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Advancing Free Trade
for Asia-Pacific **Prosperity**

APEC Strategy for Strengthening Quality Growth

Final Assessment Report

APEC Policy Support Unit

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EXECUTIVE SUMMARY

In 2015, APEC Leaders endorsed a forward-thinking initiative, called the APEC Strategy for Strengthening Quality Growth (ASSQG). It mandated action in areas that APEC has not extensively discussed as a forum: formal and informal institutions, trust and social cohesion, and addressing climate change. While APEC has grown comfortable in tackling exclusively economic issues such as trade or cross-border investment, the future-oriented APEC Leaders called on the forum to address the social and environmental issues that can contribute to — or diminish support for — regional economic integration.

What the APEC Leaders meeting in Manila in 2015 could not have predicted was the arrival of COVID-19 five years in the future. While the Leaders pointed to rising inequality, lack of access to human development, and environmental damage among their reasons for initiating ASSQG, these same problems have exacerbated the human toll and economic cost of COVID-19. Just as environmental damage and climate change increased the likelihood of animal-to-human transfer of pathogens, economic marginalisation and lack of social cohesion is making the impact of COVID-19 more severe and more difficult to manage.

The ASSQG was built on the 2010 APEC Growth Strategy and introduced the three Key Accountability Areas (KAAs) of institution building, social cohesion, and environmental impact. Since 2015, both APEC members and APEC fora have made progress in a number of areas that are relevant to pursuing quality growth. Many APEC members have improved regulatory quality, increased economic participation of women as well as other vulnerable groups, and introduced mitigation measures to reduce carbon emissions. Meanwhile, APEC fora have also implemented actions to improve regulatory quality and trade facilitation around the region, promote greater innovative and digital entrepreneurship in order to improve upward mobility, and promote more environmentally sustainable practices in the international trading system.

Nevertheless, there remains considerable scope for additional efforts from both APEC members and APEC fora. Although all members face shared obstacles in achieving quality growth, specific issues can also differ among the APEC economies. Common challenges include maintaining a flexible and responsive regulatory system, promoting upward mobility among marginalised or vulnerable groups, promoting trust, and reducing carbon emissions while maintaining economic growth. Given the cross-cutting nature of many of the issues confronting the region, APEC fora should endeavour to expand and strengthen regional cooperation and cross-fora collaboration in order to better address the regional challenges towards achieving growth that is balanced, inclusive, sustainable, innovative, and secure.

Progress on the Growth Strategy

APEC's Growth Strategy comprises five attributes: balanced growth, inclusive growth, sustainable growth, innovative growth, and secure growth. Balanced growth seeks to promote sustainable levels of current account and fiscal account balance, focusing on the macroeconomic environment across and within economies. Inclusive growth aims to provide every member of the society equal access to participate, contribute, and benefit from economic opportunities. Sustainable growth strives to devise a green growth model and develop resource-efficient economies to address challenges brought forward by climate change. Innovative

growth focuses on creating an enabling environment for innovations that will sustain an economy's long-term productivity growth. Secure growth aims to protect citizens' economic and physical well-being and provide a secure environment necessary for economic activity.

APEC economies achieved mixed progress across the five growth attributes between 2015 and 2019. On balanced growth, most economies managed to adjust their current accounts to a more sustainable level, making the external macroeconomic environment more balanced as a whole. With regard to inclusive growth, overall poverty levels have gone down, stemming mostly from reductions in developing APEC economies; nonetheless, concerns regarding income inequality remain. Regarding inclusive employment, gender divergences narrowed in terms of labour force participation, unemployment rate, and vulnerable employment, although the differences remained large. On sustainable growth, improvements were made in environmental and resource productivity, along with steady investments in the development and adoption of green technologies; however, the rising level of carbon dioxide emissions signify that more efforts are required to achieve a greener economy. On innovative growth, economies have been ramping up their innovative capacity, legal institutions, and ICT infrastructures, with significant technological catching up by some economies. Lastly, secure growth has been reinforced with stronger food security and public health capacity, although the region was not prepared. Economies also broadly improved their governance in terms of political stability, government effectiveness, and control of corruption.

Progress on Institution Building

The progress made by the APEC region on institution building is somewhat mixed. There are many areas of institution building in which the region made substantial progress, including improvements in regulatory quality, enforcement of property rights, and investor protection. The depth of financial systems across the region have also generally improved. However, there are other aspects of institution building in which there was a general decline across the region since 2010. Most importantly, the integrity of many institutions is perceived to have worsened over the assessment period, with several APEC members exhibiting quite significant declines. In addition, judicial independence and the quality of legal frameworks are also perceived to have generally declined, especially since 2015. The perceived integrity of institutions is a fundamental aspect to developing and maintaining a high-quality and effective institutional framework.

As reported in the self-assessment responses to the ASSQG survey, many APEC members implemented a number of measures over the ASSQG assessment period to improve their institutions. For example, progress has been made in improving the quality and efficiency of their overall regulatory environments, strengthening institutions in trade and investment facilitation, and developing the strength of financial sectors, and efficiency and transparency of tax systems. In addition, APEC fora implemented a number of initiatives that focus on improving economic institutions around the region, such as the development of the APEC Cross-Cutting Principles on Non-Tariff Measures and the APEC Non-Binding Principles for Domestic Regulation of the Services Sector; launching of the APEC Framework for Securing the Digital Economy, the Framework of Ethical Business Practices in Medical and Pharmaceutical Sectors, and the APEC Collaborative Framework on Online Dispute Resolution of Cross-Border Business to Business Disputes; an initiative to establish the Asia-Pacific Model E-Port Network; and reducing regulatory burden through the APEC Ease of Doing Business Action Plans.

Progress on Social Cohesion

While APEC economies and fora have implemented measures and initiatives to improve social cohesion within their specific areas, significantly more work needs to be done. Economic and social marginalisation in the region still persists, with inequality in access to economic opportunities, education, and healthcare dampening otherwise stellar progress in raising overall living standards. Income gaps between the rich and poor have widened, with more than half of income gains over the past years going to the richest quarter of the population. Overall levels of interpersonal and institutional trust are low, and are further being eroded by misinformation and fake news.

During the assessment period, APEC economies have implemented measures to improve access to healthcare services, quality education and employment opportunities for the poor, women, youth, the elderly, and vulnerable groups such as people with disabilities, indigenous peoples, and those living in rural and remote; initiatives to accelerate the reduction of the population below the poverty line; and policies to advance cooperation on urbanisation and sustainable city development. Economies have also promoted unity and social cohesion through developing a shared multicultural identity as well as taking a whole-of-government approach to ensure that human well-being drives policy making. Meanwhile, APEC projects relating to social cohesion involved improving the economic opportunities available to women, including promoting women entrepreneurship, advancing women in STEM education and careers, and supporting more women in leadership roles. Several APEC projects focused on improving upward mobility for young people, especially relating to youth entrepreneurship, while a few projects aimed to prevent marginalisation of people with disabilities. In addition, there were many APEC projects that focused on capacity building and skills training, particularly for MSMEs, in order to improve workforce inclusion in the digital age.

Progress on Environmental Impact

In terms of the environmental impact KAA, although some progress was made in implementing both mitigation and adaptation measures across the region, much work still remains to be done. For instance, many APEC members actively participate in major international environmental agreements and have committed to developing policies and regulations in order to reduce their environmental impact by a specified date. However, as of December 2019, less than half of APEC members appear to be on track to meet the commitment made under the Paris Agreement. In addition, while the share of electricity generated from renewable sources has risen in the APEC region, this regional share is lower than the world average. Greater and more targeted investments in climate resilient infrastructure, including waste management systems, are also needed in order to build better resilience to climate change among the APEC economies.

APEC members have implemented a number of measures over the ASSQG assessment period to reduce their negative environmental impact. These include bans on plastic products, the development of emissions trading schemes, and the implementation of energy management systems. The survey responses also revealed the many challenges that APEC economies face in continuing to reduce carbon emissions while maintaining economic growth. APEC fora also implemented several initiatives over the assessment period that tended to focus on specific trade-related environmental concerns, such as, marine debris, illegal logging, and pollution.

However, given the global nature of climate change, APEC could play a greater role in addressing this urgent issue, such as by initiating discussions on establishing regional carbon credit exchange mechanisms.

A Role for APEC

Developing effective institutions, building social cohesion, and mitigating environmental impact are long-term and deliberate processes—they will not happen overnight. As an international forum, APEC is well placed to focus on sharing knowledge and experiences, building capacity, and developing regional commitments towards enhancing quality growth. APEC members can collaborate through the forum to develop innovative initiatives that promote quality growth throughout the region. Indeed, APEC members pointed to these actions as the forum's role in advancing progress on the KAAs. APEC's strength is in providing a forum for discussion, sharing, and consensus that eventually leads to commitments and policy action. APEC is where ideas can be incubated and where priorities can be crystallised.

While measurable progress has been achieved in some aspects of the ASSQG, much work needs to be done. Governance and accountability need to be strengthened, rising inequality and distrust need to be addressed, and climate change needs to be reversed. COVID-19 has exposed the gaps in the APEC regions previous patterns of growth; it also presents opportunities to address these gaps and build the foundations of quality growth in the future.

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1. INTRODUCTION

The APEC Strategy for Strengthening Quality Growth 2015-2020 was endorsed by Leaders as a reaffirmation of their commitment to the 2010 APEC Growth Strategy. The ASSQG aspires to build on the APEC Growth Strategy with a greater focus on quality growth. The need for quality growth was first enunciated in 2010 when Leaders endorsed the APEC Growth Strategy to focus efforts towards ensuring balanced, inclusive, sustainable, innovative and secure growth. The ASSQG aimed to further strengthen and expand on the 2010 APEC Growth Strategy to ensure multidimensional growth in the face of regional challenges; specifically (1) increasing inequality, (2) volatility in financial markets, (3) gaps in physical infrastructure, (4) need to foster innovation and increase access to skills, (5) environmental challenges including the impact of climate change, and (6) need for food security and sustainable management of agriculture.

A key innovation under the ASSQG is its focus on the three Key Accountability Areas (KAAs) of institution building, social cohesion, and environmental impact. These KAAs provide the crucial link between government and private action on one hand and quality economic growth on the other. The KAAs thus provide more depth and help operationalise the five Growth Attributes articulated in 2010. Each of the KAAs are briefly described below:

a. Institution Building

An economy's formal and informal institutions play an important role in economic development by setting the rules of the economy and incentivising certain actions. Some of the core economic institutions identified in ASSQG are "(i) rules-based economy that promotes legal certainty and reduces the cost of doing business; (ii) a market-based economy supported by sound public institutions and regulations; (iii) deep financial markets that efficiently intermediate savings combined with effective regulatory systems that promote financial stability; iv) a shareholder-oriented corporate governance system; (v) mechanisms that support trade and investment liberalisation and facilitation; and (vi) a labor market that allows re-allocation of labor in response to market demand but at the same time protects the welfare of workers." Developing these institutions will create a better foundation for pursuing quality growth.

b. Social Cohesion

Social cohesion is a means to an end of economic development. Social cohesion encourages greater cooperation by creating a sense of belonging and promoting trust. Thus, cohesive societies are more able to find a consensus towards economically beneficial reforms and policies, and are more able to adapt to challenges. Not only does social cohesion enhance growth through collective action and consensus, but it also reduces transaction costs which further contributes towards quality growth.

c. Environmental Impact

Environmental impact are both the result of and a constraint to economic growth. Economic activity results in environmental externalities such as pollution, non-biodegradable waste, and loss of biodiversity. On the other hand, these environmental impacts can constrain economic development through climate change, resource depletion, and public health problems. Developing more environmentally sustainable economies by encouraging development of new green industries and investment in science and technology research, disaster resilience and preparedness, and eco-system based adaptation, among others, remains an important task in ensuring quality growth.

The ASSQG identifies the important role of government as well as private sector participation in enabling quality growth. Indeed, improved policy development and implementation along with effective private sector participation will help create a whole-of-society approach to quality growth.

BACKGROUND OF THIS ASSESSMENT

In Annex A of their 2015 Declaration,[1] APEC Leaders instructed Senior Officials to "commission the PSU to report in 2020 on the impact of the extensive APEC work program on improving growth, and to report to Leaders, for their review, on APEC's progress in promoting the APEC Strategy for Strengthening Quality Growth." Implementation and monitoring arrangements for ASSQG were subsequently agreed at SOM2 2016.[2] Two levels of implementation were agreed by Senior Officials: (1) economy-level where each economy determines how to implement ASSQG and (2) APEC fora-level where annual work plans, strategic plans, and capacity building activities should be aligned with the strategy.

Senior Officials also agreed on a mechanism for monitoring and reporting on ASSQG as follows:

> **Monitoring and Reporting**
>
> - On an annual basis, APEC Committees (CTI, EC, SCE) to report to SOM on how their and their respective working groups' and forums' work program have contributed to the implementation of the Strategy. This can be incorporated in each respective Committees' Annual Report to SOM
>
> - In 2019, PSU to determine, subject to SOM's approval, the plan with necessary steps to prepare the final report on the implementation of the Strategy. This shall include the following:
>
>   - Progress review of economies' individual efforts in implementing the Strategy, taking into account how each economy has promoted the KAAs through the five growth attributes
>
>   - Progress review of APEC fora's work in implementing the Strategy
>
> - In 2020, PSU to report on APEC's progress in promoting the Strategy through the SOM, for review of APEC Leaders

In August 2019, Senior Officials endorsed the ASSQG assessment plan as well as the survey questionnaires for APEC economies, committees, and SCE subfora. In September 2019, the ASSQG survey was administered and questionnaires were sent to APEC economies through Senior Officials and to committees and SCE subfora through the respective Chairs and Programme Directors. Responses were received from 14 out of 21 economies, 3 out of 3 APEC committees (CTI, EC, and SCE), and 9 out of 15 SCE subfora.[3]

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[1] "Annex A: APEC Strategy for Strengthening Quality Growth" (2015 Economic Leaders' Week, Manila, Philippines: APEC, 2015), https://www.apec.org/Meeting-Papers/Leaders-Declarations/2015/2015_aelm/2015_Annex-A.

[2] "Implementation and Monitoring of the APEC Strategy for Strengthening Quality Growth," 2016/SOM2/024 (Second Senior Officials' Meeting, Arequipa, Peru: APEC, 2016).

[3] Fifteen SCE subfora were included in the survey: ATCWG, ACTWG, CTWG, EPWG, EWG, EGILAT, HWG, HRDWG, OFWG, PPSTI, PPWE, SMEWG, TELWG, TWG, and TPTWG.

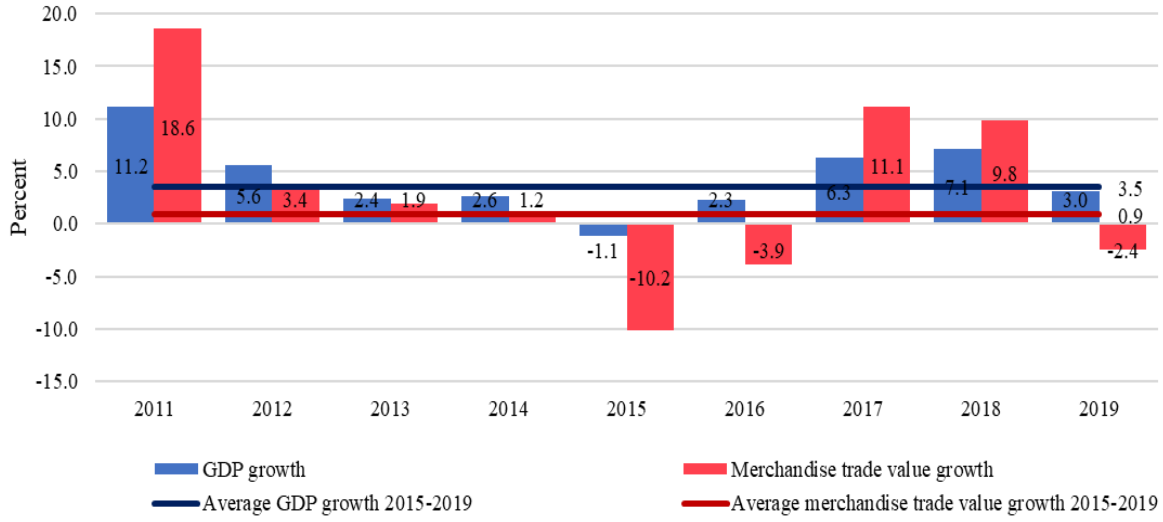
This report presents findings of the ASSQG assessment based on external indicators and responses from the surveys. The next section discusses the region's performance in terms of the five Growth Attributes of balanced, inclusive, sustainable, innovative, and secure growth. This is followed by a more detailed discussion of the region's performance under the ASSQG's Key Accountability Areas of institution building, social cohesion, and environmental impact.

2. PROGRESS ON APEC GROWTH ATTRIBUTES

APEC-WIDE OVERVIEW

APEC continues to be a driver of the global economy, accounting for more than 60% of the world GDP in 2019. Between 2015 and 2019, APEC's average annual GDP growth reached 3.5% after recovering from stalling growth and financial market turbulence in the previous years (Figure 2.1). This pickup in growth was also supported by an uptick in trade. The value of merchandise trade grew at an average rate of 0.9% per year between 2015 and 2019. Contractions in growth in 2015 and 2016 were offset by strong growth in 2017 and 2018, but were followed by another decline in 2019 due to ongoing trade tensions.

Figure 2.1. APEC GDP growth and merchandise trade value growth

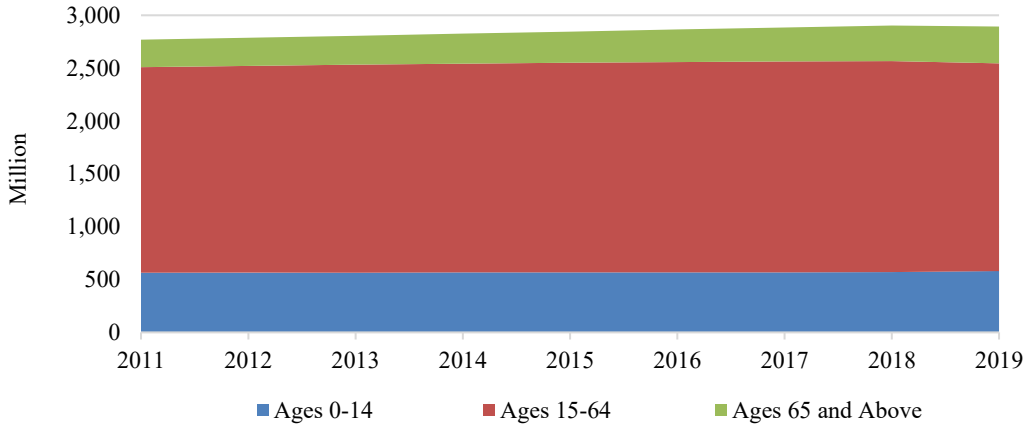


Note: Real GDP is measured in constant 2010 USD.
Source: World Bank, World Trade Organization, and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

In the medium- to long-term, APEC faces challenges due to its ageing population. The share of population greater than 65 years old increased from 10.4% in 2015 to 12.1% in 2019. An ageing population puts a strain on an economy's long-term growth by increasing the dependency ratio and increasing financial burdens on the pension and healthcare systems. An ageing population is an immediate challenge in industrialised economies and is a growing challenge in developing economies. Besides the challenges of an ageing economy, developing economies further face a challenge known as "growing old before growing rich". While most developed economies reached their income frontier before having to address this challenge, developing economies face the same challenge without the equivalent financial and institutional resources to respond.[4]

[4] David E. Bloom, David Canning, and Günther Fink, "Implications of Population Ageing for Economic Growth," *Oxford Review of Economic Policy* 26, no. 4 (2010): 583–612.

Figure 2.2. Population by age group in APEC



Source: World Bank and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

BALANCED GROWTH

Balanced growth focuses on the macroeconomic stability within and across economies. It requires economies to have both external and internal balance; namely, a balanced current account and a balanced fiscal account. Large and persistent surpluses or deficits are unsustainable and may impinge on the long-term stability of economic growth. The concept of balanced growth is complicated by the fact that the current account and fiscal account are interrelated through trade and cross-border investment: imbalances in, say, fiscal accounts will affect trade balance and foreign investment as well (see Box 2.1 for a more detailed explanation). This section will focus on the current account and the fiscal account as indicators of APEC's progress on balanced growth.

Box 2.1. The savings, investment, and trade trilemma

We begin with a review of how we measure income and savings. An economy's total output, which is a mirror of its income, is measured by the Gross Domestic Product (GDP). Based on the System of National Accounts, GDP through the expenditure approach is defined as

$$GDP = C + G + I + (X - M)$$

where C = private consumption expenditure, G = government consumption expenditure, I = investment, X = exports of goods and services, and M = imports of goods and services. Note that (X – M) is the trade balance, such that (X – M) > 0 means exports are greater than imports or a trade surplus. We also know domestic private savings (S) is total disposable income, which is total income minus taxes (T), minus consumption, so that

$$S = (GDP - T) - C$$

Rearranging the above equation and substituting into GDP in the first equation, we get

$$S + C + T = C + G + I + (X - M)$$

which can be rearranged as

$$(G - T) + (I - S) + (X - M) = 0$$

The equation above is called the savings identity and shows the relationship between fiscal balance (G – T), investment-savings balance (I – S), and trade balance (X – M). Generally

speaking, given this accounting identity, these three balances should equal zero or tend towards zero over time.

For example, a fiscal deficit (i.e., $(G - T) > 0$) coupled with no domestic savings surplus (i.e., $(I - S) = 0$) will eventually need to be balanced through a trade deficit (i.e., $(X - M) < 0$) due to domestic currency appreciation caused by a rise in interest rates and an inflow of foreign capital to fund the fiscal deficit. In turn, these cross-border financial flows are recorded through the balance of payments (BOP), which is comprised of the current account on one side of the balance sheet and the financial and capital accounts on the other. The current account is the sum of net trade payments (i.e., X – M), net income from abroad (e.g., salaries, remittances, or dividends), and current transfers (i.e., non-transaction transfers such as official development assistance or donations). The financial account records cross-border investments such as foreign direct investments, portfolio investments, and other investments (including loans) as well as changes in the reserve account. The capital account records payments non-produced or non-financial assets (e.g., property rights) and other capital transfers. By accounting definition,

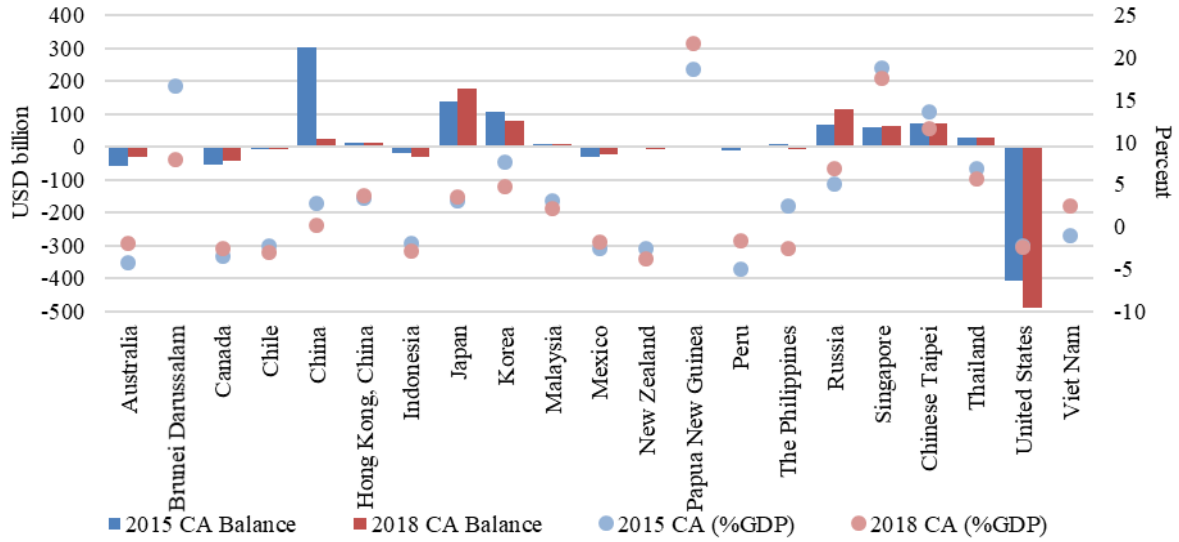
$$\text{BOP} = \text{current account} + \text{financial account} + \text{capital account} = 0$$

which broadly reflects the savings identity but this time in terms of cross-border financial flows. For example, a fiscal deficit that is supported by foreign sales of bills or bonds (i.e., portfolio investment) will be recorded as a surplus in the financial account. But this financial inflow will eventually be reflected in a current account deficit, such as through increased imports resulting in a trade deficit.

Note that despite the terminology used, the "imbalances" described above are not necessarily detrimental and should be viewed in the context of an economy's overall situation and fundamentals for growth. For example, an overinvestment relative to domestic savings where $(I - S) > 0$ is a form of imbalance, but can also lay the groundwork for future economic growth. Similarly, a fiscal deficit where $(G - T) > 0$ can help ensure competitiveness in an economy through investments in infrastructure and human capital. What the savings identity tells us is that policy and economic choices affecting one part of the equation will necessarily have an impact on another: a decision to incur public debt will have an impact on private savings and on the trade balance. Likewise, a policy decision to bring the trade deficit to zero will need to address private savings and fiscal deficits as well. Any decision to balance or rebalance the economy needs a holistic approach.

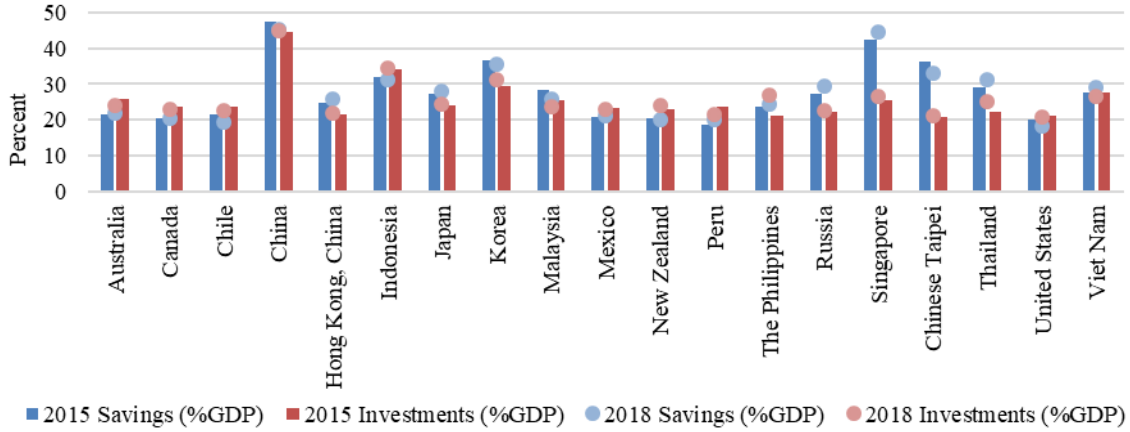
Across APEC, current accounts became broadly more balanced between 2015 and 2018, with the exception of the Philippines, which experienced a current account reversal from a surplus of 2.4% of GDP in 2015 to a deficit of 2.5% in 2018 (Figure 2.3). The Philippines' current account reversal could be attributed to its large-scale ramp up in infrastructure investments, reflected by the increase in investments from 21.2 to 26.9% (see Figure 2.4). Over the same period, China which previously had the largest current account surplus in the region, wound down its current account surplus of USD 304.2 billion to USD 25.5 billion (or a reduction from 2.8% to 0.2% of GDP), contributed by its decrease in domestic savings and increase in consumption. Meanwhile, the United States has the largest current account deficit in the region at USD 491 billion, widening from 2.2% to 2.4% of GDP between 2015 and 2018.

Figure 2.3. Current account in USD billion and as a percent of GDP



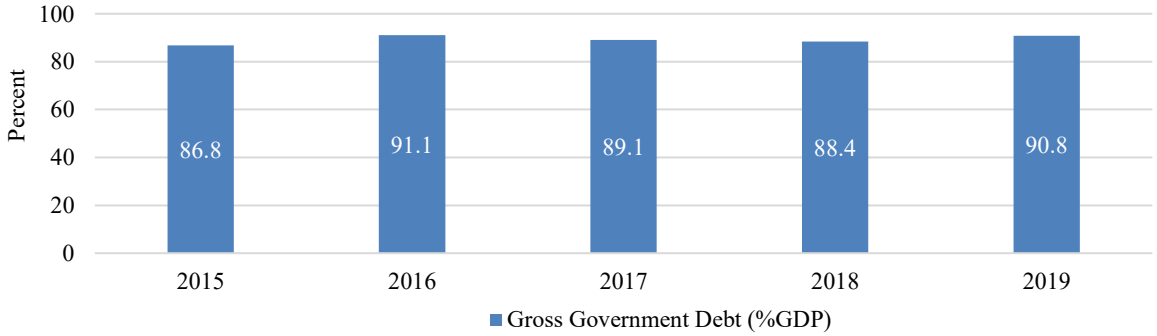
Source: International Monetary Fund and World Economic Outlook Database.

Figure 2.4. Savings and investments as a percent of GDP



Note: Data for Brunei Darussalam and Papua New Guinea were not included.
Source: International Monetary Fund and World Economic Outlook Database.

Figure 2.5. Gross government debt as a percent of GDP in APEC



Source: World Bank and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

To ensure debt sustainability, the government debt-to-GDP ratio needs to be maintained at a sustainable level. A large government debt could slow economic growth and diminish productive economic activities by crowding out private investments, increasing distortive

taxes, and decreasing public investments.[5] It could also constrain a government's ability to respond to a crisis given the more limited fiscal space available.[6] Across APEC, gross government debt as a percent of GDP increased from 86.8% in 2015 to 90.8% in 2019 (Figure 2.5).

Overall, growth became more balanced across APEC between 2015 and 2019. On external balance, most economies achieved a more balanced current account, in addition to China's significant winding down of its current account surplus. With regard to internal balance, most economies improved their fiscal position and budget balance despite increases in government debt levels in a few economies.

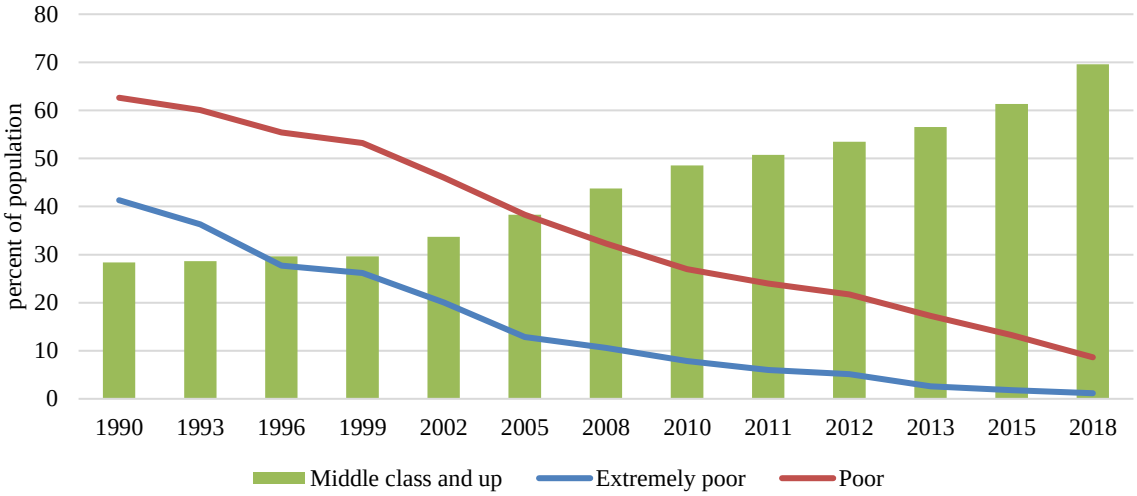
INCLUSIVE GROWTH

Inclusive growth is economic growth that provides broad-based economic gains and equal opportunities to individuals in all segments of the society. It can be analysed on the basis of access to human development and economic opportunities. Access to human development such as education and healthcare provide individuals with the capabilities to contribute to economic growth. Access to economic opportunities such as jobs and entrepreneurship enable individuals to contribute to and benefit from economic growth. Economic growth that is not inclusive could undermine an economy's productive capacity by structurally barring potentially productive individuals from contributing to growth. Non-inclusive economic growth also leads to persistent income and wealth inequality, which could fuel macroeconomic instability and damage social cohesion, with the people left behind experiencing growing mistrust in economic institutions. To evaluate APEC's progress on inclusive growth, this section will first look at poverty and income inequality through the Gini coefficient, labour income distribution, and labour income share. It will then look at inequality in employment through labour force participation, unemployment, vulnerable employment, and youth employment.

Poverty is fundamentally a lack of choices and opportunities. It can take various forms such as a lack of income which severely limits choices for consumption. It can also mean lack of opportunities to access basic services like healthcare and education. APEC has made considerable progress in fighting income poverty between 2015 and 2018. According to the World Bank's PovCal database, the extreme poverty headcount ratio—defined as those living on USD 1.90 or less per day — went down from 1.8% to 1.2% during the period. The aggregate poverty headcount ratio—defined as those living on USD 3.80 or less per day — reduced from 13.2% to 8.6%, while that of the middle class and above—defined as those living on USD 7.60 or more per day—increased from 61.3% to 69.6% (Figure 2.6). Total population living in poverty also reduced significantly from 51.2 million to 33.7 million, contributed by decreases of 6.2 million in China, 6.0 million in Indonesia, and 3.0 million in the Philippines.

[5] Carmen Reinhart, Vincent Reinhart, and Kenneth Rogoff, "Public Debt Overhangs: Advanced-Economy Episodes since 1800," *Journal of Economic Perspectives* 26, no. 3 (2012): 69–86; Douglas W. Elmendorf and Louise M. Sheiner, "Federal Budget Policy with an Aging Population and Persistently Low Interest Rates," *Journal of Economic Perspectives* 31, no. 3 (August 1, 2017): 175–94, https://doi.org/10.1257/jep.31.3.175.
[6] Marina Azzimonti, Marco Battaglini, and Stephen Coate, "The Costs and Benefits of Balanced Budget Rules: Lessons from a Political Economy Model of Fiscal Policy," *Journal of Public Economics* 136 (April 1, 2016): 45–61, https://doi.org/10.1016/j.jpubeco.2016.03.001; Christina D Romer and David H Romer, "Why Some Times Are Different: Macroeconomic Policy and the Aftermath of Financial Crises," Working Paper, Working Paper Series (National Bureau of Economic Research, October 2017), https://doi.org/10.3386/w23931.

Figure 2.6. Poverty and affluence in APEC, 1990-2018



Note: The extremely poor are defined as people living on USD 1.90 or less per person day; the poor are defined as people living on USD 3.80 or less per person per day; the middle class and above are defined as people living on USD 7.60 or more per person per day in 2011 PPP terms. Data not available for Brunei Darussalam; Hong Kong, China; New Zealand; and Singapore.
Source: World Bank's PovCal database.

Income inequality measures the distribution of income within an economy's population and considers the differences in income across the population. The Gini coefficient, labour income distribution, and labour income share are three useful indicators of income inequality.

Table 2.1. Gini coefficient, 2010-2018

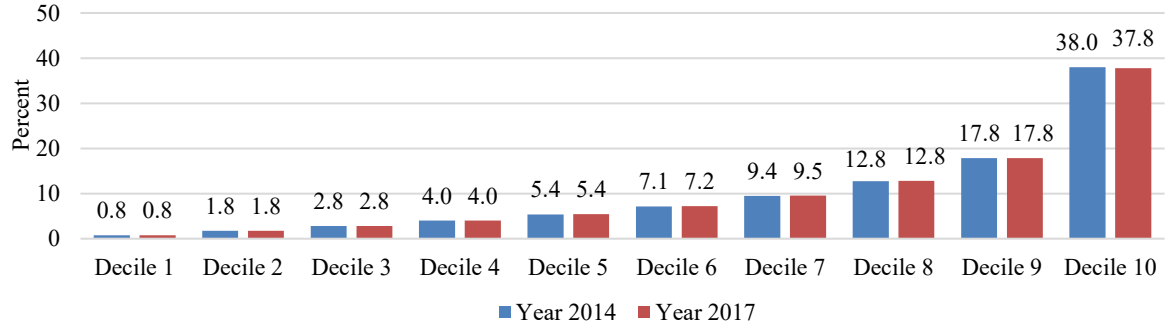
Economy	Initial	Latest	Change	Economy	Initial	Latest	Change
Australia	0.35 (2010)	0.33 (2017)	↘	New Zealand	0.33 (2014)	0.34 (2019)	↗
Brunei Darussalam	…	…	..	Papua New Guinea	0.42 (2009)	…	…
Canada	0.34 (2010)	0.34 (2015)	~	Peru	0.46 (2010)	0.43 (2017)	↘
Chile	0.46 (2011)	0.44 (2017)	↘	The Philippines	0.46 (2009)	0.43 (2018)	↘
China	0.44 (2010)	0.39 (2016)	↘	Russia	0.40 (2010)	0.37 (2018)	↘
Hong Kong, China	0.48 (2011)	0.47 (2016)	↘	Singapore	0.43 (2010)	0.40 (2018)	↘
Indonesia	0.38 (2010)	0.40 (2018)	↗	Chinese Taipei	0.33 (2010)	0.32 (2016)	↘
Japan	0.31 (2009)	0.36 (2014)	↗	Thailand	0.39 (2010)	0.36 (2018)	↘
Korea	0.32 (2010)	0.35 (2018)	↗	United States	0.40 (2010)	0.41 (2016)	↗
Malaysia	0.44 (2011)	0.41 (2018)	↘	Viet Nam	0.39 (2010)	0.36 (2018)	↘
Mexico	0.45 (2010)	0.45 (2018)	~				

Note: Data for Brunei Darussalam and post-2009 Papua New Guinea were not available.
Source: World Bank's PovCal database, Australian Bureau of Statistics, Hong Kong Census and Statistics Department, Statistics Bureau of Japan, Statistics Korea, Statistics New Zealand, Philippine Statistics Authority, Singapore Department of Statistics, and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

The Gini coefficient measures income dispersion and ranges from 0 to 1, with 0 being perfect equality and 1 being perfect inequality. Of the 19 APEC economies for which comparable Gini coefficients are available, most demonstrated a decrease in inequality, although five economies experienced an increase in inequality (Table 2.1).[7]

On the other hand, labour income distribution by decile measures the share of income that accrues to each decile with decile 1 being the poorest 10% of the population and decile 10 being the richest 10%. Across APEC, labour income distribution remained fairly stable between 2014 and 2017 (Figure 2.7). The richest 20% of workers continued to earn more than 55% of the total income, leaving the remaining 80% of workers to share the remaining 45% of the income available.

Figure 2.7. Labour income distribution by decile in APEC, 2014-2017



Source: International Labour Organization modelled estimates.

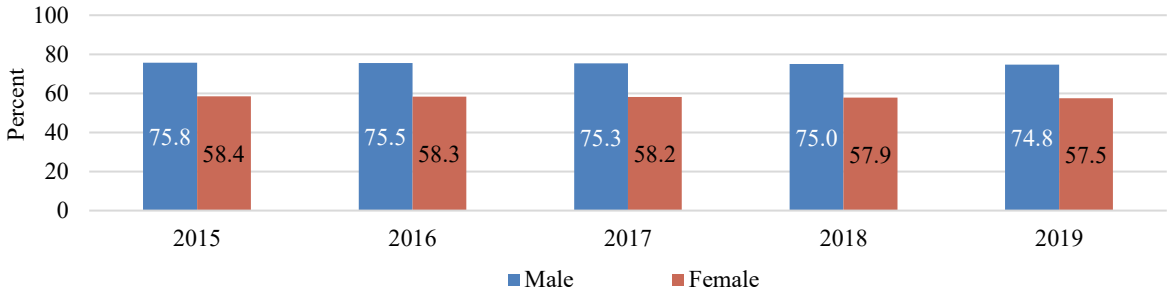
Overall, concerns over rising income inequality are justified. Although the Gini coefficient decreased across many economies, income distribution remained lopsided in many economies, a result of rapid economic growth which failed to generate broad-based opportunities across the population.

Employment trends reflect one's access to economic opportunities and benefits and are considered an important measure of inclusive growth. Studying these trends allows structural patterns in employment to be highlighted. The next section will try to call attention to employment inequalities by focusing on the labour force participation rate, unemployment rate, vulnerable employment, wage and salaried employment, and youth employment.

The labour force participation rate measures the proportion of the working-age population (ages 15 and above) that is economically active. It reflects the utilisation of labour, and the size and composition of an economy's labour supply. Between 2015 and 2019, the labour force participation rate in APEC exhibited an overall downward trend across both sexes, likely due to the region's changing demographics and rising affluence. The male labour force participation rate remained 17 percentage points higher than the female labour force participation rate in 2019 (Figure 2.8).

[7] It is important to note, however, that the Gini coefficient is a measure of dispersion across a population; i.e., it is sensitive to proportional changes in income but not to income gaps or shares. This means the Gini coefficient goes down when incomes on the lower end of the distribution grow faster than incomes on the higher end. A problem with this measure is that it tends to hide base effects: a 10% increase from a $1,000 income is just a hundredth of a 1% increase from a $1 million income. So it is possible to widen income gaps despite a decrease in the Gini coefficient.

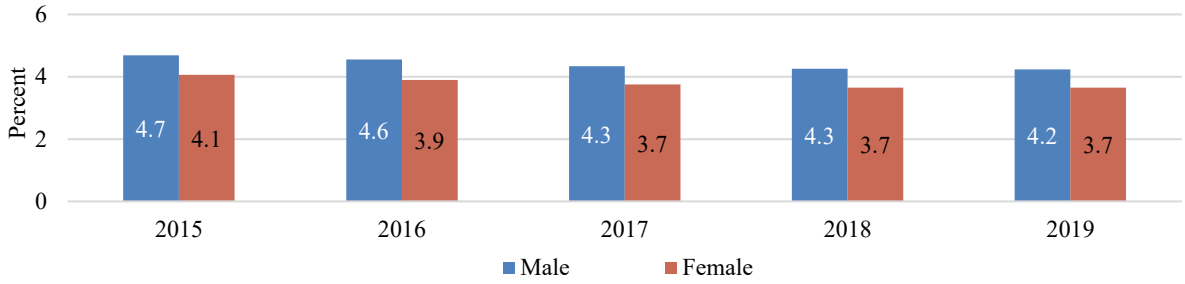
Figure 2.8. Labour force participation rate by gender in APEC, 2015-2019



Note: Data for 2019 Chinese Taipei was not included.
Source: International Labour Organization and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

The unemployment rate, on the other hand, measures the share of the labour force without work but available for and seeking work. Between 2015 and 2019, the unemployment rate in APEC slightly declined, although this is expected to significantly increase in 2020 due to the economic impacts of COVID-19. Male workers remained more likely than their female counterparts to be unemployed—with average unemployment rates at 4.2% and 3.7%, respectively, in 2019 (Figure 2.9).

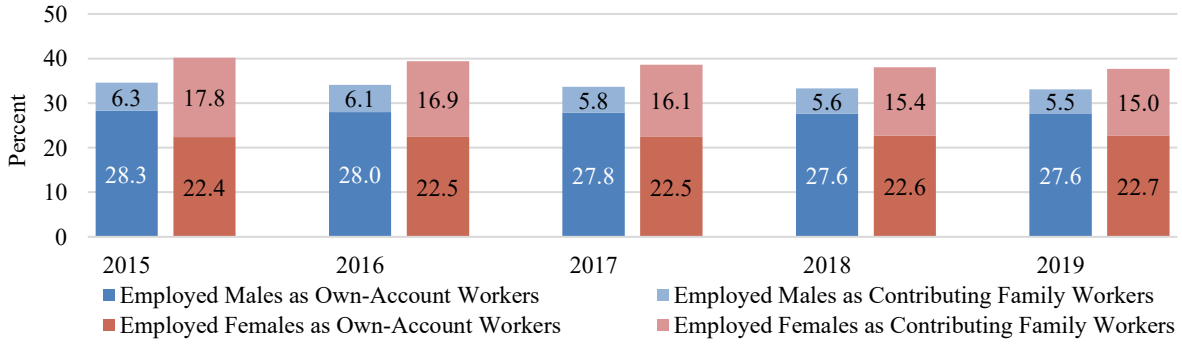
Figure 2.9. Unemployment rate, by gender in APEC, 2015-2019



Source: International Labour Organization and Chinese Taipei Directorate-General of Budget, Accounting and Statistics.

Vulnerable employment and wage and salaried employment are also important and complementary measures of inclusive employment. Vulnerable employment measures the share of contributing family workers and own-account workers in total employment. These are jobs that tend to offer low job growth, low social protection against economic shocks, and high income uncertainty. Between 2015 and 2019, female workers remained more likely than male workers to be in vulnerable employment; nonetheless, differences between the two narrowed from 5.6 to 4.6 percentage points over the period (Figure 2.10).

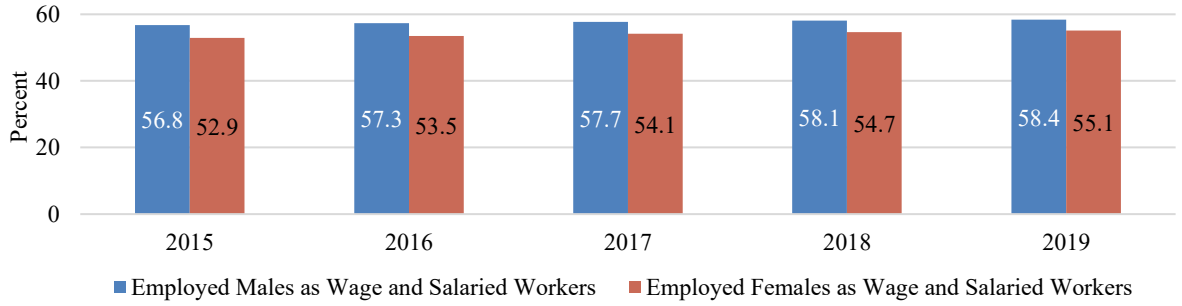
Figure 2.10. Vulnerable employment in APEC, 2015-2019



Source: International Labour Organization modelled estimates.

On the other hand, wage and salaried employment measures the share of employment that pay out basic and stable remuneration, often in the formal sector. A high share of wage and salaried workers in an economy may indicate a well-developed labour market with favourable prospects for human capital development. Between 2015 and 2019, the share of wage and salaried workers in APEC increased across both genders (Figure 2.11). However, male workers remained more likely than female workers to hold wage and salaried jobs.

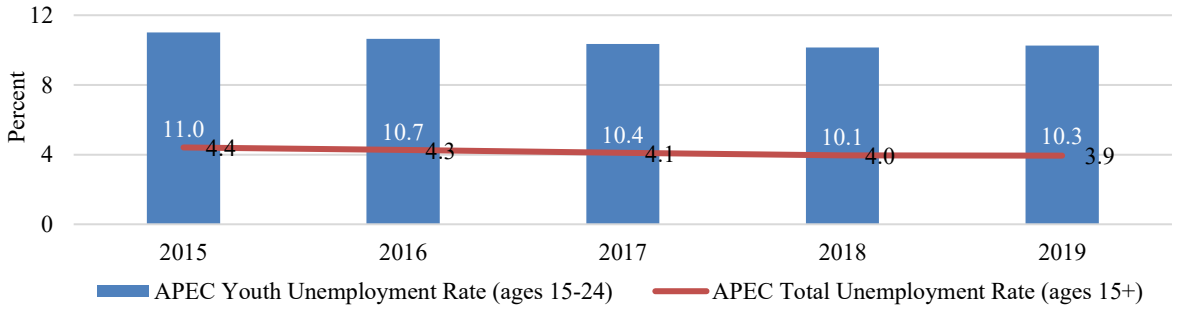
Figure 2.11. Wage and salaried workers as a percent of total employment in APEC



Source: International Labour Organization modelled estimates.

Youth labour force participation measures the proportion of the youth population (ages 15-24) that is economically active. It reflects the utilisation of the youth labour force, the availability of education opportunities, and the skill and education level of the future labour force. Between 2015 and 2019, the youth labour force participation rate decreased from 48.9% to 46.7% across APEC. The downward trend can be interpreted in a positive light, as it coincided with upticks in human capital investments and tertiary education enrolment rates, suggesting that instead of participating in the labour market, youth are spending more time in education to build up the skills and trainings required in the workplace. On the other hand, a falling youth labour force participation rate could also indicate limited economic prospects.

Figure 2.12. Youth unemployment rate in APEC, 2015-2019



Source: International Labour Organization modelled estimates.

Youth unemployment rate, on the other hand, measures the share of youth labour force without work but available for and seeking work. A high rate of youth unemployment is unfavourable, as it precludes the young from gaining job experience and harnessing their full potential, all of which have direct repercussions on their future employability, productivity, and earning potential. Youth unemployment has an additional impact on an economy's development, as it prevents the economy from capitalising on their human resource for innovation. Between 2015 and 2019, the youth unemployment rate decreased across APEC, from 11.0% to 10.3% (Figure

2.12). Nonetheless, youth workers remained significantly more likely than older workers to be unemployed, which could count against them in the competition of entry-level jobs.[8]

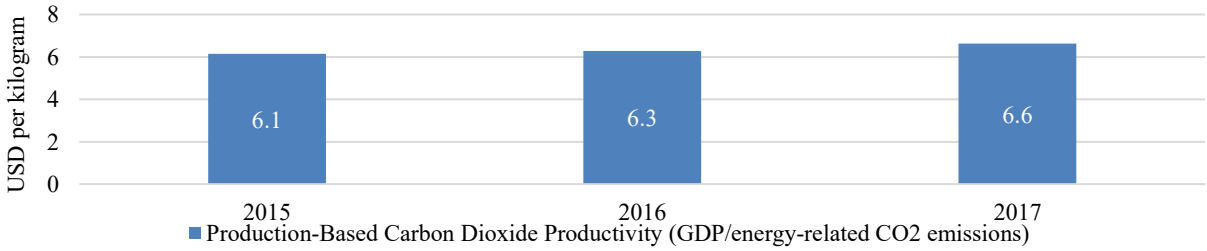
SUSTAINABLE GROWTH

Climate change, with emissions of carbon dioxide and other greenhouse gases distorting the planet's energy balance and raising the global temperature, has become a pressing economic challenge. Increased temperature can reduce per capita output in the short and medium-term by lowering agricultural output, depressing labour productivity, reducing capital accumulation, and damaging human health.[9] Further, climate change can exert negative macroeconomic distributional consequences on the APEC region as its effects tend to concentrate on regions with relatively higher annual average temperature, which is the case for most low-income economies.[10]

An economy's environmental performance and economic development are heavily contingent on its structure of energy supply and efficiency in energy use. Pursuing green growth requires transitioning to a low-carbon and resource efficient economy. To evaluate APEC's progress on sustainable growth, this section will first look at the trend in environmental productivity through production-based carbon dioxide productivity; then at resource productivity through renewable energy generation; and lastly, at protection of forest through share of forest area.

Carbon dioxide is the largest and fastest-growing greenhouse gas contributing to climate change around the world. Between 2015 and 2017, carbon dioxide emissions in APEC continued to grow—reaching 5,636.8 kilotonnes in 2017—while carbon dioxide emissions per capita remained static at around 2.0 kilotonne-carbon per person. Over the same period, the production-based carbon dioxide productivity—measured by economic output per unit of carbon dioxide emitted—increased from USD 6.1 to USD 6.6 per kilogram, which means more economic value was generated per unit of carbon dioxide emitted (Figure 2.13). This trend reflects a decoupling between emissions and economic growth, a shift in industrial structure and energy supply mix, along with improved energy efficiency.[11]

Figure 2.13. Production-based carbon dioxide productivity in APEC, 2015-2017

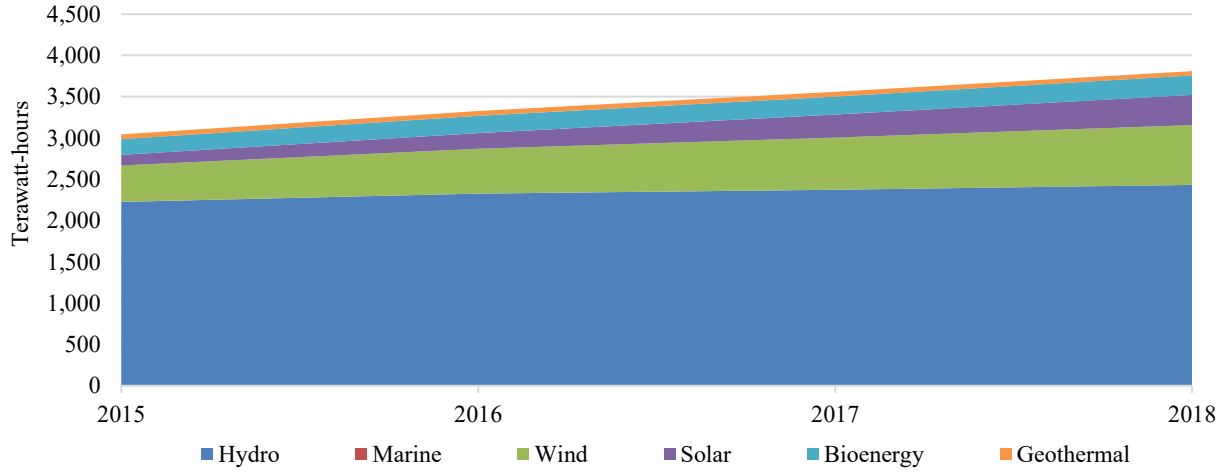


Note: Included in the calculation of carbon dioxide emissions are combustion of coal, oil, natural gas, and other fuels. Data were unavailable for Hong Kong, China; Papua New Guinea; and Chinese Taipei.
Source: OECD Green Growth Indicators.

[8] International Labour Organization, *Global Employment Trends for Youth 2020: Technology and the Future of Jobs* (Geneva: International Labour Organisation, 2020).
[9] Erika Cristina Acevedo et al., "Governance and Climate Variability in Chinchiná River, Colombia," *International Journal of Climate Change Strategies and Management* 8, no. 5 (January 1, 2016): 632–53, https://doi.org/10.1108/IJCCSM-04-2015-0038.
[10] Marshall Burke, Solomon M. Hsiang, and Edward Miguel, "Global Non-Linear Effect of Temperature on Economic Production," *Nature* 527, no. 7577 (November 2015): 235–39, https://doi.org/10.1038/nature15725.
[11] OECD, *Green Growth Indicators 2017*, OECD Green Growth Studies (OECD, 2017), https://doi.org/10.1787/9789264268586-en.

Improving resource productivity—measured by the output generated per unit of natural resources or materials used—is critical for an economy's energy supply security. Low-carbon renewables such as hydro, wind, solar, and biomass provide an alternative to carbon-intensive coal and natural gas which are heavily relied upon in the current energy mix. Adoption of renewable energy improves an economy's energy security by decreasing its energy import-dependency on other economies. Between 2015 and 2018, renewable energy generation increased by 25.2% in APEC, from 3,043.0 to 3,809.8 terawatt–hours (Figure 2.14). The improvement was contributed by a 186.0% increase in solar energy—from 128.0 to 366.2 terawatt-hours—and a 64.3% increase in wind energy—from 440.4 to 723.7 terawatt-hours. Despite these increases, over the same period, geothermal energy dropped by 10.5%—from 57.6 to 51.5 terawatt-hours—while marine energy dropped by a minor 0.5%. Renewable hydropower—with a 63.8% share of renewable energy generated—was the largest source of renewable energy in APEC in 2018, followed by wind energy at 19.0% and solar energy at 9.6%.

Figure 2.14. Renewable energy generation by source in APEC, 2015-2018



Source: International Renewable Energy Agency.

The growth in renewable energy generation was a result of deliberate efforts by member economies to pursue green growth. Some examples of efforts include China's[12] USD 126 billion investment in renewable energy in 2017; Japan's[13] restructuring of energy supply towards more sustainable and renewable energy; and the United States'[14] investment tax credit encouraging renewable energy deployment. Despite the rise in renewable electricity generation, the use of renewable energy remained a small share of total energy (Figure 3.27).

[12] Frankfurt School-UNEP Centre and Bloomberg New Energy Finance, "Global Trends in Renewable Energy Investment 2018" (Frankfurt School of Finance & Management gGmbH, 2018), https://www.buildup.eu/sites/default/files/content/gtr2018v2.pdf.
[13] Takanobu Aikawa, "Restructuring Japan's Bioenergy Strategy" (Renewable Energy Institute, June 2018).
[14] U.S. Department of Energy, "Leveraging Federal Renewable Energy Tax Credits," 2016, https://www.energy.gov/sites/prod/files/2016/12/f34/Leveraging_Federal_Renewable_Energy_Tax_Credits_Final.pdf.

Protection and management of forest area promotes sustainable growth because forests offer a wide range of environmental benefits—including carbon dioxide removal, water filtration, landslide prevention, flood mitigation, coastal protection, and air quality improvement. In addition to the environmental benefits, forests provide a wide range of economic and social benefits. In the past, governments often regarded forest areas as sources of public revenue and reservoirs of land for cultivation. This makes forest management and protection a difficult endeavour as it involves a trade-off between resource conservation and economic development. The share of forest area in APEC is thus a result of individual economies' respective forest policies, which were driven by factors involving economic development, demographic trends, and technological innovation. Between 2014 and 2016, the share of forest area across APEC remained at around 36%.

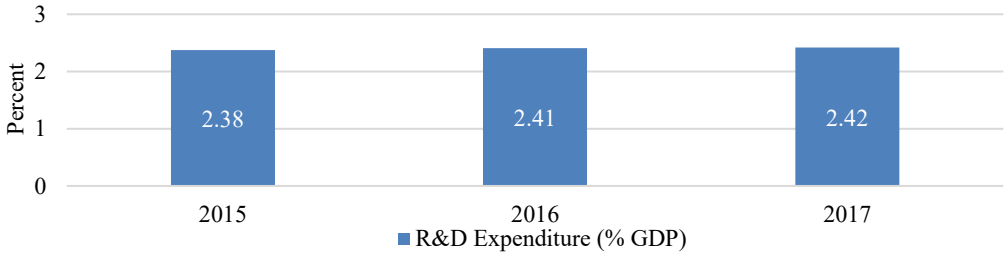
Overall, environmental and resource productivity gains were made through increases in production-based carbon dioxide productivity and renewable energy generation. Nonetheless, carbon dioxide emissions continued to increase, and renewable energy remained a small share in terms of total primary energy supply and total electricity generation. The share of forest area also plateaued, calling for more to be done to increase forest cover.

INNOVATIVE GROWTH

Innovation is the key driver of long-term economic growth. Once an economy surpasses the technological frontier, innovation becomes the only path to maintain long-term growth in productivity. Innovative growth requires an innovation ecosystem with innovative capacity, legal institutions, and ICT infrastructure. To evaluate APEC's progress on innovative growth, this section will first evaluate the region's innovative capacity through indicators like research and development (R&D) expenditure, expenditure on tertiary education, and the number of tertiary graduates; then the legal institutions through the Intellectual Property Rights Index and patent-related figures; and lastly, the ICT infrastructure through broadband internet subscriptions, internet users, and mobile cellular subscriptions.

R&D expenditure strengthens the capacity, opportunity, and incentive for innovation. Between 2015 and 2017, R&D expenditure as a percent of GDP marginally grew from 2.38% to 2.42% (Figure 2.15). Consistent with the literature that finds economies with greater wealth spend more on R&D,[15] economies like Japan and the United States—with respective R&D expenditures at 3.2% and 2.8% of GDP in 2017—were among the top spenders in the region. However, other economies like China and Korea—with R&D expenditures at 2.1% and 4.6% of GDP, respectively—have been increasing their investments in this area.

Figure 2.15. R&D expenditure as a percent of GDP in APEC, 2015-2017

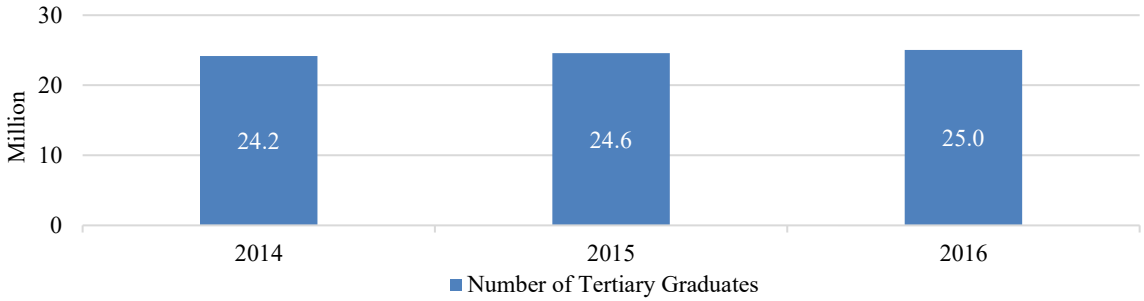


Source: UNESCO.

[15] Nicholas Bloom, John Van Reenen, and Heidi Williams, "A Toolkit of Policies to Promote Innovation," *Journal of Economic Perspectives* 33, no. 3 (August 2019): 163–84, https://doi.org/10.1257/jep.33.3.163.

Human capital investment builds an economy's innovative capacity by developing skills and knowledge. Empirical research finds that doubling the number of universities per capita is associated with a 4% increase in future GDP per capita.[16] Between 2013 and 2017, government expenditure on tertiary education as a percent of GDP generally decreased across APEC economies. Of the 14 economies for which comparative data was available, three economies marked an increase while seven economies marked a decrease (Table 2.2). Despite this, between 2014 and 2016, the number of tertiary graduates increased by 3.5%, from 24 million in 2010 to 25 million in 2016 (Figure 2.16).

Figure 2.16. Number of tertiary graduates in APEC, 2014-2016



Source: UNESCO and Chinese Taipei Ministry of Education.

Table 2.2. Government expenditure on tertiary education as a percent of GDP

Economy	2013-2014	2016-2017
Australia	1.4	1.4
Brunei Darussalam	1.1	0.8
Canada	1.3	1.6
Chile	1.2	1.4
China	…	…
Hong Kong, China	1.5	0.9
Indonesia	0.6	…
Japan	0.7	0.6
Korea	..	0.9
Malaysia	1.7	1.0
Mexico	1.0	1.0
New Zealand	1.7	1.5
Papua New Guinea	…	…
Peru	0.6	0.7
The Philippines	…	…
Russia	0.8	0.8
Singapore	1.0	0.8
Chinese Taipei	0.3	0.3
Thailand	0.6	…
United States	1.3	1.2
Viet Nam	0.9	…

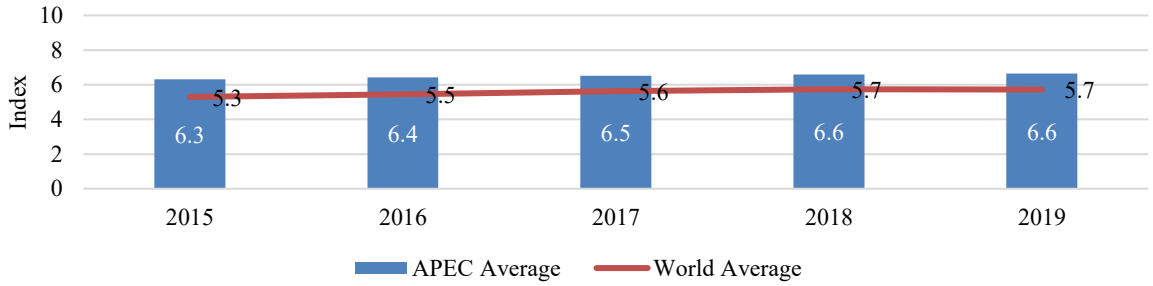
Source: UNESCO and Chinese Taipei Ministry of Education.

[16] Anna Valero and John Van Reenen, "The Economic Impact of Universities: Evidence from across the Globe," *Economics of Education Review* 68 (February 1, 2019): 53–67, https://doi.org/10.1016/j.econedurev.2018.09.001.

Intellectual property rights are rights given to inventors over their creations, usually in the form of an exclusive right to license or sell the creation for a period of time. It allows the rights holder to profit from the inventions through payments such as royalties or licensing fees. Economies with strong intellectual property rights provisions encourage innovation by providing inventors and investors the likelihood that investments and efforts on the innovation will be profitable. Three main categories of intellectual property rights are patents, copyrights, and trademarks.

The Intellectual Property Rights Index (IPRI) presents an overview of the current rights provisions across APEC economies. The index is composed of scores on the legal and political environment, physical property rights, and intellectual property rights. Between 2015 and 2019, the APEC average of the Intellectual Property Rights Index increased from 6.3 to 6.6 out of 10, higher than the world's average, which stood at 5.7 in 2019 (Figure 2.17).

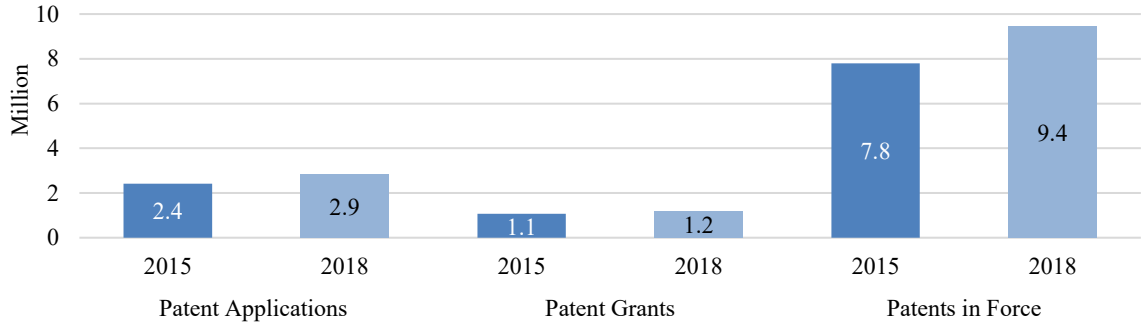
Figure 2.17. Intellectual Property Rights Index in APEC, 2015-2019



Note: The index ranks from 0 to 10, increasing with the strength of intellectual property rights system. Data for Papua New Guinea was not available.
Source: Property Rights Alliance.

To be patentable, an invention must be novel, inventive, and possess industrial applications. The number of patent applications, patent grants, and patents in force are proxies for innovation generation and diffusion. Between 2015 and 2018, patent applications, patent grants, and patents in force increased across APEC economies, indicating an increase in innovative activity in the region (Figure 2.18).

Figure 2.18. Number of patents in APEC, 2015-2018

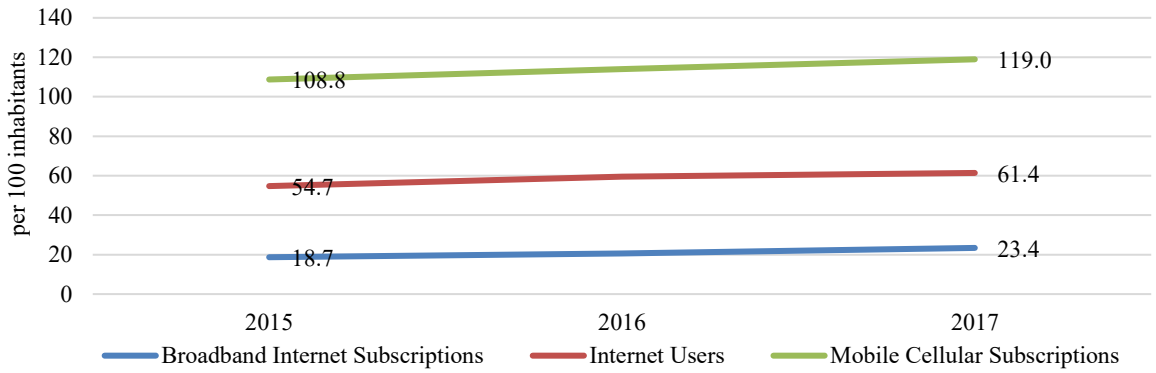


Note: Data for Chinese Taipei was not included.
Source: World Intellectual Property Organization.

ICT is a critical enabling infrastructure for innovation and productivity. Across APEC, broadband subscriptions grew from 18.7 subscriptions per 100 inhabitants in 2015 to 23.4 subscriptions per 100 inhabitants in 2017. The share of internet users across APEC grew from 54.7 users per 100 inhabitants in 2015 to 61.4 users per 100 inhabitants in 2017. Mobile cellular

subscriptions also grew during the period, with almost all APEC economies reaching 100% subscription rates (Figure 2.19).

Figure 2.19. Broadband internet subscriptions, internet users, and mobile cellular subscriptions in APEC, 2015-2018



Source: World Bank and International Telecommunication Union.

Overall, APEC achieved substantial progress in fostering innovative growth. R&D expenditure increased during the period to support innovations. Although tertiary education expenditure as a share of GDP decreased, the total number of tertiary graduates increased, further enhancing the region's innovative capacity. With regard to the legal environment, the strength of intellectual property rights protection improved. Patent grants, patent applications, and patents in force all grew steadily, with significant improvements in many economies. Lastly, ICT infrastructure improved as broadband internet subscriptions, number of internet users, and mobile cellular subscriptions all increased.

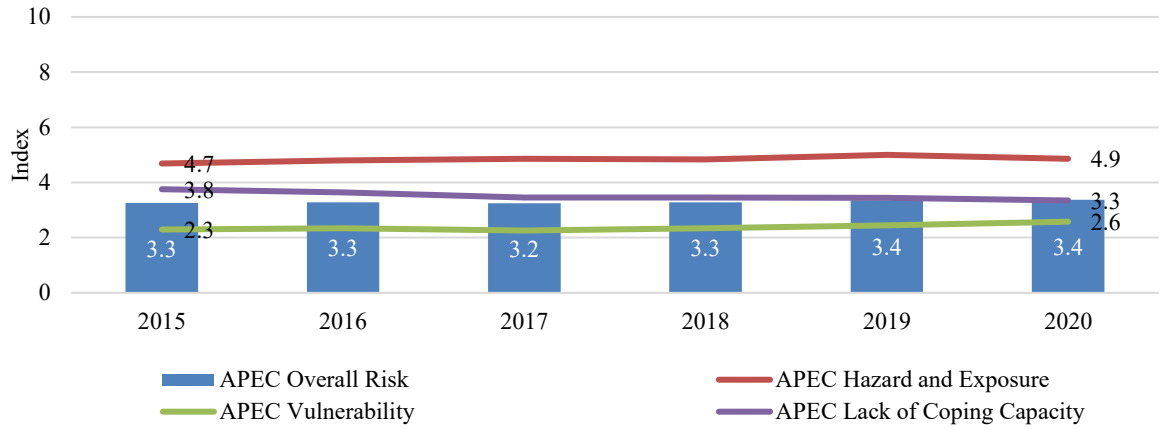
SECURE GROWTH

Secure growth helps an economy mitigate its exposure to risks such as natural and human disasters, public health crises, and food insecurity by improving its capacity to mitigate and cope with crises. To evaluate APEC's progress on secure growth, this section will first look at the region's overall risk level and vulnerability to natural and human disasters through the Global Risk Index; then at the region's food security through the prevalence of severe food insecurity and undernourishment, and dietary energy supply adequacy; at public health security through the Global Health Security Index; and finally, at governance security through the Political Stability and Absence of Violence/Terrorism indicator.

Assessment of APEC's overall risk and vulnerability to natural and human disasters is based on the INFORM Global Risk Index score. The INFORM Index calculates an overall risk that comprises categories of Hazard and Exposure (including earthquake, flood, tsunami, tropical cyclone, drought, epidemic, and human-induced conflict); Vulnerability (in terms of socio-economic conditions—such as deprivation, inequality, aid dependency—and the vulnerable and unprotected groups); and Lack of Coping Capacity (concerning institutional capacity such as disaster risk reduction and governance, and infrastructural capacity such as communication, physical infrastructure, and access to health systems). According to the INFORM Global Risk Index, between 2015 and 2020, APEC's overall risk increased from 3.3 to 3.4 out of 10 (Figure 2.20). Over the same period, improvements were made on the Lack of Coping Capacity category, though performance on the Hazard and Exposure category and the Vulnerability category both declined. This result indicates that while the APEC region has become better

prepared to handle crises, its exposure to natural disasters and human-induced conflicts and its socio-economic vulnerabilities have increased.

Figure 2.20. INFORM Global Risk Index, 2015-2020

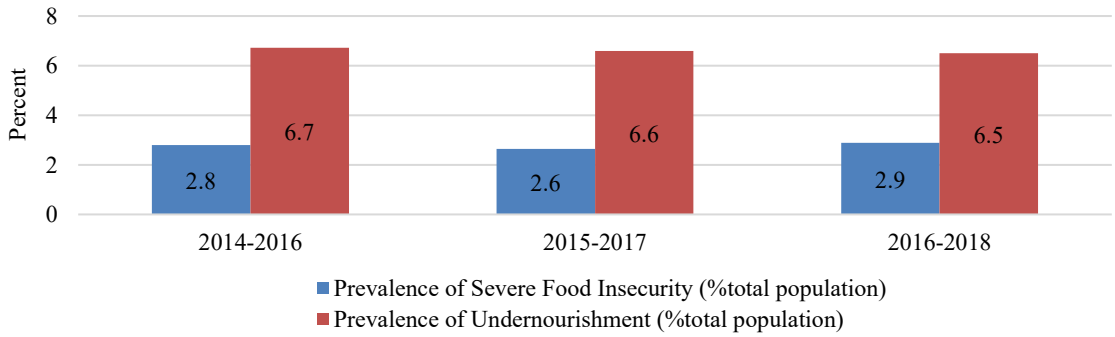


Note: The index ranks from 0 to 10, increasing with the level of risk. Data for Hong Kong, China and Chinese Taipei were not available.
Source: INFORM Global Risk Index.

Prevalence of severe food insecurity measures the proportion of the population facing severe difficulties in accessing food. Across APEC, prevalence of food insecurity decreased from 2.8% of the population in 2014-2016 to 2.6% in 2015-2017, but bounced back to 2.9% in 2016-2018 (Figure 2.21). The Philippines marked the largest surge in food insecurity, with an increase from 11.2% in 2014-2016 to 15.0% in 2016-2018.

Prevalence of undernourishment, on the other hand, measures the proportion of the population whose habitual food consumption is not enough to provide the dietary energy levels required to lead a normal and healthy life. Between 2014 and 2018, the prevalence of undernourishment across the APEC population decreased from 6.7% to 6.5% (Figure 2.21). Of the 19 economies for which comparable data are available, only two economies, Brunei Darussalam and Peru, recorded an increase in prevalence of undernourishment. Of the remaining economies, nine recorded a decrease, while the rest remained the same. Nonetheless, prevalence of undernourishment persisted at significantly high rates in several APEC economies, five of which had a prevalence of undernourishment of more than 8% of their population.

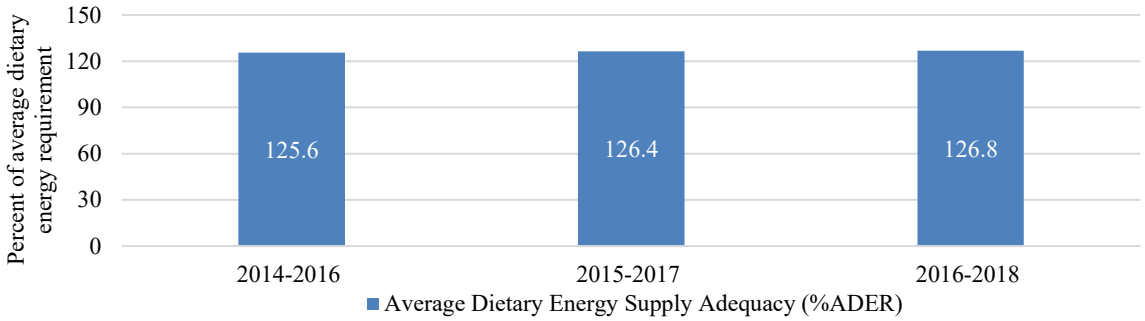
Figure 2.21. Prevalence of severe food insecurity and undernourishment in APEC



Note: APEC aggregate is a population-weighted average.
Source: Food and Agriculture Organization.

Finally, average dietary energy supply adequacy measures the calories available to consume at the economy level. Across APEC, the adequacy improved from 2014 by 1.2 percentage points, reaching 127% in 2018 (Figure 2.22). Since 2012, all APEC economies enjoyed a dietary energy supply adequacy of above 100%, which means there was sufficient food supply to meet the dietary needs of the APEC population. This also shows that there are significant food distribution issues across socio-economic groups: pockets of food insecurity and undernourishment persist in the APEC region despite adequate food supply.

Figure 2.22. Average dietary energy supply adequacy as a percentage of average dietary energy requirement in APEC



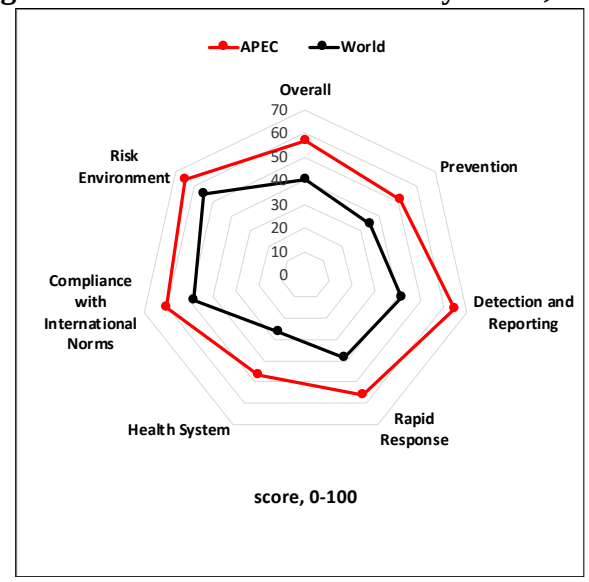
Note: Data for Singapore was not included.
Source: Food and Agriculture Organization.

In 2019, the Nuclear Threat Initiative and Johns Hopkins University, together with The Economist Intelligence Unit, released the inaugural Global Health Security Index to assess capacities and capabilities around the world in responding to and managing an epidemic. The index covers the following six categories of health security:

- Prevention – prevention of the emergence or release of pathogens;
- Detection and Reporting – early detection and reporting for epidemics of potential international concern;
- Rapid Response – rapid response to and mitigation of the spread of an epidemic;
- Health System – sufficient and robust health system to treat the sick and protect health workers;
- Compliance with International Norms – commitments to improving domestic capacity, financing plans to address gaps, and adhering to global norms; and
- Risk Environment – overall risk environment and vulnerability to biological threats.

The study found that health security around the world is fundamentally weak and that no economy was fully prepared for an epidemic or pandemic. The APEC region had an average overall score of 57.0 out of 100 compared with the world average of 40.2 (Figure 2.23). In fact, the APEC region outperformed the world average in all six index categories. APEC economies as a whole scored highest in risk environment (65.1) and detection and reporting (64.5), but scored lowest in prevention (51.2) and health system (46.4). There were only a few instances in which an APEC member scored above 90.0 in any of the six index categories, and all of those instances were in the detection and reporting category.

Figure 2.23. Global Health Security Index, 2019

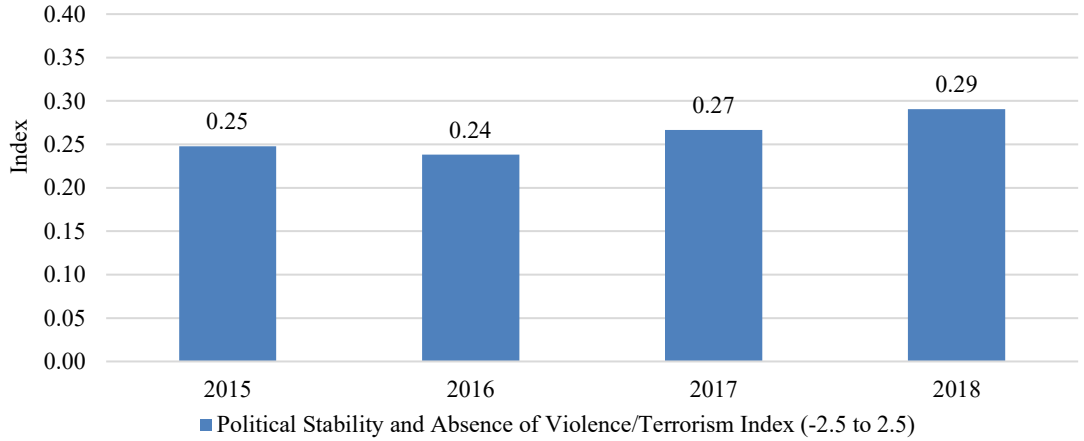


Note: The Global Health Security Index measures health security capacities and capabilities in the six categories shown in 195 economies. Scores range between 0 and 100; a higher score indicates a greater level of health security. Data for Hong Kong, China and Chinese Taipei are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and The Economist Intelligence Unit, Global Health Security Index 2019.

Governance, as defined by the World Bank's Worldwide Governance Indicators, consists of the traditions and institutions by which authority in an economy is exercised. This encompasses the process by which governments are selected, monitored, and changed; the capacity of the government to formulate and implement policies; and the respect constituents hold towards the institutions that govern the economic and social interactions among them. Strong governance fosters peaceful cooperation between social actors, avoids potential political instabilities and policy captures, and safeguards the security of an economy's growth.

To evaluate APEC's performance on governance to better ensure secure growth, we examine the Political Stability and Absence of Violence/Terrorism indicator, which measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Higher scores are awarded to governments that have no armed opposition, and do not indulge in direct or indirect arbitrary violence; intermediate scores are assigned based on the extent to which violence has caused a threat to the government and businesses; and lastly, the lowest scores go to war-torn economies. Between 2015 and 2018, the APEC region became more stable and free of violence or terrorism as a whole, with the average score for this indicator improving slightly from 0.25 to 0.29. Eight APEC economies scored below zero in 2015 and continued to do so in 2018.

Figure 2.24. Political Stability and Absence of Violence/Terrorism in APEC, 2015-2018



Note: Political Stability and Absence of Violence/Terrorism score ranges from -2.5 to 2.5, increasing with the level of political stability/absence of violence/terrorism.
Source: World Bank Worldwide Governance Indicators

Overall, APEC achieved progress in pursuing secure growth. Food security was strengthened across the region, albeit with increases in the prevalence of undernourishment in a few economies; public health capacity was expanded with steady increases in health expenditure and density of healthcare services, though the difference in expenditure levels between member economies continue to be large; lastly, political stability and the absence of violence and terrorism improved slightly, mainly contributed by progress made in developing APEC economies. However, the assessment fails to capture the impact of the current COVID-19 crisis which has highlighted large gaps in the world and the region's preparedness. Economic output is shrinking, public healthcare systems are overwhelmed, unemployment is expected to hit its highest in 90 years,[17] and food insecurity has increased significantly.

[17] Paul Hannon, 2020, "Unemployment Expected to Reach Highest Level Since Great Depression", July 7 2020, https://www.wsj.com/articles/unemployment-expected-to-reach-highest-level-since-great-depression-11594112400.

3. PROGRESS ON KEY ACCOUNTABILITY AREAS

INSTITUTION BUILDING

Institutional economics examines the role that legal rules and social norms in an economy have in shaping economic behaviour. First theorised in the early 20th century, this branch of economics evolved into "new institutional economics" as it incorporated developments in neoclassical economics into the framework. Pioneering work by Coase focused on transaction costs in the market to explain how firms emerge and, subsequently, institutional structures such as property rights to mitigate negative externalities.[18] Williamson expanded on this foundation with his analysis into how firms operate in markets as well as regulatory policies, followed by the effects of transaction costs such as uncertainty and complexity on contractual arrangements.[19] In parallel with the transaction costs approach, seminal work on the broader institutional environment by North examined the determinants of institutions and their link to economic growth and development.[20]

Recent research in the field explores the relationship and impact of both formal and informal institutions in determining outcomes of economic growth and development. Formal institutions are those underwritten by laws, regulations, policies, and rights in an economy. Examples include political and judicial systems, labour and financial markets, and educational and healthcare systems. Informal institutions refer to the norms, values, customs, and traditions in a society, which often shape the development and functioning of formal institutions. Studies have found that institutions do indeed have a large impact on the macroeconomic performance of an economy. Research by Acemoglu et al. found evidence that economic institutions are primarily responsible for determining the growth potential of an economy.[21] Another empirical study by Rodrik et al. concluded that the quality of institutions in an economy is a fundamental factor to determining its income level.[22]

As an international institution, APEC has been involved in developing and promoting strong institutions around the region since its inception, particularly with respect to rules and regulations pertaining to trade and investment. The ASSQG formalises this commitment by making institution building a key component to strengthening and sustaining quality growth around the region. Under the KAA of institution building in the ASSQG, APEC members

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[18] Ronald H. Coase, "The Nature of the Firm," *Economica* 4, no. 16 (1937): 386–405, https://doi.org/10.1111/j.1468-0335.1937.tb00002.x; Ronald H. Coase, "The Problem of Social Cost," *The Journal of Law and Economics* 3 (October 1960): 1–44, https://doi.org/10.1086/466560.

[19] Oliver E. Williamson, "Markets and Hierarchies: Analysis and Antitrust Implications: A Study in the Economics of Internal Organization," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, 1975), https://papers.ssrn.com/abstract=1496220; Oliver E. Williamson, "Transaction-Cost Economics: The Governance of Contractual Relations," *The Journal of Law & Economics* 22, no. 2 (1979): 233–61.

[20] Douglass C. North, *Institutions, Institutional Change and Economic Performance*, 1st ed. (Cambridge University Press, 1990), https://doi.org/10.1017/CBO9780511808678.

[21] Daron Acemoglu, Simon Johnson, and James A. Robinson, "Institutions as a Fundamental Cause of Long-Run Growth," in *Handbook of Economic Growth*, vol. 1A (Amsterdam: Elsevier, 2005), 385–472, https://doi.org/10.1016/S1574-0684(05)01006-3.

[22] Dani Rodrik, Arvind Subramanian, and Francesco Trebbi, "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development," *Journal of Economic Growth* 9, no. 2 (June 1, 2004): 131–65, https://doi.org/10.1023/B:JOEG.0000031425.72248.85.

considered the following aspects of institutions to have an important impact on economic growth and development:

(i) rules-based economy that promotes legal certainty and reduces the cost of doing business;
(ii) a market-based economy supported by sound public institutions and regulations;
(iii) deep financial markets that efficiently intermediate savings combined with effective regulatory systems that promote financial stability;
(iv) a shareholder-oriented corporate governance system; and
(v) mechanisms that support trade and investment liberalisation and facilitation.[23]

To analyse the progress made by APEC under this KAA, we use a number of indicators as proxies to measure the quality and effectiveness of formal institutions in the region. Since the focus of the institution building component of the ASSQG is on developing sound rules and regulations that underpin quality institutions in an economy, we analyse indicators under the following themes: government effectiveness and integrity; regulatory quality and enforcement; and regulatory effectiveness and efficiency. Given the inherent difficulty in quantifying the overall quality and effectiveness of institutions, we examine several composite indicators under each theme in order to conduct a more balanced assessment of the ASSQG. To match the timeframe of the ASSQG, we would examine whether any progress was made by the APEC economies between 2015 and 2020. However, due to limitations in the availability of data as well as the fact that the ASSQG builds upon the 2010 APEC Growth Strategy, we analyse a time period starting from 2010 for most of the indicators.[24]

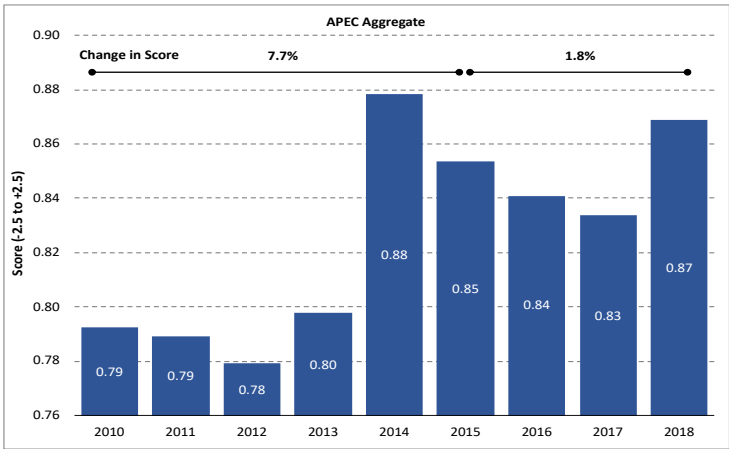
Government Effectiveness and Integrity

Government effectiveness refers to the overall ability of a government to function efficiently and credibly as well as its ability to formulate and implement quality policies. The performance of a government can be measured by its ability to provide public goods and services, such as basic utilities and infrastructure. With respect to policy-making, an effective government is, for example, able to set and maintain strategic priorities and also able to act flexibly to replace failed policies with more innovative ones. An effective government therefore provides a solid foundation so that other institutions in the economy can also function effectively and efficiently. Overall institutional quality is an important factor to creating an enabling environment for economic growth.

The World Bank's indicator of government effectiveness measures perceptions of government quality and credibility in an economy, including the quality of policy formulation and implementation.[25] Based on the data, there was a 7.7% rise in the average score for the APEC region between 2010 and 2015, followed by a 1.8% gain between 2015 and 2018 (Figure 3.1). Over half of the APEC members experienced an increase in their government effectiveness score between 2010 and 2018, the latest year for which data are available. Several of these economies achieved quite substantial improvements in their score, with Brunei Darussalam; China; and Russia registering increases in both the 2010-2015 and 2015-2018 periods.

[23] "Annex A: APEC Strategy for Strengthening Quality Growth."
[24] To the extent possible, we avoid overlap in the indicators since composite indexes may be based on the same underlying data. Please also note that data used to construct an index may be from a previous year and therefore may not be entirely reflective of conditions in an economy during the year in which the index was released.
[25] The World Bank's Worldwide Governance Indicator of "government effectiveness" captures perceptions of (1) the quality of public services; (2) the quality of the civil service and the degree of its independence from political pressures; (3) the quality of policy formulation and implementation, and (4) the credibility of the government's commitment to such policies.

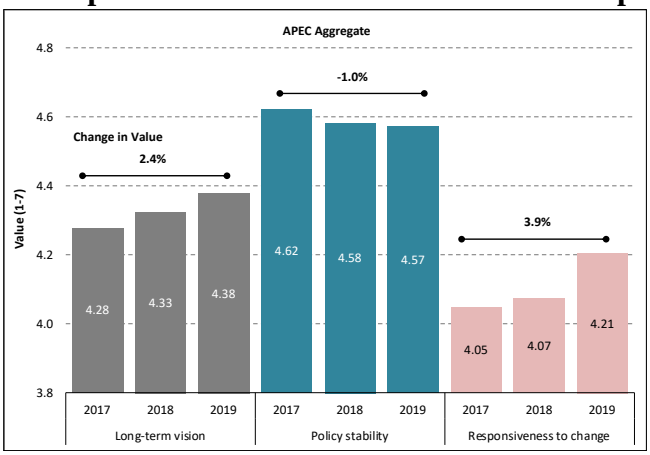
Figure 3.1. Worldwide Governance Indicators — Government Effectiveness



Note: Scores are estimates measured on a scale from approximately -2.5 to +2.5; higher values correspond to better governance. APEC aggregate is a simple average of the score in each APEC economy.
Source: World Bank, Worldwide Governance Indicators, 2019 Update.

An effective government is one which has a clearly articulated long-term vision supported by a stable policy environment. In addition, governments need to be responsive to changing conditions, such as those relating to technological changes, in order to design effective policies and regulations. The World Economic Forum recently began to measure government adaptability by including several related questions in its Executive Opinion Survey.[26] Although data are available only from 2017 through 2019, examining the progress made in three indicators — long-term vision, policy stability, and responsiveness to change — reveals somewhat mixed progress in the region. While there was an increase in the average regional score for long-term vision and responsiveness to change, there was a slight decline in the average score for policy stability (Figure 3.2). Several APEC members registered an improvement in their scores for all three indicators between 2017 and 2019, including Chile; Hong Kong, China; Indonesia; and Korea.

Figure 3.2. Global Competitiveness Index — Government Adaptability Indicators

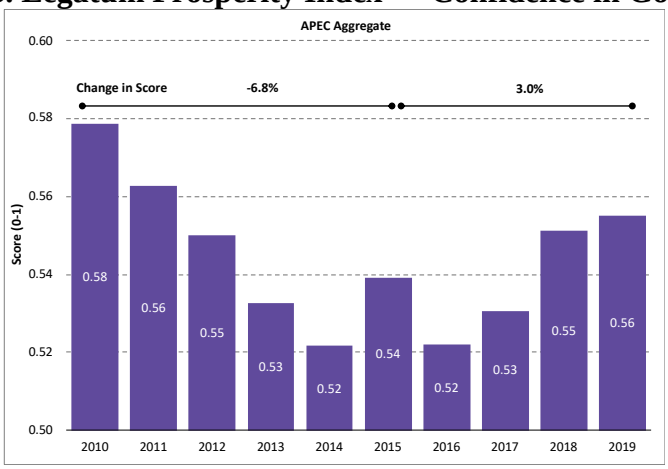


Note: Data for Papua New Guinea are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: World Economic Forum, The Global Competitiveness Index, 2019 Dataset.

[26] Respondents were asked the following three questions: "In your (economy), to what extent does the government have a long-term vision in place?"; "In your (economy), to what extent does the government ensure a stable policy environment for doing business?"; and "In your (economy), to what extent does the government respond effectively to change (e.g. technological changes, societal and demographic trends, security and economic challenges)?". Scores range between 1 (not at all) and 7 (to a great extent).

Public confidence helps to strengthen institutions in an economy, thereby enabling the government to be more effective in building an institutional framework that fosters and supports economic growth. Based on data from the confidence in government indicator of the Legatum Prosperity Index, the average score for the APEC region fell by 6.8% between 2010 and 2015, followed by an increase of 3.0% between 2015 and 2019 (Figure 3.3).[27] Overall, the average regional score decreased by 4.1% between 2010 and 2019, with half of the APEC members experiencing a decline in their score, several of which were quite substantial decreases. Only seven economies registered an improvement in the level of confidence in government over the 2010-2019 period, with the score in Japan; Korea; New Zealand; and the Philippines either increasing or remaining the same in both the 2010-2015 and 2015-2019 periods.

Figure 3.3. Legatum Prosperity Index — Confidence in Government

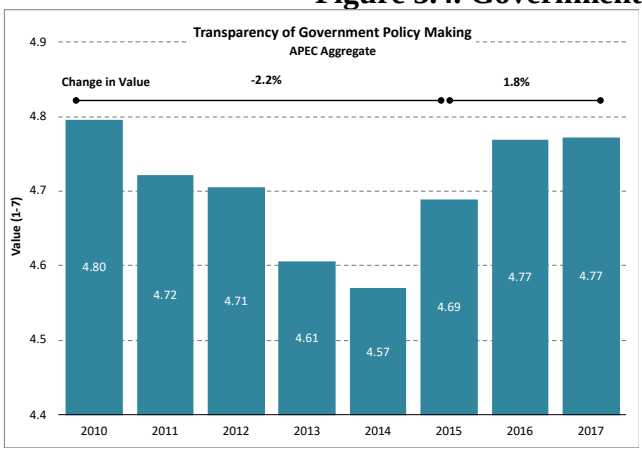


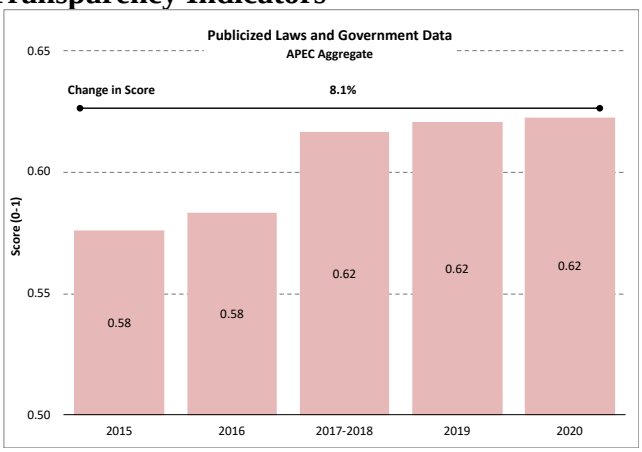
Note: Data for Brunei Darussalam are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

One way for governments to promote public trust and confidence is to maintain a high level of transparency. This can be achieved through, for instance, implementing a transparent policy making process and ensuring public access to information on laws and regulations as well as government data. Using data from the World Economic Forum's Executive Opinion Survey, the perceived level of transparency of government policy making improved in only eight APEC economies between 2010 and 2017, the latest year for which data are available, with essentially no change in the average score for APEC over this period (Figure 3.4).[28] Based on data from the Rule of Law Index for another indicator of transparency that measures the extent to which a government shares information, the average score improved by 8.1% across the APEC region between 2015 and 2020, with nearly two-thirds of the APEC members for which there are data registering an increase in their score.[29] Australia and Mexico, in particular, made large advancements in this aspect of transparency.

[27] The "confidence in national government" indicator under the "institutional trust" element of the Legatum Prosperity Index is based on the share of respondents answering "Yes" to the following Gallup survey question: "Do you have confidence in national government?"
[28] Respondents were asked the following question: "In your (economy), how easy is it for companies to obtain information about changes in government policies and regulations affecting their activities?" Scores range between 1 (extremely difficult) and 7 (extremely easy).
[29] The "publicized laws and government data" indicator of the Rule of Law Index measures whether basic laws and information on legal rights are publicly available, presented in plain language, and made accessible in all

Figure 3.4. Government Transparency Indicators





Note: Data for Papua New Guinea are not available for the "transparency of government policy making" indicator. Data for Brunei Darussalam; Papua New Guinea; and Chinese Taipei are not available for the "publicized laws and government data" indicator. APEC aggregates are simple averages of the score in each APEC economy.
Source: World Economic Forum, The Global Competitiveness Index, 2017-2018 Dataset; World Justice Project, Rule of Law Index, 2020 Dataset.

A lack of transparency, and corruption in particular, has a negative impact on the integrity of a government and its institutions. In addition to bribery and other forms of petty graft, instances of corruption include undue influence in policy making by special interest groups, misallocation of economic resources due to personal connections, and excessive money and influence in politics leading to favouritism. Such market distortions cause inefficiencies that lead to constraints on economic growth. Research has found empirical evidence that high and rising levels of corruption increase income inequality and poverty.[30]

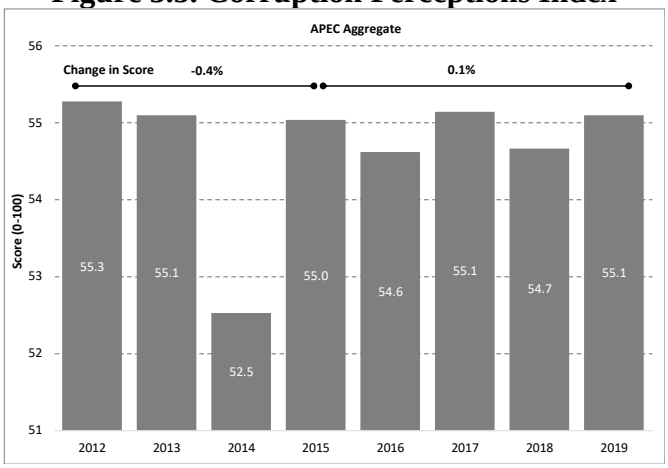
To assess whether any progress was made by the APEC members in this area, we examine three indicators relating to perceptions of corruption within the public sector. Based on data from the Corruption Perceptions Index compiled by Transparency International, there was virtually no change in the average score for the APEC region between 2012 and 2019, including in both the 2012-2015 and 2015-2019 periods (Figure 3.5).[31] However, there were in fact significant changes in the perceived levels of corruption among the APEC members that offset each other over this period. Between 2012 and 2019, a decline in the score for most APEC members indicates that public sector corruption was perceived to have increased in many economies around the region. In contrast, the score for perceptions of public sector corruption increased in only eight APEC economies over this period, with some members, such as Indonesia and Viet Nam, registering quite large improvements.

languages. It also measures the quality and accessibility of information published by the government in print or online, and whether administrative regulations, drafts of legislation, and high court decisions are made accessible to the public in a timely manner.

[30] Sanjeev Gupta, Hamid Davoodi, and Rosa Alonso-Terme, "Does Corruption Affect Income Inequality and Poverty?," *Economics of Governance* 3, no. 1 (March 1, 2002): 23–45, https://doi.org/10.1007/s101010100039.

[31] The Corruption Perceptions Index measures the perceived level of public sector corruption based on expert assessments and business opinion surveys. Historical analysis prior to 2012 is not possible due to a methodological change in the Corruption Perceptions Index in that year.

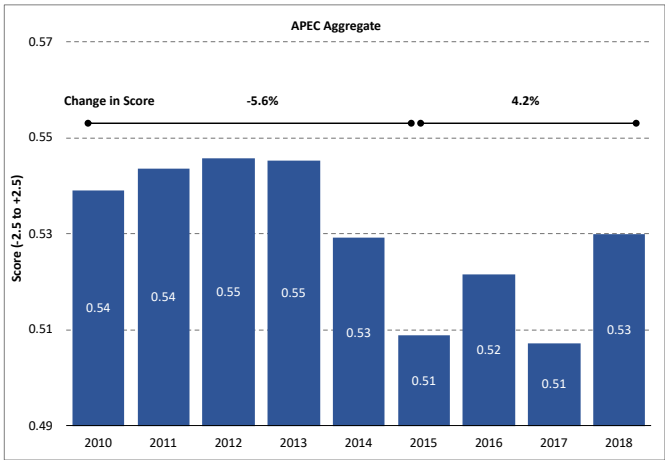
Figure 3.5. Corruption Perceptions Index



Note: Index scores range from 0 (highly corrupt) to 100 (very clean). APEC aggregate is a simple average of the score in each APEC economy. (Data for 2016 is used for Brunei Darussalam in 2015.)
Source: Transparency International, Corruption Perceptions Index, 2019 Dataset.

Examining another measure of corruption leads to a similar finding: although the average score for APEC remained relatively unchanged over the assessment period, public sector corruption is in fact perceived to have worsened in many economies, while improving in some other economies. Based on data from the World Bank's indicator for the control of corruption, the average score for the APEC region exhibited very little change between 2010 and 2018, with a fall of 5.6% in the 2010-2015 period partially offset by an increase of 4.2% in the 2015-2018 period (Figure 3.6).[32] Half of the APEC members registered a gain in their score between 2010 and 2018, the latest year for which data are available, while the other half experienced a decline.

Figure 3.6. Worldwide Governance Indicators — Control of Corruption



Note: Scores are estimates measured on a scale from approximately -2.5 to 2.5; higher values correspond to better governance. APEC aggregate is a simple average of the score in each APEC economy.
Source: World Bank, Worldwide Governance Indicators, 2019 Update.

Performance based on a third indicator — the absence of corruption component of the World Justice Project's Rule of Law Index — indicates that perceptions of corruption have worsened

[32] The World Bank's Worldwide Governance Indicator of "control of corruption" captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of institutions by elites and private interests.

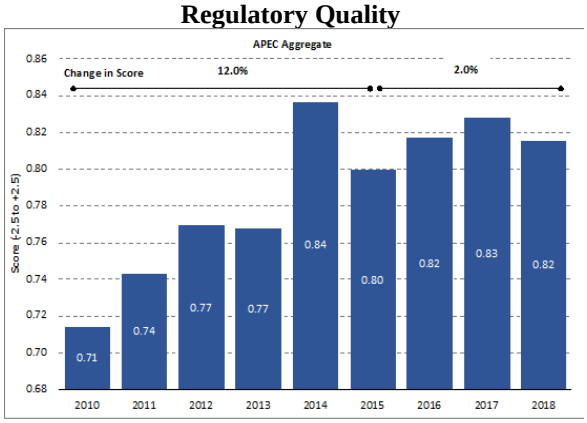
in the APEC region.[33] Nearly all APEC members for which there are data registered a decrease in their score between 2015 and 2020, with the average score for the region falling by 3.9%. Given the negative economic impact due to corruption, improvement in this area is of vital importance in many APEC economies. Although some of the indicators measuring the perceived level of public sector corruption reveal improvements in the scores for several APEC economies, greater progress could still be made among these members. Moreover, it is of serious concern that the indicators also suggest that public sector corruption is perceived to have recently worsened in many APEC economies.

Regulatory Quality and Enforcement

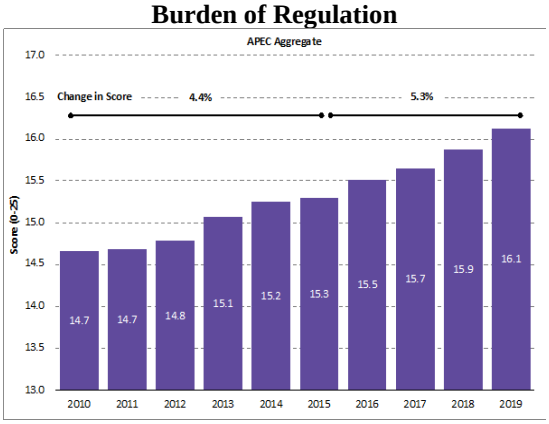
Rules and regulations are necessary to mitigate the various costs that can occur in economic transactions and which may lead to market failures such as information asymmetries, negative externalities, and imperfect competition. Regulatory institutions therefore aim to ensure an efficient and fair allocation of resources in economic markets as well as to provide protection for consumers and investors. Efficient regulatory systems are those in which there are transparent, non-discriminatory, and cost-effective regulations, thereby facilitating economic growth. In contrast, inefficient regulatory systems are characterised by contradictory or duplicate rules, onerous administrative procedures, and/or unnecessary regulations that are overly burdensome and costly to businesses. Ongoing management of the regulatory system is crucial in order to assess both the positive and negative impacts of regulations as well as to be responsive to changing economic conditions.

Figure 3.7. APEC Regulation Indicators

Worldwide Governance Indicators — Regulatory Quality



Legatum Prosperity Index — Burden of Regulation



Note: Worldwide Governance Indicators scores are estimates measured on a scale from approximately -2.5 to +2.5; higher values correspond to better governance. Legatum Prosperity Index data for Brunei Darussalam are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: World Bank, Worldwide Governance Indicators, 2019 Update and Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

The World Bank's indicator of regulatory quality measures perceptions of the ability of a government to formulate and implement sound policies and regulations that permit and promote private sector development. Based on the data, the average score for the APEC region rose by 12.0% between 2010 and 2015, followed by a 2.0% gain between 2015 and 2018, the

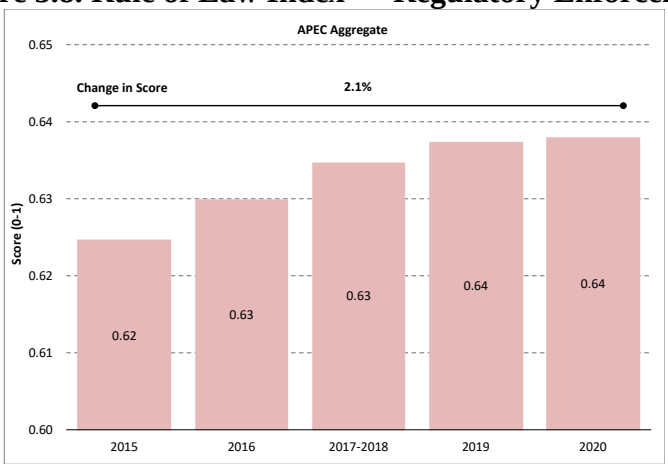
[33] The "absence of corruption" component of the Rule of Law Index considers three forms of corruption that are examined with respect to government officers in the executive branch, the judiciary, the military and police, and the legislature: bribery, improper influence by public or private interests, and misappropriation of public funds or other resources. Data for Brunei Darussalam; Papua New Guinea; and Chinese Taipei are not available.

latest year for which data are available (Figure 3.7). Over this period, most APEC members achieved an increase in their score for regulatory quality. Several economies, including Hong Kong, China; Indonesia; Japan; and Singapore, registered substantial improvements in their regulatory quality score between 2010 and 2018.

Complying with rules and regulations adds a time and cost component to doing business. Furthermore, navigating complex regulatory systems can add an additional cost for businesses. It is therefore important that government regulations not be overly burdensome so as to deter or distort business activity. Using data from the burden of regulation element of the Legatum Prosperity Index yields some positive results.[34] The score for nearly all APEC members increased between 2010 and 2019. In particular, China; Malaysia; the Philippines; Russia; and Viet Nam made significant progress in reducing the regulatory burden in their economies over this period. For the APEC region as a whole, the average score improved by 4.4% between 2010 and 2015, followed by another gain of 5.3% between 2015 and 2019 (Figure 3.7).

Equally important to formulating high-quality regulatory policies is the ability to effectively and fairly implement and enforce those regulations. Inconsistent enforcement of regulations, ineffective methods to settle disputes, and insecure property rights deter both domestic and foreign investment and undermine economic growth. Based on data from the regulatory enforcement component of the World Justice Project's Rule of Law Index, the APEC region registered a 2.1% increase between 2015 and 2020 (Figure 3.8).[35] Nearly two-thirds of the APEC members improved their score for regulatory enforcement over this period. Malaysia was the highest performer in the region with its score increasing by 20.8% over the assessment period, while Viet Nam registered an 11.3% gain in its score.

Figure 3.8. Rule of Law Index — Regulatory Enforcement



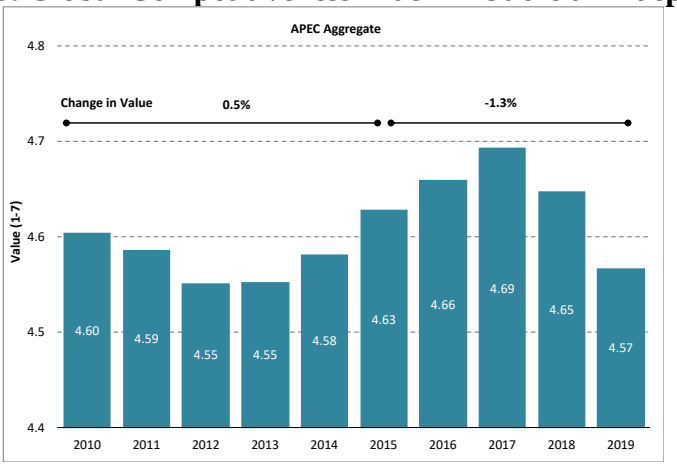
Note: Scores range between 0 (lowest) and 1 (highest). Data for Brunei Darussalam; Papua New Guinea; and Chinese Taipei are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: World Justice Project, Rule of Law Index, 2020 Dataset.

[34] The "burden of regulation" element of the Legatum Prosperity Index is a composite indicator that measures how much time and effort are required to comply with regulations.
[35] The "regulatory enforcement" component of the Rule of Law Index measures the extent to which regulations, both legal and administrative, are fairly and effectively implemented and enforced and are applied and enforced without improper influence by public officials or private interests. The component also assesses whether administrative proceedings are conducted without unreasonable delay and whether due process is respected. Finally, it considers whether there is expropriation of private property without adequate compensation.

Well-functioning judicial and legal systems that enable regulations to be implemented effectively and enforced fairly are an essential component of the regulatory framework in an economy. Effective systems are characterised by accountability and impartiality. Judicial and legal institutions must operate independent from outside influences of governments, individuals, or companies so as to ensure that regulations are applied and enforced without discrimination or favouritism. Efficient judicial and legal institutions are those which are accessible and in which disputes are considered in a timely manner without undue delay. In its most recent *Doing Business* report, the World Bank references several studies in which reforms targeting the quality, speed, and access of the judicial system led to improvements in firm productivity and in the efficiency of labour and financial markets.[36]

Based on data from the Doing Business initiative, the efficiency of judicial processes generally improved across the APEC region between 2016 and 2019.[37] Over this period, half of the APEC members experienced an increase in their score, while the other half had no change in their score. The APEC region as a whole registered a 7.0% increase in the average score for the quality of judicial processes, with Brunei Darussalam; Canada; China; Indonesia; and Viet Nam being some of the main contributors to the regional gain in judicial efficiency. Much of the improvement in the region was due to increases in court automation, whereby aspects of the court process can be conducted electronically and judgements rendered in commercial matters are made available to the public.

Figure 3.9. Global Competitiveness Index — Judicial Independence



Note: Data for Papua New Guinea are not available. APEC aggregate is a simple average of the score in each APEC economy. (Data for 2016 is used for Brunei Darussalam in 2015.)
Source: World Economic Forum, The Global Competitiveness Index, 2017-2018 and 2019 Datasets.

However, judicial systems in many APEC economies are perceived to have become less effective since 2010. Using data from the World Economic Forum's Executive Opinion Survey, judicial independence in nearly two-thirds of the APEC economies is perceived to have declined between 2010 and 2019, while either improving or remaining the same in just eight economies (Figure 3.9).[38] Over this period, China; Japan; Malaysia; and Russia achieved the

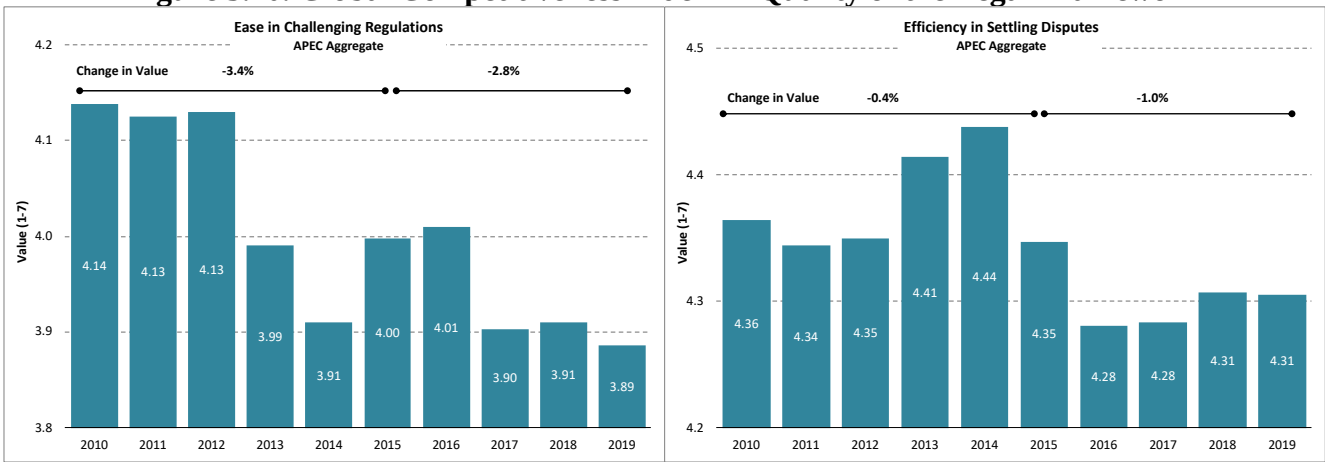
[36] World Bank, *Doing Business 2020: Comparing Business Regulation in 190 Economies* (Washington, DC: World Bank, 2020), https://doi.org/10.1596/978-1-4648-1440-2.
[37] The "quality of judicial processes" of the World Bank's *Doing Business* initiative is a composite indicator that takes into account the court structure and proceedings, case management system, court automation, and alternative dispute resolution.
[38] Respondents were asked "In your (economy), how independent is the judicial system from influences of the government, individuals, or companies?". Scores range between 1 (not independent at all) and 7 (entirely independent).

largest gains in score among the members. For the APEC region as a whole, there was a negligible change in the average score between 2010 and 2019. Nevertheless, the decline in the perceived level of judicial independence in many APEC economies is an area of concern.

Regarding the quality of legal systems across the region, we examine two indicators from the World Economic Forum's Executive Opinion Survey: (1) the ease in challenging government regulations through the legal system and (2) the efficiency of the legal and judicial systems for companies in settling disputes.[39] The data indicate an overall decline in the perceived quality of legal frameworks across the APEC region. The average score for the perceived ease in challenging regulations in the APEC region fell by 3.4% between 2010 and 2015, with a further decline of 2.8% between 2015 and 2019 (Figure 3.10). For the perceived efficiency in settling disputes, the average score for the region decreased slightly by 1.1% between 2010 and 2019.

There were just seven APEC members that improved their score for both of these indicators over the 2010-2019 period, with Korea; Malaysia; Russia; and the United States achieving the largest overall gains in score. Meanwhile, two-thirds of the APEC economies registered a decrease in their scores for both the ease in challenging regulations and the efficiency in settling disputes between 2010 and 2019. The perceived decline in the quality of legal institutions in many APEC economies is a concerning development since inefficiencies in the judicial and legal systems can constrain the potential of economic markets in an economy.

Figure 3.10. Global Competitiveness Index — Quality of the Legal Framework



Note: Data for Papua New Guinea are not available. APEC aggregates are simple averages of the score in each APEC economy. (Data for 2016 is used for Brunei Darussalam in 2015.)
Source: World Economic Forum, The Global Competitiveness Index, 2019 Dataset.

Regulatory Effectiveness and Efficiency

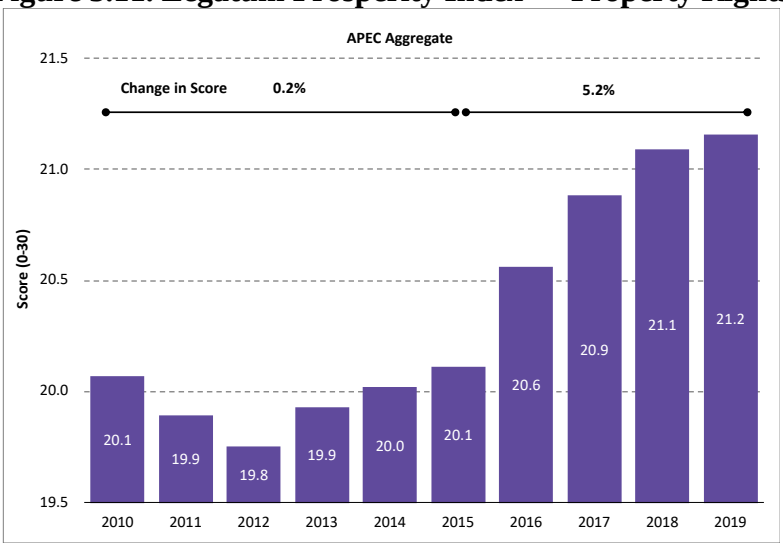
Effective and efficient institutions, combined with impartial enforcement of high-quality regulations, lay the foundation for well-functioning and efficient markets in an economy. There are many APEC initiatives that focus on specific action areas and measures in order to reduce regulatory transaction costs and promote economic growth in the region. These initiatives include the Renewed APEC Agenda for Structural Reform (RAASR) Individual Action Plans,

[39] Respondents were asked "In your (economy), how easy is it for private businesses to challenge government actions and/or regulations through the legal system?" with scores between 1 (extremely difficult) and 7 (extremely easy) and "In your (economy), how efficient are the legal and judicial systems for companies in settling disputes?" with scores between 1 (extremely inefficient) and 7 (extremely efficient).

the Supply-Chain Connectivity Framework Action Plan (SCFAP), and the Ease of Doing Business (EoDB) Action Plan. To therefore avoid overlap with assessments of other major APEC initiatives, we focus on whether the overall institutional infrastructure improved in the region. More specifically, we examine whether regulatory aspects of economic markets and market conditions have improved in the following two areas: investment environment and financial markets.

Well-defined and enforced property rights, effective contract enforcement, and strong investor protection are key attributes of the investment environment in an economy, thereby creating enabling conditions for markets to thrive. Property rights, including intellectual property rights, are a fundamental component to ensuring well-functioning economic markets. Empirical research has found that property rights have a major influence on long-run economic growth, investment, and financial development.[40] Using data from the Legatum Prosperity Index's property rights indicator, there was an overall increase of 5.4% in the average score across the APEC region since 2010, with most of the gain occurring during the 2015-2019 period (Figure 3.11).[41] Between 2010 and 2019, several economies had increases of greater than 10% in their score, including Indonesia; Malaysia; Mexico; the Philippines; and Russia, mainly due to improvements in the protection of intellectual property.

Figure 3.11. Legatum Prosperity Index — Property Rights



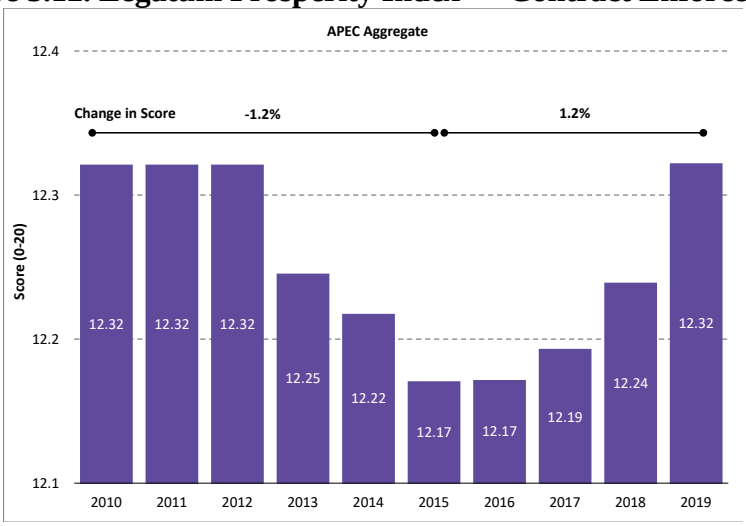
Note: Data for Brunei Darussalam are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

Effective and impartial enforcement of contracts is another fundamental component to ensure a strong business environment. Based on data from the Legatum Prosperity Index's contract enforcement indicator, a decline in the average regional score between 2010 and 2015 was entirely offset by an increase between 2015 and 2019 (Figure 3.12).[42] Over the 2010-2019

[40] Daron Acemoglu and Simon Johnson, "Unbundling Institutions," *Journal of Political Economy* 113, no. 5 (October 1, 2005): 949–95, https://doi.org/10.1086/432166.
[41] The "property rights" element of the Legatum Prosperity Index is a composite indicator that measures how well property rights over land, assets, and intellectual property are protected. In addition to the protection of these rights, there must be lawful, efficient, and effective systems in place to register and regulate property.
[42] The "contract enforcement" element of the Legatum Prosperity Index is a composite indicator that measures the efficacy and efficiency of an economy's system to enforce the rights of a contract holder. In addition, alternative dispute resolution mechanisms must be accessible and efficient.

period, progress among the APEC members was mixed, with over half of the economies registering either no change or an improvement in their score. The changes in contract enforcement across the region are mainly due to fluctuations in whether alternative dispute resolution mechanisms — such as negotiation, mediation, and arbitration — are accessible, free from improper influence, not subject to unreasonable delays, and effectively enforced. While there was a decline in the efficacy and efficiency of alternative dispute resolution mechanisms among several of the APEC members, there was an improvement in these institutions among many of the other economies.

Figure 3.12. Legatum Prosperity Index — Contract Enforcement



Note: Data for Brunei Darussalam are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

Regulations that protect investors, such as compensation guarantees in the event of firm bankruptcy or fraud, are an important aspect to promote investment in an economy. Based on data from the Legatum Prosperity Index, investor protection increased in every APEC economy between 2010 and 2019.[43] In particular, Malaysia; the Philippines; and Thailand had improvements in their score of greater than 15% over this period. Overall, there was a 3.7% increase in the average score across the APEC region between 2010 and 2015, followed by a 2.5% gain between 2015 and 2019. Much of the regional improvement was due to an increase in the insolvency recovery rate as well as improvements in auditing and reporting standards and in shareholder governance in many APEC economies.

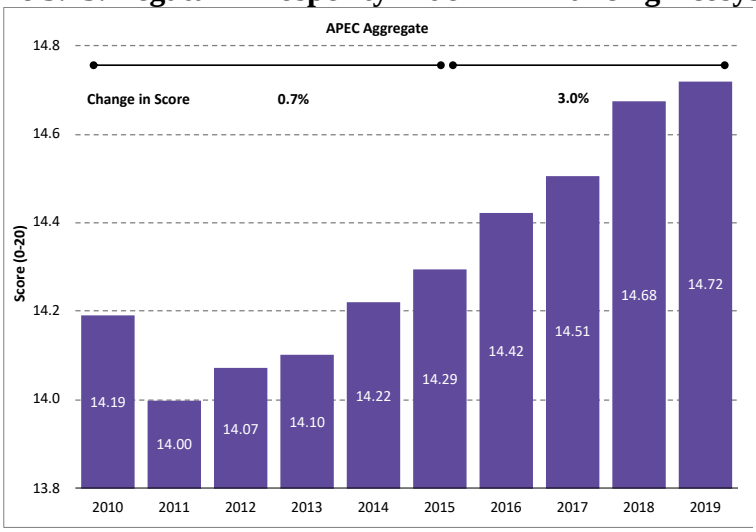
Strong regulatory and legal institutions create an enabling environment for a robust financial system, including banking and insurance institutions as well as markets for credit, stocks, and foreign exchange. Financial depth and sophistication — which refers to the size and scope of the financial sector — ensures access to credit and other forms of financing, which is a necessary condition for increasing business ventures in an economy. Financial sector regulations, such as bank capital and liquidity requirements, limits on risk concentration, and reporting and disclosure requirements, aim to maintain the integrity and stability of the financial system. Research has found that well-functioning financial systems accelerate long-

[43] The "investor protection" element of the Legatum Prosperity Index is a composite indicator that measures the degree of investor protection, including the quality of corporate governance, minority shareholder rights, and strength of insolvency regimes. Data for Brunei Darussalam are not available.

run economic growth and help the poor through expanded economic opportunities, contributing to a reduction in income inequality.[44]

Based on data measuring financial depth from the Legatum Prosperity Index, the financing ecosystem across the APEC region improved between 2010 and 2019, with most APEC members registering an increase in their score. (Figure 3.13).[45] Over this period, the average score for the region increased by 3.7%, with most of the gain occurring during the 2015-2019 period. Improvements in the availability of venture capital and the coverage and accessibility of credit information in many APEC economies were mainly responsible for the increase in the average regional score. Several APEC members, including Indonesia; the Philippines; and Viet Nam also made significant improvements in the quality of their banking system and capital market between 2010 and 2019.

Figure 3.13. Legatum Prosperity Index — Financing Ecosystem



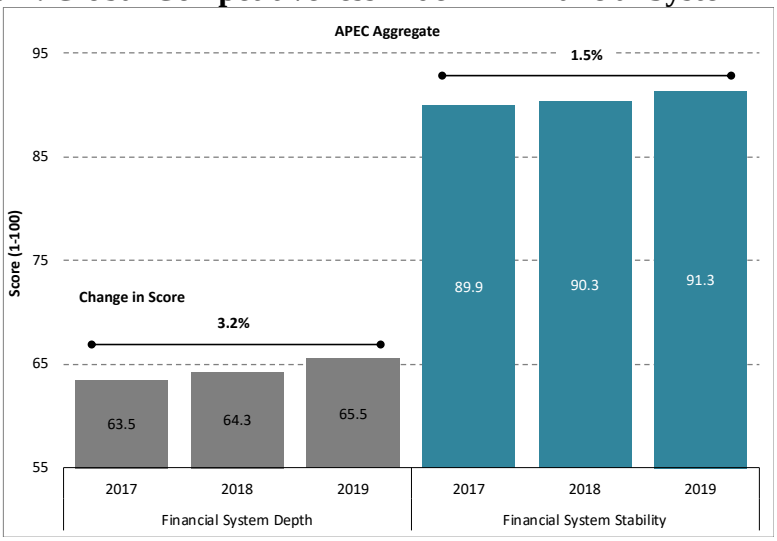
Note: Data for Brunei Darussalam are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

Recently introduced indicators in the World Economic Forum's Global Competitiveness Index allow for an analysis of both the depth and stability of financial markets between 2017 and 2019.[46] The indicator for financial system depth reveals that the average score for the APEC region increased by 3.2%, with nearly all APEC economies registering a rise in their score (Figure 3.14). However, based on the data for financial system stability, although there was an overall improvement of 1.5% in the APEC region between 2017 and 2019, several APEC members registered a decrease in their score. Declines in the perceived soundness of banks, and to a lesser extent, increases in the size of the credit gap, were responsible for the decrease

[44] Ross Levine, "Finance, Growth and Economic Prosperity," in *Macroeconomic Review, April 2018* (Singapore: Monetary Authority of Singapore, 2018), 82–88, https://www.mas.gov.sg/-/media/MAS/resource/publications/macro_review/2018/April-2018/MR_April18.pdf.
[45] The "financing ecosystem" element of the Legatum Prosperity Index is a composite indicator that measures the availability of money for investment from sources such as banking and bank debt, to corporate debt and more sophisticated financial markets.
[46] The "financial system" pillar of the Global Competitiveness Index includes 1) "depth", which comprises indicators for the amount of domestic credit to the private sector; access to finance for SMEs; availability of venture capital; market capitalisation; and insurance premium volumes and 2) "stability", which comprises indicators for the soundness of banks; non-performing loans; credit gap; and banks' regulatory capital ratio.

in the score for these economies. In contrast, the other APEC members made significant improvements in these two measures between 2017 and 2019.

Figure 3.14. Global Competitiveness Index — Financial System Indicators



Note: Data for Papua New Guinea are not available. APEC aggregates are simple averages of the score in each APEC economy.
Source: World Economic Forum, The Global Competitiveness Index, 2019 Dataset.

COVID-19 and the Importance of Institutions

One of the action areas of the ASSQG is for APEC members to enhance infectious disease preparedness and build capacity for the prevention of non-communicable diseases as well as to strengthen health systems. The outbreak of a novel coronavirus, SARS-CoV-2, in late 2019 therefore provides a timely example as to the importance of institutional preparedness. COVID-19 — the respiratory illness caused by the novel coronavirus — was declared a pandemic by the World Health Organization (WHO) in March 2020 and there have been confirmed cases in every APEC economy.

COVID-19 is not the only serious viral outbreak to have occurred in recent years and to affect multiple economies. Others include the Severe Acute Respiratory Syndrome (SARS) epidemic of 2002-2004, the H1N1 ("swine flu") pandemic of 2009, and the ongoing Middle East Respiratory Syndrome (MERS) outbreak that first appeared in 2012. The increase in the number of viral epidemics experienced in recent decades has been largely attributed to changes in wildlife habitats and, more generally, declines in biodiversity.[47] These factors have combined with increased interconnectivity of people around the globe to amplify the threat from viral outbreaks to global public health and the world economy. Consequently, public health experts have been trying to sound the alarm concerning the increasing potential for a major influenza pandemic and the lack of preparedness by governments around the world.

Regarding the novel coronavirus, many APEC members quickly enacted measures to help limit the spread of the virus, thereby effectively controlling the outbreak in their economy. Indeed, several APEC members that had previously dealt with other epidemics in recent years had some

[47] A. Marm Kilpatrick and Sarah E. Randolph, "Drivers, Dynamics, and Control of Emerging Vector-Borne Zoonotic Diseases," *Lancet* 380, no. 9857 (December 1, 2012): 1946–55, https://doi.org/10.1016/S0140-6736(12)61151-9.

of the necessary institutional infrastructure already in place at the start of the COVID-19 outbreak. For instance, following the SARS outbreak, China; Hong Kong, China; Korea; Singapore; and Chinese Taipei built and improved their epidemic response infrastructure, such as testing regimes, contact tracing systems, and quarantine procedures, many of which leverage digital technologies. Thus, institutional preparedness, combined with a relatively robust health system, enables an economy to mitigate and contain a viral outbreak, thereby limiting the number of people infected as well as the economic impact.

In addition to having effective health security infrastructure, trust in institutions is essential during a public health emergency. Strong leadership that conveys a clear and consistent message in a transparent manner is vital in order to ensure and maintain public trust in government during a crisis. Furthermore, government responses to epidemics must be apolitical with the main objective being to secure public health and livelihoods. The COVID-19 pandemic illustrates how having inadequate institutional infrastructure — or not initiating an adequate response quickly enough — for an event such as a viral outbreak can significantly disrupt economic growth. The economic ramifications from the COVID-19 pandemic underscores the need to develop effective and efficient institutions across the region and the importance of focusing on quality growth.

SOCIAL COHESION

Social cohesion refers to the willingness of people in a society to cooperate towards a shared goal.[48] A socially cohesive society acknowledges the interdependence of its individual members and works to ensure that disparities and marginalisation are kept to the minimum or eliminated. At the firm or household level, social cohesion reduces transactions costs as it avoids the need for costly contracts and guarantees in order to maintain cooperative behaviour. At the macroeconomic level, social cohesion improves governance, reduces losses from inefficiency due to uncooperative behaviour, and reduces transactions and enforcement costs. In the context of a pandemic where all individual actions affect others, social cohesion can spell the difference between effective containment of the disease and an uncontrolled pandemic that overwhelms health systems.

An important aspect of social cohesion for the everyday operation of highly differentiated societies is that people "believe they share the norm of not cheating each other."[49] As such, key to attaining social cohesion is trust: trust in other people, in institutions of governance, in the fairness of the economic system, and the information which forms the basis for social discourse. Societies with high levels of social cohesion make institutional cooperation more predictable and less risky; promote greater participation in civil society; and raise support for initiatives that improve the production and distribution of collective goods such as healthcare and education.[50] On the other hand, societies with low levels of social cohesion face significant

[48] A good discussion on the history, concept, and measurement of social cohesion can be found in Xavier Fonseca, Stephan Lukosch, and Frances Brazier, "Social Cohesion Revisited: A New Definition and How to Characterize It," *Innovation: The European Journal of Social Science Research* 32, no. 2 (April 3, 2019): 231–53, https://doi.org/10.1080/13511610.2018.1497480.

[49] Christian Albrekt Larsen, "Social Cohesion: Definition, Measurement and Developments," 2014, https://www.un.org/esa/socdev/egms/docs//2014/LarsenDevelopmentinsocialcohesion.pdf.

[50] Dick Stanley, "What Do We Know about Social Cohesion: The Research Perspective of the Federal Government's Social Cohesion Research Network," *Canadian Journal of Sociology / Cahiers Canadiens de Sociologie* 28, no. 1 (2003): 5, https://doi.org/10.2307/3341872.

challenges in growth and development. Societies with high levels of income inequality and inequality of opportunity face stunted economic growth.[51] Moreover, low levels of social cohesion "impedes the construction of effective institutions (and thereby narrows a given policy-maker's room for maneuver)," hence constraining attempts at policy reform.[52]

Measuring social cohesion and assessing its trajectory is not straightforward. There are a number of base studies that look at what constitutes a cohesive society. For example, the OECD looks at social cohesion from three lenses:

1. Social inclusion – measured by aspects of social exclusion such as poverty, inequality, and social polarisation;
2. Social capital – combines measures of trust (interpersonal and societal) with various forms of civic engagement; and
3. Social mobility – measures the degree to which people can or believe they can change their position in society.[53]

Social cohesion is traditionally measured with four main sets of variables: income inequality, a society's level of cohesiveness, well-being measures, and measures of social capital.

However, attempts to outline social cohesion in highly differentiated societies such as APEC are complicated as current definitions of social cohesion do not cover the multiplicity of cultures and values in a society.[54] To give one example, globalised multiculturalism can make it difficult to achieve a universal set of shared values among people of different cultures and beliefs.[55] Cheong et al. points out that in multicultural societies, failure to tolerate or accept diverse sets of values could lead to negative cohesion – clusters of highly cohesive communities that are separated from other cohesive units.[56] This could pose a problem as distrust between socially cohesive communities can snowball into conflict and jeopardise overall social cohesion. As such, economies and policymakers need to consider how to achieve social cohesion both at a micro and macro level.

APEC Leaders, in 2015, defined social cohesion in the following terms:

> "We see social cohesion as both an end and a means to achieve economic growth and development. We see the role of society in working cohesively towards the well-being of all its members by fighting exclusion and marginalisation, by creating a sense of belonging, by promoting trust, and by offering to its members the opportunity of upward mobility."

They went on to describe the importance of social cohesion in efficiently implementing fiscal policy, reducing transactions costs, and facilitating cooperation in a society.

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[51] Shekhar Aiyar and Christian Ebeke, "Inequality of Opportunity, Inequality of Income and Economic Growth," *IMF Working Papers* 19, no. 34 (February 15, 2019): 1, https://doi.org/10.5089/9781484396988.001.
[52] William Easterly, Jozef Ritzen, and Michael Woolcock, "Social Cohesion, Institutions, and Growth," *Economics and Politics* 18, no. 2 (July 2006): 103–20, https://doi.org/10.1111/j.1468-0343.2006.00165.x.
[53] OECD, *Perspectives on Global Development 2012: Social Cohesion in a Shifting World*, Perspectives on Global Development (OECD, 2011), https://doi.org/10.1787/persp_glob_dev-2012-en.
[54] Fonseca, Lukosch, and Brazier, "Social Cohesion Revisited."
[55] Christian Albrekt Larsen, *The Rise and Fall of Social Cohesion: The Construction and Deconstruction of Social Trust in the US, UK, Sweden and Denmark*, First edition (Oxford: Oxford University Press, 2013).
[56] Pauline Hope Cheong et al., "Immigration, Social Cohesion and Social Capital: A Critical Review," *Critical Social Policy* 27, no. 1 (February 2007): 24–49, https://doi.org/10.1177/0261018307072206.

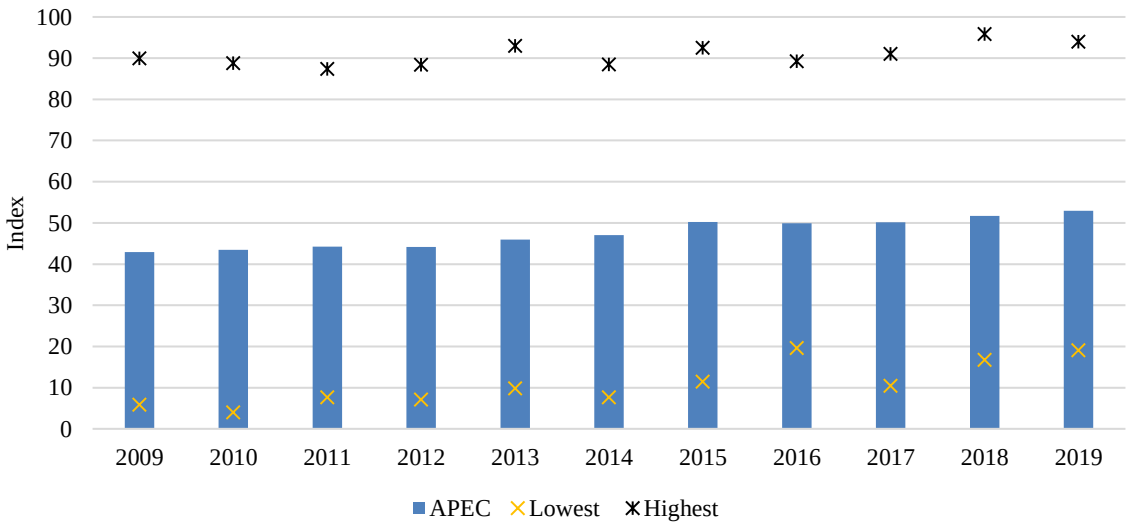
Based on this definition, this assessment measures social cohesion in the region in terms of three broad categories: fighting exclusion and marginalisation, providing opportunities for upward mobility, and promoting trust.

Fighting Exclusion and Marginalisation

Exclusion and marginalisation refers to the denial of economic opportunities or social participation for certain groups of people due to circumstances beyond their control. Examples of exclusion and marginalisation are the structural barriers to economic opportunities or social participation based on gender, race, religion, location, or socio-economic circumstance. Measuring progress on fighting exclusion and marginalisation, therefore, requires looking into the circumstances of groups and individuals to see if such barriers exist. This usually requires microdata (e.g., labour force surveys or household surveys) that can disaggregate the population by groups and examine systematic differences in opportunities, but it would not be feasible to analyse microdata for this assessment. Instead, we look into macro-level data that can provide insights into exclusion and marginalisation.

One such data source is the Social Tolerance Index under the Legatum Prosperity Index. The Social Tolerance Index tracks progress in terms of public opinions and perceptions of people who are different from the majority: a higher score means less social exclusion and marginalisation. The index specifically tracks public opinions and perceptions in terms of gender, ethnicity, and immigration status. Figure 3.15 shows the average results for APEC economies: it shows that social tolerance in the region has improved since 2009 and has crossed above 50 points since 2015. However, it also shows large differences in terms of social tolerance between economies: in 2019, index scores ranged from 19 to 94 (out of a maximum possible social tolerance score of 100). Of the 20 economies that have data under this index, nine have a score below 50.

Figure 3.15. Social Tolerance Index in APEC, 2009-2019

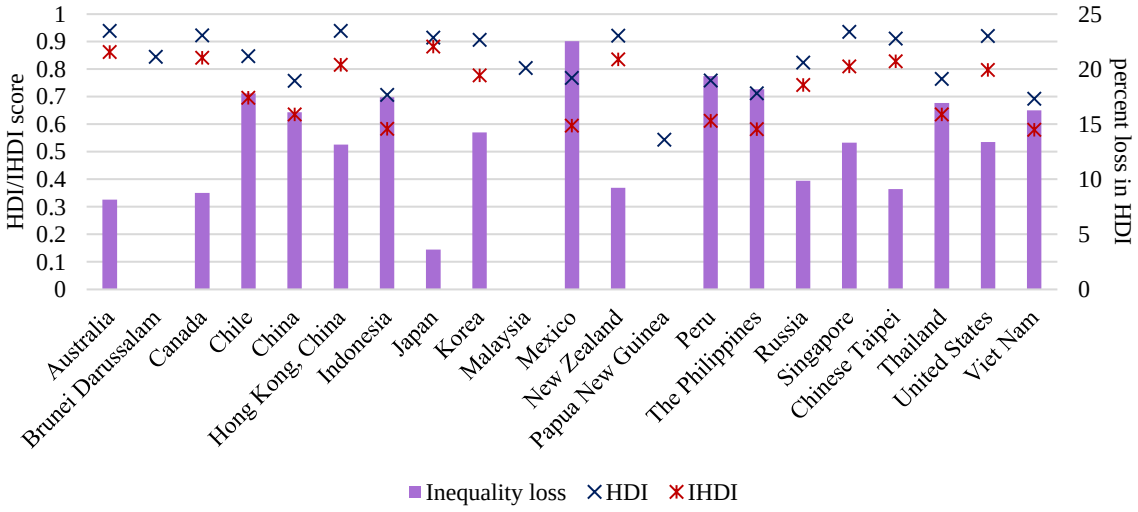


Notes: The Social Tolerance Index measures the degree to which societies are tolerant of differences within the population. Data is taken from opinion polls on gender, ethnic minorities, and immigration. The index ranges from 1 (lowest) to 100 (highest). Aggregate APEC figure is a simple average. Lowest and highest ticks indicate the lowest and highest index values among APEC economies for the year. No data for Brunei Darussalam.
Source: Legatum Prosperity Index.

Exclusion and marginalisation can also be measured in the context of inequality in economic opportunities. Inequality in opportunity is familiar to APEC in terms of gender, with women facing structural barriers to accessing health and education, finance, and employment opportunities while facing greater incidence of discrimination and sexual violence.[57] Similar structural barriers face other disadvantaged groups such as the poor, youth, elderly, people with disabilities, minorities, indigenous peoples, and people in rural and remote areas. For example, the estimated 9-10% of APEC's population who are considered indigenous peoples often face higher levels of poverty due to lack of access to human capital development and employment opportunities, while also being subjected to discrimination and lack of rights.[58]

The UNDP's Human Development Index (HDI) tracks economies' progress in promoting human well-being in three dimensions: long and healthy life, knowledge, and standard of living. For economy-level scores, it tracks life expectancy, mean and expected years of schooling, and per capita GNI for the three dimensions, which respectively inform on an economy's overall opportunities for healthcare, education, and economic participation. However, as the HDI mainly uses population averages, it does not capture within-population differences in access to health, education, or income opportunities. Thus, HDI is complemented with the Inequality-adjusted HDI (IHDI) which discounts HDI scores based on inequality: an IHDI score equal to HDI implies perfect equality in access to opportunities. Likewise, an IHDI score lower than HDI implies inequality in opportunities for healthcare, education, and economic participation. Figure 3.16 shows the HDI and IHDI scores for APEC economies as well as the percentage loss in HDI due to inequality. A higher inequality-induced loss implies greater economic exclusion and marginalisation for significant portions of the population. Indeed, 12 APEC economies have a loss in human development of 10% or greater due to inequality in access to opportunities.

Figure 3.16. Inequality-induced loss in human development, 2018

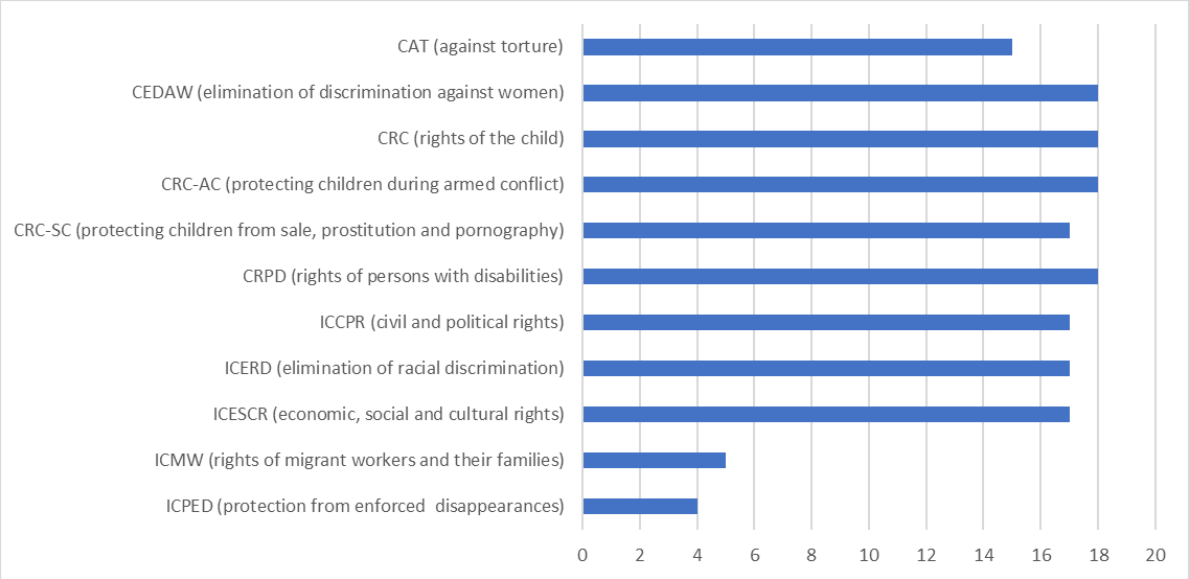


Note: HDI = Human Development Index; IHDI = Inequality-adjusted HDI. Inequality loss is the percentage difference between HDI and IHDI in absolute terms. No IHDI data for Brunei Darussalam; Malaysia; and Papua New Guinea. Chinese Taipei's IHDI data is for 2017.
Source: UN Development Programme and Chinese Taipei Directorate General of Budget, Accounting and Statistics.

[57] APEC Policy Partnership on Women and the Economy and USAID, "APEC Women@Work," https://apec.org/Publications/2019/12/APEC-Women-at-Work.
[58] International Work Group for Indigenous Affairs, "The Indigenous World 2020," http://iwgia.org/images/yearbook/2020/IWGIA_The_Indigenous_World_2020.pdf.

APEC economies have made international commitments to fight exclusion and marginalisation of vulnerable populations such as women, children, minorities, indigenous peoples, and migrant workers. The UN lists 11 international treaties as being fundamental in protecting internationally acknowledged human rights. The treaties commit economies to the protection of all people against violence and abuse, discrimination, and exploitation. Figure 3.17 shows the degree of participation of APEC economies in these treaties, either through ratification or through explicit incorporation of the treaties' terms into domestic laws. Out of 21 APEC member economies, participation in the treaties range from 18 (CEDAW, CRC, CRC-AC, and CRPD) to four (ICPED) economies. On average, each APEC economy participates in 8.1 of the 11 fundamental human rights treaties.

Figure 3.17. APEC participation in fundamental human rights treaties



Note: CAT = Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, 1984; CEDAW = Convention on the Elimination of All Forms of Discrimination against Women, 1979; CRC = Convention on the Rights of the Child, 1989; CRC-AC = Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict, 2000; CRC-SC = Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child, pornography, 2000; CRPD = Convention on the Rights of Persons with Disabilities, 2006; ICCPR = International Covenant on Civil and Political Rights, 1966; ICERD = International Convention on the Elimination of All Forms of Racial Discrimination, 1965; ICESCR = International Covenant on Economic, Social and Cultural Rights, 1966; ICMW = International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, 1990; ICPED: International Convention for the Protection of All Persons from Enforced Disappearance, 2006.
Source: UNDP data and economy sources.

Providing Opportunities for Upward Mobility

Upward mobility refers to the ability of underprivileged segments of the population to improve their socio-economic status. It requires an increase in real income that enables greater choice over goods and services as well as a reduction in inequality that improves the social position of even the poorest individuals. Quantitatively, upward mobility is measured in terms of changes in real income or wealth as well as changes in their distribution across the population over time. Table 3.1 provides data on average monthly real income per person in the APEC region for 1990, 2015, and 2018. However, it divides the population into 20 groups—called ventiles—according to income status, with ventile 1 being the poorest 5% people and ventile

20 being the richest 5%. It shows that between 1990 and 2018, all the segments of the population experienced significant material improvement in their real income. Even the poorest 5% people in the APEC region have seen their monthly income per person double during this period. Moreover, in 2015-2018, average annual real income growth for the poorest quarter of the population was higher than for the richer segments of the population. This reflects the region's achievements in poverty reduction and reducing the Gini coefficient discussed in Part 1 under Inclusive Growth. However, the same data shows the lack of upward mobility in the region in terms of reducing inequality.

Table 3.1. Real monthly per capita income in APEC, 1990-2018 (in 2011 PPP dollars)

Ventile	1990	2015	2018	Annual growth 2015-2018
1 (poorest)	64.6	113.7	129.2	4.3%
2	105.7	190.6	214.6	4.0%
3	198.2	356.4	401.8	4.0%
4	263.7	472.6	532.1	4.0%
5	377.6	675.5	762.1	4.0%
6	464.4	827.8	926.9	3.8%
7	598.8	1,072.0	1,191.0	3.5%
8	709.2	1,260.0	1,401.4	3.5%
9	868.3	1,536.7	1,717.0	3.7%
10	1,000.2	1,767.2	1,979.1	3.8%
11	1,181.8	2,107.0	2,341.0	3.5%
12	1,339.5	2,396.0	2,652.1	3.4%
13	1,554.8	2,776.8	3,103.7	3.7%
14	1,740.9	3,098.6	3,477.5	3.8%
15	1,989.7	3,588.5	3,982.5	3.5%
16	2,237.2	4,015.5	4,473.0	3.6%
17	2,564.7	4,579.0	5,121.4	3.7%
18	2,891.4	5,211.9	5,779.0	3.4%
19	3,359.9	6,086.4	6,786.8	3.6%
20 (richest)	4,210.7	7,924.5	8,714.1	3.2%
Mean income	1,386.1	2,502.8	2,784.3	3.6%
Income gap (richest – poorest)	4,146.08	7,810.75	8,584.94	

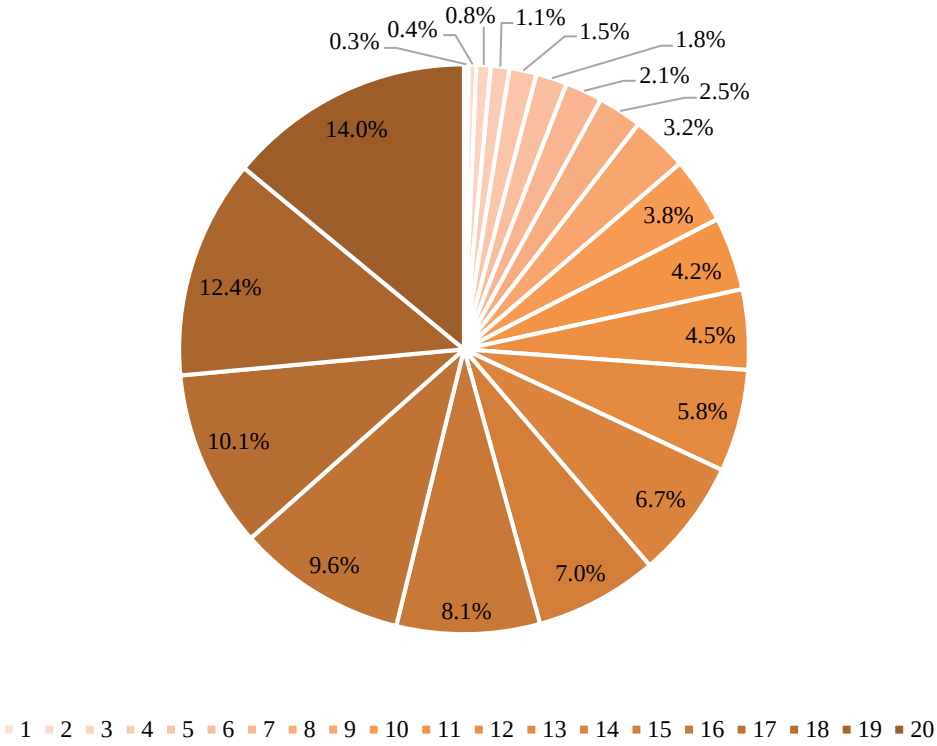
Note: Ventile figures show population-weighted average across economies. E.g., data for ventile 1 is the average of ventile 1 incomes in all APEC economies. Data cover Australia; Canada; Chile; China; Indonesia; Japan; Korea; Malaysia; Mexico; Papua New Guinea; Peru; the Philippines; Russia; Chinese Taipei; Thailand; the United States; and Viet Nam.
Source: World Bank's PovcalNet database; APEC PSU staff calculations.

Between 2015 and 2018, the average real monthly income of the poorest 5% of the population increased from USD 113.7 to USD 129.2, which translates to an additional 50 cents per day[59] (in 2011 PPP dollar terms). In comparison, the richest 5% of the population saw their monthly income increase from USD 7,924.5 to USD 8,714.1 during the period, or an additional USD

[59] That is, (USD 129.2 – USD 113.7)/30 days = USD 0.52/day.

26.3 per day. Indeed, the income gap between the richest and poorest ventiles increased from USD 7,810.7 to USD 8,584.9 during this period. To use the metaphor of a pie, it is clear that the pie enlarged between 2015 and 2018. However, the division of this larger pie is far from equal. Figure 3.18 shows how this metaphorical pie was sliced for APEC economies in 2015-2018: while the poorest 5% of the population gained 0.3% of the increase in aggregate income during this period, the richest 5% gained 14.0%.

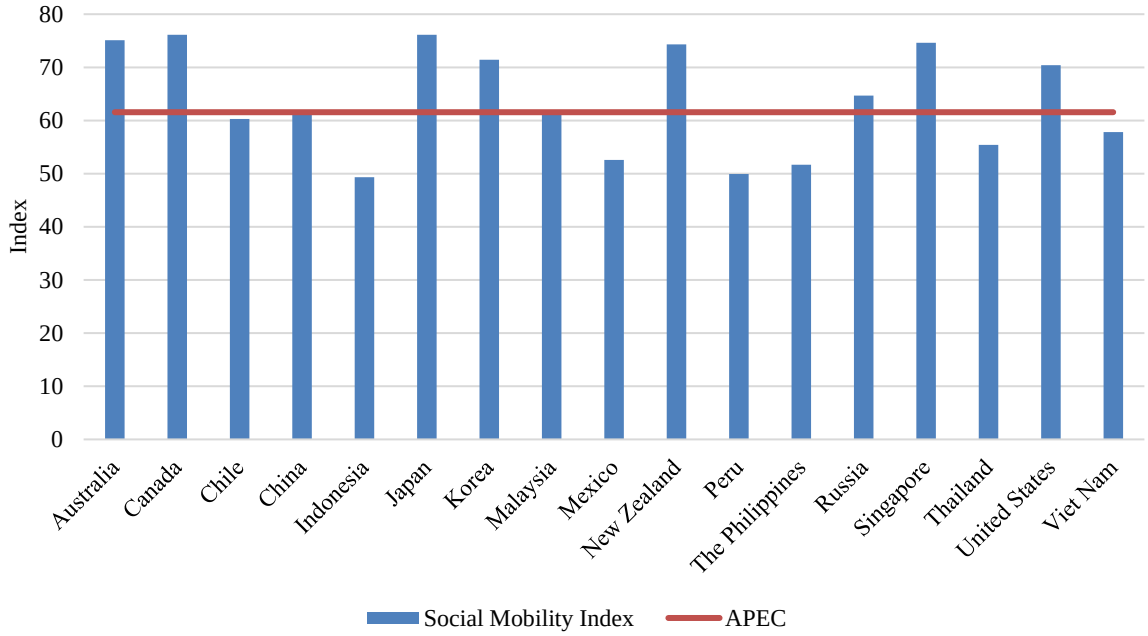
Figure 3.18. Distribution of real income gains by ventile in APEC, 2015-2018



Note: Ventile groups are arranged from poorest 5% (ventile 1) to richest 5% (ventile 20). Aggregates are weighted by population. Each slice accrues to 5% of the population. Data cover Australia; Canada; Chile; China; Indonesia; Japan; Korea; Malaysia; Mexico; Papua New Guinea; Peru; the Philippines; Russia; Chinese Taipei; Thailand; the United States; and Viet Nam.
Source: World Bank's PovcalNet database; APEC PSU staff calculations.

In fact, APEC economies have a lot of potential and bandwidth to ensure upward mobility for its less privileged populations. The World Economic Forum (WEF) released a report in early 2020 tracking what they consider as five determinants of social mobility: health; education; technology access; work opportunities, working conditions and fair wages; and social protection and inclusive institutions. While these determinants do not show actual upward mobility, they do show the capacity and enabling environment for upward mobility within an economy. The results of this analysis are summarised through a Social Mobility Index: a higher score means better performance in reducing inequalities in opportunity and fostering an environment conducive for upward mobility. Data for 17 APEC economies included in WEF's report are shown in Figure 3.19. The data show that most APEC economies have significant potential for ensuring upward mobility, with the average APEC index score being 62 out of 100. Seven APEC economies have a score of 70 or higher.

Figure 3.19. WEF Global Social Mobility Index, 2020



Note: The index considers what an economy can do holistically to foster relative social mobility for all. It looks at policies, practices and institutions and uses 10 pillars, which in turn are broken down into five determinants of social mobility – health, education, technology access, work opportunities, working conditions and fair wages, and social protection and inclusive institutions. The index ranges from 1 (worst) to 100 (best). Aggregate APEC figure is a simple average.
Source: World Economic Forum, Global Social Mobility Index

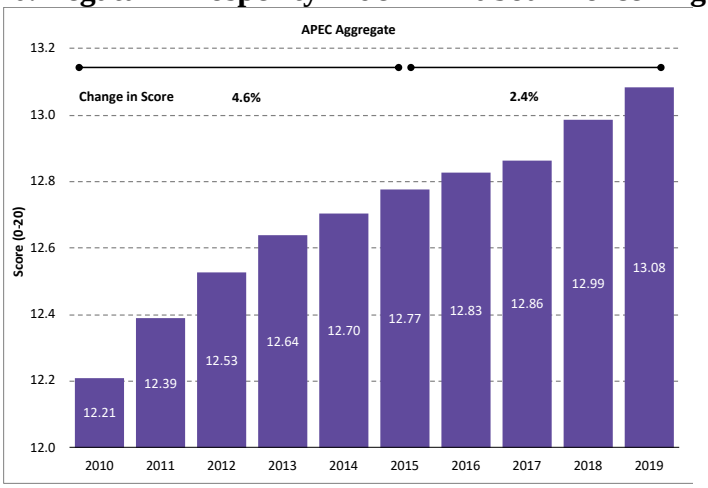
Labour market policies such as minimum wage laws, employment protection legislation, unemployment insurance system, labour unions, and active labour market policies help ensure economic efficiency as well as fairness.[60] Well-functioning labour markets are characterised by efficient matching between employing firms and job seekers and in which unemployment is low, frictional, and temporary. Labour market regulations improve economic equity and job safety, but can also add friction and transaction costs. Policy makers must therefore determine the appropriate balance in the regulation of the labour market in their economy. In addition, the scope of social safety nets is an important consideration when determining the policy balance of labour markets.

Increasing labour force engagement, particularly for women, youth, elderly workers, and vulnerable groups, is a key component of inclusive growth under the ASSQG. Regulations and policies that promote engagement of these groups in the labour force include the use of tax incentives, parental leave schemes, and skills building programmes. Using a composite indicator from the Legatum Prosperity Index, labour force engagement improved in nearly all APEC economies between 2010 and 2019 (Figure 3.20).[61] Over this period, the average score for the APEC region rose by 7.1%, with the majority of the gain occurring in the 2010-2015

[60] For a more thorough review of labour market regulations in the APEC region, see.Anne O. Krueger, Emmanuel A. San Andres, and Tammy L. Hredzak, "APEC Economic Policy Report 2017: Structural Reform and Human Capital Development" (APEC-PSU, November 2017), https://www.apec.org/Publications/2017/11/2017-APEC-Economic-Policy-Report.
[61] The "labour force engagement" element of the Legatum Prosperity Index is a composite indicator that comprises the labour force participation rate, female labour force participation rate, share of waged and salaried workers, unemployment rate, and youth unemployment rate.

period. Much of the improvement in labour force engagement across the region was due to declines in the unemployment rate, including the youth unemployment rate.

Figure 3.20. Legatum Prosperity Index — Labour Force Engagement



Note: Data for Brunei Darussalam and Chinese Taipei are not available. APEC aggregate is a simple average of the score in each APEC economy.
Source: Legatum Institute, The Legatum Prosperity Index, 2019 Dataset.

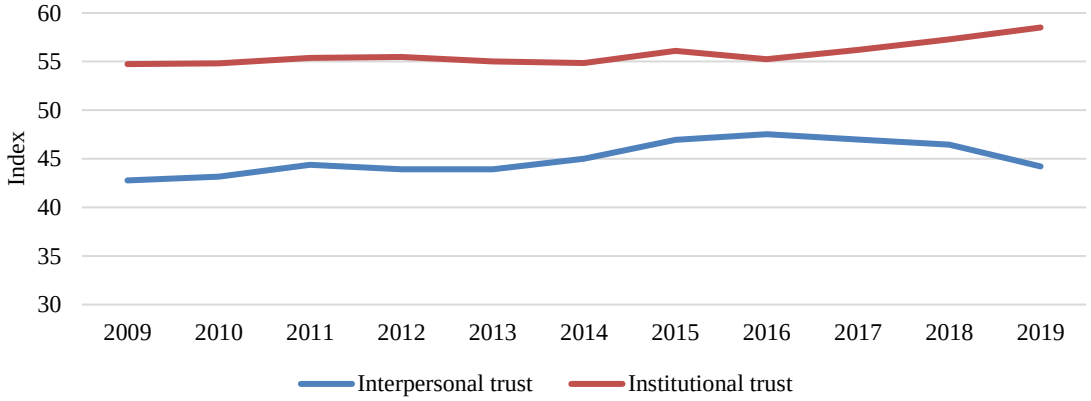
Promoting Trust

Trust is the basis of social cohesion as it defines how people relate to each other in society. Trust is essentially the belief that the other person or institution is providing factual information and not going to renege on commitments, be it business agreements or personal relationships. Under the theory of economic contracts, trust reduces the need for costly third-party enforcement mechanisms (e.g., courts or police) as the contracting parties enforce the contract themselves. Trust also has a mutually reinforcing relationship with institutions and governance by promoting information sharing and socially cooperative behaviour. Indeed, greater trust within an economy can be a competitive advantage in attracting investments through significant reductions in transactions costs.[62]

Two of the sub-indices of the Legatum Prosperity Index look at public perceptions related to interpersonal trust and institutional trust. Interpersonal trust is gauged from public opinion surveys on trust in other people as well as likelihood to help a stranger; both indicators point to levels of trust or comfort towards people outside one's immediate family or social sphere. On the other hand, institutional trust gathers public trust levels for institutions such as police and military, banks, courts, politicians, and government. Based on this data, it seems there are relatively low levels of trust in the APEC region. On average, institutional trust levels in APEC do not go beyond 60 out of a maximum trust index of 100, while that for interpersonal trust do not go beyond 50 (Figure 3.21). Among the APEC economies for which there is data, Singapore exhibits the highest rating for institutional trust (92), while Canada and New Zealand have the highest levels of interpersonal trust (both at 66).

[62] Jeffrey H. Dyer and Wujin Chu, "The Role of Trustworthiness in Reducing Transaction Costs and Improving Performance: Empirical Evidence from the United States, Japan, and Korea," *Organization Science* 14, no. 1 (February 2003): 57–68, https://doi.org/10.1287/orsc.14.1.57.12806.

Figure 3.21. Interpersonal and institutional trust in APEC, 2009-2019



Notes: Interpersonal trust assesses the amount of trust within a society, encompassing the degree to which people trust strangers and those outside their known social sphere. Institutional trust captures the degree to which individuals trust their institutions composed of police, military, financial institutions and banks, judicial systems and courts, politicians, and central or federal government. Index ranges from 1 (no trust) to 100 (full trust). Aggregate APEC figure is a simple average. No data for Brunei Darussalam.
Source: Legatum Prosperity Index.

Information on past and present events form the basis of beliefs that can turn into trust or distrust of other people, institutions, or economic systems. People and institutions that have a track record of providing truthful and accurate information will be trusted at a personal and societal level. Conversely, untruthful statements or behaviour can spell the end in any personal or business relationship; in societies, untruthful statements or behaviour can erode social cohesion.

One cause of public distrust in people and institutions is "fake news," which is an article that provides wholly or partly false information but delivered in a way to make it seem legitimate.[63] Fake news—as well as labelling factual events or information as fake news—disinforms rather than informs. When fake news is prevalent and is spread at the institutional level, it undermines people's trust in the information they receive from institutions such as government, scientists, or news media and makes it difficult to identify what is true. Fake news can erode the factual basis for discussions on values, policies, or priorities, leading to distrust of institutions and other people who may not share the same opinion and ultimately reduces social cohesion.[64]

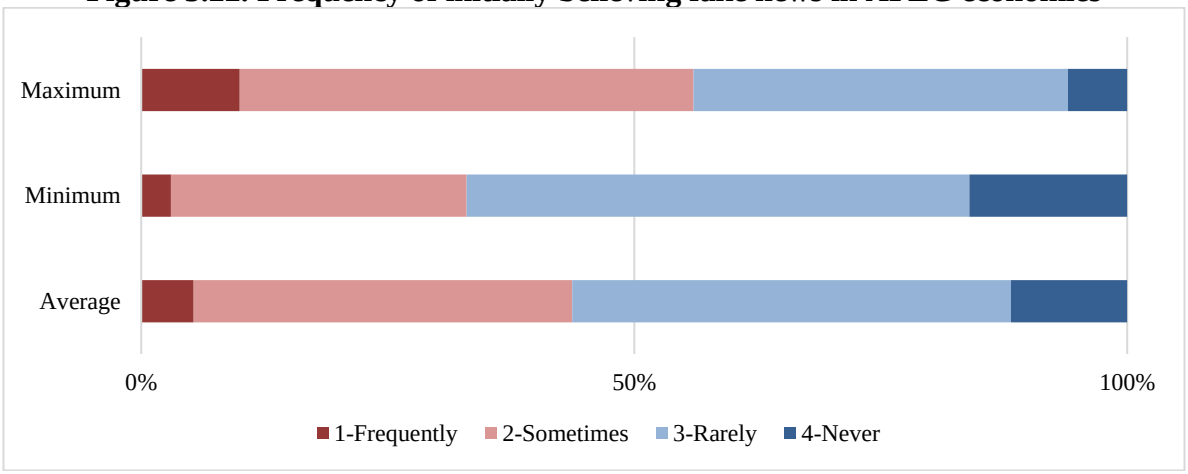
Measuring fake news and its impact on trust is very difficult to do. One of the few surveys that have attempted it at the international level is the CIGI-Ipsos Global Survey on Internet Security and Trust,[65] which was conducted between December 2018 and February 2019 in 25 economies and covered 25,229 internet users. The survey was administered through an online survey in most economies.[66] About 1,000 individuals aged 16-64 were surveyed in each economy and

[63] David M. J. Lazer et al., "The Science of Fake News," *Science* 359, no. 6380 (March 9, 2018): 1094–96, https://doi.org/10.1126/science.aao2998.
[64] Sophie Pornschlegel and Paul Jürgensen, *Trying Times: Rethinking Social Cohesion*, ed. Barbara Serfozo (Berlin: Bertelsmann Stiftung Gütersloh, 2019), https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/ST-LW_Trying_Times_2019.pdf.
[65] CIGI-Ipsos, "2019 CIGI-Ipsos Global Survey on Internet Security and Trust - Part 3: Social Media, Fake News & Algorithms," 2019, www.cigionline.org/internet-survey-2019.
[66] Online surveys were done in Australia; Brazil; Canada; China; Hong Kong, China; Egypt; France; Germany; Great Britain; India; Indonesia; Italy; Japan; Korea; Mexico; Poland; Russia; South Africa; Sweden; Turkey; and the United States. Face-to-face interviews were done in Kenya; Nigeria; Pakistan; and Tunisia.

covers 10 APEC economies (Australia; Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Mexico; Russia; and the United States) representing 86% of the region's population.

In the APEC economies covered by the CIGI-Ipsos survey, 33% to 56% of respondents admitted to initially believing what turned out to be fake news (Figure 3.22). On average, 43% of respondents in APEC economies initially believed fake news. In three APEC economies, majority of the respondents admitted to believing fake news. Note that the construction of the question only identifies initial belief and eventual identification of the fake news as fake; those who replied they "rarely" or "never" believed fake news can include those who never found out that the fake news they received is actually untruthful.

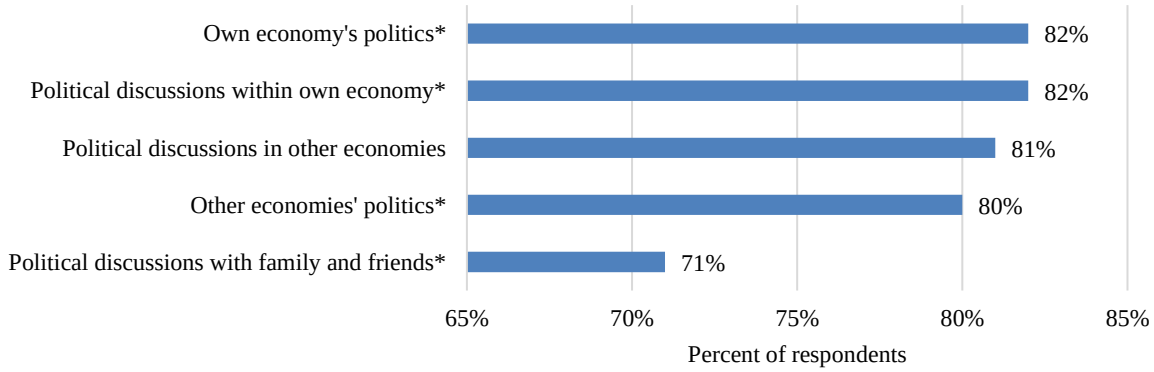
Figure 3.22. Frequency of initially believing fake news in APEC economies



Note: Question asked was, "How often were you duped by fake news?" Maximum/minimum refer to economies where respondents reported the highest/lowest levels of frequently or sometimes believing in fake news. Average is the simple average across all economies covered in the survey.
Source: CIGI-Ipsos 2019.

Majority of respondents pointed to the negative impacts of fake news on political discussions within their economies, in other economies, and even within their own social circles (Figure 3.23). In fact, slightly more respondents believed that fake news had a negative impact within their own economies than in other economies.

Figure 3.23. Areas where fake news has negative effects in APEC economies

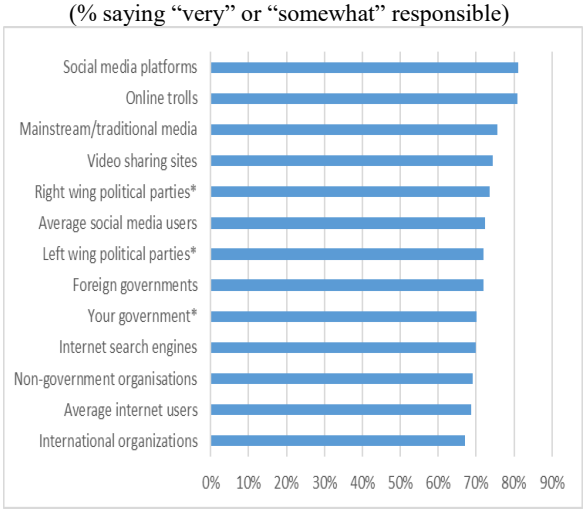


* = item was not asked in China.
Note: Respondents were asked to agree with the statement, "Fake news has a negative effect on…" Figures for APEC are simple averages.
Source: CIGI-Ipsos 2019.

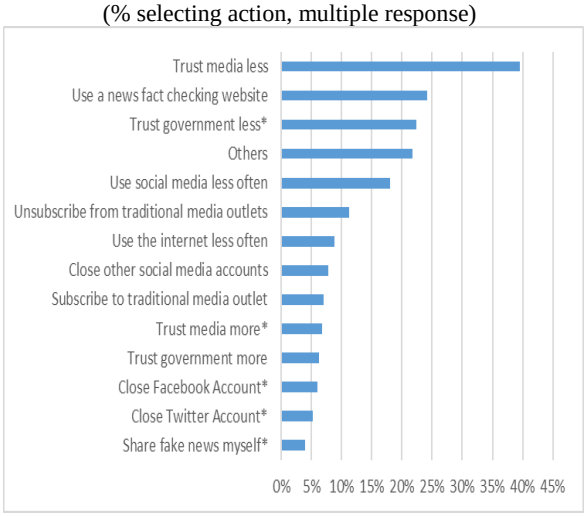
The CIGI-Ipsos survey also asked respondents who they think were responsible for spreading fake news and what actions they took in response. While most of the blame for fake news falls on traditional and social media outlets, a key insight is that a large majority of respondents believed that institutions in positions of domestic or global leadership—such as their own governments, foreign governments, political parties, and international organisations—were responsible for the spread of fake news. This indicates a significant degree of distrust and cynicism towards the information provided by what ought to be authoritative and credible sources.

Figure 3.24. Source of and response to fake news in APEC, 2019

To what extent do you think the following actors are responsible for the spread of fake news?
(% saying "very" or "somewhat" responsible)



Please list all the actions that you have undertaken during the last year due to fake news
(% selecting action, multiple response)



* = item was not asked in China.
Note: APEC aggregates are simple averages.
Source: CIGI-Ipsos 2019.

Indeed, fake news has caused 40% of respondents to trust media less and 22% to have less trust in their governments; in comparison, less than 7% trusted their media and governments more because of fake news. Although these are indicative findings, what they show is how fake news and misinformation leads to lower levels of trust in the institutions that should be at the forefront of providing society with reliable information.

COVID-19 and the Importance of Social Cohesion

The COVID-19 pandemic has amplified the importance of social cohesion, putting under a stark and harsh light the region's deepening inequalities and mistrust. Economic and social marginalisation have led to deepening inequality in the region, and COVID-19 is severely and disproportionately affecting the vulnerable populations such as women, the poor, and minorities.[67] People who are excluded from society and the economy are less likely to have access to healthcare and are more likely to be food insecure, leading to chronic health conditions such as cardiovascular disease, diabetes, and respiratory ailments, all of which are comorbidities to COVID-19. They are also more likely to live in crowded and unsanitary

[67] Ziad El-Khatib et al., "The Disproportionate Effect of COVID-19 Mortality on Ethnic Minorities: Genetics or Health Inequalities?," *EClinicalMedicine* 23 (June 2020): 100430, https://doi.org/10.1016/j.eclinm.2020.100430.

conditions, hold jobs that cannot be done remotely, and work in the informal sector, which means they are less able to socially distance and are not covered by social protections available in the formal sector.[68] The poor are also less likely to have access to the digital technologies and infrastructure that have been crucial in helping people adapt to COVID-19 restrictions through work-from-home and home-based learning arrangements.[69]

The "infodemic"[70] and fake news surrounding COVID-19 are also costing lives and livelihoods. Even as international organisations and governments provide advice and implement measures to tackle the pandemic, lack of trust in other people and institutions means that misinformation, conspiracy theories, and rumours take can hold instead. A study by Islam et al. (2020) in the first quarter of 2020 showed misinformation and conspiracies circulating regarding COVID-19 illness, transmission and mortality; control measures; treatment and cure; and the disease's cause and origin.[71] The study also reported instances of verbal or physical violence related to COVID-19, reflecting the potential of infodemics to cause social distrust, ethnic stigmatisation, and unrest.

Lack of social cohesion is also hampering the response to COVID-19: if people do not trust the information they receive from governments, international institutions, or scientists, then they are also less likely to follow their advice and policy measures. Instead, people may follow unproven or potentially harmful health advice; for example, there have been documented deaths from false and unproven COVID-19 prevention methods and cures.[72]

ENVIRONMENTAL IMPACT

APEC Leaders have acknowledged the environmental threats looming over the region and have called for concerted regional efforts to deal with them. The 2010 APEC Growth Strategy recognised environmental concerns, such as the impact of climate change, as a major challenge for the region and added sustainable growth as one of its five main growth attributes.[73] In the 2012 APEC Leaders' Declaration, Leaders reaffirmed their commitment to address global environmental challenges and ensure environmental security, in part by endorsing the APEC List of Environmental Goods and by combatting illegal, environmentally harmful trade.[74] In

[68] J.A. Patel et al., "Poverty, Inequality and COVID-19: The Forgotten Vulnerable," *Public Health* 183 (June 2020): 110–11, https://doi.org/10.1016/j.puhe.2020.05.006; *Addressing Inequality in Times of COVID-19* (FAO, 2020), https://doi.org/10.4060/ca8843en.
[69] Elisabeth Beaunoyer, Sophie Dupéré, and Matthieu J. Guitton, "COVID-19 and Digital Inequalities: Reciprocal Impacts and Mitigation Strategies," *Computers in Human Behavior* 111 (October 1, 2020): 106424, https://doi.org/10.1016/j.chb.2020.106424.
[70] WHO defines infodemic as ": an overabundance of information – some accurate and some not – that makes it hard for people to find trustworthy sources and reliable guidance when they need it."
[71] Md Saiful Islam et al., "COVID-19–Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis," *The American Journal of Tropical Medicine and Hygiene*, August 10, 2020, https://doi.org/10.4269/ajtmh.20-0812.
[72] Marianna Spring, "Coronavirus: The Human Cost of Virus Misinformation," *BBC*, May 27, 2020, https://www.bbc.com/news/stories-52731624; "Iran: Over 700 Dead after Drinking Alcohol to Cure Coronavirus," *Al Jazeera*, April 28, 2020, https://www.aljazeera.com/news/2020/04/iran-700-dead-drinking-alcohol-cure-coronavirus-200427163529629.html.
[73] "The APEC Leaders' Growth Strategy," in *APEC* (2010 Economic Leaders' Week, Yokohama: APEC, 2010), https://www.apec.org/Meeting-Papers/Leaders-Declarations/2010/2010_aelm/growth-strategy.
[74] APEC, "2012 Leaders' Declaration" (2012 APEC Economic Leaders' Meeting, Vladivostok: APEC, 2012), https://www.apec.org/Meeting-Papers/Leaders-Declarations/201annex4/2014_aelm.

2015, Leaders endorsed the APEC Strategy for Strengthening Quality Growth, which builds on the 2010 Growth Strategy's sustainable growth attribute with a specific KAA focused on environmental impact with an emphasis on addressing climate change.

APEC economies have highlighted the importance of tackling environmental concerns at the regional level. APEC Chile 2019's priority on Sustainable Growth[75] aimed to prevent marine debris, to intensify work on cleaner energy and to develop smart technologies, with President Sebastian Piñera saying that climate change and global warming were among "the greatest problems facing humanity today."[76] In the following year, APEC Malaysia 2020 listed "Driving Innovative Sustainability" as one of its three priorities.[77] The priority intends to encourage work on food security, clean energy and innovative waste management by transforming to a circular economy.

Decades of growing economic output have led to over-consumption of natural resources and contributed to large-scale environmental damage.[78] All through history, the growth of GDP has been reliant on the use of natural resources, but the current rate of extraction is unsustainable. UNEP's Global Resources Outlook 2019 noted that resource extraction has tripled since 1970 and is projected to grow to 190 billion tons by 2060, which is a 116% increase from 2015 levels.[79] Continuing to drive economic growth in the current manner is unsustainable as it threatens the availability of resources to drive future growth. Hence, there is a need to reduce the reliance of economic growth on the unsustainable use of resources.

Relentless resource extraction and production have also led to massive waste generation, threatening both health and the economy. It is estimated that the world will produce 69% more solid waste by 2050 compared to 2016. APEC economies alone were responsible for 43% (or 867 million tonnes) of the solid waste generated in 2016.[80] The lack of appropriate measures to manage waste has turned it into litter. Almost 60% of waste generated in APEC is mismanaged and emptied into waterways and open dumps, posing significant risks to livelihoods.

In addition to being threatened by decreasing availability of natural resources and increasing waste generation, current extraction and production methods lead to significant greenhouse gas (GHG) emissions. Natural resource extraction is responsible for about 50% of global GHGs.[81] The release of these gases contributes to climate change, a phenomenon which threatens the future of the global economy. Climate change causes damage to infrastructure, mass migration, losses in productivity and increased security threats.[82] Studies suggest that in the worst-case

[75] "Priorities for APEC Chile 2019," https://www.apecchile2019.cl, December 2018, https://www.apecchile2019.cl/apec/apec-chile/priorities-apec-2019.
[76] APEC, "APEC Agrees Priorities for 2019," December 14, 2018, https://www.apec.org/Press/News-Releases/2018/1214_ISOM.
[77] "APEC | 2020 Malaysia Priorities," APEC, 2019, https://www.apec.org/2020-Malaysia-Priorities.
[78] UN Environment Programme, ed., *Global Environment Outlook – GEO-6: Healthy Planet, Healthy People:*, 1st ed. (Cambridge University Press, 2019), https://doi.org/10.1017/9781108627146.
[79] Bruno Oberle et al., *Global Resources Outlook 2019: Natural Resources for the Future We Want* (Paris: United Nations Environment Programme, 2019), https://wedocs.unep.org/bitstream/handle/20.500.11822/27517/GRO_2019.pdf?sequence=3&isAllowed=y.
[80] Satvinderjit Kaur Singh, "Circular Economy: Don't Let Waste Go to Waste" (APEC-PSU, January 2020), https://www.apec.org/Publications/2020/01/Circular-Economy---Dont-Let-Waste-Go-to-Waste.
[81] Singh, "Circular Economy: Don't Let Waste Go to Waste."
[82] Keith Wade and Marcus Jennings, "The Impact of Climate Change on the Global Economy" (Schroders, 2016), https://www.schroders.com/de/SysGlobalAssets/digital/us/pdfs/the-impact-of-climate-change.pdf.

scenario, the rise in global temperatures could result in a yearly 1% reduction in GDP growth. The brunt of climate change is also expected to be more strongly felt by developing economies as they rely heavily on climate-sensitive sectors.[83] The Asia-Pacific region is expected to incur an average loss of 2.6% in real GDP by 2050.[84]

According to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), past human actions have already set into motion changes in the climate that will materialise regardless of future emissions. This makes action on climate change even more urgent to mitigate the damage.

The United Nations Framework Convention on Climate Change (UNFCCC) has been vital in driving international action on climate change since 1992. Its earliest agreement, the Kyoto Protocol which came into force in 2005, was the first international effort committed to reducing GHG emissions to 5% below the 1990 level.[85] The Protocol successfully advanced discussions on climate protection, but its limited scope and poor design as well as a lack of compliance prevented it from achieving its targets.[86] Building on the intentions of the Kyoto Protocol, the Paris Agreement took effect in 2016 and pledges to keep the rise in global temperatures to below 2 degrees Celsius above pre-industrial levels and to continue efforts to further limit the increase to 1.5 degrees Celsius.[87] All but eight economies that are Parties to the UNFCCC have ratified the Agreement.

Economies can contribute towards the goals of the Paris Agreement through policies that mitigate climate change and encourage adaptation to its consequences. In parallel to the Kyoto Protocol and the Paris Agreement, the KAA on environmental impact in the 2015 APEC Strategy for Strengthening Quality Growth also aims to respond to climate change by adopting mitigation and adaptation measures.[88] Mitigation measures are actions taken to reduce emissions that endanger the environment and cause climate change, such as, improving energy efficiency and conducting carbon sequestration. Adaptation measures, on the other hand, are those that reduce vulnerability by improving defences against the impacts of climate change, such as, building disaster resilient infrastructure and engaging in reforestation. [89]

Indicators relevant to assessing performance regarding environmental impact have been divided into mitigation and adaptation, based on the description in the ASSQG. The trends of the indicators will be evaluated to determine the performance of APEC economies in driving actions within this KAA. The indicators are categorised as follows:

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[83] Wade and Jennings, "The Impact of Climate Change on the Global Economy."
[84] "Resilience to Climate Change? A New Index Shows Why Developing Countries Will Be Most Affected by 2050," *The Economist Intelligence Unit*, 2019, http://www.eiu.com/Handlers/WhitepaperHandler.ashx?fi=Resilience-to-climate-change.pdf&mode=wp&campaignid=climatechange2019.
[85] UN Climate Change, "What Is the Kyoto Protocol?," 2020, https://unfccc.int/kyoto_protocol.
[86] Amanda M. Rosen, "The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change," *Politics & Policy* 43, no. 1 (2015): 30–58, https://doi.org/10.1111/polp.12105.
[87] UN Climate Change, "The Paris Agreement," 2020, https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement.
[88] "Annex A: APEC Strategy for Strengthening Quality Growth."
[89] Chunli Zhao et al., "Adaptation and Mitigation for Combating Climate Change – from Single to Joint," *Ecosystem Health and Sustainability* 4, no. 4 (April 3, 2018): 85–94, https://doi.org/10.1080/20964129.2018.1466632.

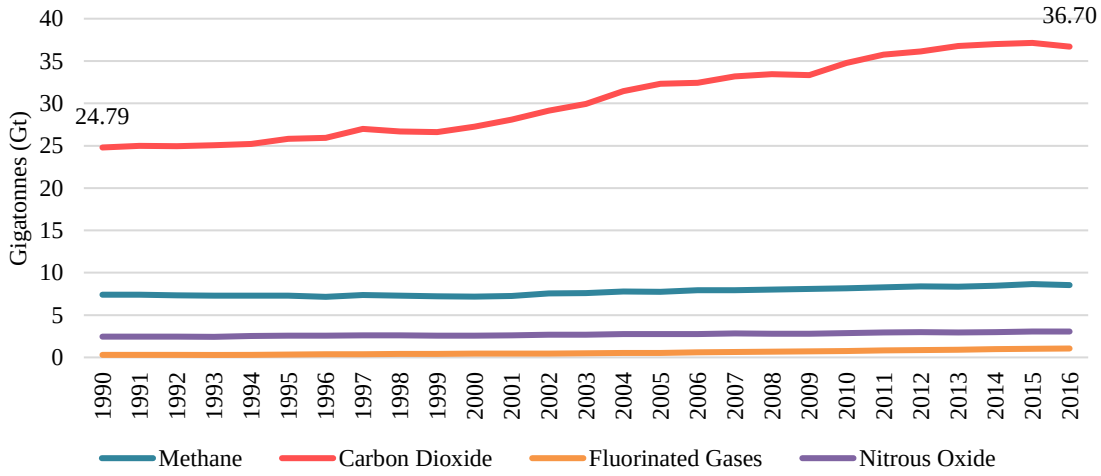
1. Mitigation measures:
    a. Reducing CO_2 emissions
    b. Increasing the use of renewable resources
    c. Reducing waste generation
    d. Increasing commitments through signing of environmental agreements

2. Adaptation measures
    a. Building climate change resilience
    b. Conducting environmental impact analysis for investments
    c. Increasing environmental R&D spending
    d. Adopting and implementing natural disaster risk reduction strategies
    e. Increasing reforestation/afforestation

Environmental Mitigation Measures

Since the start of the industrial revolution, human activities have been producing increasing amounts of greenhouse gases. In the current economy, many essential activities are major producers of greenhouse gases. For instance, electricity to power homes and electronic gadgets is often derived from the burning of fossil fuels, the largest source of greenhouse gas emissions.[90] In 2016, about 74% of greenhouse gases were made of carbon dioxide. Methane—a by-product of fossil fuel production, livestock and agricultural practices, and decay of organic matter in landfills—made up a significant portion as well at 17%. While the emissions of most other GHGs have remained more or less stable, a steep increase can be seen in carbon dioxide emissions since 1994 (Figure 3.25).

Figure 3.25. Global greenhouse gas emissions, 1990-2016



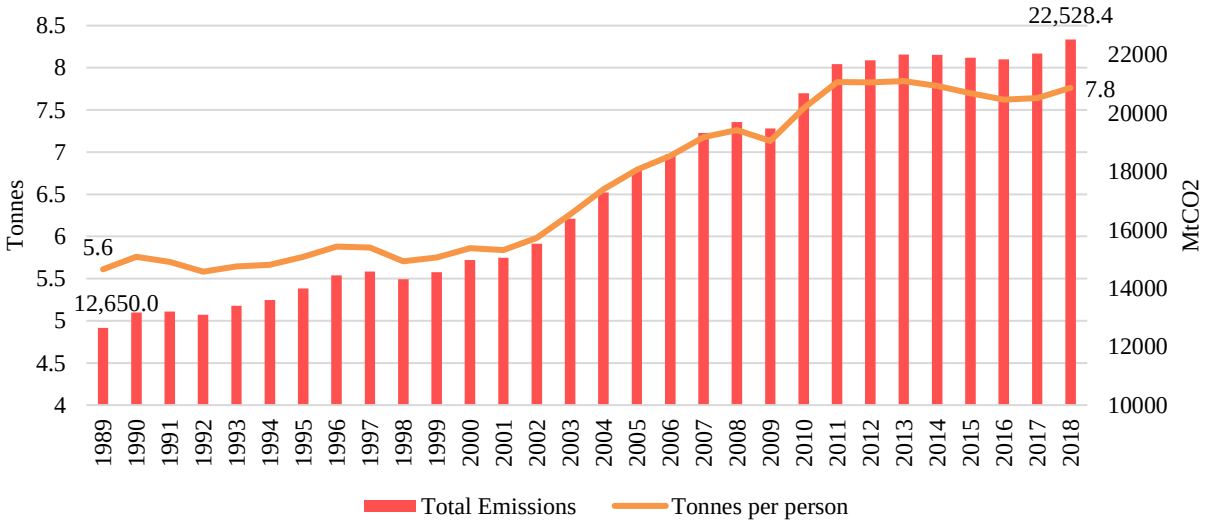
Source: Climate Watch. https://www.climatewatchdata.org/.

The same is true in the APEC region, where emissions have increased by 78.1%, from 12,650 metric tons of carbon dioxide (MtCO2) in 1989 to 22,528 MtCO2 in 2018 (Figure 3.26). Despite the increasing trend in total emissions, emissions per person in APEC have recently stabilised at around 8 tonnes. While this implies that the average person is not increasing (or

[90] UN Environment Programme, "Facts about the Climate Emergency," UNEP - UN Environment Programme, August 29, 2019, http://www.unenvironment.org/explore-topics/climate-change/facts-about-climate-emergency.

reducing) carbon dioxide emissions, the overall increase in total emissions due to a larger population remains a concern.

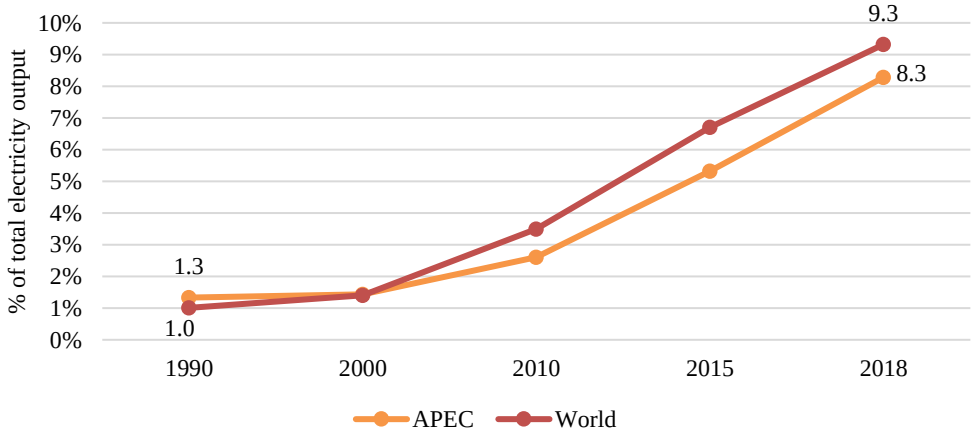
Figure 3.26. Territorial emissions in APEC, 1989-2018



Source: Global Carbon Atlas. http://www.globalcarbonatlas.org/en/content/welcome-carbon-atlas.

As production increases to provide for a growing global population, the Earth's non-renewable resources continue to be stretched. Moreover, continued usage of non-renewable resources for electricity needs leads to depletion of limited resources and produces hazardous by-products for the environment.[91] Hence, there is a need to encourage greater use of renewable resources to better manage limited resource stocks and pursue sustainable development. The use of renewable resources has in fact been picking up recently. Both APEC and the world used renewable resources to generate less than 2% of their electricity needs in the early 2000s, compared to 8.3% and 9.3% in 2018, respectively (Figure 3.27). Although this represents significant growth in the use of renewable energy sources, 92% of electricity in the APEC region continues to be produced from non-renewable sources.

Figure 3.27. Electricity generated from renewable resources in APEC, 1990-2018



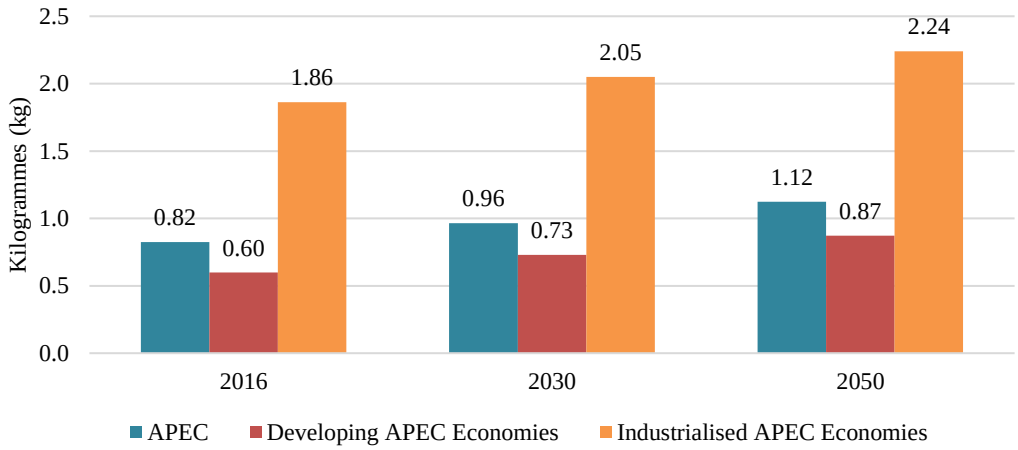
Note: Data does not include Brunei Darussalam and Papua New Guinea.
Source: BP, Statistical Review of World Energy. https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html.

[91] "Why Renewable Energy," *Center for Resource Solutions* (blog), July 28, 2015, https://resource-solutions.org/why-renewable-energy/.

Greater production also leads to more waste generation. As the amount of waste generated supersedes the infrastructure to manage it, it is likely to be discarded in waterways and open dumps, leading to environmental and health-related issues. Open dumping and burning have been found to significantly contaminate soil, air and water bodies in developing economies.[92] Moreover, burning of waste generates methane and/or releases dioxins, both of which are major environmental pollutants that contribute to climate change.

On average, an APEC resident generated 0.8 kilogramme of solid waste per day in 2016, of which 59% was mismanaged. By 2050, the amount of daily solid waste generated is expected to increase by 36% to 1.1 kilogramme per person (Figure 3.28). The greater prevalence of waste in the environment in the future necessitates more investments to be made in waste management systems.

Figure 3.28. Current and projected daily solid waste generation per capita in APEC, 2016-2050

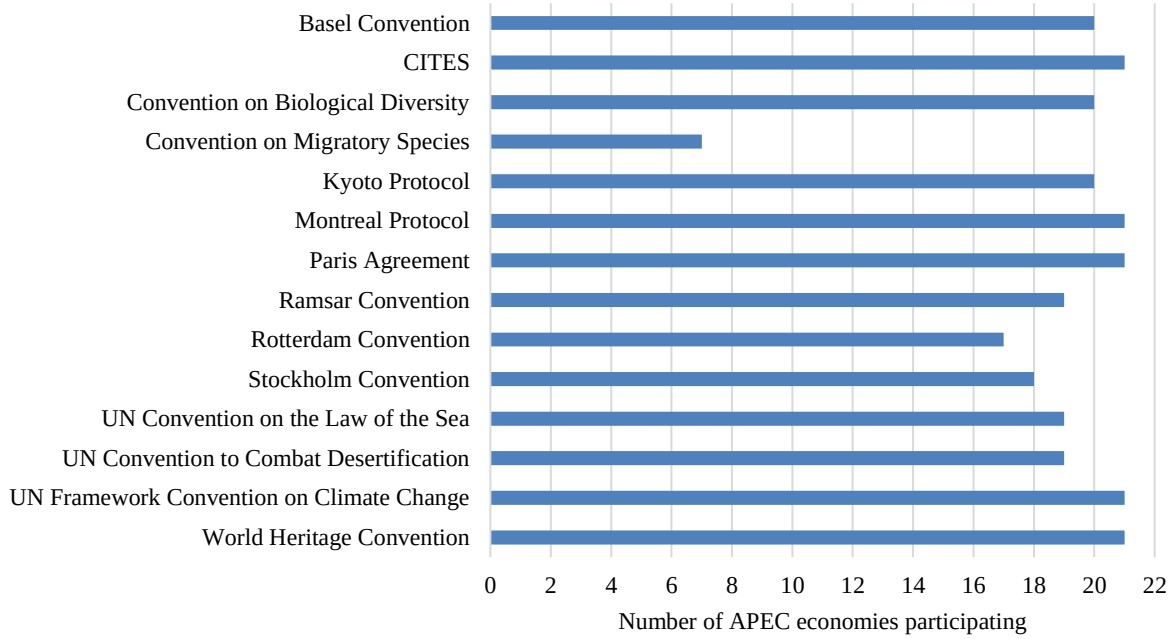


Source: World Bank, 'What a Waste 2.0' database.

International efforts to mitigate environmental threats often take the form of international environmental agreements, where economies collectively commit towards achieving the sustainability goals, such as reducing greenhouse gas emissions or conserving biodiversity, within a specified time period. These agreements encourage economies to develop policies and regulations to reduce the impact of development on the environment. Most APEC economies have actively participated in many major environmental agreements. On average, 17 APEC economies participate in each of the 14 agreements covered in the data (Figure 3.29). Only four APEC economies participate in all 14 agreements.

[92] Navarro Ferronato and Vincenzo Torretta, "Waste Mismanagement in Developing Countries: A Review of Global Issues," *International Journal of Environmental Research and Public Health* 16, no. 6 (March 24, 2019): 1060, https://doi.org/10.3390/ijerph16061060.

Figure 3.29. Participation in selected international environmental agreements, 2019



CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora; UN = United Nations. Participation refers to domestic implementation. The dataset covers implementation of 14 agreements between 1973-2019.
Source: UNStats, https://unstats.un.org/unsd/envstats/qindicators.cshtml and economy sources.

APEC's progress towards achieving the goals of the Paris Agreement has been unimpressive. According to the Climate Action Tracker[93] (an assessment of currently implemented policies to determine whether an economy is on track to meet its Paris Agreement commitments), as of December 2019, only eight out of 37 economies in the dataset are on track to achieve 2 degrees Celsius compatibility or better. Of the 15 APEC economies in the dataset, only the Philippines has implemented policies that will allow it to stay within the 2 degrees Celsius goal. Most APEC economies, that is nine out of 15, have made highly insufficient or critically insufficient efforts to meet the Paris Agreement goals.

Economies can introduce a variety of policies to tackle carbon emissions to meet their international and/or economy-wide goals. An example is carbon-pricing, which captures the external costs of emissions such that it becomes more expensive to emit. Only 13 APEC economies have implemented or are considering implementing carbon-pricing initiatives as of 2020.[94] Implementing such market-based carbon mitigation measures could enable economies to better manage and keep track of their carbon emissions.

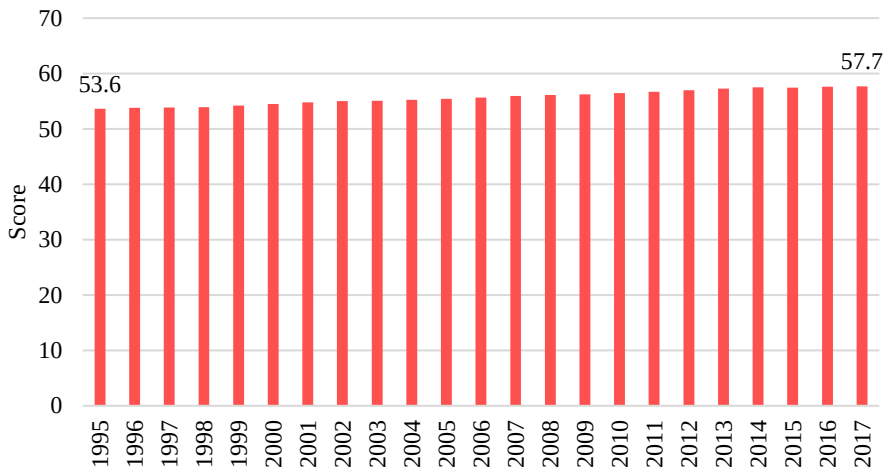
[93] Climate Action Tracker, "Climate Action Tracker," 2020, https://climateactiontracker.org/. The Climate Action Tracker evaluates economies' climate change mitigation commitments through 2030 and assesses if they are on track with meeting them. It tracks current emissions policies, pledges and targets, and economies' performance and share in combatting global warming. It assesses carbon dioxide and greenhouse gas emissions from fossil fuel combustion, industry, agriculture, and waste sources. However, it does not assess emissions from land-use, land use change and forestry (LULUCF), which account for around 7% of emissions. It also does not consider non-formal or non-official actions to address climate change implemented by economies, the private sector, or non-government organisations.
[94] World Bank, "Carbon Pricing Dashboard," 2020, https://carbonpricingdashboard.worldbank.org/.

Climate Change Adaptation Measures

As the environmental damage narrative built over the years, more efforts were set out to adapt economies and businesses for the impending effects of climate change that were already underway. Governments realised the urgent need to adjust to climate threats when increasing scientific research confirmed the imminent impacts of climate change, for example, by confirming the rise in sea levels and the change in weather patterns. It is also for this reason that adaptation measures were considered much later than mitigation measures.[95] Further adding on to the delay is the fact that adaptation measures are more complex and restrictive than mitigation measures.

According to the University of Notre Dame, the ability to adapt to climate change is dependent on vulnerability and readiness. By reducing vulnerability and improving readiness, an economy can develop resilience to climate change. The Notre Dame vulnerability score measures an economy's sensitivity, exposure and sector-specific adaptive capacity to climate change, while the readiness score measures an economy's economic, governance and social readiness to convert investments into adaptation actions. Together, these scores determine an economy's climate change adaptation score. APEC's average score has continually but slowly improved since 1995, from a score of 53.6 to 57.7 in 2017 (Figure 3.30).

Figure 3.30. Ability to adapt to climate change in APEC, 1995-2017



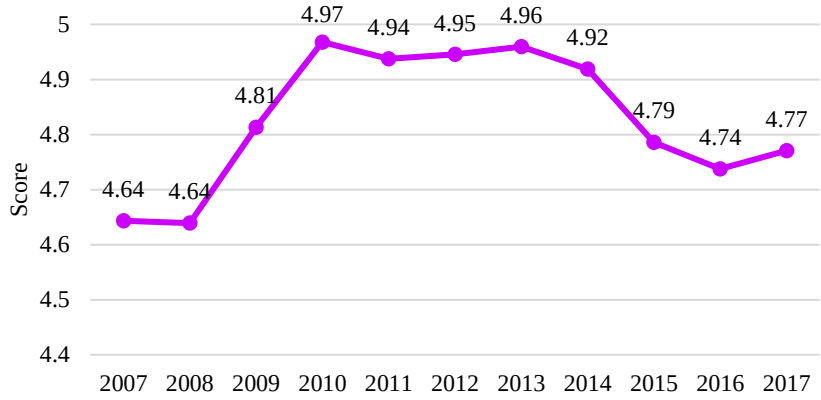
Note: The score ranges between 0 and 100 (best). The better the ability to adapt, the higher the score.
Source: University of Notre Dame, Notre Dame Global Adaptation Initiative.

Adaptation measures can be seen as developmental as they address the inadequate capacity and investment in quality and resilient facilitates. One of the most urgent adaptive measures is to build climate resilient infrastructure. Failing to future-proof buildings, power, water, telecommunications and transport infrastructures, could put numerous communities at the risk of losing livelihoods to extreme climate events. Haley noted that an estimated USD 1 trillion would be lost in assets in the next five years due to climate change.[96]

[95] Zhao et al., "Adaptation and Mitigation for Combating Climate Change – from Single to Joint."
[96] John J. Haley, "Why It's Time to Invest in Climate Resilient Infrastructure," *World Economic Forum* (blog), September 22, 2019, https://www.weforum.org/agenda/2019/09/why-it-s-time-to-invest-in-climate-resilient-infrastructure/.

Infrastructure in the APEC region requires urgent work as its quality score, as measured by the World Economic Forum though an Executive Opinion Survey, has declined in recent years, from a high of 4.97 in 2010 to 4.77 in 2017 (Figure 3.31). According to the WEF Global Competitiveness Report 2019,[97] investments in competitiveness-enhancing factors like infrastructure have been lacking as public investments in most industrialised and emerging economies have declined. According to ADB, economies in Asia and the Pacific need around USD 22.6 trillion in infrastructure investment between 2016 and 2030.[98] Factoring in climate resilient investment spending would raise the amount to USD 26.2 trillion.[99]

Figure 3.31. Overall quality of infrastructure in APEC, 2007-2017

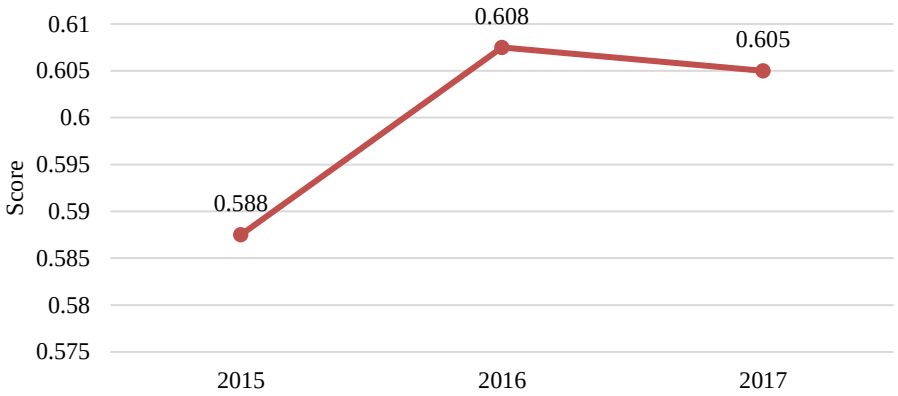


Note: Data does not include Papua New Guinea. The score ranges between 1 and 7. The better the quality of infrastructure, the higher the score.
Source: World Economic Forum, The Global Competitiveness database.

Climate change increases the risks of disasters. It increases the frequency and intensity of climatic hazards and leads to ecosystem degradations which make it tougher for economies to cope with hazards.[100] Natural disaster risk reduction strategies are useful to develop tools to cope with these challenges. The Sendai Framework Monitor requires economies to assess their alignment to their disaster risk reduction strategies against 10 parameters, which are then used to develop an aggregated score ranging from 0 to 1, with larger values indicating better alignment. The United Nations Global SDG Database provides data on economies' efforts in adopting and implementing disaster risk reduction strategies in line with the Sendai Framework.[101] Despite the limited coverage of only 10 APEC economies, there was some improvement during 2015-2017. The average score of the 10 APEC economies increased from 0.59 in 2015 to 0.61 in 2017 (Figure 3.32). However, recent trends seem to imply possible declines in adoption and implementation scores.

[97] World Economic Forum, *The Global Competitiveness Report 2019* (Geneva: WEF, 2019), http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf.
[98] Xianfu Lu, "Building Resilient Infrastructure for the Future: Background Paper for the G20 Climate Sustainability Working Group" (Manila: Asian Development Bank, August 1, 2019), https://doi.org/10.22617/WPS190340-2.
[99] Asian Development Bank, "Meeting Asia's Infrastructure Needs," 0 ed. (Manila, Philippines: Asian Development Bank, February 1, 2017), https://doi.org/10.22617/FLS168388-2.
[100] UN International Strategy for Disaster Reduction, "Adaptation to Climate Change by Reducing Disaster Risks: Country Practices and Lessons" (UN, 2009), https://www.preventionweb.net/files/11775_UNISDRBriefingAdaptationtoClimateCh.pdf.
[101] The UN Sendai Framework for Disaster Risk Reduction 2015-2030 is a global agreement which lists out concrete actions to protect from the risk of disasters, including investing in resilience and enhancing international cooperation.

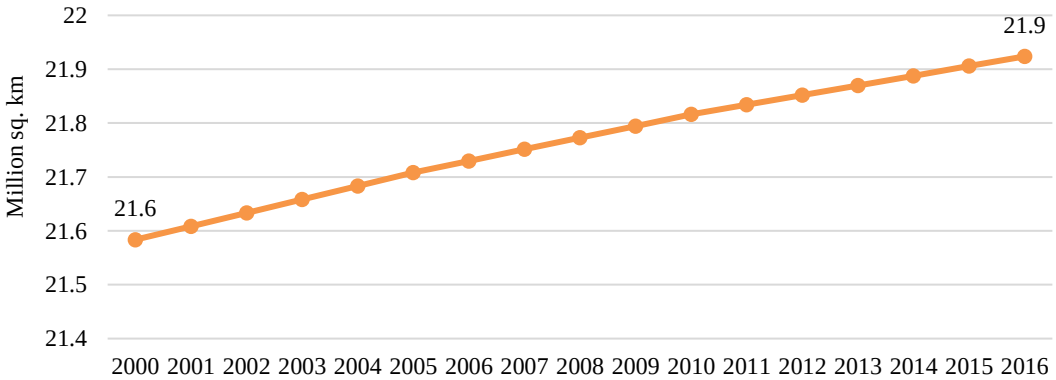
Figure 3.32. Adoption and implementation of Disaster Risk Reduction Strategies by APEC Economies, 2015-2017



Note: Data cover Australia; Chile; Indonesia; Japan; Korea; Malaysia; Mexico; New Zealand; Thailand; and the United States. The scores ranges between 0 and 1. The higher the score, the greater the adoption and implementation.
Source: UN, Global SDG Database.

One of the threats of natural hazards is that they damage forests, which in turn exacerbate the risk of climate change. Reforestation and afforestation efforts are some measures that can help adapt to forest loss as well as mitigate further climate change.[102] The slight increase in APEC's forest area by 0.34 million square kilometres between 2000 and 2016 indicates a measure of success in preventing further deforestation, but also slow progress on reforestation and afforestation (Figure 3.33).

Figure 3.33. Forest area in APEC, 2000-2016



Source: World Bank, World Development Indicators database.

Limited Progress on Environmental Impact

APEC's efforts to mitigate threats to the environment are insufficient. Many APEC economies are not participating in international environmental agreements and carbon emissions continue to increase, albeit not as sharply as before 2011. Despite the slowdown in carbon emissions growth, many APEC economies have not implemented policies needed to meet the goals of the Paris Agreement. Measures to increase renewable electricity generation have been able to replace only 8% of total electricity production. Based on existing trends, solid waste generation

[102] Stephanie Mansourian, Alexander Belokurov, and Peter J. Stephenson, "The Role of Forest Protected Areas in Adaptation to Climate Change," UN Food and Agriculture Organization, January 2009, http://www.fao.org/3/i0670e13.htm.

per capita is expected to grow 1.4 times over the next three decades, and waste mismanagement is likely to continue unless companies and governments invest in waste management systems, especially in developing economies. A stronger push is needed to encourage economies to participate in international environmental agreements and to shape their domestic policies to discourage pollution generation and incentivise adoption of greener practices, for example, through carbon pricing. Policies encouraging extended producer responsibility, proper waste sorting, integrated waste management, product life cycle management, and applying sustainable manufacturing techniques will also contribute to reducing environmental impact.

APEC economies have performed relatively better in adapting to, rather than mitigating, environmental impact based on the indicators evaluated. Climate change adaptation, in terms of increasing readiness and reducing vulnerability, has improved across the region. More natural disaster risk reduction strategies have been adopted/implemented to better prepare for the effects of climate change. Reforestation and afforestation efforts have also resulted in greater forest coverage. However, the perceived quality of infrastructure in the region has diminished since 2010, which presents a grave challenge in building resilience. Given the substantial benefits offered by technology to understand and tackle climate change, economies should allocate more funds towards related R&D. Similarly, an increase in focus on building quality infrastructure could contribute towards strengthening adaptive capacity.

The focus of most climate policy has been on mitigation measures,[103] partly because adaptation strategies are complex and highly technical. As a result, adaptation strategies have been lacking in financial support compared to mitigation strategies and could benefit from more research, skills development and financing.[104] Given that both strategies are equally important in tackling climate change and success in either strategy could improve outcomes in the other strategy, APEC economies could consider allocating more resources towards adaptation strategies.

The Environmental Performance Index, which measures economies' performances with regard to environmental health and ecosystem vitality, showed limited improvement in the region's overall environmental performance: the average index increased from 59.8 to 61.2 over the last decade (Figure 3.34). Seven APEC economies performed poorer than they did in the baseline year. Only five economies—China; Mexico; Papua New Guinea; Chinese Taipei; and Viet Nam—noted an improvement of more than five points in their indices.

Therefore, there are substantial policy gaps in equipping APEC economies to deal with environmental challenges. These gaps have to be dealt with by pursuing economic growth that is environmentally responsible. Such actions will enable economies to pursue sustainable growth as per the 2010 APEC Growth Strategy. Sustainability efforts should not take a back seat despite the challenges posed by the COVID-19 crisis. The current pandemic provides an opportunity for economies to reconsider their development strategies, such that economic growth is more sustainable and inclusive.[105] As threats to the environment are far more permanent and deep, strategies for the future should not only improve public health measures but also build environmental sustainability into every decision.

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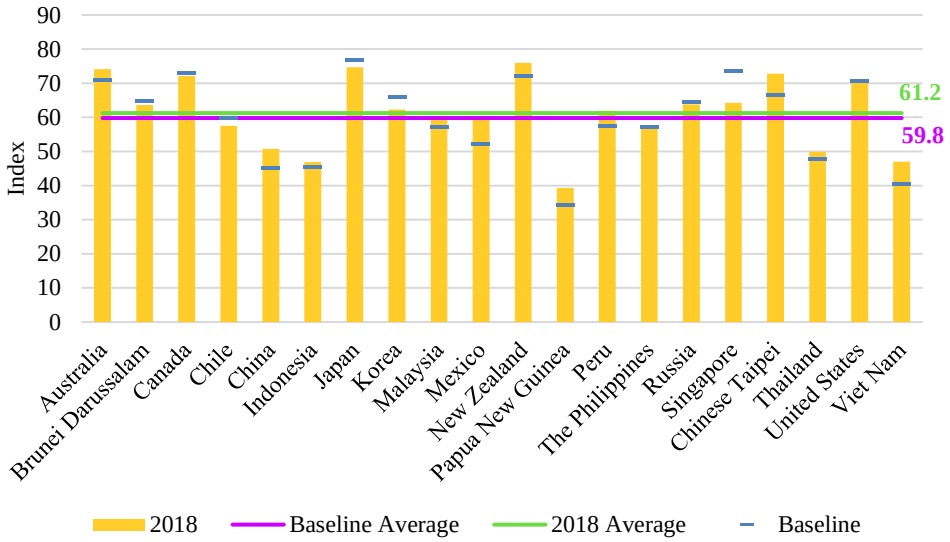
[103] Richard J.T. Klein, E. Lisa F. Schipper, Suraje Dessai, Integrating mitigation and adaptation into climate and development policy: three research questions, Environmental Science & Policy, 8 (2005), 579–88.
[104] Zhao et al., "Adaptation and Mitigation for Combating Climate Change – from Single to Joint."
[105] UN Economic and Social Commission for Asia and the Pacific, "Increase Spending on Managing COVID-19 Pandemic and Decarbonize to Tackle Climate Emergency, Urges UN Regional Arm," ESCAP, April 8, 2020, https://www.unescap.org/news/increase-spending-managing-covid-19-pandemic-and-decarbonize-tackle-climate-emergency-urges-un.

Figure 3.34. Environmental Performance Index of APEC Economies, 2018



Note: Baseline is approximately 10 years prior to the most recent data point, subject to data availability. Data does not include Hong Kong, China. The score measures 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality. The indicators include sanitation, tree cover loss, marine protected areas, CO_2 and SO_2 emissions, fish stock status and waste water treatment, among others. The score ranges between 0 and 100 (best).
Source: Yale Center for Environmental Law and Policy, World Bank, 2018 Environmental Performance Index (EPI).

COVID-19 and the Importance of Environmental Impact

The current pandemic and climate change are both linked to environmental impact. According to the World Health Organization (WHO), environmental degradation and climate change have an impact on the occurrence of infectious diseases.[106] An estimated three-quarters of new human diseases, including COVID-19, MERS-CoV, and A(H1N1), are of zoonotic origins, that is, originating in animals.[107] Human activities such as deforestation, pollution, and hunting displace wildlife and alter animal behaviours, increasing the risk of contact and animal-to-human transmission of pathogens.[108] Climate change can also increase the risk of outbreaks. Altered rainfall contributes to the proliferation of disease-carrying vectors like mosquitos,[109] while warmer climate thaws the Arctic permafrost, potentially reactivating dormant pathogens that have been trapped in ice.[110] These dependencies show that environmental health and human health are inseparable.

[106] World Health Organization, "Climate Change and Human Health - Risks and Responses. Summary.," WHO (World Health Organization, April 23, 2020), https://www.who.int/globalchange/summary/en/index5.html.
[107] L H Taylor, S M Latham, and M E Woolhouse, "Risk Factors for Human Disease Emergence.," *Philosophical Transactions of the Royal Society B: Biological Sciences* 356, no. 1411 (July 29, 2001): 983–89, https://doi.org/10.1098/rstb.2001.0888.
[108] Nathan D. Wolfe et al., "Bushmeat Hunting, Deforestation, and Prediction of Zoonotic Disease," *Emerging Infectious Diseases* 11, no. 12 (December 2005): 1822–27, https://doi.org/10.3201/eid1112.040789.
[109] Jean-Paul Chretien et al., "Global Climate Anomalies and Potential Infectious Disease Risks: 2014-2015," *PLoS Currents* 7 (January 26, 2015), https://doi.org/10.1371/currents.outbreaks.95fbc4a8fb4695e049baabfc2fc8289f.
[110] Boris A. Revich and Marina A. Podolnaya, "Thawing of Permafrost May Disturb Historic Cattle Burial Grounds in East Siberia," *Global Health Action* 4 (November 21, 2011), https://doi.org/10.3402/gha.v4i0.8482.

The COVID-19 pandemic has also exacerbated the waste crisis. The increased usage of medical equipment and mass lockdowns due to COVID-19 have led to new environmental problems. The standard operating procedure established by the WHO for medical personnel addressing COVID-19 noted that practitioners should dispose of single-use equipment rather than attempting to recycle to ensure safety.[111] Meanwhile, many food and beverage establishments are now only offering takeaways and packaged meals, which leads to substantial amounts of discarded packaging.

Nevertheless, the pandemic has provided opportunities to rethink our ways. Many businesses have embraced environmentally friendly methods of dealing with supply chain disruptions. For example, some businesses are repurposing scrap materials to manufacture personal protective equipment (PPE),[112] while others in the food and beverage industry are trying to redirect surplus food to those who need it.[113] Innovations also continue to tackle shortages and encourage environmentally friendly behaviours. For instance, an N95 mask decontaminating technology is being used to deal with PPE insufficiency,[114] and responsible packaging innovations continue to provide sustainable alternatives especially during home delivery spikes.[115] Moreover, by using the resources that are already in the supply chain, businesses can avoid the higher raw material prices expected during the pandemic due to constrained supplies.

As recently as last year, sustainability was rising on the agenda of many businesses and economies, but the COVID-19 pandemic has upended many of those plans. It is important to understand that the threats to the environment are also of grave concern and the present sustainability strategies are not ambitious enough to ensure a sustainable future. A survey of 14 economies by Ipsos MORI found that a majority of people recognised climate change to be as serious as COVID-19 and would like governments to prioritise climate in their economic recovery plans.[116]

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[111] WHO, "Water, Sanitation, Hygiene and Waste Management for the COVID-19 Virus," March 3, 2020, https://apps.who.int/iris/bitstream/handle/10665/331305/WHO-2019-NcOV-IPC_WASH-2020.1-eng.pdf.
[112] Doloresz Katanich, "Volunteers Turn Recycled Plastic into Face Shields around the World," *Living* (blog), April 17, 2020, https://www.euronews.com/living/2020/04/17/volunteers-turn-recycled-plastic-into-face-shields-around-the-world.
[113] Aaron Mok, "How 23 Organizations Are Reducing Food Waste during COVID-19 | Greenbiz," *GreenBiz*, May 15, 2020, https://www.greenbiz.com/article/how-23-organizations-are-reducing-food-waste-during-covid-19.
[114] Saabira Chaudhuri, "Coronavirus Prompts Hospitals to Find Ways to Reuse Masks Amid Shortages," *Wall Street Journal*, March 31, 2020, sec. Business, https://www.wsj.com/articles/coronavirus-prompts-hospitals-to-find-ways-to-reuse-masks-amid-shortages-11585647000.
[115] Etienne Kechichian and Nidal Mahmoud, "The Circular Economy Can Support COVID-19 Response and Build Resilience," *World Bank Blogs* (blog), May 18, 2020, https://blogs.worldbank.org/psd/circular-economy-can-support-covid-19-response-and-build-resilience.
[116] Kelly Beaver, "Two Thirds of Britons Believe Climate Change as Serious as Coronavirus and Majority Want Climate Prioritised in Economic Recovery," *Ipsos MORI* (blog), April 2020, https://www.ipsos.com/ipsos-mori/en-uk/two-thirds-britons-believe-climate-change-serious-coronavirus-and-majority-want-climate-prioritised.

4. ECONOMY AND FORA ASSESSMENT

Accompanying the ASSQG is a matrix of action items where each of the five Growth Attributes of balanced, inclusive, sustainable, innovative, and secure have been assigned specific action items that will help to pursue the goal of quality growth.[117] For each action item, there is an indicator of whether the action is a contributor to one of the KAAs of institution building, social cohesion, or environmental impact, and if so, whether it is a primary or secondary contributor. Implementation and monitoring arrangements for ASSQG were endorsed by APEC Senior Officials in 2016 in Arequipa, Peru. Senior Officials agreed to two levels of implementation: (1) economy-level where each economy determines how to implement ASSQG and (2) APEC fora-level where annual work plans, strategic plans, and capacity building activities should be aligned with the strategy.

APEC ECONOMIES

In order to better understand the progress made by the APEC members in implementing the ASSQG, the APEC Policy Support Unit (PSU) designed and administered a survey among the 21 APEC members. The survey solicited information on the achievements of the economy as well as the remaining challenges and action plans relating to each KAA. Through this survey, APEC members had the opportunity to self-assess the progress they had made in implementing the ASSQG. The PSU received responses from 14 APEC members.[118] This section presents a summary of those responses, highlighting the achievements made by the APEC members over the 2015-2020 ASSQG period as well as the challenges that remain in each of the KAAs.[119]

Institution Building

Some of the identified areas for priority action under the KAA of institution building include developing a rules-based and market-based economy, deepening financial markets and increasing the efficiency of labour markets, and supporting trade and investment liberalisation and facilitation. The matrix of action items accompanying the ASSQG identifies several actions under the Growth Attributes of balanced, innovative, and secure growth that primarily contribute to institution building. These include initiatives to develop financial markets, initiatives to improve intellectual property rights protection and enforcement, and initiatives to address corruption and transparency in public sector governance. Thus, APEC members had a very wide range of measures that they could implement in their economy over the 2015-2020 period that would contribute to the KAA of institution building under the ASSQG.

Table 4.1 presents a summary of recent measures to improve institution building among the APEC members as included in their responses to the survey conducted by the PSU. Examining this table makes apparent the various policy priorities in institution building among the APEC members over the ASSQG assessment period. Many economies, such as Chile; China; Russia;

[117] "Annex A: APEC Strategy for Strengthening Quality Growth."
[118] The PSU received survey responses from Australia; Chile; China; Hong Kong, China; Japan; Korea; Malaysia; New Zealand; Peru; the Philippines; Russia; Singapore; Thailand; and Viet Nam.
[119] The survey responses submitted by the APEC members are included in the Appendix.

Thailand; and Viet Nam made substantial progress in improving the quality and efficiency of their overall regulatory environment. Several members, including Japan; Malaysia; New Zealand; Peru; and Singapore, reported mainly on actions and measures that support trade and investment liberalisation and facilitation. In addition to trade-related measures, the Philippines discussed major initiatives to improve the skills of its labour force. Hong Kong, China and Korea reported progress in further developing their financial sectors, while Australia highlighted improvements in the efficiency and transparency of tax systems.

Table 4.1. Achievements in institution building among APEC Members

Economy	Achievement
Australia	The Australian Taxation Office (ATO) has implemented a number of rules-based policy measures such as supporting the international tax transparency agenda, strengthening corporate governance around taxation, and improving the efficiency of the tax and superannuation systems.
Chile	The National Office of Productivity and Entrepreneurship (OPEN) launched in 2018 to implement legal and regulatory changes and increase opportunities for regulatory improvement; implement regulatory harmonisation initiatives between Chile and the rest of the world; and promote regulatory simplification. Also created in 2018 is the Sustainable Project Management Office (GPS) to make the processing of investment projects more efficient; the license and permit process more transparent; and to promote greater legal certainty. Chile has also implemented an Integrated System of Foreign Trade (SICEX), a single electronic window that aims to standardize, simplify, and digitize export and import procedures, thereby improving the administrative efficiency and transparency of foreign trade.
China	In 2016, the National Trade Facilitation Committee, consisting of 16 ministries, was established to promote the implementation of the WTO Trade Facilitation Agreement, with full implementation achieved as of January 2020. In 2019, the Foreign Investment Law was introduced to create a more open, transparent, and predictable business environment. Also, in 2019, the E-commerce Law was enacted to promote e-commerce by regulating market entities and maintaining market order. In addition, China issued an opinion in 2019 to reform and improve the social mobility of the labour force, stressing efforts to generate high-quality mobility opportunities and encourage innovation and entrepreneurship.
Hong Kong, China	A number of policy initiatives have been implemented in the past five years to develop Hong Kong, China as a premier fundraising platform. These include the establishment of several mutual capital market access programmes with China and the expansion of the listing regime of the Stock Exchange of Hong Kong, China to facilitate the listing of companies from emerging and innovative sectors. Another achievement has been to enhance shareholder-oriented corporate governance through a rewrite of the Companies Ordinance to introduce various new initiatives and measures.
Japan	In 2019, the Japan Financial Services Agency (JFSA) promoted several initiatives as part of its Financial Digitalization Strategy. In addition, relevant domestic laws and regulations were revised following the conclusion of the Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (TPP11). At the same time, Japan implemented several relevant policies to improve its competitiveness by strengthening various domains, such as agriculture, food safety, intellectual property, and government procurement.
Korea	Over the past five years, Korea strengthened its monitoring of possible market dominance in innovative industries. Korea also implemented several policies to promote innovation in the financial sector, such as granting special regulatory exceptions to novel services that have the potential to be innovative. Shareholder governance regulation was also strengthened in order to prevent abuses and promote timely and transparent information sharing.

Economy	Achievement
Malaysia	Strategic action plans such as the Eleventh Malaysia Plan (11MP) 2016-2020 and the National Automotive Policy (NAP) 2014 (2014-2020) encompass actions and measures to strengthen trade and investment in high-growth sectors. In addition, the Strategic Trade Act 2010 implements Malaysia's international obligations to combat the proliferation of weapons of mass destruction and proliferation financing.
New Zealand	New Zealand has pursued an active FTA/RTA negotiating agenda to support trade and investment liberalisation and facilitation, with two comprehensive FTAs entering into force between 2015 and 2019. Running since early 2018, the Trade for All agenda aims to ensure trade policy delivers for all, by supporting sustainable and inclusive economic development. It informs New Zealand's policy approach to international trade, including through its involvement in the WTO, the negotiation and implementation of FTAs, and the interaction between trade and domestic economic policy. Since 2016, New Zealand has also pursued a comprehensive review and modernisation of regulatory management to improve public access to information.
Peru	Over the past five years, Peru has promoted numerous mechanisms that support trade and investment liberalisation and facilitation through the negotiation of several FTAs, bilateral investment treaties, and double taxation treaties. Peru also continues to foster its development under a rules-based and market-based economic system by, for instance, maintaining macroeconomic stability and a prudent budgetary policy.
The Philippines	The crafting of the Philippine TVET PH 4.0 Framework provides specific initiatives for developing a 4IR-ready workforce. Also, the publication of the National Technical Education and Skills Development Plan (NTESDP) 2018-2022 provides policy direction and guidance to all TVET stakeholders. Taking effect in June 2016, the Customs Modernization and Tariff Act (CMTA) institutes fair and transparent customs and tariff management to efficiently facilitate international trade, prevent and curtail fraud, and modernize customs and tariff administration. In addition, the ratification on the Protocol on the Legal Framework (PLF) for the implementation of the ASEAN Single Window (ASW) in May 2017 facilitated the creation of the Philippine National Single Window.
Russia	In 2017, Russia optimised its regulatory impact assessment (RIA) procedures and also implemented a "regulatory guillotine" mechanism in order to eliminate a large number of obsolete, duplicate, and redundant requirements, thereby reducing the regulatory burden on businesses. Since 2017, the Federal Antimonopoly Service (FAS) also began implementing new pro-competitive principles of price regulation to increase the efficiency of natural monopolies. In 2018, Russia developed a strategic plan to promote the digital economy, including building a suitable legal framework. In this context, a number of regulations, such as the legal status of "smart contracts", have been created, with several other regulations currently being elaborated.
Singapore	Singapore has an extensive network of FTAs that provide legal certainty, expand government procurement opportunities, and improve intellectual property protections. An online search engine providing information on preferential tariffs, rules of origin criteria, and import documentation is available to help to build awareness among the business community of the trade agreements.
Thailand	Between October 2018 and May 2019, the Simple and Smart License project (formally known as the Regulatory Guillotine Project) reviewed the necessity of licenses and procedures based on the 5Cs Framework of cut, change, combine, continue, and create. In accordance with the Thailand 4.0 policy, recommendations were based on promoting Thailand's competitiveness, reducing obstacles in doing business in targeted industries, and enhancing employment opportunities of underprivileged groups. The project team proposed to eliminate or amend around 700 processes.
Viet Nam	In 2015, the Law on Legal Normative Documents was revised to improve Viet Nam's regulatory management system and ensure a more effective rulemaking process. Viet Nam also implemented the series of Resolution 19 (for 2014-2018, renamed Resolution 2.0 in 2019), which incorporated specific tasks and associated targets to improve the business environment. In addition, Viet Nam signed and/or implemented a number of

Economy	Achievement
	new FTAs, inducing Viet Nam to reform the economy in a number of areas in line with international best practices.

Table 4.2 presents a summary of some of the challenges that remain in institution building among the APEC members as described in their responses to the survey conducted by the PSU. Also included in the summary are some of the short- and medium-term action plans of the economy in order to address those challenges. Although many of the issues are specific to the policy priorities of the member economies, a major challenge across the region is how to maintain a flexible and responsive regulatory system in light of often rapidly changing market conditions. For instance, ongoing and swift advancements in information technology (IT) can present several obstacles relating to the efficiency and effectiveness of policy formulation and implementation. Other common challenges discussed by several APEC members include the difficulties faced in improving competitiveness and in developing a highly skilled labour force.

Table 4.2. Challenges to institution building among APEC Members

Economy	Challenge
Australia	Taxation on the digital economy remains a challenge to institution building. Australia supports the OECD/G20 Inclusive Framework to reach an international consensus on the creation of new rules for the international tax framework by 2020. This consensus will require long-term multilateral cooperation to implement.
Chile	A major challenge is to improve access to financing opportunities, particularly in the venture capital industry. Chile therefore plans to introduce public-private collaborations to promote financing in technology-based companies. Another challenge includes reducing the number of economic and financial crimes in highly concentrated markets. Chile currently has a number of draft regulations to strengthen antitrust institutions, increase the penalties for insider trading, and improve the transparency and competitiveness of the pharmaceuticals industry. Increasing regulatory simplification, including the digitisation of procedures, and coordination between public entities is an ongoing process.
China	With new technologies and business forms continuously emerging, some legal provisions are becoming outdated. China is therefore currently pursuing a wide range of economic reforms, including improving the property rights system, further reforming state-owned enterprises, and developing new methods to improve macro-regulation. Another obstacle is that advancements in IT and e-commerce have greatly changed the business environment, posing a challenge to the traditional regulatory framework and the jurisdiction of international law. To address this issue, China continues to improve rules, regulations, and standards that support a sound business environment. Since social mobility of the labour force still faces some institutional barriers and high-quality mobility opportunities need to be further generated, China is promoting reasonable, just, smooth, and orderly social mobility.
Hong Kong, China	Challenges, such as developing a larger and more comprehensive ecosystem of products, remain in further developing Hong Kong, China as a premier fundraising platform given an increasingly competitive environment in attracting new listings. Hong Kong, China has therefore developed an ongoing, multi-pronged approach to enhance its competitiveness, including leveraging new technology to modernise and enhance market infrastructure.
Japan	The evolving financial environment will require JFSA to continuously work on promoting its Financial Digitalization Strategy. In addition, development of related laws and regulations as well as measures to promote greater understanding of TPP11 among the business community still need to be strengthened. In this regard, Japan revised its Comprehensive TPP-Related Policy Framework in December 2019 in order to increase

Economy	Challenge
	initiatives aimed at strengthening and developing the competitiveness of domestic industries as well as promoting exports.
Korea	Since there is a tendency for private actors in the financial sector to resist adopting new innovative policies, the Financial Services Commission will lower the entry barrier to stimulate competition and accelerate regulatory reform as well as encourage greater focus on increasing technical expertise and future growth potential. Amid rapidly evolving new technologies, it can be a challenge for standards development to keep up with technological advancement. In response, Korea will continue to improve its fast-track system of qualification tests for new technology and promote greater public awareness of the system.
Malaysia	Adaptation to the evolution of digitalisation by smaller businesses and the general public remains a challenge. In this regard, discussion on the next Malaysia Plan is underway to take into account the latest policy priorities. Also, the Strategic Trade Act 2010 and its regulations need to be continually updated to keep pace with the advancement of technology and digitalisation, requiring a coordinated effort of all agencies involved. To address this challenge, the Strategic Trade Action Committee (STAC) was established. Finally, the unprecedented global challenges from the COVID-19 pandemic is causing a domino effect on domestic economic policies.
New Zealand	A major challenge is the COVID-19 pandemic and its potential economic impact on New Zealand. The initial response has been to launch a NZD 12.1 billion package focusing on income support and stimulus measures. Another challenge is in improving New Zealand's digital transformation. To assist in this, a number of initiatives are under way to ensure widespread access to digital technology, to integrate government services in order to enhance efficiency, and to support businesses and workers to meet the challenge of digital transformation. Recent tensions in international trade present another challenge. In response, New Zealand plans to further promote the Trade for All agenda and intensify its economic diplomacy, which includes defending the system of international trade rules, embedding New Zealand in the emerging regional economic architecture, supporting regional and global public goods such as APEC, and advancing the concept of 'open plurilateralism'.
Peru	There is a need to deepen financial markets and stimulate more competitiveness of the financial sector to improve credit conditions for SMEs. In response, Peru has started to promote better regulation in favour of financial access for SMEs. In spite of developing a National Integrity and Anti-Corruption Policy, there have still been several corporate corruption scandals. Peru would therefore like to develop a stakeholder-oriented model of corporate governance that takes into account key participants such as employees, customers, and the wider community. Another challenge in Peru is that the majority of the labour market is informal. Although efforts have been made to formalize the workforce with an updated legal framework, human resources capacity will need to be strengthened in order for there to be significant development of the labour market.
The Philippines	Identifying skills and competencies that will be needed in the future, meeting the demand for skilled workers, and addressing the employment needs of the basic sector is an ongoing challenge. To address these issues, the Department of Labor and Employment has started the Philippine Talent Map Initiative, while the Philippine Development Plan 2017-2022 includes a roadmap for academic and technical programmes to respond to the demands of the Fourth Industrial Revolution. Another challenge is the constitutional limitation on granting foreign franchise and operation of public utilities, which restricts the number of players in certain industries. Pursuant to the design and implementation of a roadmap for green development, there is also a need to strengthen the policy dissemination process and policy compliance as well as to build the capacity of financial institutions to ensure the availability of green/sustainable financing. To address this, the Bangko Sentral ng Pilipinas (BSP) has undertaken capacity building and awareness campaigns as well as mainstreaming environmental, social, and governance (ESG) through the issuance of enabling regulations.

Economy	Challenge
Russia	Unleashing the full potential of the digital economy in the RIA sphere as well as continuing to reduce the regulatory burden on businesses is an ongoing process. In regard to natural monopolies, there remains a need to increase their transparency, ensure reliable and effective provision of goods and services, improve conditions for the development of competition, and increase the quality of regulation. Finally, there is a lack of a general law on experimental legal frameworks ("regulatory sandboxes") that could provide the mechanisms to stipulate regulation of digital innovations and other related activities. Russia currently has several draft laws to address all of these issues.
Singapore	Current trade rules and policies do not adequately address the needs of the digital economy. Singapore has started work on new forms of partnerships called Digital Economy Agreements (DEAs) to put in place clear and harmonised international rules and collaboration mechanisms that promote greater interoperability between digital frameworks and guard against digital and data barriers. In addition, Singapore is leading digital trade efforts at the WTO. Singapore, together with Australia and Japan, launched the Joint Statement Initiative (JSI) on E-Commerce to support the development of baseline rules on digital trade and act as a bulwark against digital fragmentation.
Thailand	Thailand still needs to further improve its business environment and support greater competition in order to attract more investors and raise the economy's competitiveness in the long term.
Viet Nam	Viet Nam currently receives less support for capacity building, which may challenge its development of necessary institutions. Another challenge is in reducing competitive non-neutrality. For instance, in certain areas, state-owned enterprises still have more preferential access compared to private enterprises. Finally, some important forms of international regulatory cooperation, such as policy and standards development, remain limited. Viet Nam has several action plans in place for institution building, including to develop and improve the legal system, a judicial reform strategy, effective economic integration in the context of new-generation FTAs, and private sector development.

Social Cohesion

Some of the identified areas for priority action under the KAA of social cohesion include fighting exclusion and marginalisation, creating a sense of belonging, promoting trust, and offering opportunities for upward mobility. The matrix of action items accompanying the ASSQG identifies several actions under the Growth Attributes of inclusive and innovative that primarily contribute to social cohesion. These include initiatives to improve quality education and employment opportunities for women, youth, the elderly, and vulnerable groups such as people with disabilities; initiatives to accelerate the reduction of the population below the poverty line; and initiatives to advance cooperation on urbanisation and sustainable city development. Thus, APEC members had a very wide range of measures that they could implement in their economy over the 2015-2020 period that would contribute to the KAA of social cohesion under the ASSQG.

Table 4.3 presents a summary of recent actions to improve social cohesion among the APEC members as included in their responses to the survey conducted by the PSU. Over the ASSQG assessment period, many members introduced measures to promote inclusion of groups such as women, disabled persons, and the elderly into the workforce. These include Chile; Japan; Malaysia; and Russia. Australia highlighted mental health initiatives among the elderly and those living in rural areas. China; Peru; the Philippines; Thailand; and Viet Nam focused on overall poverty alleviation measures in order to improve the living standards of vulnerable groups. Hong Kong, China; and Korea supported SMEs and start-ups so as to promote upward mobility, especially of young people. Singapore was active in promoting unity and social

cohesion through a shared identity, while New Zealand takes a whole-of-government approach to ensure that factors of well-being drive policy making.

Table 4.3. Achievements in social cohesion among APEC Members

Economy	Achievement
Australia	Australia highlighted two initiatives that focused on mental health. One is a two-year pilot programme to improve the social connectedness of Australians over the age of 75. Another is for mental health initiatives to help farmers and rural communities deal with the stress and uncertainty of drought conditions and to foster longer term recovery and resilience.
Chile	Chile has implemented legislation to increase the number of people with disabilities in the workforce and to ensure that independent workers have the same social security protections as dependent workers. In addition, programmes such as providing support for vulnerable children and reducing homelessness fight exclusion and marginalisation and offer opportunities for upward mobility. There are also many initiatives to increase the economic empowerment of women, including providing support to women-led SMEs, facilitating access to child care in order for women to join the workforce, and increasing the participation of women in leadership roles. In addition, the Superior Labor Council enables workers, employers, and government to collaborate in the formulation of public policies to strengthen working relationships and to promote social dialogue.
China	China has made steady progress in ensuring equal access to childcare, education, employment, healthcare, housing, and social assistance. Through targeted poverty alleviation strategies integrated into an inclusive growth framework, China lifted 13 million people out of poverty each year for six consecutive years since 2012. In 2017, the Work Plan to Promote Equitable Access to Basic Public Services was issued to set the key objectives and actions for developing the basic public services system.
Hong Kong, China	Over the past five years, Hong Kong, China has focused on promoting upward mobility of young people. The International Youth Exchange Programme provides exchange and internship opportunities through collaboration with international organisations, NGOs, education institutions, and corporations. Another initiative, the Youth Development Fund (YDF) was set up in 2016 to provide matching grants to youth start-ups to meet their initial capital needs and also provide entrepreneurial and incubation services.
Japan	A number of policy measures have been implemented since 2015 to promote a more gender equal society, including obligating employers to develop action plans to improve the hiring and advancement of women, supporting employees to balance work with family responsibilities, and promoting a more flexible working environment. Another initiative was implemented to promote employment of the elderly, including measures to enhance their career mobility and secure various forms of employment arrangements. Japan has also focused on revitalizing rural areas through initiatives to increase business diversification of agriculture, forestry, and fisheries, by promoting tourism to rural areas.
Korea	In 2018, 17 Enterprise Support Centres were established to facilitate the entry of and increase economic opportunities for women. In addition, Korea implemented several initiatives to promote the start-ups ecosystem. These include supporting 43 universities with start-up infrastructure and capabilities to foster innovative start-ups; a youth start-up academy to nurture and support entrepreneurs under 39 years old or first-time business owners with less than three years of business operation; and a Tech Incubator Program for Startup Korea (TIPS) to support promising start-up teams and connect them to private investors. Korea has also provided training programmes on international guidelines to promote regulatory harmonisation of medical products.
Malaysia	Malaysia has mandated that women represent at least 30% of corporate board members of all publicly listed companies by 2020. Although current shares have fallen short of the target, Malaysia remains committed towards advancing gender diversity. Another initiative, i-Suri, was established to provide social protection for women, especially housewives, ensuring that they have savings for retirement or in the event of a sudden

Economy	Achievement
	change in the household. Malaysia also launched the Global Online Workforce Programme (GLOW) to promote online freelancing as a new form of employment or as an alternative source of income, with many young people, housewives, and persons with disabilities taking part.
New Zealand	The people- and wellbeing-centred Social Wellbeing Agency established in February 2020 (based on the previous Social Investment approach) serves as the glue for social sector coordination and enables a strategic cross-sector approach for the delivery of social services. New Zealand's Living Standards Framework (LSF) assesses policies against 12 domains of current well-being and four capital stocks (natural, human, social, and physical and financial), ensuring that a broad range of factors, together with distributional and intergenerational impacts, drive policy decision making. New Zealand takes a whole-of-system approach to improving social cohesion, embedding a Wellbeing Approach in its budgeting and in policy development across the public sector, as part of a broader set of reforms.
Peru	The core of the Peruvian public agenda is to fight against poverty, exclusion, and marginalisation as well as try to combat corruption in order to promote trust and a greater sense of inclusion. Given persistent economic inequalities and poverty, Peru focuses its attention on helping the most vulnerable with assistance programmes in healthcare, nutrition, and education. There is also a large portfolio of infrastructure projects to help boost economic growth.
The Philippines	The Philippine Development Plan (PDP) 2017-2022 sets out strategies to pursue inclusive growth, empower the poor and marginalized, and enhance social cohesion, while AmBisyon Natin 2040 sets out the collective long-term vision for a high-trust society and an improved quality of life. In 2020, the PDP has been revised to incorporate the policy actions of the government's recovery programme with a further push towards achieving inclusive growth for a healthy and resilient economy. Launched in 2015, the National Strategy for Financial Inclusion (NSFI) provides a platform for public-private coordination towards achieving greater financial inclusion with a focus on digital finance and agriculture value chain finance. Meanwhile, the Philippine Identification System (PhilSys), a National ID passed into law in 2018, is envisioned to serve as a social and economic platform supporting efficient delivery of social services and financial inclusion. The passage of the Universal Health Care (UHC) (Republic Act 11223) in 2019 and Universal Access to Quality Tertiary Education Act (Republic Act 10931) in 2017 are the economy's major policy initiatives for ensuring equitable access to quality and affordable health care goods and services, and financial risk protection and free higher education and Technical Vocational Education and Training (TVET), respectively.
Russia	A number of recent initiatives were put in place to support greater economic integration of people with disabilities, including an action plan to increase the employment of disabled persons. In addition, the National Strategy of Actions in the Interests of Women was adopted in 2017, which aims to remove legal, regulatory, cultural, and behavioural barriers to improve the economic status of women. An action plan for 2019-2022 has been introduced to implement the Strategy and will focus on measures such as developing the professional skills of women, attracting women to work in high-tech professions, and promoting women's entrepreneurship. Russia also implemented a number of actions and measures to provide financial and business support to SMEs and to increase their contribution to the economy.
Singapore	Singapore has put a number of programmes in place to foster trust and understanding within the community and build a more inclusive and cohesive society. These include initiatives such as SG50, SGfuture, and SG Together to create an inclusive narrative; People's Association activities to empower local communities; and an International Conference on Cohesive Societies (ICCS) to forge stronger interfaith understanding and develop new ideas to foster greater harmony. In addition, Singapore has introduced several measures since 2015 to ensure that healthcare continues to be affordable and sustainable.

Economy	Achievement
Thailand	The Social Reform Committee was established in 2017 to promote greater access to opportunities in order to improve the well-being of underprivileged and marginalised groups, including women, youth, elderly, disabled persons, and unregistered persons. Thailand is also currently conducting a study that will lead to the drafting of an Act to promote and preserve the lifestyle of ethnic groups.
Viet Nam	There has been significant progress in developing a comprehensive and effective social protection system, with prioritised investments in job creation, hunger eradication, poverty reduction, basic social services, and social assistance for vulnerable groups. Recently implemented employment promotion policies, including increased public investment in education and training, are a main channel towards improving social cohesion in Viet Nam.

Table 4.4 presents a summary of some of the challenges that remain in improving social cohesion among the APEC members as described in their responses to the survey conducted by the PSU. Also included in the summary are some of the short- and medium-term action plans of the economy in order to address those challenges. Although many of the issues are specific to the underlying social conditions of the member economies, a major challenge across the region is how to promote upward mobility among marginalised or vulnerable groups, which also tend to experience persistent poverty. For instance, ensuring widespread access to financial services and healthcare remains a challenge in several APEC economies. Other common challenges include continued under-representation of women in leadership roles and in technical fields, designing appropriate skills training programmes in light of rapid technological progress, and managing demographic changes such as ageing populations.

Table 4.4. Challenges to social cohesion among APEC Members

Economy	Challenge
Australia	Women continue to be under-represented in STEM education and careers, particularly women from minority groups. To help address this issue, the Department of Industry, Science, Energy and Resources (DISER) is developing workshops over 2020-2021 to bring together science academies to share policies and programmes effective in improving women's representation in those academies.
Chile	Challenges include promoting greater development in regional and rural areas; increasing opportunities and benefits for vulnerable groups; securing the income gains that have occurred for the middle class; and a crisis of public confidence in the very institutions essential for social cohesion. Chile has therefore created a Council for Social Cohesion to strengthen the contribution of social policy. In order to limit the economic vulnerability of the middle class and offer opportunities for upward mobility, several measures, such as a labour retraining programme, are being planned. In addition, a new Social Agenda was developed in late 2019, defining a broad package of concrete measures on pensions, healthcare, and minimum income.
China	China still faces challenges in solving unbalanced and inadequate development, such as closing gaps between rural and urban areas, between regions, and in income distribution, as well as overcoming longstanding obstacles to structural change and social mobility. Ensuring that workers in the digital economy and platform economy are protected by social insurance is a growing challenge. In addition, rapid development of cutting-edge technologies poses new challenges to social security administration. To address these issues, China will work to put in place a universal coverage social security system and ensure that the benefits increase with economic development as well as taking advantage of new technologies to provide a more convenient and accessible social security service.
Hong Kong, China	A major challenge is how to better target the measures towards addressing the concerns of young people in education, career pursuit, and home ownership and how to boost

Economy	Challenge
	upward mobility and provide opportunities to unleash the full potential of young people. Hong Kong, China plans to increase efforts to promote youth start-ups and seek regional cooperation to foster a sustainable ecosystem for youth innovation and entrepreneurship.
Japan	Despite a gradual increase, the share of women in leadership positions remains low and more policy implementation is needed. Further efforts are also needed to promote employment of the elderly. Japan is currently developing a number of initiatives and improved laws to address these challenges. In addition, revitalizing rural areas is an ongoing process in light of an ageing and shrinking population.
Korea	The difficulty that low-income citizens have in accessing financial services, mainly in the form of loans, is a challenge to social cohesion. SMEs and start-ups also face challenges in accessing timely information on market trends and a lack of opportunities to integrate into global value chains. To address this, Korea plans several measures to increase SMEs' access to global markets. Korea will also continue to provide training programmes for capacity building in order to enhance greater understanding of medical companies as to the importance of global standards and regulatory harmonisation and how it aligns with their long-term interest.
Malaysia	Malaysia's challenges to social cohesion involve issues surrounding the implementation and monitoring of initiatives. These include the need for inclusive and comprehensive participation by stakeholders to produce a collective set of actions; a system to coordinate between the federal government and local authorities; and an effective monitoring mechanism to provide space for policy improvements. In the case of the i-Suri scheme, the implementation is being structured so as to achieve the long-term objective of providing comprehensive social security protection to all Malaysians.
New Zealand	Disparities in living standards across socio-economic and ethnic groups remain and are particularly persistent for Māori and Pasifika communities, the disabled, sole parents, and young people (aged 15 to 24). Inequality persists across a broad range of well-being indicators, including mental health, housing quality, unemployment, and qualifications. New Zealand's Wellbeing Approach is intended to evolve over time with the priorities for 2020 as follows: supporting the transition to a climate-resilient, sustainable, low-emissions economy; enabling all to benefit from new technologies and lift productivity through innovation; raising Māori and Pasifika incomes, skills, and opportunities; reducing child poverty and improving child wellbeing; and supporting improved health outcomes.
Peru	One of the major challenges is in offering more opportunities for upward mobility. There is therefore an urgent need to develop human resources capacity to unleash economic potential. Although some labour and gender policies have been implemented to overcome identified obstacles that hinder upward mobility, more technical skills and educational programmes should be set out to extend inclusion to all vulnerable groups.
The Philippines	Challenges include inadequate social infrastructure, such as financial and healthcare services, that puts rural communities at a disadvantage; protracted insurgencies in some parts of the Philippines have led to barriers in delivering basic services to marginalized groups; and an uneven distribution in the availability, accessibility, and affordability of quality healthcare across the Philippines as well as a lack of gender perspective in the health system. There are a number of action plans in place to address these issues. These include several major initiatives to build financial services infrastructure and a universal healthcare system as well as targeted measures to alleviate poverty.
Russia	Challenges to social cohesion in Russia include low birth rates, difficult financial situations for families with children, and an ageing population with a relatively low life expectancy. To address these issues, Russia will introduce a maternal benefit payment for babies born from 2020; monthly payments for children aged 3 to 7 for low-income families; and the development of a scheme to support and improve the quality of life for senior citizens as well as increase the average life expectancy to 80 years by 2030.
Singapore	Singapore needs to continue its efforts to ensure that the young and elderly have a voice in economic and social development and also grow more common spaces for people to

Economy	Challenge
	meet across divides. In regard to the healthcare system, a key concern is that it continues to remain affordable, accessible, and sustainable in the face of an ageing population, increasing healthcare costs, and a shrinking workforce. Singapore is currently working on a long-term care insurance scheme and rethinking current approaches towards healthcare delivery.
Thailand	Thailand needs to continue its efforts to ensure that access to economic opportunities is socially inclusive. In this context, the 12th National Economic and Social Development Plan (2017-2021) comprises a Strategy for Strengthening and Realising the Potential of Human Capital and a Strategy for Creating a Just Society and Reducing Inequality.
Viet Nam	The process of economic change and development has created multiple challenges for social cohesion. Persistent and grave inequality within several groups, such as ethnic minorities, is an obstacle to achieving comprehensive and inclusive growth. In addition, limited coverage of social protection policies and weak redistribution effects of current fiscal policies limit their impact on reducing inequality. Also, technological progress is creating needs for new skills, thereby adding pressure on education and training policies. To address these challenges, the policy priorities of Viet Nam's Socio-Economic Development Strategy (SEDS) 2021-2030 will focus on promoting social inclusion, facilitating social mobility, and increasing social capital.

Environmental Impact

Some of the identified areas for priority action under the KAA of environmental impact include reducing greenhouse gas (GHG) emissions, increasing carbon sequestration, and adapting to the effects of climate change. The matrix of action items accompanying the ASSQG identifies several measures under the Growth Attributes of sustainable and secure that primarily contribute to environmental impact. These include initiatives to promote low-carbon policies, initiatives to promote conservation and more sustainable management of agriculture and natural resources, and initiatives to identify gaps in disaster risk reduction approaches. Thus, APEC members had a wide range of measures that they could implement in their economy over the 2015-2020 period that would contribute to the KAA of environmental impact under the ASSQG.

Table 4.5 presents a summary of recent actions to improve environmental sustainability among the APEC members as included in their responses to the survey conducted by the PSU. Over the ASSQG assessment period, all APEC members reported that they had introduced mitigation measures to reduce GHG emissions. In addition, Australia; China; Hong Kong, China; and the Philippines also developed adaptation measures over the assessment period in order to improve resiliency. Notably, Chile; Malaysia; and Thailand implemented bans on a number of plastic products. Additionally, Japan has taken the lead internationally to build capacity and provide technical assistance in order to reduce additional pollution by marine plastic litter to zero by 2050.

Several APEC economies, including China; Hong Kong, China; Japan; Korea; Malaysia; New Zealand; Singapore; and Viet Nam committed to targets to reduce carbon dioxide and GHG emissions or intensity. Australia; China and Korea developed emissions trading schemes, while Singapore is the only APEC member to report having introduced a carbon tax (applied uniformly to all sectors without exemption) over the assessment period. Several APEC members such as Chile; China; Hong Kong, China; Korea; Russia; and Singapore also executed actions to reduce energy consumption and/or improve energy efficiency, including the implementation of energy management systems in Korea and Russia. Meanwhile, Australia;

Chile; Hong Kong, China; and Russia focused on decarbonising their energy mix by exploring and developing renewable energy resources, while China is the only APEC member to report having implemented carbon capture and sequestration projects.

Table 4.5. Achievements in environmental impact among APEC Members

Economy	Achievement
Australia	Key actions under the National Climate Resilience and Adaptation Strategy include the establishment of the Bushfire Recovery Agency, the Emergency Response Fund, and the Future Drought Fund to support communities to recover and be more prepared for and resilient to future natural disasters as well as the Reef 2050 Plan, a blueprint for the management and protection of the Great Barrier Reef. In regard to mitigation, the Emissions Reduction Fund enables participates to earn carbon credits for each tCO_2e stored or avoided by a project, covering all sectors of the economy. The Australian Renewable Energy Agency accelerates the shift to affordable and reliable renewable energy, while the Clean Energy Finance Corporation mobilises capital investment in renewable energy, low-emission technology and energy efficiency.
Chile	Chile has banned the widespread commercial use of plastic bags. For large companies, there has been a total ban on plastic bags since February 2019, while MSMEs have until August 2020. The Greenhouse Gas Mitigation Plan for the Energy Sector proposes concrete measures and deadlines for several energy sub-sectors to reduce emissions, while the National Energy Policy 2050 and the Energy Mitigation Plan takes steps to shape the future energy mix. A commitment established in the 2018-2022 Energy Route initiates the decarbonisation process of the electrical matrix with the objective that 100% of power generation comes from clean sources, particularly natural gas and solar power plants, by 2040. To meet the Carbon Neutrality Policy launched in 2019, Chile is also seeking ways to produce green hydrogen.
China	As set out in the Work Plan for Controlling Greenhouse Gas Emissions (2016-2020), measures were implemented to promote the adjustment of industry and energy structures as well as improve energy conservation and efficiency. This includes phasing out outdated production capacity; promoting replacement of coal with clean energy in heating; introducing the National Low Carbon Day; and shutting down small, poorly-managed, and heavily-polluting enterprises. The Work Plan also identifies Carbon Capture, Utilization, and Storage (CCUS) as an important strategy to develop low-carbon technology and requires the coal and petrol industry to conduct large-scale CCUS projects and pilot projects in industrial areas. China also continued efforts such as the construction of a carbon emissions trading scheme to promote a low-carbon transformation. Regarding adaptation measures, China has initiated 28 pilot projects to develop climate resilient cities. In 2011-2015, carbon dioxide emissions per unit GDP decreased by 19.3%; in 2016-2019, a further decrease by 18.2% has been achieved.
Hong Kong, China	A Steering Committee on Climate Change (SCCC) was established in 2016 to coordinate actions across policy bureaux and departments in order to combat climate change holistically. Under its directive, the Climate Change Working Group on Infrastructure (CCWGI) has been examining the effects of climate change in order to help enhance the adaptability and resilience of existing and new infrastructural assets. Released in 2017, the Climate Action Plan 2030+ sets out a target to reduce carbon intensity by 65% to 70% by 2030. To meet this target, there are three major actions led by the government and with the engagement of the public and commercial sectors: improving the fuel mix for electricity generation to phase out coal-fired generation and promote the development of renewable energy; reducing energy intensity by 40% by 2025, with a focus on buildings; and promoting wider use of electric vehicles.
Japan	Japan formulated the Plan for Global Warming Countermeasures in 2016, which set the goal to reduce GHG emissions by 26.0% by FY 2030 compared to FY 2013 and 80% by 2050. As a result, Japan has reduced GHG emissions for five consecutive years since 2013, resulting in a reduction of approximately 12%. Japan has also developed a legal framework and improved technology to establish a material-cycle system based on the

Economy	Achievement
	3R concept (reduce, reuse, recycle). The Osaka Blue Ocean Vision initiative launched in 2019 with the aim to reduce additional pollution by marine plastic litter to zero by 2050 against the backdrop of the G20 Implementation Framework for Actions on Marine Plastic Litter. It will promote a comprehensive life-cycle approach to effectively prevent and reduce plastic litter discharge to oceans, in particular from land-based sources, through measures such as environmentally sound waste management, environmentally sound clean-up of marine plastic litter, deployment of innovative solutions, and international cooperation to enhance economies' capacities.
Korea	Korea announced its Greenhouse Mitigation Target by 2030 and introduced its Emission Trading Scheme (ETS) in 2015. The ETS introduces a benchmark-based system to allocate carbon credits to companies based on the energy efficiency of their facilities. In addition, Korea reinforced air quality standards to the level of leading economies and strengthened the legal framework to support reducing emissions. Several measures to enhance energy efficiency were also implemented, such as providing long-term, low-interest loans to promote investment in energy efficient facilities; increasing investments to enhance the energy supply and demand management system; and improving energy efficiency certification policies. Korea also encouraged factories to install the Energy Management System (EMS) in order to reduce energy consumption.
Malaysia	Malaysia's Green Technology Master Plan 2017-2030 creates a framework that facilitates the mainstreaming of green technology into planned developments, focusing on the energy, manufacturing, transport, building, waste, and water sectors. Malaysia also established a roadmap towards Zero Single-Use Plastics 2018-2030 to address the issue of plastic waste and marine debris. In addition, Malaysia has pledged to reduce its GHG emissions intensity of GDP by up to 45% by 2030, relative to 2005 levels. This consists of 35% on an unconditional basis and a further 10% conditional upon receipt of climate finance, technology transfer, and capacity building. As of date, Malaysia has reduced its carbon emissions intensity of GDP by 33%.
New Zealand	New Zealand ratified the Paris Agreement in 2016 with a target to reduce GHG emissions by 30% below 2005 emissions, or 11% below 1990 emissions, for the period 2021-2030. In 2019, the Climate Change Response (Zero Carbon) Amendment Act set into law a target of net zero emissions of all greenhouse gases by 2050, except for biogenic methane which should be 10% below 2017 levels by 2030 and 24%-47% by 2050. An independent Climate Change Commission was established in December 2019 to provide advice on climate change mitigation and adaptation and to monitor progress towards the new 2050 emissions targets.
Peru	Peru highlighted how two municipalities in Lima, San Borja and La Molina, have been successful in implementing the APEC Low-Carbon Model Town (LCMT) Initiative to achieve local environmental goals. The initiative has been successful due to support by the Ministry of Energy and Mining and the Ministry of Foreign Affairs as well as being aligned with Peru's commitment to accomplish the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015.
The Philippines	The National Climate Change Action Plan (2011-2028) formulates strategies and actions, with an emphasis on adaptation measures in order to manage risks, adjust economic activity to reduce vulnerability, and improve business certainty. In addition, key environmental laws and policies were implemented to improve management of critical natural resources, such as the National Greening Program and the Moratorium on Logging in Natural Forest. A number of policies were also developed to improve and protect public health, such as increased sanitation facilities, improved wastewater treatment, and standards and procedures on drinking water quality. Major initiatives to improve environmental and public sanitation include rehabilitation programmes of Boracay (2018-2020), Manila Bay (2019-2020), and Marawi (2019-2020).
Russia	Russia approved the Internet of Energy project to create a scalable network of self-optimizing energy exchange clusters between consumers, local energy suppliers, and the centralised power system, ensuring the accessibility and reliability of the energy supply. Another approved project is the development of solid-state storage power plants. In

Economy	Achievement
	2017, renewable energy generating facilities with a total capacity of over 140 MW were brought online, while in 2018, the construction of such facilities with a total capacity of 376 MW was completed. Russia also introduced an energy management system. In 2018, 68% of the largest fuel and energy companies had implemented the system, 52% of which were certified. The Ministry of Energy annually performs an assessment of the energy efficiency rating of electric grid companies and of heat supply systems.
Singapore	Under its enhanced Nationally Determined Contribution (NDC), Singapore has committed to peaking emissions at 65 $MtCO_2e$ around 2030. Building on this, Singapore's long-term low-emissions development strategy aspires to halve emissions from its peak to 33 $MtCO_2e$ by 2050, with a view to achieving net-zero emissions as soon as viable in the second half of the century. In 2019, Singapore introduced a carbon tax of S$5/$tCO_2e$, applied uniformly to all sectors without exemptions. The tax applies to GHG emissions of all facilities emitting 25,000 tCO_2e or more annually, covering around 80% of emissions. Singapore will review the carbon tax rate in 2023 and intends to increase the tax rate to S$10-S$15/tCO_2e by 2030. There are also several measures in place to facilitate improvements in energy efficiency in all sectors of the economy in order to reduce GHG emissions. For instance, the Energy Conservation Act (ECA) was enhanced in 2017 to strengthen industrial facilities' energy management practices.
Thailand	In 2018, Thailand developed a Roadmap on Plastic Waste Management (2018-2030). The objectives are to stop the use of seven plastic products by 2022, replacing them with environmentally friendly materials, and to achieve recycling of all plastic waste by 2027. This plan will reduce the amount of plastic to be disposed, the waste management budget, and carbon dioxide emissions. Since January 2020, Thailand has banned single-use plastic bags at department stores and convenience stores in order to reduce marine debris and promote the circular economy.
Viet Nam	Viet Nam has a number of policies to create an important legal basis for the research, development, and implementation of climate change activities. These include approving the Paris Agreement Implementation Plan with specific tasks to reduce GHG emissions over the 2016-2020 period; a target programme to respond to climate change and green growth over the 2016-2020 period; and an action plan for sustainable development of the Mekong Delta to adapt to climate change.

Table 4.6 presents a summary of some of the challenges that remain in improving environmental impact among the APEC members as described in their responses to the survey conducted by the PSU. Also included in the summary are some of the short- and medium-term action plans of the economy in order to address those challenges. A common concern across the APEC region is how to continue reducing carbon emissions while maintaining economic growth. In addition, building a sound understanding of the effects of climate change through quality climate science research and impact assessment studies in order to develop effective adaptation measures is another shared challenge among the APEC members. Several economies highlighted obstacles in developing a comprehensive and coordinated approach to implement environmental measures due to fragmented arrangements domestically as well as the need for action by all stakeholders. Many APEC members also discussed a lack of technical expertise and inadequate financing in order to develop and implement mitigation and adaptation measures to combat climate change.

Table 4.6. Challenges to environmental impact among APEC Members

Economy	Challenge
Australia	A challenge is to continue reducing emissions and meeting international commitments while maintaining a strong economy. Additionally, the decentralised implementation of actions on climate poses a challenge to coordinating a comprehensive and consistent

Economy	Challenge
	approach to reducing emissions at a federal level. Action plans to address these issues include a Climate Solutions Package that maps out how Australia will achieve its 2030 Paris target; a Long-Term Emissions Reduction Strategy to explore how to benefit from new opportunities as a result of advances in technology; and continued investments in climate science and research to ensure that adaptation efforts are well informed and with a focus on localised, tailored, and accessible information.
Chile	Achieving a circular economy is an important challenge since it crosses all sectors and involves numerous actors, including many in the private sector. Chile is currently working on a diagnosis as to the current state of the circular economy that will form the pillars for a circular economy roadmap. The Extended Producer Responsibility Law (REP), which obligates companies to reduce and recycle packaging is a step in that direction and a number of decrees are being developed to establish specific recycling goals for each material. Additionally, the government has proposed the creation of a Biodiversity and Protected Areas Service (SBAP) and also the development of a Climate Change Law that establishes principles, a governance system, management instruments, and adequate financing mechanisms to reduce vulnerability, increase resilience, and ensure compliance with international commitments.
China	China is confronting multiple challenges, including economic development, poverty eradication, and environmental protection. Climate change adaptation requires strengthening coordination and collaboration of all departments, providing financial and technical support, and raising public awareness. China therefore plans to support and encourage local governments and key industries to carry out carbon dioxide emissions peaking action plans, while taking into consideration their levels of economic and social development. Other actions include accelerating the construction of a carbon emissions trading scheme; strengthening the management of GHG emissions data; strengthening the full integration of climate change response, pollution control, and ecological protection; and accelerating the dissemination and application of low-carbon technologies and the development of low-carbon industries. China continues its effort to overcome challenges in terms of finance, technology, and capacity building, and will set a binding target for reducing carbon dioxide emissions per unit GDP in the 14th Five-Year Plan.
Hong Kong, China	The main challenge in reducing GHG emissions from the electricity generation sector is to ensure a safe, reliable, and affordable energy supply, while achieving environmental sustainability. In addition, Hong Kong, China has neither indigenous fuel sources nor the physical conditions that are conducive to the development of renewable energy sources. To address some of the challenges, the government needs to secure adequate supplies of natural gas and put in place the infrastructure to handle the considerably larger quantities of natural gas in order to ensure a reliable electricity supply.
Japan	A long-term challenge is to achieve a ‘virtuous cycle of the environment and growth’ and a carbon-free society through continuous innovation. Regarding marine plastic debris, there are no agreed international statistics and, despite the necessity of monitoring microplastics for its potential impact to the ecosystem, international monitoring methodology is yet to be harmonised. In addition, an inventory in order to identify the source and amount of marine plastic litter is vital for effective and efficient reduction; however, this also has not been established internationally. Japan has therefore formulated the National Action Plan for Marine Plastic Litter with measures to prevent additional pollution by plastic and its outflow to the ocean.
Korea	Korea needs to take a more holistic approach in its energy policy by strengthening linkages between the short- and medium-term policies of each ministry in order to transform into a low-carbon society. Therefore, in 2020, Korea launched its Low-Carbon Growth Strategy 2050. Several additional action plans have been launched to reduce the environmental impact derived from the energy sector, such as increasing subsidies for SMEs to install the Factory Energy Management System (FEMS), and to offset GHG emissions through improvements in the forestry management system. Korea also plans to promote green industries relating to clean air, innovative water supply systems

Economy	Challenge
	combined with ICT (smart water), renewable energy and ecological services, as well as supporting job creation in this area.
Malaysia	Constraints still remain in acquiring adequate financing as well as establishing a consistent regulatory framework and cohesive institutional arrangements for mitigation actions in Malaysia. Capacity building is needed in order to conduct impact assessments in all key sectors. In addition, there is still a lack of awareness and understanding among stakeholders in Malaysia on the full implication of climate change. Therefore, getting full commitment from the private sector, including SMEs, may take some time due to lack of awareness as well as lack of capital resources and investment. Ideally, businesses could reduce their GHG emissions by adopting best practices such as measuring and benchmarking their carbon footprint, including in their supply chain, procurement, energy, logistics, and waste management.
New Zealand	Challenges include continuing to reduce GHG emissions, transitioning to a low-emissions economy, and adapting to the effects of climate change. New Zealand continues to strengthen and improve the operation of its Emissions Trading Scheme (NZ ETS), which is the key policy tool for reducing emissions. The government has also decided to put a price on agricultural emissions from 2025. In addition, based on a recommendation from the Climate Change Adaptation Technical Working Group, the first National Climate Change Risk Assessment was completed in August 2020 so that the government may prioritise actions to reduce risks or take advantage of opportunities, thereby enabling New Zealand to be better prepared to adapt to the effects of climate change.
Peru	Peru has a large rainforest territory in the Amazon and conserves many protected areas that naturally contribute to capture carbon dioxide surplus from the atmosphere. However, illegal logging and deprivation of sustainable livelihood opportunities for local communities in that area remains a challenge. To combat this, Peru continues to improve governance and law enforcement capacity as well as deepen rural development strategies. Another concern is the impact of climate change, especially when it causes frequent and severe droughts and floods that impact food security. A long-term policy priority is to enhance the quality of food supply chain management from rural areas to cities, enabling farmers to increase their income.
The Philippines	Longstanding challenges include difficulty in accessing available funding facilities for environmental management, particularly at the local level, and the lack of a unifying framework for environment and natural resources (ENR) management. Weak and fragmented institutional arrangements limit the implementation and enforcement of ENR laws. Also, a weak monitoring and evaluation system constrains strategic planning in the sector. In addition, the absence of zoning, unresolved boundary conflicts, and outdated land records threaten the gains from the rehabilitation of natural resources. Another challenge is the need for technical staff who can prioritise and implement climate change adaptation for health at the local level. To address these issues, the Philippines intends to intensify and strengthen its efforts to improve governance and convergence of stakeholders, further build capacities, and enhance data generation and monitoring.
Russia	One of the important tasks facing the Russian fuel and energy complex is ensuring the rational and environmentally responsible use of energy and energy resources. To reduce the impact on the environment and increase energy efficiency, a transition to the principles of best available technologies (BAT) in the fuel and energy industries is to begin in 2020. Also, measures for the development of renewable energy resources were extended to generating facilities operating on the basis of solid waste combustion. In addition, the development of the motor fuel market is currently underway, including the introduction of measures to financially support the development of infrastructure for the production and sale of liquefied natural gas.
Singapore	Challenges include enhancing economic development while ensuring environmental protection; deploying alternative energy sources on a wide scale; and the continuing threat of climate change, especially a rise in sea levels. To address these challenges,

Economy	Challenge
	Singapore will continue to implement measures to reduce emissions across all sectors of the economy. Various sectoral masterplans such as Singapore's Energy Story; Land Transport Master Plan 2040; 3rd Green Building Masterplan; Zero Waste Masterplan; and City in Nature chart out the long-term vision, policies, and targets for these sectors, respectively. In addition, a National Sea Level Research Programme (NSLP) was launched to enhance understanding of how the various factors of sea-level rise affect Singapore and the Southeast Asian region.
Thailand	More awareness of the impact of plastic waste must be raised throughout Thailand. While major stores have banned single-use plastic bags, these bags are still widely distributed by vendors at fresh markets and in rural areas. Thailand will continue to implement measures based on the Roadmap on Plastic Waste Management (2018-2030) and the Blueprint on Solid Waste Management (2016-2021).
Viet Nam	Remaining challenges include a lack of information and data needed to carry out GHG emissions inventory and an overall assessment of climate change impacts; a lack of specific technical guidelines and models suitable to domestic conditions in order to assess and develop strategies to reduce GHG emissions and adapt to climate change; and a lack of financial resources and mechanisms to encourage the implementation of GHG emissions reduction measures and climate change adaptation measures. Action plans to address these challenges include completing a database on natural resources and the environment; developing specific regulations and guidelines relating to GHG emissions mitigation and adaptation measures; and developing market instruments and carbon credit mechanisms to raise funds for climate change adaptation projects.

APEC COMMITTEES AND SCE SUBFORA

In order to better understand the progress made by the APEC fora in promoting the ASSQG, the APEC PSU designed and conducted a survey among the three APEC committees and 15 SCE subfora. The survey solicited information on the achievements of the fora as well as the ongoing and future initiatives relating to each KAA. Through this survey, APEC fora had the opportunity to self-assess the progress they had made in aligning their annual work plans, strategic plans, and capacity building activities with the ASSQG. The PSU received responses from all three APEC committees and nine SCE subfora.[120] This section presents a summary of those responses, highlighting the achievements made by the APEC fora over the 2015-2019 period as well as the ongoing and future initiatives through 2020 in each of the KAAs.[121]

Institution Building

With regard to institution building, APEC committees, such as CTI and EC, focus on improving regulatory quality around the region, particularly in policy making relating to trade and investment facilitation as well as the overall business environment. Meanwhile, working groups operating under SCE focus on improving the regulatory environment relating to their specific mandate, such as in the energy, transportation, and telecommunications sectors. Much

[120] The PSU received responses to the survey from the following APEC fora: Committee on Trade and Investment (CTI); Economic Committee (EC); SOM Steering Committee on Economic and Technical Cooperation (SCE); Anti-Corruption and Transparency Experts' Working Group (ACTWG); Energy Working Group (EWG); Human Resources Development Working Group (HRDWG); Policy Partnership on Science, Technology and Innovation (PPSTI); Policy Partnership on Women and the Economy (PPWE); Small and Medium Enterprises Working Group (SMEWG); Telecommunications and Information Working Group (TELWG); Tourism Working Group (TWG); and Transportation Working Group (TPTWG).

[121] The survey responses as submitted by the APEC fora are included in the Appendix.

of APEC's work in the area of institution building is conducted through capacity building initiatives as well as through the development of frameworks that provide non-binding guidelines and strategic recommendations based on best practices.

Table 4.7 presents a summary of recently completed projects by the APEC fora as included in their responses to the survey conducted by the PSU that have helped to improve institution building in the region. Notable outputs over the 2015-2019 period include the development of the APEC Cross-Cutting Principles on Non-Tariff Measures and the APEC Non-Binding Principles for Domestic Regulation of the Services Sector; launching of the APEC Framework for Securing the Digital Economy, the Framework of Ethical Business Practices in Medical and Pharmaceutical Sectors, and the APEC Collaborative Framework on Online Dispute Resolution of Cross-Border Business to Business Disputes; an initiative to establish the Asia-Pacific Model E-Port Network; and a measurable achievement in reducing the regulatory burden through the APEC Ease of Doing Business Action Plans.

Table 4.7. Achievements in institution building among APEC Fora

Fora	Achievement
CTI	Major outputs include the Capacity Building Needs Initiative (CBNI) with numerous projects to narrow the gap in negotiating capabilities of APEC members over a wide range of topics, including rules of origin and competition policy; the APEC Cross-Cutting Principles on Non-Tariff Measures to assess the consistency of measures and aid economies in developing any new measures; a set of voluntary recommendations to improve the quality and completeness of the WTO's sanitary and phytosanitary (SPS) notifications; continued capacity building efforts to support the implementation of the WTO Trade Facilitation Agreement (TFA); the Asia-Pacific Model E-Port Network (APMEN) initiative to build and improve understanding of e-ports amongst APEC economies as well as to collaborate on identifying best practices and solutions for the development of e-ports; and the APEC Services Competitiveness Roadmap (ASCR), which has resulted in the APEC Non-Binding Principles for Domestic Regulation of the Services Sector and the ongoing development of the APEC Services Index.
EC	Under the Ease of Doing Business Action Plans (2009-2018), APEC achieved the target of combined progress of 25% across all priority areas of starting a business, dealing with construction permits, getting credit, trading across borders, and enforcing contracts. In addition, work on the Renewed APEC Agenda for Structural Reform (RAASR) removes barriers to economic participation, encourages competition, and improves institutions in APEC economies. Also, the annual Conferences on Good Regulatory Practices promote regulatory quality standards that are important to trade and investment, such as efficiency, accountability, and transparency. EC's Friends of the Chair Group on Strengthening Economic and Legal Infrastructure (SELI) Work Plan aims to promote understanding of FinTech and related law with a view to facilitating the prevention and resolution of contractual disputes as well as the enhancement of contract management in the region, including the APEC Collaborative Framework on Online Dispute Resolution (ODR) of Cross-Border B2B Disputes and Model Procedural Rules. Finally, a policy dialogue on applying emerging technologies for better governance and regulation of the digital economy was held in 2019.
SCE	A notable achievement (through work completed by SMEWG) was the adoption of the Framework of Ethical Business Practices in Medical and Pharmaceutical Sectors. In 2018, the SCE adopted and implemented 40 health industry codes of ethics across 10 APEC economies, expanding best practices to more than 19,000 enterprises, including 13,500 SMEs.
ACTWG	ACTWG focused on best practices and capacity building in order to promote transparency and improve the integrity of law enforcement agents, public officials, and the private sector within APEC economies. Highlights include the Best Practices in Investigating and Prosecuting Corruption handbook and anti-corruption workshops on foreign bribery, digital government and corruption prevention mechanisms, and best practices in monitoring and supervising effective corporate compliance programmes.

Fora	Achievement
EWG	EWG focused on best practices and capacity building relating to financial markets, trade facilitation, and workforce training. Highlights include workshops on best practices for creating an enabling environment to attract financing and investment for renewable energy projects; best practices for enhancing workforce resilience in the energy sector; and to provide a platform for dialogues on policies, regulatory frameworks, and market mechanisms relating to the development and trade facilitation of a liquefied natural gas (LNG) market in the region.
HRDWG	HRDWG has conducted a number of projects to improve labour market efficiency, develop human capital and skills building, and increase labour connectivity in the APEC region. Highlights include a symposium on the impact of the digital age on labour market outcomes; a study to enhance mutual recognition and regional cooperation for job qualifications and skills in the region; a workshop on the development of an APEC Labour Mobility Framework; and a workshop on strategic human resources management for successful foreign investment.
PPSTI	Highlights include a project targeting SMEs in metal "dechnology" (design and technology) and micro electric vehicles industries to form clusters through academic innovation, industrial value chain integration, and sharing of best practices, thereby enabling them to advance along the value chain through technological innovation. Also, a workshop to share knowledge on the development of high growth innovative firms (HGIFs), including women entrepreneurship, and best practices of HGIF support programmes in APEC economies in order to foster the acceleration of medium-sized HGIFs in the region.
PPWE	(Survey response for PPWE did not provide any specific achievements in institution building over the assessment period.)
SMEWG	Outputs include best practices ethics training for SMEs in the biopharmaceutical and medical device industries; a capacity building workshop on integrating the WTO Trade Facilitation Agreement in SME development policies; and a symposium and workshop on the cooperative business model (CBM) as an alternative tool for financing SMEs.
TELWG	Completed projects include a survey on the regulation of Over-The-Top (OTT) services within APEC; a regulatory roundtable on the role of competition policy in fostering digital infrastructure to bridge the digital divide; and the launching of the APEC Framework for Securing the Digital Economy that provides non-binding principles and strategic recommendations as member economies develop their policy and regulatory framework relating to the digital economy.
TWG	Two notable publications were produced by the TWG over the assessment period. One on developing the tourism workforce of the future, which examined the current state of skills shortages in the APEC tourism sector. Another publication is on developing traveller-friendly airports to improve the passenger experience, which developed a list of traveller-friendly quality standards through field assessments in five volunteer airports in the APEC region.
TPTWG	The TPTWG produced a number of outputs, including a project that developed a set of seven Principles of Supply Chain Resiliency and supported three economies (Papua New Guinea; the Philippines; and Viet Nam) to integrate these principles into their policy making; a study on the best practices relating to the new verified gross mass (VGM) regulatory requirement for packed containers in order to enhance supply chain connectivity; a project to strengthen understanding of how to finance and deliver high-quality transportation infrastructure through the use of PPPs; a project to establish a comprehensive, one-stop portal and offline network serving the needs of both seafarers and users of seafarers; and the development of guidelines for motorcycle crash data collection and reporting to bring forth greater uniformity of data processing and better policy making.

Table 4.8 presents a summary of the ongoing and future projects relating to institution building as described in the APEC fora responses to the survey conducted by the PSU. Most of the planned activities focus on improving the regulatory environment and reducing the regulatory burden in order to support greater trade facilitation. Major initiatives include pilot programmes of the Single Window Interoperability Action Plan and of the APEC Occupational Standards in the Travel, Tourism and Hospitality Industry; implementation of the APEC Internet and

Digital Economy Roadmap, the APEC Strategic Blueprint for Promoting Global Value Chains 2020-2025, and the third phase of the Ease of Doing Business Action Plan; and continued promotion of APEC members to opt into the APEC Collaborative Framework on Online Dispute Resolution of Cross-Border Business to Business Disputes.

Table 4.8. Ongoing and future initiatives on institution building among APEC Fora

Fora	Initiative
CTI	Ongoing projects include a push to address services trade, including a pilot programme for the establishment of a regulatory database; the APEC Strategic Blueprint for Promoting Global Value Chains 2020-2025 (Blueprint 2.0), which incorporates next generation trade and investment issues and recent business trends into the Blueprint; the 2nd phase of the Single Window Interoperability Action Plan (2019-2021) in which a pilot of single window interoperability with volunteer economies will be developed; a number of activities relating to Phase II of the Supply Chain Connectivity Framework Action Plan (SCFAPII) (2017-2020); a review and update of the 2007 APEC Model Measures for RTAs/FTAs on Rules of Origin (ROO); capacity building and support to ensure the implementation of the WTO Information Technology Agreement (ITA) expansion by all APEC members; and continuing support for all APEC members to join the APEC Cross-Border Privacy Rules (CBPR) System.
EC	In addition to the third phase of the Ease of Doing Business Action Plan, the next phase of RAASR, and the 13th Conference on Good Regulatory Practices, EC has several other upcoming projects. These include capacity building in FinTech regulatory sandboxes to ensure a balance between effective regulation and stimulation of FinTech innovation; a stocktake of ODR technologies in APEC economies to build future e-commerce strategies; and continued promotion of APEC members to opt into the APEC Collaborative Framework on ODR of Cross-Border B2B Disputes and Model Procedural Rules, which is expected to help reduce trade barriers caused by the high costs and time involved in resolving cross-border disputes by traditional means, especially for low-value disputes common among MSMEs.
SCE	(Survey response stated that most activities on institution building take place at the working group level and then rise to SCE for endorsement upon completion.)
ACTWG	In 2020, there will be a public-private dialogue on government strategies to encourage ethical business practices and a capacity building workshop on tackling concealment of beneficial ownership.
EWG	Upcoming projects include a workshop on the use of pumped storage hydropower to enable greater renewable energy use and a more reliable electricity supply and an evaluation of energy technologies, programmes, and policies in the APEC region.
HRDWG	Ongoing and upcoming projects include a sub-regional pilot of the APEC Occupational Standards in the Travel, Tourism and Hospitality Industry; a research project on the impact of regional integration in the digital age on social security protection for cross-border workforce; and a forum on digital innovation and entrepreneurship in order to build capacity and collaborative connectivity for young entrepreneurs.
PPSTI	An upcoming project is the APEC Start-ups Incubator Capacity Building Symposium towards Digital Society. The aims of the symposium are to revise the strategy and policy to stimulate incubator development in innovation and to refine the recommendations on incubator capacity building in order to help MSMEs better survive in the digital transformation.
PPWE	Ongoing initiatives include Women and the Economy Dashboard, which is a set of indicators to track, measure, and communicate progress in reducing barriers to women's economic participation. Another is the APEC Support Fund (ASF) Sub-Fund on Women and the Economy, which aims to institutionalise and provide ongoing support across APEC for initiatives to advance women's economic participation. In addition, the La Serena Roadmap for Women and Inclusive Growth 2019-2030 aims to guide and catalyse policy actions to support greater integration and empowerment of women across the region.
SMEWG	Future projects include a study to assess the implementation of the Boracay Action Agenda to Globalize MSMEs and a forum to develop recommendations to advance APEC's work on

Fora	Initiative
	MSMEs, including a possible new framework for internationalisation; a project to deliver policy recommendations on how to increase access to and awareness of FinTech solutions for SMEs; and a project to facilitate enterprise-level implementation of ethical business practices in the biopharmaceutical and medical device industries to realise full adoption of a universal code of ethics as part of the Nanjing Declaration 2020 commitments.
TELWG	An upcoming initiative is the TEL Strategic Plan 2021-2025 that will implement the APEC Internet and Digital Economy Roadmap in the four priority areas of digital/ICT infrastructure and connectivity; trusted, secure, and resilient ICT; ICT policies and regulations to enable innovation, economic integration, and inclusiveness; and collaboration in emerging digital/ICT technologies and applications. Also planned is a workshop that will focus on the interplay between competition law and other forms of regulation such as consumer policy and data privacy in digital markets.
TWG	The APEC Tourism Strategic Plan (TSP) 2020-2024 includes activities to create a policy framework for knowledge sharing to assist economies' digital transformation processes, to establish a policy framework for best practices in integrating and regulating the accommodation sharing economy, and to design and implement a communications plan to champion careers in tourism.
TPTWG	Upcoming projects include activities as part of TPTWG's contribution to the APEC Services Competitiveness Roadmap (ASCR), such as facilitating modernisation of the transport sector and the expansion of digital connectivity with state-of-the-art ICT; a new conversation by the Intelligent Transportation Systems and Intermodal Transport Experts Group (IIEG) to share best practices on the role of new and innovative transportation modes, such as transport network companies, micro-mobility, and integrated app-based transport platforms; and an on-board training programme to foster competent young future maritime global leaders.

Social Cohesion

Since gender issues have been mainstreamed into the APEC agenda, most of the APEC projects relating to social cohesion involved improving the economic opportunities available to women, including promoting women entrepreneurship, advancing women in STEM education and careers, and supporting more women in leadership roles. Several projects focused on improving upward mobility for young people, especially relating to youth entrepreneurship, while a few projects aimed to prevent marginalisation of people with disabilities. In addition, there were many APEC projects that focused on capacity building and skills training, particularly for MSMEs, in order to improve workforce inclusion in the digital age.

Table 4.9 presents a summary of recent initiatives by APEC fora as included in their responses to the survey conducted by the PSU that have helped to improve social cohesion in the region. Notable outputs over the 2015-2019 period include the launching of the La Serena Roadmap for Women and Inclusive Growth, a new Sub-Fund on Women and the Economy, the Women in Transportation initiative, and the development of the APEC Framework for Youth Education, Employment and Entrepreneurship. EC has also integrated supporting policy objectives in a number of areas, such as social protection floors and basic labour rights, into its structural reform agenda in order to fight exclusion and marginalisation and promote greater inclusiveness in the region.

Table 4.9. Achievements in social cohesion among APEC Fora

Fora	Achievement
CTI	Highlights include a workshop to share information on policies and practices to be considered when trying to increase participation of women in trade; a study on promoting trade in services by SMEs and women entrepreneurs; and an update to the APEC Business Travel Card (ABTC) Operating Framework to allow additional eligibility criteria to further encourage and support applications from women. Other outputs that help to fight exclusion and marginalisation and offer opportunities for upward mobility include a compendium on best practices and methodologies for the internationalisation of SMEs and an initiative to identify and explore ways to address difficulties faced by MSMEs to participate in e-commerce.
EC	Through the Structural Reforms for Inclusive Growth: Three Approaches paper, the EC has integrated supporting policy objectives in the following areas into its structural reform agenda: strengthening the economic participation of women and their financial inclusion, supporting MSMEs, developing human capital, building sustainable social protection floors, promoting basic labour rights, improving infrastructure, developing and integrating rural and remote areas, and developing the digital economy. For instance, the Women at Work project examined the legislative, regulatory, and policy barriers women face in accessing the labour market and the importance of structural reform in tackling these barriers. Also, the theme of the 2017 APEC Economic Policy Report (AEPR) on structural reform was human capital development, focusing on issues and policies relating to skills building and labour markets.
SCE	SCE, with support from PPWE, has built momentum and cross-fora coordination on the women's economic empowerment agenda across working groups, including launching a new Sub-Fund on Women and the Economy in 2017 and the La Serena Roadmap for Women and Inclusive Growth in 2019. Also, via Group of Friends on Disability (GOFD) and HRDWG, SCE has added work to support persons with disabilities to APEC's agenda to help fight exclusion and marginalisation.
ACTWG	Highlights of ACTWG's work to promote trust and create a sense of belonging include a workshop on enhancing whistleblower protection in corruption cases; a sharing workshop on corruption prevention mechanisms in APEC; and a compilation of good practices among APEC members in promoting social engagement in anti-corruption.
EWG	Highlights of EWG's work to combat marginalisation and exclusion include a pilot project in Indonesia to develop integrated energy system planning in order to ensure equitable access to sustainable energy for remote communities; a project on enhancing women's empowerment in the energy field by mapping energy policies with a gender perspective; and a workshop on improving grid resiliency to natural disasters.
HRDWG	HRDWG completed several projects to promote the socio-economic participation of women, youth, and people with disabilities as well as to ensure that all workers have the appropriate skills in the digital age. Highlights include the development of an APEC Framework for Youth Education, Employment and Entrepreneurship; a workshop on improving quality employment opportunities for women; establishment of an advisor to HRDWG Lead Shepherd on disability issues; a workshop on strengthening innovative skills training and education to increase inclusion in the digital age; and development of the Action Plan of the APEC Education Strategy that focuses on competencies, employability, and innovation.
PPSTI	Highlights include a symposium on policies and systems for promoting the modernisation of MSMEs towards Industry 4.0. Also, as part of the APEC Women in STEM initiative, a series of projects were held, including a workshop to discuss policies to promote women in STEM across public, private, and community sectors; a training and mentoring programme to empower science and technology entrepreneur teams; and a roundtable discussion to bring together different stakeholders.
PPWE	A series of initiatives and projects on 1) Healthy Women, Healthy Economies has sought to build capacity and understanding towards improving women's health so that they can join and thrive in workforces across the region; and 2) APEC Women and STEM has sought to build awareness and capacity towards addressing the gap of women in STEM-related education and careers. Another project on women's representation in leadership has aimed to build capacity

Fora	Achievement
	and understanding of the barriers encountered by women in securing positions of leadership in the public and private sectors.
SMEWG	Completed projects include a report on policy recommendations to enhance regulations and policies to support women in starting an online business; a networking conference for young entrepreneurs to gain expert advice on how to develop their ideas into success; and a project to enhance the competitiveness of women-led MSMEs in the garments and textiles sector through skills training, including on entrepreneurship.
TELWG	Highlights include an industry roundtable that discussed initiatives to support and facilitate greater employment of women and minorities in innovative careers in the digital economy and a project on Smart Silver Innovation that focused on digital solutions, including ICT applications, emerging technologies, and capacity building, to solve issues relating to an ageing society. Also, the United States set October as Cybersecurity Awareness Month, publishing reports on the use of malicious software on payment systems and providing tips and resources to promote positive and lasting cybersecurity habits.
TWG	An APEC Occupational Standards Framework project encouraged the improvement of tourism skills standards and certification programmes as well as increased access to tourism training in order to create long-term career pathways for young people and women across the region. Another project, the Economic Study on Impact of Cruise Tourism, promoted growth in MSMEs through tourism development, while ensuring that the development positively impacts the political, cultural, and social infrastructure so as to build sustainable communities.
TPTWG	Highlights include a focus on gender, including the Women in Transportation (WiT) initiative to identify best practices in education and training, workplace conditions, and women in leadership positions to develop guidance for the public and private sector in order to support more women entering into transportation careers. In addition, a minimum of 20% of participants will be women in the on-board training programme to foster competent young future maritime global leaders. TPTWG activities also encompass best practices, policies, and strategy recommendations in terms of maritime education, training, certification, and assessment in compliance with different conventions and the needs of the maritime industry, thereby helping to develop a high-quality workforce.

Table 4.10 presents a summary of the ongoing and future projects relating to social cohesion as described in the APEC fora responses to the survey conducted by the PSU. Many of the planned activities focus on rural development, especially relating to improving ICT connectivity and digital inclusion in remote areas; supporting greater integration and empowerment of women and socially vulnerable groups, including people with disabilities; and advancing digital upskilling along with promoting greater digital entrepreneurship. In addition, the upcoming 16th APEC Future Education Forum and 18th APEC Learning Community Builders Conference will focus on the various educational challenges caused by the COVID-19 pandemic.

Table 4.10. Ongoing and future initiatives on social cohesion among APEC Fora

Fora	Initiative
CTI	Upcoming initiatives include a project to identify MSME-specific provisions in FTAs and possible next steps for the Work Programme on MSMEs in FTAAP; a symposium to exchange information and experiences in implementing policies that contribute to growth of the digital economy, including building digital literacy, supporting digital inclusion and adaptation, and fostering an enabling environment; several activities to support the priority agenda on inclusive and responsible business and investment (IRBI), including establishing a set of guiding principles; and a public-private dialogue on understanding non-tariff measures on agriculture, forestry, and fisheries sectors to enhance trade and to improve rural development and poverty alleviation.

Fora	Initiative
EC	Upcoming projects include a public-private dialogue on the development of remote areas in the digital era and an analysis of perspectives and barriers for more effective and efficient implementation of public e-services. Also, the theme of the 2020 AEPR is on structural reform and women's empowerment. In addition, by creating a more inclusive environment for economic participation and cross-border trade through the use of technology, the APEC Collaborative Framework on ODR of Cross-Border B2B Disputes and Model Procedural Rules aims to lower the costs for MSMEs to trade across borders, thereby providing MSMEs with opportunities for upward mobility.
SCE	A case studies project to be completed in 2020 will provide the best practices of inclusive policies, including support for the economic participation of the poor, women, SMEs, and youth. SCE will also provide ongoing support on the implementation of the La Serena Roadmap for Women and Inclusive Growth, utilising accountability mechanisms and tools to ensure that working groups can carry out the Roadmap's commitments into the future.
ACTWG	A cross-fora symposium on Gender Mainstreaming and Women Empowerment to Fight Corruption was held in February 2020 along with SCCP, PPWE, and SMEWG. Further work on this initiative is planned for 2020 and 2021.
EWG	Upcoming initiatives include a workshop on university collaboration to support data gathering and analysis in energy efficiency and renewable energy; Phase 10 of the APEC Peer Review on Energy Efficiency (PREE), which will focus on the industry and commercial building sector in Indonesia; and an ongoing discussion on energy access which aims to provide energy to poor and remote regions.
HRDWG	Ongoing and future projects include an industry-academia-government (IAG) collaboration to develop an innovative employment management model (IEMM) to sustain employability for the ageing population; a capacity building project on digital upskilling in the area of new media, with an emphasis on women and socially vulnerable groups; a project to build capacity of curricula developers to include artificial intelligence and data science in order to build a digital, inclusive, and sustainable society; and the 16th APEC Future Education Forum (AFEF) and 18th APEC Learning Community Builders (ALCoB) Conference, which will focus on the educational challenges caused by the COVID-19 pandemic.
PPSTI	Future projects include building a research network for women in science, technology, engineering, arts, and mathematics (STEAM); a capacity building symposium on stimulating development of innovative start-ups incubators towards a digital society; and a workshop on cluster collaboration opportunities in industrial, R&D, educational, and institutional areas in the APEC region.
PPWE	Ongoing initiatives include Women and the Economy Dashboard, which is a set of indicators to track, measure, and communicate progress in reducing barriers to women's economic participation and the APEC Support Fund (ASF) Sub-Fund on Women and the Economy, which aims to institutionalise and provide ongoing support across APEC for initiatives to advance women's economic participation. In addition, the La Serena Roadmap for Women and Inclusive Growth 2019-2030 aims to guide and catalyse policy actions to support greater integration and empowerment of women across the region.
SMEWG	An ongoing project includes an initiative to promote innovative start-ups through efforts relating to the regulatory and legal framework, favourable access to resources, strengthening ethical business practices, and the development of start-up networks and partnerships. Upcoming projects include an initiative to provide female entrepreneurs with training and mentorship that help to increase access to finance and market opportunities and a workshop on strengthening women empowerment in Industry 4.0 through digital entrepreneurship.
TELWG	An upcoming project on remote and rural development through digitalised villages will seek to benefit rural residents with ICT and support inclusive growth.
TWG	A project to enhance the capacity of tourism-related MSMEs in rural areas to develop community-based entrepreneurship (CBE) through digital empowerment. This project will also instill knowledge and understanding on entrepreneurship in rural economic growth. The

Fora	Initiative
	resulting handbook with a CBE framework will serve as a guideline for rural tourism in APEC economies by addressing capacity-related barriers through the digital economy platform.
TPTWG	An upcoming project is to build capacity so that APEC economies can strategically plan for and adapt to the emergence of disruptive technologies and the changing nature of work in the transportation sector, with a focus on how to increase opportunities for underrepresented groups such as women and people with disabilities, while mitigating the negative impacts on displaced workers. Other projects include promoting maritime education and training of women and girls and a new conversation to share best practices on the role of new and innovative transportation modes to ensure that they are accessible for vulnerable groups that may struggle to have access to traditional public transport modes.

Environmental Impact

Many of the APEC projects relating to environmental sustainability focused on developing international standards to promote greater trade in environmental goods as well as improving the competitiveness of enterprises through green business practices. Table 4.11 presents a summary of recent projects by APEC fora as included in their responses to the survey conducted by the PSU that have helped to improve environmental impact in the region. Major initiatives over the 2015-2019 period include endorsement of the APEC Roadmap on Combating Illegal, Unreported, and Unregulated (IUU) Fishing, the APEC Roadmap on Reducing Marine Debris, and the APEC Roadmap for Electric Vehicles; Pathfinder Dialogues on Strengthening the Fight against Corruption and Illicit Trade; APEC Mining Week, which addressed issues relating to mining sustainability; and the authorisation of a new Sub-Fund on Marine Debris and Innovation.

Table 4.11. Achievements in environmental impact among APEC Fora

Fora	Achievement
CTI	Outputs include a workshop to exchange best practices and develop recommendations on achieving a circular economy; a revision of the APEC Guidebook on Quality of Infrastructure Development to include social and environmental sustainability as one of the five key elements; development of the APEC Guideline on Quality of Water Infrastructure, which includes social and environmental sustainability as one of the five key elements; an initiative to promote an enabling regulatory environment to facilitate trade and investment in sustainable materials management (SMM); and several activities in support of the APEC Roadmap for Electric Vehicles to facilitate the adoption and implementation of international standards pertaining to electric vehicles and to address divergent regulations which may constrain the market potential for increased trade in electric vehicles.
EC	(Survey response for EC did not provide any specific achievements in environmental impact over the assessment period.)
SCE	A series of seminars, conferences, workshops, and policy dialogues were conducted during APEC Mining Week in 2019. Several issues relating to mining sustainability were addressed, including transitioning SMEs to cleaner technologies, mining traceability and responsible sourcing, better management standards and guidelines for mining tailings, and improved energy resource governance to develop resilient mineral supply chains. In addition, in 2019, SCE endorsed (through work completed by OFWG) the APEC Roadmap on Combating Illegal, Unreported, and Unregulated (IUU) Fishing and the APEC Roadmap on Reducing Marine Debris and the authorisation of a new Sub-Fund on Marine Debris and Innovation.
ACTWG	Over the assessment period, ACTWG held several Pathfinder Dialogues on Strengthening the Fight against Corruption and Illicit Trade: Partnerships for Sustainable Security. The dialogues aimed to identify specific measures that APEC members could implement in order

Fora	Achievement
	to combat corruption and illicit trade, human trafficking, wildlife trafficking, timber trafficking, and illegal logging, and also focused on the links between corruption and environmental crimes, human trafficking, and slavery.
EWG	EWG conducted a number of projects to address energy efficiency and reduce carbon emissions over the assessment period. Major projects include Phase 4 of the APEC Peer Review on Low-Carbon Energy Policies (PRLCE), which focused on the development of hydro power in Papua New Guinea; a workshop on effective pricing mechanisms and mitigation strategies for fossil fuel subsidy reform; and a project to support the transition to an energy efficient, electric transport system as part of a low emissions development strategy.
HRDWG	Outputs include textbooks on energy efficiency, energy security, and energy resilience; a conference to educate APEC youths on sustainable water resources, including irrigation, water shortage, flood control, and disaster management strategies; and, conducted jointly with PPSTI, a policy dialogue on science and technology in higher education and projects on gendered innovation for technology and science (GIFTS), such as promoting women in STEM for sustainable growth.
PPSTI	Highlights include a workshop on measurement challenges in renewable energy and climate science, which addressed the impact of climate change and volatility on food security by focusing on the agriculture and fisheries sector, and a project to establish a regional platform for discussing best practices relating to energy efficiency measures and the benefits of using low-carbon technologies to strengthen capacity and improve the competitiveness of MSMEs.
PPWE	(Survey response stated that environmental impact is not within the mandate of PPWE.)
SMEWG	Outputs include projects to enhance the competitiveness of MSMEs in the tourism and food sectors by raising awareness on green business practices; to enhance competitiveness in greener GVCs by utilising e-commerce and other digital platforms; and to encourage exchange of best practices on promoting green, sustainable, and innovative MSMEs. Also, a workshop discussed policies and strategies on renewable energy applicable for or having an impact on SMEs as well as barriers to accelerating renewable energy markets for SMEs.
TELWG	A notable project is the development of a monitoring system of earthquakes and waterfloods through the application of the Internet of Things (IoT), which synchronises the data received from existing monitoring systems and from IoT detectors to help detect emergency signals at the earliest stage, thereby considerably increasing the predictability of existing systems.
TWG	In 2017, an APEC High Level Policy Dialogue (HLPD) on sustainable tourism proposed future actions of TWG to include optimal use of environmental resources, maintenance of essential ecological processes and conservation of natural features and resources, and biodiversity. A prospect analysis for sustainable development of tourism in remote areas is scheduled to be completed in 2020 and will produce a study on the features of remote areas so as to provide recommendations on developing sustainable development in remote areas.
TPTWG	(Survey response for TPTWG did not provide any specific achievements in environmental impact over the assessment period.)

Table 4.12 presents a summary of the ongoing and future projects relating to environmental impact as described in the APEC fora responses to the survey conducted by the PSU. Major upcoming initiatives include expanding the number of pilot centres within the Green Supply Chain Cooperation Network; a pilot project to implement smart sustainable city ICT infrastructure in a selected city in the APEC region; Dissemination Phase 3 of the APEC Low-Carbon Model Town Project; developing implementation plans for the APEC Roadmap on Combatting Illegal, Unreported, and Unregulated Fishing and for the APEC Roadmap on Reducing Marine Debris; a final review of the implementation of the Environmental Services Action Plan; and a cross-fora policy dialogue on timber trading sustainability.

Table 4.12. Ongoing and future initiatives on environmental impact among APEC Fora

Fora	Initiative
CTI	CTI continues to monitor the progress of implementing the APEC List of Environmental Goods (EGL), which includes 54 goods that APEC members agreed in 2012 to cut tariffs to 5% or less by 2015, with a view to realise its full implementation. Other ongoing initiatives include conducting a final review of the implementation of the Environmental Services Action Plan (ESAP) endorsed in 2015; expanding the number of pilot centres within the Green Supply Chain Cooperation Network (GSCNET) to facilitate the reduction of pollution and waste linked to manufacturing and logistics networks; and a stocktake of current measures against subsidies that contribute to illegal, unreported, and unregulated (IUU) fishing to increase the capacity of members to implement the WTO's 2017 decision to eliminate these subsidies.
EC	A notable initiative is the APEC Collaborative Framework on ODR of Cross-Border B2B Disputes and Model Procedural Rules. Due to the online nature of dispute resolution under the Framework, it should assist to reduce the carbon footprint of enforcing cross-border contracts since parties to a cross-border dispute will not need to undertake travel to a court or arbitration centre which may be located in a different economy.
SCE	An upcoming case studies project on the best practices of smart cities in the digital age will provide successful practices and innovative solutions to help members overcome challenges such as inadequate infrastructure, growing inequalities and poverty, rising environmental pollution, and the need for increased resilience towards natural disasters, thereby contributing to smarter urbanisation processes and fostering opportunities for smart cities cooperation within APEC. In addition, OFWG is currently drafting implementation plans for the APEC Roadmap on Combatting Illegal, Unreported, and Unregulated (IUU) Fishing and the APEC Roadmap on Reducing Marine Debris that were endorsed by SCE in 2019.
ACTWG	Along with SCCP and EGILAT, a cross-fora policy dialogue is planned for August 2020 to address the current state of timber trading among the APEC economies and create a common understanding on governance and sustainability. The concrete outcome of the dialogue will be the way forward for upcoming initiatives and efforts on combating illegal logging and timber trading among APEC economies.
EWG	Upcoming projects include Dissemination Phase 3 of the APEC Low-Carbon Model Town (LCMT) Project; a workshop and case study to support sustainable mobility solutions in urban cities via integration of the transport and energy sectors; and a research project on the role of urban planning for addressing climate change and disasters.
HRDWG	HRDWG will continue to search for relevant projects on environmental protection in order to support APEC's transition to green economies.
PPSTI	An upcoming project will develop capacity on integrated water resource management (IWRM) using best practices from both regulatory policy and digital technologies and their implementation in order to generate common understandings within the APEC region.
PPWE	(Survey response stated that environmental impact is not within the mandate of PPWE.)
SMEWG	A current initiative is the APEC Strategy for Green, Sustainable and Innovative MSMEs that serves as guidance for policy makers to create an enabling environment for MSMEs to engage in sustainable activities, such as the adoption of green technologies, use of eco-friendly packaging materials and design, and compliance with international environmental standards and socially responsible investment.
TELWG	An upcoming project is the implementation of smart sustainable city (SSC) ICT infrastructure in a selected city in the APEC region that will identify prerequisite conditions to deploy SSC ICT infrastructure, create a framework for analysing key elements needed to support the development of SSC ICT infrastructure, and develop recommendations to help economies recognise and capitalise on the benefits.
TWG	The APEC Tourism Strategic Plan (TSP) 2020-2024 includes activities to develop an inventory of marine conservation programmes in synergy with island tourism and to share best practices on incorporating sustainable solutions in planning tourism in protected areas.

Fora	Initiative
TPTWG	(Survey response for TPTWG did not provide any specific upcoming initiatives relating to environmental impact.)

5. THE ROLE FOR APEC

The COVID-19 pandemic has had a tremendous impact around the world and is expected to have an unprecedented impact on economic growth. Although much uncertainty remains over how the policy and social responses to the crisis will unfold, initial estimates by the IMF suggest that global growth will contract by 4.9% in 2020. Real GDP growth in many APEC economies is projected to slow in 2020 with nearly all members experiencing a contraction. The region's economy is expected to contract by 3.7% in 2020 with an estimated output loss of USD 2.9 trillion.[122] Unemployment rates are also projected to rise across the region in 2020, with the total unemployment rate increasing from 3.8% in 2019 to 5.4% in 2020, and this is on the assumption that a partial jobs recovery will happen in late 2020.[123]

The WTO estimates that global merchandise trade will drop by between 13% and 32% in 2020, with the wide estimate range due to the uncertainty over exactly how the unprecedented crisis will continue to impact economic activity.[124] In addition, the WTO predicts that services trade will also be severely affected by the COVID-19 crisis with some of the decline in services trade lost forever. Although the WTO expects a recovery in 2021, it will depend to a large extent on the duration of the crisis and the effectiveness of policy responses. Meanwhile, the World Bank forecasts that between 177 million to 233 million people around the world will be pushed into poverty as a result of the crisis, with about one-quarter of those in East Asia and the Pacific.[125]

The COVID-19 pandemic has had and will continue to have a considerable impact on the economy over the foreseeable future. Most governments and businesses around the region were highly unprepared for such a pandemic event. SMEs, in particular, will face significant hardships as a result of the crisis. Given that SMEs are considered to be an engine of economic growth in most economies, it will be especially important for APEC members to provide the necessary support to these businesses. At the regional level, APEC may wish to consider developing an initiative that will promote greater preparedness of the region. The initiative could include lessons learned from the COVID-19 pandemic; strategies that will safeguard and sustain the gains in regional economic integration in times of emergency; and commitments to ensure the unhampered delivery of goods and services in times of emergency.

Although the IMF forecasts that there will be a rebound in GDP growth in 2021, policy makers around the world must remain vigilant. Potentially ongoing outbreaks of COVID-19 must be quickly contained in order to ensure public health and limit economic damage. Public health experts have been widely reported as saying that a vaccine, or at least an effective treatment therapy, is the only way to completely secure public health from the novel coronavirus, and thereby allowing all economic activity to commence in full. However, there is no guarantee that an effective vaccine will be developed, manufactured, and widely deployed as soon as

[122] Rhea C. Hernando, "APEC Regional Trends Analysis, July 2020 Update: Deeper Contraction Calls for Decisive Action" (APEC-PSU, July 2020), https://www.apec.org/Publications/2020/07/APEC-Regional-Trends-Analysis-July-2020-Update.
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2021. APEC members should therefore make a firm commitment to focus on quality growth in their economy, using the crisis as an opportunity to make the necessary structural changes toward improving the quality of institutions, social cohesion, and environmental sustainability.

Developing effective institutions, building social cohesion, and mitigating environmental impact are long-term and deliberate processes. As an international forum, APEC is well placed to focus on sharing knowledge and experiences, building capacity, and developing regional commitments towards enhancing quality growth. APEC members can collaborate through the forum to develop innovative initiatives that promote quality growth throughout the region.

INSTITUTION BUILDING

Table 5.1 presents a summary of what APEC members consider to be the role of regional cooperation in institution building as included in the responses to the self-assessment survey conducted by the PSU. Several members emphasised digital transformation and its impact on regulatory practices as an important focal point for APEC as well as the need to further develop the competitiveness of financial systems in the region. Based on the responses, some of the more concrete actions that APEC can consider include extending the priority areas for regulatory reform to cover the 10 areas as included in the World Bank's Ease of Doing Business initiative and encouraging more economies to join the APEC Cross Border Privacy Rules system and the APEC Privacy Recognition for Processors programme.

Table 5.1. APEC Member Responses: Regional cooperation in institution building

Economy	Role of Regional Cooperation
Australia	APEC can promote international tax consistency in order to promote better experiences in the areas of administration and compliance for cross border trade.
Chile	International fora such as APEC provide a platform to address regional cooperation issues and achieve trade and investment liberalisation and facilitation through constant ongoing work. APEC has a key role to play at connecting the economies of the region through, for instance, regulatory harmonisation opportunities that ease the possibility of exporting and importing for entrepreneurs.
China	APEC should support the multilateral trading system by promoting free and open trade and investment and deeper regional economic integration. This includes continuing its efforts towards the eventual realisation of the Free Trade Area of the Asia-Pacific (FTAAP). APEC should also promote deeper integration of the supply chain, industrial chain, and value chain, and strengthen comprehensive connectivity. In addition, APEC should commit to strengthen digital infrastructure and enhance accessibility and connectivity of the digital economy, promote new technology dissemination and application, and apply digital technology to enhance social inclusion.
Hong Kong, China	Regional cooperation and international organisations such as APEC can provide a common platform for members to share knowledge, strategies, and experiences on successful measures and policies relating to the development of the financial services industry.
Japan	APEC can provide an international platform to share knowledge and efforts on the response of the financial system to digitalisation. APEC can also promote the positive impact that high-quality and comprehensive FTAs/EPAs such as TPP11 have on economic activities, thereby enhancing the effectiveness of new trade-related policies.

Economy	Role of Regional Cooperation
Korea	Regional cooperation can facilitate the exchange of innovative information and best practices. Furthermore, it can stimulate regional transactions to enhance the financial competitiveness of member economies in the global market.
Malaysia	APEC should continue to build capacity through global best practices in relevant sectors and/or areas in order to contribute to economic growth within its members.
New Zealand	New Zealand believes that regional cooperation and institutions such as APEC play a fundamental role in institution building. The rules-based international system supports collaborative solutions to shared problems and provides a stable and predictable operating context for economies. For instance, we can develop common frameworks and shared solutions to enable maximum productivity gains from digital transformation. International cooperation is also needed to support trade and investment liberalisation and facilitation. International institutions will also play a key role in the eventual elimination of COVID-19 and in the economic and social recovery.
Peru	Useful focal points for regional cooperation include deepening financial markets to broaden financial access for SMEs and fostering the development of an efficient labour market through a well-trained and productive workforce.
The Philippines	Regional support and resources play a crucial role in bolstering the internal capacity of the Philippines in setting up and maintaining development projects such as the Single Window. APEC can provide capacity building activities among financial institutions that will help them develop innovative sustainable finance products attuned to the development goals of the region. International organisations such as APEC can also play a role in providing collaborative platforms for discussion and sharing of strategies and initiatives on migration and labour mobility.
Russia	The key role of regional cooperation such as APEC is its capacity building function. Greater awareness of best regulatory practices and regulatory innovations, such as those enabled by the "digital era", as well as positive experiences of institution building may be shared to ensure quality growth.
Singapore	APEC can encourage more economies to join the APEC Cross Border Privacy Rules (CBPR) system and the APEC Privacy Recognition for Processors (PRP) programme and to promote their uptake domestically. Both systems establish a harmonized set of data protection standards consistent with the APEC Privacy Framework.
Thailand	Regional cooperation enables sharing of best practices and capacity building among member economies. APEC may consider broadening priority areas for regulatory reform to cover the 10 areas as included in the World Bank's Ease of Doing Business initiative.
Viet Nam	Regional cooperation can be essential to institution building in Viet Nam. For instance, it can enable additional capacity building to support domestic institution building efforts; help to develop external benchmarks that facilitate more objective assessment of regulatory improvement; and regulatory dialogues and shared experiences under APEC may enhance Viet Nam's confidence in market-friendly institutional reforms.

SOCIAL COHESION

Table 5.2 presents a summary of what APEC members consider to be the role of regional cooperation in improving social cohesion as included in the responses to the self-assessment survey conducted by the PSU. Many members emphasised the importance of sharing information and experiences on policy approaches to address specific challenges to social cohesion, thereby helping to build capacity throughout the region. Based on the responses, some of the more concrete actions that APEC can consider include mainstreaming inclusive growth across the work of all APEC fora as well as promoting youth exchanges and start-up partnerships across the region.

Table 5.2. APEC Member Responses: Regional cooperation in social cohesion

Economy	Role of Regional Cooperation
Australia	APEC plays a valuable role in enabling economies to learn from each other. This is particularly important for social change, which can be a very slow process. APEC offers opportunities to see how social change can happen more expeditiously while maximising support for these changes.
Chile	Regional cooperation allows for the exchange of best practices and capacity building, thereby promoting social cohesion and development. APEC is currently in the process of elaborating its Post-2020 Vision, which should include a bigger focus on inclusive growth. Through concrete projects and the exchange of good practices, APEC can inspire economies to do more in the field of inclusive growth.
China	Poverty alleviation is an integral part of inclusive development and should therefore be promoted as one of the top priorities of APEC. Since rapid development of digital technology and the digital economy has brought new tools and opportunities to alleviate poverty in a more effective way, APEC should demonstrate leadership in promoting collaboration on inclusive digital economy development. APEC should also strengthen cooperation on inclusive growth by taking further efforts in the areas of employment, education, healthcare, anti-corruption, and food and energy security to contribute to the comprehensive implementation of the 2030 Agenda for Sustainable Development.
Hong Kong, China	Regional cooperation is essential to provide valuable youth exchange opportunities, thereby promoting the upward mobility of young people.
Japan	APEC provides an opportunity for members to share information and good practices as well as build capacity, all of which could help address the challenges of social cohesion and contribute to the development of effective domestic policies.
Korea	As an international organisation, APEC could continue its efforts to share best practices and strategic approaches in order to help promote regulatory harmonisation and stimulate innovations in health systems. APEC economies could also promote start-up partnerships to expand the regional network.
Malaysia	APEC Projects provide a good platform for members to leverage specific policy recommendations. In general, APEC serves as a point of reference for new initiatives and sharing of best practices as well as promotes cooperation and collaboration between economies, thereby helping to develop the capacity of members.
New Zealand	APEC's ongoing work on inclusion policies is very useful for enabling economies to share ideas and policy approaches, thereby addressing challenges to social cohesion and contributing to building solutions. Integrating a focus on inclusion into the core areas of APEC, such as structural reform, would be beneficial. Further sharing and opportunities to showcase economies' approaches and the impacts of policies, particularly those that address some of the intersectional issues affecting marginalised populations, would also be welcomed.
Peru	APEC could play a significant role in addressing upward mobility issues in order to improve social cohesion. For instance, APEC members could share best practices and experiences in training workforces, particularly in developing the skills and abilities that are required in response to emerging technologies in the digital economy.
The Philippines	Inter-sectoral collaboration that is aligned to the strategies and priorities of an economy through a whole-of-system approach and championed by international organisations such as APEC is strongly needed to achieve quality outcomes. Also important are the opportunities for knowledge exchanges among peers in the APEC region and learning best practices on promoting social cohesion. Additionally, the social concerns of women and girls should be mainstreamed in the discourse on strengthening economic cooperation in the region.
Russia	Sharing of international experiences and successful measures is vital for solving challenges relating to demographic transitions such as a steady decline in the birth rate.

Economy	Role of Regional Cooperation
Singapore	APEC can help to provide thought leadership on social cohesion in the form of research studies, capability building, and conferences. Platforms such as APEC provide economies with opportunities to exchange ideas, share experiences, and foster stronger international collaboration in order to address issues such as ageing populations and other healthcare challenges.
Thailand	APEC economies must work to implement the APEC Action Agenda on Advancing Economic, Financial and Social Inclusion (2017 - 2030) by initiating related projects in the identified priority areas. APEC members should also consider mainstreaming ageing and disability issues across the work of all APEC fora as it currently is for gender issues.
Viet Nam	International cooperation in general and APEC-related activities in particular is important to raise awareness in governing agencies domestically, thereby helping to create favourable conditions to attract support from international partners and increase exchanges and trainings regarding economic development and social inclusion.

ENVIRONMENTAL IMPACT

Table 5.3 presents a summary of what APEC members consider to be the role of regional cooperation in addressing environmental impact as included in the responses to the self-assessment survey conducted by the PSU. Given the global nature of climate change, APEC members had a number of suggestions for regional cooperation to address the environmental challenges facing the region. Many members emphasised the importance of sharing knowledge, experiences, and strategies on successful measures and policies to combat climate change. In addition, many APEC members stressed the importance of technical assistance and capacity building in order to develop the necessary structures to reduce GHG emissions and build resilience across the region. Based on the responses, some of the more concrete actions that APEC can consider include continuing the conversation on trade in eco-friendly products; working to implement the APEC Strategy for Green, Sustainable and Innovative MSMEs; and helping to fill research gaps in mitigation and adaptation efforts.

Table 5.3. APEC Member Responses: Regional cooperation in environmental impact

Economy	Role of Regional Cooperation
Australia	The interconnected nature of global climate processes means that collaborative international effort through fora such as APEC is essential for understanding current and future climate patterns. The mechanisms that facilitate global collaboration in climate science are crucial to building a global understanding of climate change.
Chile	Regional cooperation is a key element for sharing knowledge and good practices. In addition, financial resources from international organisations can be the foundation for effective capacity building, including for climate change mitigation measures such as reforestation and the prevention of the degradation of forests.
China	Climate change is a global challenge that requires the cooperation of the international community. However, developed economies still fall short of their commitment to provide and strengthen financial and technical support to developing economies. In addition, current practices of unilateralism have undermined efforts at international cooperation. APEC should attach great importance to environmental protection and climate change and strengthen climate-related cooperation. Efforts should focus on addressing climate change, strengthening food security, promoting transformation towards clean energy, increasing energy accessibility, and promoting green technology. APEC should advance economic and technical cooperation and strengthen capacity building and technical assistance among member economies.

Economy	Role of Regional Cooperation
Hong Kong, China	Regional cooperation and international organisations such as APEC can assess the challenges and opportunities faced by policy makers with a view to setting a clear vision for achieving progress towards an energy efficient and low GHG emissions region; collate and develop robust energy data with a view to formulating energy policy and energy investment in the region; promote energy innovation and low-carbon technology through investment in research and development as well as international collaboration; and provide a platform for member economies to share knowledge, strategies, and experiences on successful measures and policies on combating climate change.
Japan	With regard to climate change, international cooperation in developing innovative environmental technologies and products benefits member economies. Business-driven international cooperation in this area should be promoted as well. With regard to marine plastic debris, international cooperation is necessary to enhance domestic capacities, prevent and reduce plastic waste generation and littering, promote sustainable production and consumption, and improve proper waste management. It is also important that regional and international cooperation is pursued to effectively share information on marine plastic litter monitoring and waste management.
Korea	An important role of APEC is to continue conversation among members regarding trade in eco-friendly products, thereby supporting the development of green industries in the region. Given that air pollution is a cross-border issue, APEC can conduct policy dialogues to share information among members as well as collaborate with other international organisations to expand its network. APEC could also play a proactive role in facilitating support for a regional action plan to address air pollution. In addition, APEC can push ahead with a low-carbon and clean energy agenda to raise awareness in member economies as well as to encourage them to continue their efforts in reducing GHG emissions and transitioning towards a low-carbon and clean energy system.
Malaysia	APEC could fill in research gaps in mitigation efforts, such as an increase in the use of renewable energy sources for electricity generation, promotion of energy efficiency measures, improvements in waste management, and protection of forest carbon stocks. APEC could also fill in research gaps in adaptation efforts, such as addressing environmental issues regarding floods, droughts, sea level rises, and integrated hazards.
New Zealand	Regional and international organisations could encourage members to rationalize and phase out inefficient fossil fuel subsidies through mechanisms such as political commitments, the APEC Peer Review process, and capacity building; look to support the work of the Global Research Alliance on Agricultural Greenhouse Gases (GRA), which brings economies together to find ways to grow more food without growing GHG emissions; share experiences to support the development of international carbon markets; and encourage the mobilisation of climate finance to achieve the economic change anticipated by the Paris Agreement.
Peru	APEC can play an essential role in proposing cooperation on environmental issues. For instance, APEC can lead discussion on an array of topics relating to city planning, urban development, environmental management, energy efficiency development, and renewable energy utilisation.
The Philippines	Regional cooperation and international organisations such as APEC can help mobilise resources to assist member economies in greening healthcare facilities as well as facilitate technical exchange on climate change adaptation for health. In addition, regional organisations such as ASEAN and ADB help to develop strategic plans to spur cooperative action on tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability. Finally, coastal clean-ups enlist the support and cooperation of the community, NGOs, and private organisations in the cleaning of coastal areas of debris and waste.
Russia	(Russia did not provide a response to this question in the survey.)
Singapore	APEC may wish to consider studies on policies that enhance both economic benefit and environmental sustainability, such as carbon pricing. With regard to the environment, APEC should focus on the nexus between the environment and free trade issues. This

Economy	Role of Regional Cooperation
	would keep a clear focus of the work of APEC vis-à-vis other specialised bodies dealing with specific environmental issues.
Thailand	APEC economies must work to implement the APEC Strategy for Green, Sustainable and Innovative MSMEs to encourage MSMEs to adopt green technologies and eco-friendly packaging materials and design as well as to comply with international environmental standards and socially responsible investment. Moreover, APEC should work with ABAC in launching awareness raising and capacity building programmes for MSMEs to go green while increasing their competitiveness.
Viet Nam	Regional cooperation can help in capacity building in order to implement climate change response measures. Also, sharing experiences and practices on the application of market instruments as well as establishing carbon credit exchange mechanisms in the region can help to realise the goal of reducing GHG emissions.

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