained at www.cgif-abmi.org/2016/02/29/cgif-supports-the-first-climate-project-bond-in-asia-by-ap-renewables-inc-apri-from-the-philippines/.
[13] A fuller explanation of this is available at www.climatebonds.net/files/files/ASEAN_GreenFin_SotM_CBI_012019.pdf.
[14] For further information, see www.mida.gov.my/home/tax-incentives-for-green-industry/posts/?lg=CHN.
[15] For further information, see www.nrdc.org/experts/han-chen/questionable-future-overseas-coal-investments.

adapt their policies at the home, host and intergovernmental levels.

As recipients of FDI, **host countries** can play a part in promoting green FDI *by establishing an enabling environment for foreign investors to invest in sustainable projects.* This will include initiatives, such as mainstreaming Sustainable Development Goals-based investment promotion and *establishing a dedicated investment promotion agency (IPA)* (UNCTAD, 2018) to design packages of incentives targeting specific priority industries and sectors.[16] Consolidating information about investment opportunities relating to the Sustainable Development Goals will make it easier for foreign investors to identify green investments, whereas working with one IPA will make it easier to set up local investment partnerships lowering barriers to entry in new markets and sectors, thereby facilitating investment in green FDI. One example of this is *Invest India*, an IPA set up to attract environmentally friendly FDI into India. Invest India uses a range of powers that include full liberalization of inward FDI, bank lending and power purchase agreements that involve the renewable sector.

Home countries as originators of FDI, on the other hand, need to recognize the integral role they play in driving green FDI as they are the ones who decide to where and to what their FDI should be directed, and *implement relevant policies to promote sustainable investment decisions applicable to both inward and outward investments* (UNEP, 2017).

At **the intergovernmental level**, a significant barrier to green FDI is the lack of a global platform that facilitates investment projects that contribute to achieving the Sustainable Development Goals. To address this issue, multilateral cooperation, which provides support for green FDI, could step in and overcome such barriers. Provided that a platform is in place to coordinate, resolve and monitor potential disputes and actions of both home and host countries, investors may feel more at ease placing their investments in sustainable projects, thus increasing their willingness to partake in green FDI. A good approach is through international investment agreements, which are treaties between States, to promote FDI and include facilities of coordination and arbitration.

Integrating climate-related risks into financial systems

The financial system should reflect the actual risks from climate change. Climate change affects the financial system through two main channels. The first involves *physical risks*, arising from damage to property, infrastructure and land. The second, *transition risk*, results from exposure to industries not built around the economics of low-carbon emissions. These industries could see their earnings decline, businesses disrupted and funding costs increase because of policy action, technological change and consumer and investor demand as policies are aligned to address climate change. Hence, the financial sector should prepare for the climate emergency by carrying out the following measures:

First, **understanding and reporting exposure to the financial systems from climate-related risks.** Exposures can vary significantly from country to country depending on which entities are involved and how directly or indirectly are they involved in financing a certain asset. For example, rising sea levels and a higher incidence of extreme weather events can cause losses for homeowners and diminish property values, leading to greater risks in the mortgage portfolios of banks, insurance companies and pension funds, and ultimately the Government. Risks can materialize if the shift to a low-carbon economy is rushed, poorly designed, or not coordinated with key stakeholders, such as affected communities. As a result, financial stability concerns arise when asset prices adjust rapidly to reflect unexpected realizations of physical or transition risks.

Of all global TCFD signatories, 40 per cent are from the Asia-Pacific region

An emerging reporting system called the Financial Stability Board's **Task Force on Climate-related Financial Disclosures (TCFD)**[17] *can be helpful* in this regard. TCFD was set up by the Board in 2015 as a voluntary initiative with the objective of increasing transparency and disclosure on financial exposure to climate-related risks. These disclosures are not part of current financial reporting systems in the region, such as the more commonly used international financial reporting system or international accounting standards. **The TCFD framework facilitates understanding of the environment's impact on a business instead of business' impact on the environment**. This

[16] Please refer to action 1 on prioritization.

[17] For further information, see www.fsb-tcfd.org.

enables banks and businesses to assess which areas of their activities are affected by climate change and ultimately allows them to make decisions on the areas that need to be greened. Currently, there are more than 930 TCFD signatories, of which 396 are businesses and central banks in the Asia-Pacific region[18] (box IV.2).

There are two ways in which Governments can mainstream TCFD. One approach is to adapt the TCFD implementation guidelines and align them with their domestic reporting and disclosure regulations. This will require an allocation of resources and the creation of a dedicated unit to integrate TCFD into mandatory regulations. The other approach would be to nudge businesses to voluntarily follow and implement the TCFD implementation guidelines on their own initiative. A dedicated unit can be created in this case as well to help each business integrate or break down areas of TCFD relevance to their own business models.

Second, **preparing for financial stability implications for central banks and financial regulators' exposure to climate change**. Capturing climate risk properly requires assessing it over long horizons and using new methodological approaches, so that prudential frameworks adequately reflect actual risks. It is crucial to ensure that the efforts to address climate risk strengthen, rather than weaken, prudential regulation**.** Because of these factors, a significant amount of analytical work needs to be done in order to equip central banks and regulatory supervisors with the appropriate tools and methodologies to identify, quantify and mitigate climate-related financial risk.

Recently, **the Network of Central Banks and Supervisors for Greening the Financial System (NGFS)**,[19] members of which include central banks and international institutions, has been set up to **create technical documents on climate finance risk**. The network was launched in December 2017 during the One Planet Summit and consists of three different work streams on supervision, macrofinancial and mainstreaming green finance. On a voluntary basis, NGFS is aimed at achieving its objectives by exchanging experiences, sharing information on best practices, contributing to the development of environmental and climate risk management in the financial sector and mobilizing mainstream finance to support transitioning to a sustainable economy. The hope is that reports and recommendations as well as collective action will result in a greener financial system across countries and continents. Banque de France serves as the NGFS secretariat and is continuingly adding to the organization's roster of members, which now includes 13 Asia-Pacific central

Box IV.2

Japan's Government Pension Investment Fund – the world's largest asset owner – acts on climate-related risks

The Government Pension Investment Fund (GPIF) of Japan, the world's largest pension fund, recently undertook a climate-related portfolio risk assessment in line with TCFD recommendations.[a] In the report on that assessment, GPIF listed the risks and opportunities, and described policies and procedures in place to monitor and address climate-related issues on an ongoing basis. This assessment provides both forward-looking and historical metrics that can be used by asset owners to support their climate-related disclosures and inform internal processes for risk management and strategy development within an organization. This is part of a broader approach to climate risks in Japan. A dedicated TCFD consortium was established in May 2019, an initiative of five leaders of the financial services industry and academia. Through a series of dialogues between the financial and non-financial sectors, the consortium is aimed at extending the discussion on effective and efficient corporate disclosure of climate-related information and its use by financial institutions.

[a] For details, see www.gpif.go.jp/en/investment/trucost_report_en.pdf.

[18] Japan (245), Australia (66), Taiwan Province of China (18), Singapore (17), Hong Kong, China (13), India (11), China (6), New Zealand (6), Republic of Korea (6), Malaysia (2), Philippines (2) and Viet Nam (2).

[19] For additional information, see www.mainstreamingclimate.org/ngfs/.

banks and organizations[20] out of a total of 55 members.[21] Its membership requires an entity to be actively committed to contribute to the objectives of NGFS by demonstrating a proven commitment to sustainable finance. Ideally, more **Asia-Pacific countries should follow the charter of NGFS,** request membership and be ready to have resources in place to commit to NGFS requirements, such as appointing a credible representative to chair the country's attendance in NGFS workstreams.

2. People action: businesses and consumers

2.1. Businesses - internalize externalities of business operations

Chapter III highlighted that, while sustainability has long been on the agenda for many businesses, the environmental, social and governance aspects of their activities have been disconnected from core business strategy. This section proposes three actions that businesses can take to align their operations towards achieving their own goal of reducing their carbon footprint and improving sustainability.

Integrate sustainability into business functions

One of the challenges for businesses is the lack of standards on sustainable investments, which makes it difficult to compare and understand the value addition of business activities (chapter III). However, currently there is no single agreed definition of a standard to measure sustainability. The most common categorization to define sustainability is by recognizing **environmental, social and corporate governance (ESG) aspects separately** (figure IV.7).

Figure IV.7

Morgan Stanley Composite Index: environmental, social and governance hierarchy

Source: Morgan Stanley Composite Index, available at www.msci.com

As a result, businesses have tried to adopt different methods of assessment for ESG, which fit their individual needs. The most important issue, however, seems to be that of ESG itself. Not only individuals, but many businesses have a limited understanding of ESGs and how these factors can be incorporated into production systems. For example, an investor may view GHG emissions as the most negative ESG factor of a mining company, when the company is more concerned about domestic regulatory risk on exports, while another investor may view the mining company's health and safety as the most negative ESG factor. Such challenges are mostly due to the inability of ESG to become mainstreamed among companies and the low quality of data available (some companies have only one or two years of activity), which leads to a level of unawareness of what and how to evaluate ESGs exactly.

Businesses need to follow ESG standards on sustainable investments

First, **understand sustainability as a part of business functions**. In order to better manage risks and improve returns, businesses need to explicitly and systematically include issues related to environmental, social and governance in investment analysis and decisions. One way is to sign up for membership in the United Nations-supported Principles for Responsible Investments,[22] or develop similar principles that include capacity-building, platforms for engagement, research and other tools in order to achieve greater integration of sustainability

[20] As of February 2020: Bank Indonesia, Bank Negara Malaysia, Bank of Japan, Bank of Korea, Bank of Thailand, Bank of Russia, Hong Kong Monetary Authority, Japan's Financial Services Agency, Monetary Authority of Singapore, National Bank of Georgia, People's Bank of China, Reserve Bank of Australia and Reserve Bank of New Zealand.

[21] For details, see www.ngfs.net/en/about-us/membership.

[22] For further information, see www.unpri.org/pri.

in business functions. Currently, PRI has about 2,700 signatories, including 353 from the Asia-Pacific region. Membership in PRI means that businesses agree to its six principles:

- Incorporate environmental, social and governance issues into investment analysis and decision-making processes
- Be active owners and incorporate environmental, social and governance issues into their ownership policies and practices
- Seek appropriate disclosure on environmental, social and governance issues by the entities in which businesses invest
- Promote acceptance and implementation of the Principles within the investment industry
- Work together to enhance self-effectiveness in implementing the Principles
- Report on their activities and progress towards implementing the Principles

The only mandatory requirement for members, beyond paying the annual membership fee, is to publicly report on their responsible investment activities through the reporting framework. For the first full reporting cycle in which an organization is a signatory, it is voluntary to report, meaning that the timeframe for starting compulsory reporting will be somewhere between 12 and 24 months after signing, depending on when in the year the organization becomes a signatory to the Principles.

Second, **adopt sustainability-reporting rules.** Reporting on a standardized scale will make it easier for businesses to compare and understand value addition in their business activities, thus spurring them to make sustainable investments. Currently, Global Reporting Initiative (GRI) standards are the most commonly used standards for sustainability reporting, with more than 80 per cent of the world's largest corporations using GRI standards to report the ESG impacts of their business activities. GRI was launched in October 2016 in collaboration with UNEP and the United Nations Global Compact. GRI standards are created in alignment with international labour practices and environmental impacts, such as the ISO14000 series (a standard that assesses environmental impact) and OHSAS18001 (a standard which assesses occupational health and safety risks). Other widely used standards include those of the Sustainability Accounting Standards Board Foundation (SASB), which comprise a set of 77 industry-specific standards which pinpoint financially material sustainable topics and their associated metrics for a typical company in an industry, and the Carbon Disclosure Project's scoring system, which grades businesses based on their responses to three thematic questionnaires (one each on climate change, water security and forests). Depending on their intended target audience and needs, businesses could use any of these standards. For instance, if their aim is to provide comprehensive information to a wide audience ranging from investors to NGOs and Governments, GRI standards might be more appropriate, and if their goal is to attract financial investors, then they might want to adopt SASB standards instead.

Third, **align domestic sustainability-reporting standards with the TCFD guidelines**, as mentioned above under **government actions**. TCFD was established by the Financial Stability Board and is an international body dedicated to providing consistent and coherent recommendations for businesses to disclose climate-related risks. TCFD was not designed specifically with investors' interests in mind. Transparency is important for investors, but its core objective is to enable businesses themselves to understand their own risk in relation to potential climate-related risks. Yet, even when TCFD is freely available, **currently businesses use different sustainability reporting rules,** which makes it difficult for investors and stakeholders to determine and compare the results of sustainability initiatives across industries. Therefore, harmonization is needed across disclosure rules to encourage reporting of sustainable activities. Because the TCFD guidelines provide the necessary principles that would contribute to the harmonization process, **businesses should be mandated by their Governments to align their sustainability reporting with TCFD recommendations**. This makes even more sense as the process is relatively simple; TCFD has been designed to be incorporated into annual financial reports. It is relatively easy for financial regulators to incorporate TCFD reporting as businesses in most countries are required to submit financial reports on an annual basis. Of course, regulators would need to allow time for their markets to transition towards TCFD reporting, and hence TCFD provides implementation guidelines for both regulators and businesses to follow.

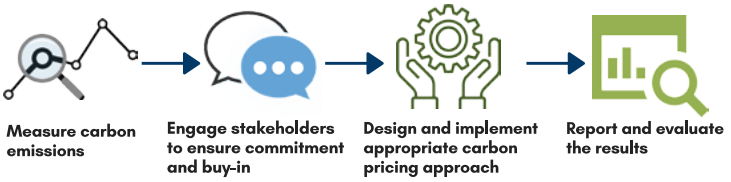
As mentioned previously, **Indonesia's financial services regulator, OJK,[23] has put into place a financial sustainability road map;** OJK is considered a first mover in sustainable financial regulation in the region. In 2014, OJK and the Ministry of Environmental Affairs and Forestry issued the Sustainable Finance Roadmap. This was followed in 2017 by the "Umbrella Policy" for financial institutions, and in 2018 by technical guidelines for banks. The road map refers to international risk management and green finance reporting standards, and advises that financial institutions' environmental and social policies, practices and results should be externally verified. The 2018 guidelines encourage banks to adhere to relevant international standards when designing their environmental and social policies. Both documents also refer to the Sustainable Development Goals. Contribution to climate change targets is mentioned in the explanation part of the OJK regulation about implementing sustainable finance principles for financial services institutions, issuers and public corporations. Under the road map, OJK plans to offer both fiscal and non-fiscal incentives to increase the supply of sustainable finance. One non-financial incentive is to offer sustainable finance awards to honour financial institutions that demonstrate the highest sustainable finance standards.

Internalize externality: internal carbon price

In recognizing the systemic risks that climate change poses, **businesses are increasingly turning to internal carbon pricing as a tool to reduce their carbon footprint** on the production side, mitigate climate-related risks, such as damage to physical assets, commodity availability and supply chain disruptions, and reap opportunities in the transition to a low-carbon economy, such as meeting emission targets, increased competitiveness due to the transition to energy-efficient methods and earning a positive reputation due to their sustainable practices.

Figure IV.8

Implementing internal carbon pricing



Source: ESCAP.

Carbon pricing is the most effective way to cut carbon emissions

Globally, nearly 1,400 companies, including some 465 companies in the Asian and Pacific region, have disclosed the use of internal carbon pricing or plans to implement such an approach (Carbon Disclosure Project, 2017). There is also **growing business consensus** that **carbon pricing is the most effective way to cut carbon emissions** (EY, 2015). However, many companies are still holding back from adopting internal carbon pricing due to such challenges as a lack of knowledge on how to adopt internal carbon pricing. For instance, at the recent International Research Conference on Carbon Pricing,[24] participants from various private sector businesses in India informed the meeting that the issue they faced in terms of carbon pricing is no longer "why" to adopt carbon pricing but instead "how" to do so.

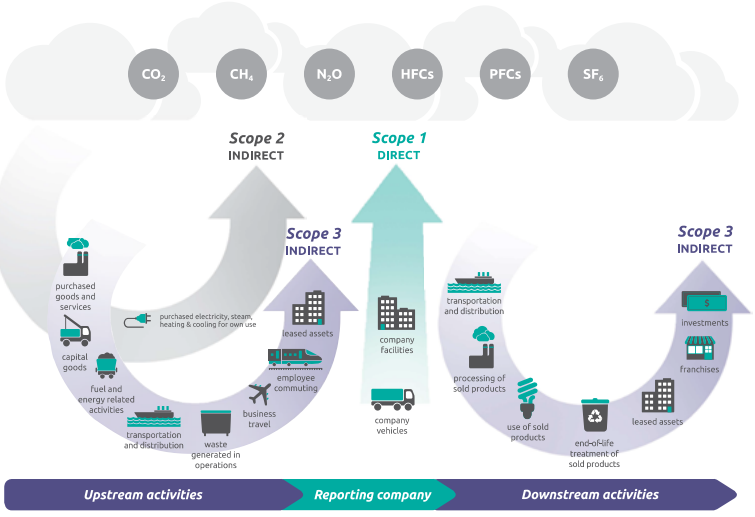
As a general guideline, businesses can internalize carbon pricing by adopting the following steps. *First*, businesses should ensure that there is a **measurement system** in place to track carbon emissions. Without a proper measurement system, businesses will not be able to accurately pinpoint their carbon footprint and hence will not be able to set an appropriate price on their carbon footprint. *Second*, businesses should **engage stakeholders,** including their board, senior management and employees from various departments, when setting carbon-reduction targets to ensure buy-in and commitment towards a common carbon reduction target, which is key to devising an appropriate carbon pricing strategy. *Third*, businesses should **design and implement an appropriate carbon pricing approach** according to their individual needs. Carbon pricing approaches include imposing an internal carbon fee (adding carbon price to operational

[23] For further information, see www.ojk.go.id/en/berita-dan-kegiatan/siaran-pers/Pages/OJK-Issues-Regulations-on-Infrastructure-Financing-SMEs-Development-Sustainable-Finance-Programs-Blocking-Terrorists-Fund.aspx.

[24] Organized by the Carbon Pricing Leadership Coalition (CPLC), World Resources Institute (WRI), Carbon Disclosure Project (CDP), International Finance Corporation (IFC) and the Energy and Resources Institute (TERI), it was held in New Delhi on 14 and 15 February 2019.

Figure IV.9

Overview of GHG Protocol scopes and emissions across the value chain



Source: WRI and WBCSD (2013).

costs), shadow pricing (attaching the value of carbon emissions) and implicit pricing (accounting for costs of reducing GHG emissions). The most common approach is to **adopt a hybrid between either imposing an internal carbon fee or shadow pricing and implicit pricing by calculating costs associated with carbon emissions** from key emissions sources and with transitioning to low-carbon energy sources. For instance, Infosys, a global technology firm with significant carbon footprints in India, implemented an internal carbon price of $10.50 per metric ton of carbon dioxide emissions by determining the key source of its emissions and mapping the costs associated with transitioning from electricity to renewable energy sources. These sources include costs of purchasing electricity across facilities in India, the cost of energy efficiency and renewable energy methods and the cost of buying offsets from current market mechanisms.[25] *Lastly*, businesses should **report and evaluate the results** of the implemented carbon pricing approach. This would enable them to determine the effectiveness of their carbon pricing strategies and decide whether there is a need to change or adjust their strategies in the future.

Governments can support businesses to internalize carbon pricing by **engaging companies** that have successfully implemented carbon pricing schemes and sharing their experiences with other businesses that are planning to do the same. For instance, Governments could engage Infosys to share its experiences in determining internal carbon pricing. Additionally, to encourage **the uptake of carbon pricing in sectors that are especially carbon heavy**, Governments could also provide incentives tailored to the needs of these sectors. For example, such instruments as parking pricing, congestion charges, vehicle tax, tax incremental financing, fuel tax and subsidies to sustainable infrastructure are more relevant for the transportation sector, while such instruments as carbon tax, broad-based energy tax, feed-in tariffs, "feebates" and subsidies for renewables are pertinent to the electricity and heat-supply sector.

Account and disclose full value chain of greenhouse gas emissions

As noted in chapter III, one of the reasons for the slow progress towards accounting for externalities by businesses is the difficulty they face in measuring the environmental impact of business activities, as recommended by the GHG protocol. Most companies have been focusing their efforts to measure their carbon footprints from production activities which are directly within their control (scopes 1 and 2, see figure IV.9), and not so much from their upstream and downstream activities or value chains (scope 3). **According to the Carbon Disclosure Project,[26] a global environmental disclosure platform, carbon emissions in supply chains are on average four times higher than coming from businesses' direct operations.** In fact, approximately 40 per cent of global GHG emissions are driven or influenced by companies through their purchases (i.e. purchased goods and services) and through the products they sell (i.e. use of sold products).[27] However, there is a **growing need to reduce scope 3 emissions (emissions in the business' value chain)**. Businesses are already demonstrating that it is possible to address scope 3

[25] For further information, see https://shaktifoundation.in/wp-content/uploads/2018/03/Internal-Carbon-Pricing-Primer-Case-Study.pdf.

[26] Details are available at www.cdp.net/en/articles/media/surge-in-climate-leadership-as-apple-honda-microsoft-others-awarded-for-tackling-emissions-in-the-supply-chain.

[27] For additional information, see https://sciencebasedtargets.org/wp-content/uploads/2018/12/SBT_Value_Chain_Report-1.pdf.

emissions. More than 2,800 companies reported to the Project in 2017 on scope 3 emissions, and 26.7 per cent of these companies calculated emissions for all relevant scope 3 categories. A clear need remains for businesses to develop guidance on scope 3 emission accounting and reporting.

Carbon emissions in supply chains are, on average, four times higher than direct operations

GHG Protocol reporting lists the circular economy as one of the levers to reduce emissions in value chains. The circular economy approach can achieve large improvements in environmental performance by redesigning systems and business models to simultaneously reduce upstream and downstream emissions. Prevailing linear processes consume resources and generate waste ("take ➞ make ➞ use ➞ dispose"). By closing the loop and recirculating materials, businesses extend product lifespans and reduce new material demand and waste. This in turn reduces the embodied energy of the new materials as well as their processing.[28] Currently, only 8.6 per cent of the global economy is circular compared with 9.1 per cent two years previously due to deeply embedded trends, such as high rates of extraction, continual stock build-up[29] and increasing but still low rates of end-use processing and cycling (Circle Economy, 2020).

To help address the growing need for businesses to reduce their scope 3 emissions, the move towards sustainable businesses will require effective policies, including legal instruments, financial instruments and incentives, as well as investments over time. **Governments can support the transition to sustainability through laws and regulations that cover production techniques, equipment and technology, resource exploitation, and recycling, minimizing and reusing waste**. Some examples include industrial policies to encourage waste utilization, cleaner production, improved resource utilization efficiency, emission standards, energy efficiency labelling and market-based policies, such as emissions trading. Fines should be imposed for non-compliance, while the use of special funds or tax breaks as financial incentives can boost compliance. A strong policy foundation can be the driving force in the transition towards more sustainable practices. Governments should also engage in green and sustainable public procurement.

2.2. Consumers - develop sustainable lifestyles

As identified in chapter III, consumer lifestyles affect the environment. The good news is that in recent years consumers are becoming conscious of this and are willing to seek sustainable consumption choices, as exemplified in a recent survey (Nielsen, 2014). It found that 64 per cent of respondents in the Asia-Pacific region indicated a willingness to pay more for products and services provided by companies that are committed to making positive social and environmental impacts – one and a half times higher than that of Europe and North America. It is posited that consumers in emerging markets are most concerned about sustainable consumption and production because they are seeing the impact of environmental damage most closely. For example, India, Indonesia, Pakistan and the Philippines were among the countries where more than 90 per cent of respondents said that it was "extremely" or "very" important that companies implemented sustainable production to inspire sustainable consumption.

Asia-Pacific consumers are increasingly willing to pay more for sustainable products

In view of such consciousness, **Governments will play a significant role in influencing consumer behaviours**. Governments can therefore consider the following policy actions.

Create performance standards to establish a common understanding between manufacturers and consumers: This can come in the shape of producers labelling energy-efficient products which consumers can read and subsequently make the purchase with confidence. For instance, the establishment of the Minimum Energy Performance Standards and Labelling programme in *Fiji*[30] promoted a linen and towel reuse programme and upgrading of laundry equipment by hotels

[28] Ibid.

[29] Global phenomena, such as urbanization, require increased housing and utility infrastructure, which increases the amount of materials in long-term stock.

[30] For additional details, see www.unescap.org/resources/mpfd-policy-brief-no-100-structural-transformation-asia-pacific-small-island-developing; https://fijisun.com.fj/2013/02/23/denarau-marina-powered-with-solar/; and www.greenlodgingnews.com/turtle-island-resort-operating-on-nearly-100-percent.

and resorts in a tourist economy. Similarly, the Energy Conservation Building Code of *India*[31] in 2017 established eco-efficiency standards for buildings, providing buyers with information on which houses to purchase. *Viet Nam*'s EDGE programme[32] helps determine the most cost-effective options for designing green buildings that follow standards and are EDGE-certified. Such information has helped change the behaviour of consumers wishing to invest in green property (i.e. energy-efficient houses), banks providing lower rates to green-house buyers and investors directing money to green buildings due to reputational factors.

Plan infrastructure better to reduce traffic congestion and GHG emissions: For instance, traffic congestion is a major problem in most Asian cities, and building more roads is not going to solve this problem. In this respect, policymakers in *Viet Nam*'s Ho Chi Minh City[33] incorporated the transit-oriented development principle into the building of new infrastructure, which maximizes the amount of residential, business and leisure space within walking distance of public transport. This will reduce the use of private vehicles as the city becomes less carbon congested and more resource efficient in land use. Similarly, the city of Toyama in *Japan*[34] is using the same principle to reduce dependency on private vehicles, lower GHG emissions and prevent the general decline of the city centre.

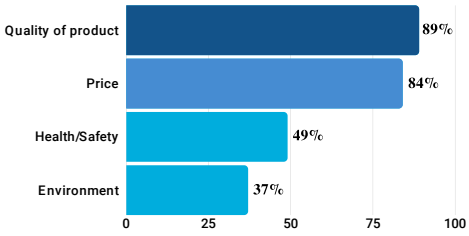
Encourage behaviours to promote environment awareness: As mentioned in chapter III, consumers may not always be rational in the absence of full information and may choose products that are harmful to their health and safety as well as that of the environment. A 2019 consumer survey conducted by Accenture (figure IV.10) found that quality of products and their price carried a higher weight in the decision to buy a product compared with health/safety and environmental aspects (Accenture, 2019). Hence, providing information on sustainable use of consumer products and the carbon footprints of their choice could nudge people's consumption behaviours.

Nudging can promote sustainable consumer behaviour

Indeed, increasingly in behavioural economics, nudging has emerged as an effective policy tool to influence consumer behaviour. **The basic idea is simple: If you want people to do something, make it easy by actively promoting behaviours deemed desirable**. If you want people not to do something, make it difficult. Nudging is preferred because it can predictably change behaviour without forbidding any options or providing economic incentives. Nudges are positive

Figure IV.10

Accenture consumer survey



Source: Accenture (2019).

reinforcements, small suggestions, or changes in choice architecture intended to influence the behaviour of consumers. There are a few key principles for effective nudging. One is to get feedback that compares a person's behaviour with that of others. Another is making the desired option the default option as people subconsciously choose what is considered normal, and a third option is tweaking the environment to make sustainable choices easier.

Nudging has particular strengths as compared with more traditional methods of influencing consumption behaviour, such as regulation and market-based incentives. For the consumer, nudging offers two advantages: guidance in difficult decision-making processes and the possibility to reject choices where they are contrary to an individual's preference or advantage. The fact that individuals can opt out of a nudge also provides a safety valve for occasions where the policymaker makes decisions based on interests other than that of the individual. The most established example in the Asia-Pacific region of the use of nudging across government policies provided by that of *Singapore*, which has used such behavioural science to influence household behaviour since the 1960s. This includes using nudging to reduce water consumption and encourage the use of public transport. The Government

[31] For further information, see https://beeindia.gov.in/content/ecbc-residential.
[32] For more information, see www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/greener-buildings-make-better-homes-in-vietnam.
[33] For details, see http://documents.worldbank.org/curated/en/261041545071842767/pdf/133001-REVISED-TOD-Implementation-Resources-REVISED-March4.pdf.
[34] For further information, see www.adb.org/sites/default/files/publication/502516/adbi-wp947.pdf.

of *India* has recently utilized behavioural insights in the implementation of large-scale schemes, such as *Swacch Bharat Abhiyan* for the cleaning of public spaces.

There are various ways to **institutionalize nudging in government policy**. One of them is to create a unit within the State administration or supporting institutions. Globally, more than 200 institutionalized behavioural insight-related bodies exist in the public sector,[35] although their use in Asia-Pacific developing economies remains at a nascent stage. In 2019, the Indian Government in its annual economic survey made a strong case for setting up a nudge unit in the Government planning agency, NITI Aayog.[36] There might also be a need to create demand and capacity for this kind of expertise within public administration. Hence, training events, capacity-building and networking might be helpful for the relevant government departments dealing with particular consumer areas.

Apart from Governments, **businesses can also promote more sustainable consumer products and behaviours**. Consumers make unsustainable choices because of a lack of information about the sustainability of products as well as their worth in the longer run. In this respect, businesses could help overcome these challenges by giving product trials for consumers to overcome concerns about the quality of sustainable goods, life cycle cost of products and eco-labelling. For instance, car manufacturers could label car fuel consumption in litres per km instead of kms per litre. Businesses could also customize their products in line with consumer preferences. For instance, in *India* and *Viet Nam*, where handwashing of clothes is much more common than elsewhere, Unilever applied foam-dispersing technology to reduce the amount of foam in its detergent and thereby decreased the requirement for rinsing from three buckets of water to just one.

Figure IV.11

Spurring the growth of the sharing culture

Source: ESCAP.

Foster a sharing culture to reduce waste and increase utilization

As discussed in chapter III, many consumer goods are underutilized – parked cars, empty buildings and idle electronics. Hence, **sharing these goods is a good way to reduce waste**. The sharing economy has grown rapidly in the region in the past few years across different sectors, including mobility, housing, office rental, catering and health care. For example, sharing motorcycles has become common in such countries as *Indonesia*, *Malaysia*, the *Philippines*, *Singapore* and *Thailand*. It has been fueled by the interest of youth, who are more willing than older people to share goods and services with others. Meanwhile, technology development has also made the sharing economy easier.

Given its effect of increasing the utilization and efficiency of idle assets, the sharing economy can produce higher sustainable consumption benefits. For instance, car-sharing in the Netherlands was found to reduce car ownership by 30 per cent, which in turn reduced annual car-related carbon dioxide emissions by 13-18 per cent (Nijland and van Meerkerk, 2017).

Governments can spur the growth of the sharing culture in three ways (figure IV.11), as follows:

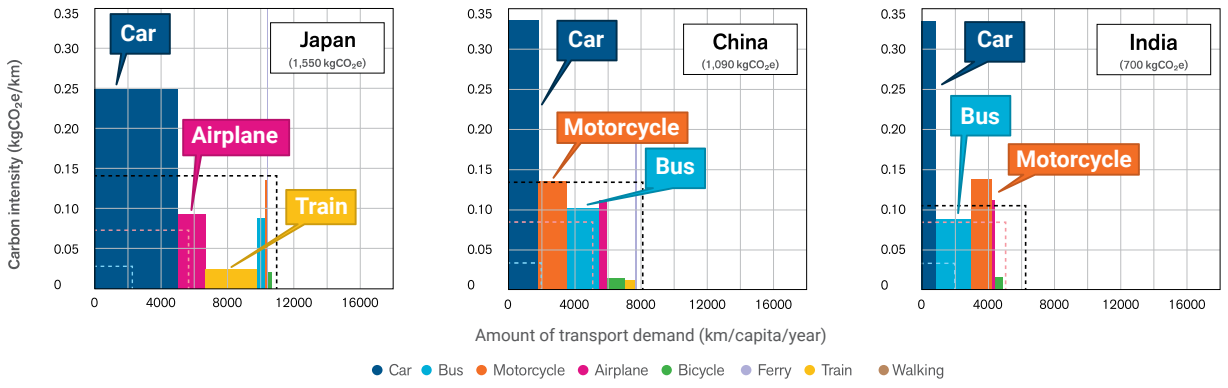
- *Providing digital infrastructure and literacy*: In general, countries with large sharing economies tend to have reliable and speedy Internet connectivity, wide use of mobile phones and satisfactory availability of electronic banking. Digital literacy is also important as users need to understand how to register, log in, verify themselves and use an email account or credit card to subscribe to or access services.

- *Regulating the sharing economy*. Regulation can help build trust in the safety of sharing platforms, such as those for ride-sharing. These include, for example, enforcing background checks, alarm

[35] For more information on behavioural insights, see https://oecd-opsi.org/guide/behavioural-insights/.
[36] The Economic Survey 2019 is available at www.indiabudget.gov.in/economicsurvey/.

Figure IV.12

A comparison of carbon footprints in the mobility sector and their breakdown



Source: Institute for Global Environmental Strategies, Aalto University and D-mat Ltd. For details on 1.5-degree lifestyles and targets and options for reducing lifestyle carbon footprints, see www.iges.or.jp/en/pub/15-degrees-lifestyles-2019/en.

systems and sharing information with regulators on complaints. Regulation can also ensure good labour conditions for employees. There tends to be a lack of job safety and worker protection due to the self-employed status of many employees in crowd-sharing platforms. Consequently, regulation is important to protect workers' rights and well-being. In 2017, *Malaysia* passed a bill to include such self-employed persons as taxi drivers and e-hailing service providers within the social security system. *India* is considering protection for such workers in a new draft code on social security.

- *Promoting the sharing economy* by being early adopters. Through collaboration with government organizations, sharing platforms can be promoted by providing sufficient clientele for them to grow. For example, *Singapore's* GrabShuttle, a minivan and bus ride-hailing app, collaborates with Beeline, an online platform of the Government Technology Agency. The agency provides real time data, which help to measure the impacts and benefits of the service and thus increases demand.

Tailor policy solutions according to country's specific conditions

Policies to reduce the carbon footprint centred around lifestyle changes should be designed according to country-specific conditions. For example, the three largest transport-related carbon emitters are cars, airplanes and trains in Japan, and cars, motorcycles and buses in China and India (figure IV.12). Although private car use is responsible for the largest part of carbon footprints across the three countries, the carbon intensity of cars is much lower in Japan than in China or India. Japan's carbon emissions from cars are mainly due to high demand, which is closely related to their low occupancy rate. For China and India, however, the high emissions are mainly due to the low efficiency of cars. Therefore, lifestyle change for Japan could be along the lines of encouraging ride sharing to raise the occupancy rate and reduce emissions from using cars,[37] while increasing the use of low-carbon modes of transportation, such as public transport and bicycles. On the other hand, China and India would be better served by improving the energy efficiency of cars and providing low-carbon transport alternatives, such as electric buses or electric bicycles, with renewable energy. Most important lifestyle change would be teleworking or living closer to one's workplace, thus reducing the need to commute and possibly therefore reducing air travel.

3. Global action: cross-border cooperation

Climate change has been identified as a priority area of cooperation in Asia and the Pacific. Leaders of such bodies as ASEAN, SAARC and the Pacific Islands Forum have issued joint statements on climate change and endorsed relevant

[37] Improved efficiency can lead to higher use of a good, which is called a "rebound effect". This applies to the mobility sector as well. Various studies have suggested rebound effects in ride sharing, such as Coulombel and others (2018). Therefore, supplementary policies are needed to provide disincentives to the rebound effects, such as carbon pricing (as discussed in section 1.2).

sectoral plans, such as on renewable energy cooperation. Additionally, the Complementarities Roadmap for 2020-2025 identifies common priority areas, such as ***sustainable consumption and production***, between the 2030 Agenda and the ASEAN 2025 Vision; concrete follow-up actions are expected, including the establishment of the ASEAN Resource Panel and the Greening SMEs in ASEAN initiative.

Regional cooperation is instrumental in coordinating more ambitious region-wide solutions to climate change and in building capacities and sharing knowledge, including in the least developing countries. This is especially the case as a review of nationally determined contributions from the Asia-Pacific region shows that there are commonly identified priority sectors (figure IV.13). The Survey for 2020 highlights three critical areas for climate mitigation which can benefit from increased regional cooperation: (a) establish cooperation on regional climate-related policies; (b) move towards decarbonization by cooperating on regional power trade and development of regional carbon markets; and (c) implement the 10-year Framework of Programmes on Sustainable Consumption Patterns.

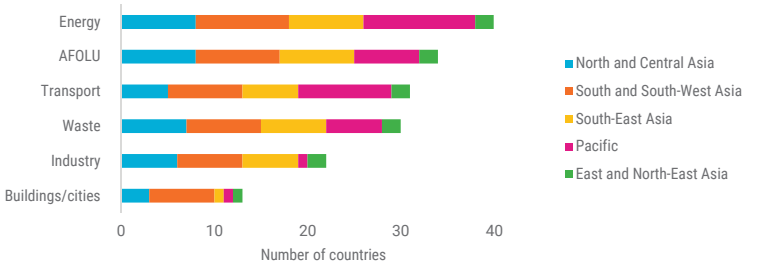
Establish cooperation on regional climate-related policies

The Asia-Pacific region is highly integrated into the global economy. The Asia-Pacific region's climate leadership is particularly important at the current juncture, as **countries' incentives to continuously fight this global battle may be reduced in the context of the current economic slowdown and rising threats to multilateralism.**

First, **harmonize climate-related standards among countries**. There is a risk of less robust incentives for firms operating in globalized sectors and **potential trade friction**, **if climate-related standards and**

Figure IV.13

Priority sectors for mitigation in the nationally determined contributions



Source: ESCAP (2017d).
Note: AFOLU is Agriculture, forestry and other land use.

policies diverge significantly across countries. On the other hand, harmonized standards can accelerate the dissemination of innovative climate-related technologies by reducing the time to market and developing a critical mass of support to ensure the economic success of such technologies.

Global standard-setting bodies are stepping up their work related to climate action, and it is important that Asia-Pacific countries engage actively in this process. The United Nations-supported Principles for Responsible Investment and the International Organization for Standardization (ISO) are taking the lead in setting the standards for sustainability. For instance, ISO has produced more than 600 environment-related standards, many of which are directly related to climate action. Some sectors have seen greater harmonization of standards, such as green building codes and clean energy standards, but there are also new and emerging areas, such as standards for fast-charging infrastructure for electric vehicles.

At the same time, standards and guidance on quantifying GHG emissions have far-reaching implications for cooperation across countries. Increasingly, countries in the Asia-Pacific region are moving towards a common taxonomy of standards similar to that of the European Union. For instance, the ASEAN Green Bond Standards initiative was adopted in 2017 to enhance transparency, consistency and uniformity and help reduce issuance and investment costs. Several Asia-Pacific countries are also participating in relevant global forums, such as the Network for Greening the Financial System.

Harmonization of standards and policy coordination can reduce trade frictions and accelerate the diffusion of green products and services

Second, **enhance regional climate-related policy incentives.** There is room for greater information-sharing of national climate-related

policies as a steppingstone for potential coordination. Fragmented policies would result in fragmented markets. Trade friction could also arise in such sectors as renewable energy technologies which are subsidized by Governments. On the other hand, **with appropriate policy coordination, countries could use their combined market power to accelerate the diffusion of low-carbon utilities, industrial and consumer goods and services**. For instance, regional trade and investment agreements could incorporate low-carbon objectives. A good example is the 2012 APEC decision to lower tariffs on environmental goods. While the Asia-Pacific region is already prominent in environmental goods trade, greater cooperation is needed on non-tariff measures and liberalization of services trade, noting that certain technical barriers to trade are necessary to regulate imports which could increase emissions (ESCAP, 2017e).[38]

Third, **cooperate on climate-risk management.** The Asia-Pacific region can be the global leader in aligning and channelling national and international efforts. The region's action will have the most significant impacts, given the sheer size of its emissions, economic output and ability to test new models and technology, especially in *China* and *India*. China has shown leadership in sharing knowledge and providing financial support to fight climate change. At the global level, the country ensured that "green finance" was included in the Group of 20 agenda (World Bank, 2018). In 2014, the country announced a $3.1 billion South-South Climate Change Fund. In 2019, following India's initiative, the Coalition for Disaster Resilient Infrastructure was founded to promote research and knowledge-sharing in the fields of infrastructure risk management, standards, financing and recovery mechanisms.

At the same time, as highlighted in the 2020 ESCAP theme study (ESCAP, 2020c), **Asia-Pacific countries can enhance cooperation on environmental conservation and sustainable management of natural resources**. The criticality of healthy oceans and waterways for climate change mitigation and adaptation cannot be overemphasized. Coastal areas provide flood protection, erosion control for low-lying communities, and sea grasses and mangroves act as **"blue carbon" sinks** that can sequester up to five times the amounts of carbon absorbed by terrestrial systems and forests (FAO, 2014). For instance, in South Asia the Bay of Bengal Large Marine Ecosystem Project is aimed at sustainable management of fisheries and critical marine habitats along with a component of regional mechanism for coordination, monitoring and assessment. Another regional initiative for an integrated approach to ocean governance is the South Asian Seas Programme, members of which are *Bangladesh*, *India*, *Maldives*, *Pakistan* and *Sri Lanka*; it emphasizes integrated coastal zone management and environmental and climate change effects.

[38] See also a study on low-carbon trade agreements available at https://voxeu.org/article/low-carbon-trade-agreements-new-joint-mission-climate-and-trade-negotiators.

Other opportunities for cooperation range from sustainable management of natural resources to building disaster resilience and facilitating climate migration

Lastly, **regional cooperation is critical in managing climate migration in an orderly, safe, regular and responsible manner**. This helps maximize the labour supply and productivity that migrants bring to destination countries and supports remittance flows that lessen the burden on source countries. Countries in Asia and the Pacific are undertaking needed policy initiatives in this regard. For example, *Vanuatu* adopted a comprehensive policy on disaster-related displacement, while policies in *Kiribati* and *Tuvalu* are aimed at supporting labour migration as a means of adaptation. In countries of destination, such schemes as the Seasonal Worker Programme in *Australia* and the Recognised Seasonal Employer Scheme in *New Zealand* provide access to temporary work for migrants from the Pacific.

Move towards decarbonization

As noted above in section 2.1, the current climate emergency requires Governments to develop long-term low-carbon transition plans in line with the Paris Agreement. In particular, countries need to replace coal-fired plants with renewable forms of energy, such as solar, wind and hydro. **Transboundary power trade can help transmit electricity from countries rich in renewable energy resources to those that are reliant on fossil fuels**. For instance, under the ASEAN Power Grid one of the projects involves *Malaysia* purchasing hydro power from the *Lao People's Democratic Republic* through *Thailand*'s transmission grid. ASEAN members have also committed to a joint target of

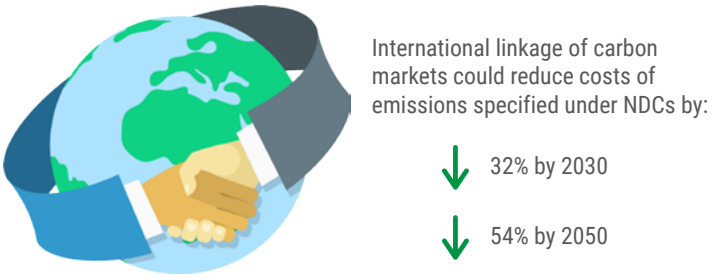
achieving by 2025 a 23 per cent share of renewables in their energy mix, up from 10 per cent in 2015. Initiatives such as the International Solar Alliance led by India can also help accelerate the deployment of renewables.

One outstanding issue is that the region's major capital exporters, such as *China* and *Japan*, are supporting both green projects and brown projects across Asia. More than 50 per cent of planned Belt and Road investments in the power sector are coal-based(The Economist, 2019). Without a major shift in the infrastructure profile, especially in power and transport, aggregate emissions across recipient countries could be several times those of *China* itself by 2040, effectively putting the Paris Agreement's goals out of reach (OECD, UNEP and World Bank, 2018). In going forward, it is important that **major infrastructure investment initiatives and development partnership projects in the region are aligned with low-carbon development objectives**.

As part of decarbonization action mentioned in section 1.2**, countries can develop regional carbon markets.** Along with regulations and standards, market-based approaches are critical for climate action. Globally and ideally, a uniform carbon tax and a carbon market covering all jurisdictions would be the most efficient way to mitigate emissions. For instance, it has been estimated that international linkage of carbon markets could reduce the cost of achieving the emissions reductions specified in the initial set of NDCs (figure IV.14, World Bank, 2016). Because a major impediment to ambitious climate policy is concern about the cost of mitigation, any policy that lowers costs can also lower political resistance to ambitious policy. In this vein, moving towards developing a regional carbon market would be a step in the right direction.

Figure IV.14

Benefits of developing regional carbon markets



Source: ESCAP, based on World Bank, PMR, and ICAP (2016).

In the Asia-Pacific region, 26 countries have expressed their interest to engage in the use of market-based approaches in their NDCs. Hence, **regional cooperation on developing carbon markets would offer an opportunity to exploit cost savings and build political momentum**. Linking the national and subnational carbon markets in the region would widen the range of emission reduction options, disincentivizing carbon leakage to jurisdictions with less stringent climate policies.

National decarbonization efforts can benefit from transboundary power trade in renewables and regional carbon markets

Regional cooperation options can range from linking similar elements of different systems to full linking, which entails the unrestricted mutual recognition of carbon units. However, given that full bilateral or multilateral linkages require harmonizing key design features and a lengthy negotiation process, **linking a national ETS with a crediting scheme in another country could be a first step**. An example is the joint crediting mechanism, a bilateral mechanism between Japan and 11 countries in the region, to facilitate the transmission of low-carbon technologies to host countries to generate credits that contribute to achieving Japan's emission-reduction target. Outside the region, an example of the use of an international transferred mitigation outcome is the multilateral linkage of the California-Quebec-Ontario emissions trading systems. At the same time, countries could **lay the groundwork for future linkages by harmonizing their measuring, reporting and verification (MRV) systems**. A number of countries in the region are receiving technical assistance on MRV through the Partnership for Market Readiness and other initiatives.

Box IV.3

Is sustainable consumption really relevant for developing countries?

Sustainable consumption is frequently misunderstood as a tool primarily aimed at reducing overconsumption in developed countries. The true aim of sustainable consumption is to develop consumption opportunities that would allow everyone to meet his or her needs, but without generating the associated negative environmental, social and financial impacts typically seen in developed countries.

Source: UNEP (2005) and IGES (2010).

As negotiations over article 6 of the Paris Agreement[39] continues, countries in the region could merge their positions on implementing the Paris Agreement carbon market statutes. Guidance is needed on how to **quantify mitigation targets and outcomes from different types of climate actions**. Given the heterogeneity of target types and differing base years among linking parties, there are also concerns over the comparability of effort and environmental integrity Through such platforms as the ESCAP Asia-Pacific Climate Week, countries in the region could **engage in constructive dialogue** over these outstanding issues and support the main negotiations. At the same time, in line with articles 6.8 and 6.9, **regional cooperation platforms could potentially develop non-market approaches to facilitate green finance, technology transfer and capacity-building**, which would promote low-carbon development.

Implement 10-year Framework of Programmes on Sustainable Consumption and Production Patterns

As mentioned in chapters I and III, Sustainable Development Goal 12 is aimed at ensuring sustainable consumption and production (SCP) patterns, and one of the important mechanisms for achieving it is through regional cooperation. **With economic globalization, production and consumption are linked globally through value chains.** Consumption in one place can induce environmental impacts in other locations, and production in one place can influence local residents, neighbouring countries and the global environment. Achieving the objectives of SCP in an individual country may exert unnecessary pressure on other countries in the globalized economy. Furthermore, it must be emphasized that the true **objective of SCP** is to **promote sustainable development by changing the current patterns of consumption and production**. Sustainable development must be understood as ensuring that everybody can meet his or her basic needs without compromising the basis of human survival or at the expense of future generations, as the value chain for most products and services is spread across countries.

From sustainable public procurement to consumer information for SCP, the 10-year Framework offers ample opportunities for regional cooperation

Regional cooperation will help to create an enabling environment for SCP. In focusing on the life-perspective of products and services, regional cooperation is required to scale up environmental trade and investments, sustainable procurement and eco-labelling, green supply chains, extended life of products, shared economy, and resource recovery and utilization. ESCAP in partnership with UNEP (lead agency on Goal 12) is assisting through regional mechanisms to foster regional cooperation on SCP. A UNEP-led working group on resource efficiency is working with ASEAN to foster cooperation on SCP, which could serve as an example to other regional entities, such as APEC, Pacific Island Forum, South Asia Co-operative Environment Programme, SAARC and Shanghai Cooperation Organisation. Additionally, the Asia Pacific Roundtable for Sustainable Consumption and Production, established in 1997, has provided an arena for information-sharing and development of partnerships between industry, Governments, academia and NGOs in the region to promote SCP.

[39] Article 6 recognizes that countries may choose to cooperate in the implementation of their NDCs through an international carbon market, including the use of internationally transferred mitigation outcomes (art. 6.2), a sustainable development mechanism (or successor mechanism to the clean development mechanism) (art. 6.4). See also https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf.

Chapter V

Bringing sustainability into consumption and production patterns

The Asia-Pacific region's high degree of economic growth over the past two decades has kept global prosperity going, albeit at a high environmental cost. As this issue of the *Survey* illustrates, we are in a climate emergency – caused to a large extent by our unsustainable consumption and production patterns. Currently, the world produces carbon dioxide emissions that are 2.5 times higher than what climate scientists consider a "safe" level of emissions necessary to keep average global temperatures from rising more than 1.5°C above pre-industrial levels (Spence, 2020). This dire situation requires **everyone to share the responsibility of reducing his or her consumption and production footprints on the planet** (chapter I).

Business as usual will not do!

The natural instinct of policymakers during the current economic slowdown resulting from the evolving COVID-19 pandemic and unresolved trade tensions would be to focus on reviving economic growth, even when it could come at the expense of long-term sustainability. Nonetheless, the slowdown can serve as a lesson learned - that lack of emergency preparedness not only damages short-term economic growth but will also change the path for future development. Hence, resilience needs to be built into every decision. For instance, ESCAP (2019b) estimated that the region needs to invest an additional $880 million[1] per year through 2030 in emergency preparedness, risk management and response as part of efforts aimed at overall strengthening of the health system. **Putting people first is affordable** as there is sufficient fiscal space for most countries to do so (chapter II).

Similarly, fighting climate change and **putting the planet first is also affordable** contrary to what some might suggest. One way to do so is by changing the size and composition of energy sector investments. It is alarming that the Asia-Pacific region continues to heavily subsidize carbon-intensive fossil fuels - by about $242 billion in 2018, which is more than the total investment of $150 billion in renewable energy in that year (REN21, 2019). Hence, the

[1] Equivalent to 0.003 per cent of the region's GDP in 2018.

traditional approach of making promises, such as in signing the Paris Agreement, without taking the needed actions is equivalent to *greenwashing* (chapter III).

Clearly, the region needs to **raise ambitions beyond economic growth** and make the next phase of the Asia-Pacific region's economic transformation more sustainable. How we continue to produce, distribute and consume the fruits of economic growth will determine if we leave behind a healthy planet capable of sustaining our descendants in the future. This requires everyone to act together, just as United Nations Secretary-General, António Guterres, called for all sections of society to mobilize for a ***Decade of Action*** on three levels (chapter IV):

Local action embedding the needed transitions in policies, budgets, institutions and regulatory frameworks of Governments, cities and local authorities;

People action, including by youth, civil society, the media, the private sector, unions, academia and other stakeholders, to generate an unstoppable movement pushing for the required transformations; and

Global action to secure greater leadership, more resources and smarter solutions for achieving the Sustainable Development Goals.

At the ***local level***, Governments should make climate change their priority, include climate change as an integral criterion in all policy decisions and be transparent in their implementation. It also falls on Governments to help consumers and producers to make the right choices. For instance, investing in accessible and sustainable public transport systems will give people the option to not drive. They need to eliminate fossil fuel subsidies to remove the artificial cost advantage of fossil fuels and pave the way for the transition to renewable energy. The result will be reduced greenhouse gas emissions, which will produce many benefits for both health and the environment. Governments can give financial incentives/disincentives through carbon pricing for producers to choose sustainable methods of production. Through financial regulation, Governments can enforce green rules for reporting and disclosures for financial institutions which would encourage private investments into sustainable activities (chapter IV, section 1).

At the ***people level***, *businesses* cannot continue to ignore externalities related to their production methods. If they pollute the environment, they need to pay for cleaning up the mess. To stay in business, they need to act. They need to adapt to the climate risks and understand the impact of their products on the environment. This would be crucial for their own survival and financing as aware investors are waking up (chapter IV, section 2.1).

Consumers need to make more sustainable lifestyle choices. Some of these can be easy, even if they are inconvenient, such as having to spend time on looking for energy-efficient appliances or determining which car to buy, working out how to reduce cooling and heating use at home and using public transportation rather than private cars. Consumers need to distinguish between conscious choices to live sustainably and temporary inconveniences. Admittedly, some choices can be difficult. For instance, food is a difficult choice as it relates to culture and individual identity, among many other aspects.

Here also, being mindful of carbon footprints of every consumption decision would be essential (chapter IV, section 2.2).

At the ***global level***, the climate emergency requires cooperation across borders. Local and people actions cannot be done in isolation. The level of emergency requires elevation of cross-border cooperation on issues which impact all people living in the region, and ESCAP can play a fundamental role in this regard. For instance, the decarbonization transition will require power trading, carbon pricing, harmonized climate standards and cooperation on the 10-year Framework of Programmes on Sustainable Consumption and Production Patterns (chapter IV, section 3).

The time has never been this urgent as now to *rethink how we consume* and *produce*, even if changing the current ways of doing things could be inconvenient. For this to happen, everyone must step forward to take responsibility and act consciously.

In the words of Mike Hulme (2009), "*The idea of climate change should be used to rethink and renegotiate our wider social goals about how and why we live on this planet*".

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Risks to near-term economic performance are strongly tilted to the downside in the Asia-Pacific region with the unprecedented social and economic impact of the COVID-19 pandemic and continuing trade uncertainties.

In building resilience to short-term economic challenges, the region must consider the heavy social and environmental costs that its impressive growth over the past several decades has entailed in the rising inequality of income and opportunities, and the looming climate change crisis.

The *Economic and Social Survey of Asia and the Pacific 2020* proposes a transition towards a sustainable growth path that requires all stakeholders to urgently align their own behaviours with social and planetary goals by internalizing externalities linked to their actions. It identifies constraints that different stakeholders, namely Governments, businesses and consumers, face, and it provides a holistic policy package to overcome these challenges.

Governments should embed sustainability into long-term policymaking and implementation. Businesses should integrate sustainability in their core functions, and consumers should transition towards sustainable lifestyles. Governments will have a key role to play in influencing business and consumer behaviour. Action at the national level must go hand in hand with regional cooperation to coordinate more ambitious region-wide solutions to the climate change crisis.

"The countries of Asia and the Pacific need to overhaul their economic models and change their development focus from short-term solutions to long-term sustainability to address societal inequalities and realize the vision of the 2030 Agenda for Sustainable Development.

The next phase of the region's economic transformation needs to be much more sustainable, equitable and inclusive."

António Guterres
Secretary-General of the United Nations

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