# Chapter 2

## Regional Strategies for Aligning COVID-19 Recovery and Stimulus Measures with Low-carbon Green Growth in Australia

Kaliappa Kalirajan and Adil Khan Miankhel

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Kaliappa Kalirajan and Adil Khan Miankhel

The Australian National University

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1. Setting the Scene: From Pandemic Crisis to S	ytems Change	30
2. Government Recovery Path to Combat the P	Najor Impacts of	
COVID-19 on the Australian Economy		34
3. Government Recovery Path Towards Green	Growth Investment	36
4. Conclusions and Policy Suggestions		39

#### 1. Setting the Scene: From Pandemic Crisis to Sytems Change

Unlike the Global Financial Crisis (GFC), which exerted mostly idiosvncratic shocks on economies. the novel coronavirus disease (COVID-19) pandemic has created a systemic economic shock due to the synchronised nature of the downturn, both in terms of supply and demand that brought domestic disruptions as the virus spread across the countries. There are, however, differences amongst the individual countries due to differential spread of the pandemic, impacts of containment strategies. differences in economic structures (for example, tourism- and oildependent economies), reliance on external financial flows (including remittances), and growth trends before the crisis. Global trade in goods and services and commodity prices reduced by 8.5% (volume terms) and 32.7%, respectively, in 2020, while inflation grew 0.7% and interest rates (London interbank interest rate) showed mixed results in advanced economies in 2020 (IMF World Economic Outlook, 2021).

Social distancing, lockdowns, business closures, disruptions in supply chains, and restrictions on cross-border movement of people and air travel were employed to slow the COVID-19 transmission rate. However, these measures led to steep income losses, resulting in weak consumer and investor confidence. The aggregate demand declined, which was further compounded due to supply interruptions and lockdowns. This had a catastrophic effect on the labour market, as 300 million full-time jobs have possibly been lost in the second quarter of 2020 compared to the same period of the previous year (ILO, 2020).

Governments responded to the crisis by employing varying degrees of fiscal and financial countermeasures to forestall and minimise the adverse effects of the crisis as shown in Figure 2.1. Assistance was provided to the firms to retain the workers and also financial support and regulatory actions to ensure continued credit provision to avoid bankruptcies.

The governments relied on fiscal and financial support measures to mitigate the recessionary effects of the crisis and to position the economies on the path to recovery, as they did during the GFC. However, the abrupt contraction in output resulted in fall in revenues, which led to a sudden surge in government debt and deficits. As Figure 2.2 presents, the pattern of global debt and overall fiscal balance is similar to the GFC, though it is rather more pronounced during the COVID-19 recessionary impact in 2020.

The crisis affects the competitiveness and exporting environment of the exporting countries and creates inefficiencies both 'behind and beyond the borders' due to aggregate demand and supply shocks, tariffs and non-tariff barriers, distortions in the factor markets, restrictions in movement of people and goods, exchange rate movements, labour market and business regulations, and many others.

Australia 31



Figure 2.1 Country Fiscal Measures in Response to the COVID-19 Pandemic (% of gross domestic product)

AE = advanced economy, EM = emerging market, G20 = Group of Twenty, LIDC = low-income developing country. Source: IMF (2020).

In light of the above-cited global scenario, the Australian situation is not an exception. COVID-19 was first confirmed in Australia in late January 2020. Reports on its incidence, severity, and distribution are published regularly in the Communicable Diseases Intelligence journal.<sup>1</sup> As of 21 June 2021, the total number of confirmed cases stands at 30,357, while the national death toll is at 910.<sup>2</sup> Since the onset of COVID-19, the health crisis exposed the vulnerabilities of the different sectors of the economy and each week more and more business. enterprises announced job losses. As per the Australian Bureau of Statistics (ABS), 594,300 people lost their jobs in April 2020. largely due to restrictions put in place to

protect Australians from the coronavirus. The ABS estimated in May 2020 that a total of 870,000 persons lost their jobs and 72% of businesses recorded decreases in revenues (ABS, 2021; see also Table 2.1).

Job losses occurred across a range of industries. The national flag carrier, Oantas postponed resumption of international flights to late December 2021 (Brandler, 2021). It is predicted that the COVID-19 pandemic would cost the Oantas Group A\$16 billion (US\$12.4 billion) in lost revenue (Chua, 2021). Virgin Australia in February 2021 announced it would make about a third of its workforce redundant, with about 3,000 jobs expected to go (Morgan and Khadem, 2021). The initial shock of the crisis was huge; for example, Virgin, besides suspending its international flights, reduced its domestic capacity by 90% and temporarily cut 8,000 jobs in March 2020. Table 2.1 also shows the uncertainties experienced by most of the sectors during the initial phase of the pandemic and presents the estimated number of job cuts in other major sectors

<sup>&</sup>lt;sup>1</sup> Communicable Diseases Intelligence is a peerreviewed scientific journal published by the Office of Health Protection and Response, Department of Health. The journal aims to disseminate information on the epidemiology, surveillance, prevention, and control of communicable diseases of relevance to Australia. https://www1.health.gov.au/internet/ main/publishing.nsf/Content/cda-pubs-cdi-cdicur. htm (accessed on 27 August 2021).

<sup>&</sup>lt;sup>2</sup> https://www.covid19data.com.au/states-and-territories (accessed 21 June 2021).



Figure 2.2 Change in Global Government Debt and Overall Fiscal Balance (% of gross domestic product)

Source: IMF (2020).

#### Table 2.1 Estimated Loss of Jobs in Selected Major Sectors Due to COVID-19 in Australia

Sectors	Job cuts	Additional difficulties
Financial/Consultancy Services		
PwC	400	The majority of KPMG's 8,000-strong
Deloitte	700	workforce in Australia agreed to accept a
KPMG	200	20% pay cut for 4 months in May, 2020.
Media		
ABC Television owned and	250	A\$84 million cut to ABC's budget.
funded by the Australian		
Government	925 from regional and	
	community division.	
News Corp.	100 from the metropolitan	
	papers.	
Education		
Charles Stuart University	145	Loss of A\$90 million
University of Wollongong	150-300	97 voluntary redundancies
Central Queensland University	99	250 voluntary redundancies
Australian National University	465	
University of Melbourne	450	Loss of A\$70 million
Victoria University	190	La Trobe has also plans to cut its total
La Trobe University	239	costs by 20% in the next few years, and
		reduce the range of academic disciplines
		it offers.
Retail		
Woolworths	700	
Myer	90	
Target	1,000-13,00	
Harris Scarfe	1,300-1,500	

Source: ABC News, 2021.

Drawing on the data for total electricity demand from the National Electricity Market (NEM) between 16 March and 4 May 2020, which was the first 7 weeks of the lockdown in Australia, it can be gauged that the demand was 3% lower compared with the same period in 2019. It is interesting to note that only about twothirds of the decrease was due to reductions in electricity usage, while one-third was due to extra rooftop solar panels installed since May 2019 that lowered the demand on the grid (Figure 2.3). However, metered electricity demand decreased in the month of June 2020, just 1.4% lower than in June 2019. The March 2020 quarterly report produced by the Department of Industry, Science, Energy, and Resources indicated a 5.5% decline in coal-generated electricity emissions from pre-COVID-19 levels. During that period, the renewable energy supply to the NEM increased by 12.2%. There was a 1.6% reduction in emissions from the NEM on a seasonally adjusted and weather-normalised basis in June 2020

compared with the previous quarter. It is interesting to note that emissions from the NEM were down by 5.2% over the year to June 2020 compared with the same period to June 2019.

With the shutting down of most of the state and international borders to tourists, emissions from the transport sector reduced by 79% in the case of air travel and 27% in the case of land transportation. In the June guarter 2020. the overall liquid fuel emission reduction worked out to be 17.9% from the June guarter 2019. On the other hand, emissions from exports increased by 1.9% due to the year-on-year rise in the shipment of liquefied natural gas overseas. Nevertheless, it is worth noting that in the year to June 2020, emissions were estimated to be 518 million tonnes. which were the lowest level observed since 1998 (Australian Government, 2020).



Figure 2.3 Source-wise Electricity Generation in the Australian National Electricity Market

Source: Department of Industry, Science, Energy and Resources, and IBSWorld (2019).

The declining emissions trend has continued, with the lowest intensity and per capita levels in 31 years in the year to December 2020. Emissions per capita were 46.7% lower than 1990 while the emissions intensity of the economy was 66.1% lower than in 1990. The national emissions have been estimated to be lower by 5% compared to the previous year and amounted to 495 Mt CO<sub>2</sub>-e (Australian Government, 2020a).

Australia's demand for electric vehicles is much lower than most comparable developed nations mainly due to the lack of governmental incentive support. Australia, with a small market, could consider following the lead of countries like Norway, the Netherlands, and the UK, which have committed to banning petrol and diesel vehicles by 2025, 2030, and 2040, respectively. Because of Australia's relative lack of mandatory fuel efficiency standards, the possibility of Australia becoming the dumping ground for vehicles that are banned in other parts of the world cannot be ignored. A recent report on electric vehicles in Australia by Ernst and Young (2020) has suggested that 'there is an opportunity to align the policy and support framework for EVs in Australia to better reflect the government and societal benefits of EV uptake' (p.10).

COVID-19 reduced residential construction in 2020 by 12%. This has significantly contributed to the increase in unemployment rates nationwide. The use of digital technology in commerce, educational institutions, and government departmental activities has significantly increased to keep the economy functioning with less disruption. Internet service providers have been working hard to maintain connection speed.

#### 2. Government Recovery Path to Combat the Major Impacts of COVID-19 on the Australian Economy

To arrest surging unemployment levels and to sustain the livelihoods of individuals negatively impacted by the economic shutdown resulting from COVID-19, Australia, like many countries, adopted both expansionary fiscal and monetary easing policies. These policies aimed at keeping temporarily closed companies in business, and providing minimum support for vulnerable households. Australia injected more financial support more quickly than it did earlier in the case of the global financial crisis, with the initial response being A\$299 billion in overall support. Of this, A\$70 billion was earmarked for the Job Keeper programme; this covered 70% of the median wage and was close to a replacement wage for many working in those sectors most affected, such as hospitality and retail. Unemployment benefits were doubled with the introduction of a temporary COVID-19 supplement for jobseekers. This, in addition to temporary cash-flow support, helped small and medium-sized firms to continue operating and retain their staff. The Reserve Bank of Australia (RBA) and the Australian Office of Financial Management made US\$105 billion available for lending to businesses from both bank and non-bank lenders. The government also partnered with RBA in a US\$40 billion small and medium-sized enterprise loan-guarantee scheme. The 2020–21 Budget committed further response and recovery support, increasing the Government's overall support to A\$507 billion, which included A\$257 billion in direct economic support (Australian Treasury, 2020).

The 2020–21 Budget increased infrastructure funding to A\$48.8 billion over the forward estimates, which was a surge of A\$19.3 billion from the 4-year spend set out in last year's budget. It was expected that the A\$7.5 billion in additional funding for

Australia 35

land transport projects on top of the A\$2 billion for small-scale road safety projects and additional A\$1 billion for the Local Roads and Community Infrastructure Program will drive broad-based job creation at the local level, where it is most needed (Australian Treasury, 2020).

The overall government assistance, particularly the A\$257 billion in economic support, facilitated improving business and consumer confidence. Hence, economic recovery was expected to pick up strongly from late 2020 and into early 2021. The interventions started showing signs: for example, of the 1.3 million people who lost their job due to COVID-19 for economic reasons in April, almost 60% returned to work (Australian Treasury, 2020). The real GDP fell by 7.0% in the June quarter 2020, which was the lowest figure when compared with some of the major economies in the world (Figure 2.4).

As part of arresting the fall in residential construction and to create jobs, Australia announced a recovery plan to permit the building of 10.000 houses in 2020–2021 Further to generate the aggregate demand by supporting the purchase. first-home buyers were able to secure a loan with a deposit of just 5%, with the Government guaranteeing up to 15%. Another recovery plan concerning the construction industry to boost employment growth was the Government commitment to invest an additional A\$14 billion in new and accelerated infrastructure projects over the next 4 years. These projects were expected to support a further 40,000 jobs during their construction. This investment drew on the Government's record 10-year transport infrastructure investment pipeline, which was expanded to A\$110 billion, supporting 100,000 jobs across the nation (Australian Treasury, 2020).



Figure 2.4 Cumulative Gross Domestic Product Growth Since December Quarter 2019

OECD = Organisation for Economic Co-operation and Development, UK = United Kingdom, US = United States. Note: Data for China not broken down by quarters. Source: National statistical agencies, Refinitiv. Budget 2020–21. With respect to supporting new investment and increasing business cash flow mostly in non-mining businesses, the Government provided a temporary tax incentive, which was available to 99% of businesses that employed around 11.5 million workers. The Government announced that business losses through 2021–2022 can be carried back against profits made in or after 2018–2019.

An important impact of COVID-19 on Australian businesses and consumers was the increase in the use of digital technologies. The Government made use of this opportunity through its Digital Business Plan to support an even greater adoption of new technologies across the economy. In this context, an additional A\$4.5 billion was invested in the National Broadband Network Company, which is a publicly owned corporation of the Australian Government, and is committed to meeting future customer and businesses demand for higher speed broadband services. Also, the funding of A\$29.2 million accelerated the rollout of the 5G network in Australia (Australian Treasury, 2020).

As part of the regional cooperation, the Australian Government's COVID-19 recovery plan also included initiatives to help recovery primarily in the Pacific and Southeast Asia. The following programmes were initiated: Investing in the COVID-19 Vaccine Access and Health Security Program in Pacific and Southeast Asian countries; The Australian Infrastructure Financing Facility for the Pacific; COVID-19 Recovery— Support to the Pacific and TimorLeste; and Delivering Security Infrastructure Projects in the Southwest Pacific (Australian Treasury, 2020).

#### 3. Government Recovery Path Towards Green Growth Investment

It is logical to assume that the expected long-term low interest rates would reduce the cost of capital. In this context, with respect to promoting green growth in the recovery program, the Clean Energy Council, which represents renewable energy companies that employ more than 28,000 workers, the Australian superannuation funds, and the International Energy Agency argued that both the State and Federal governments do have the opportunity to transform Australian energy consumption forever to be environmentally friendly. In its Clean Recovery report released in 2020. the Council said wind and solar projects totalling 30 gigawatts energy capacity, which already had the development approval, would generate A\$50 billion in investment across the supply chain; 50,000 construction jobs; and 4,000 permanent positions. The Council also said that the support for large- and smallscale renewables, such as rooftop panels, and an accelerated roll-out of batteries would create a 'smart energy system' that could deliver flexibility and lower costs for consumers with low emissions (Clean Energy Council, 2020).

The Technology Investment Roadmap Discussion Paper produced by the Department of Industry, Science, Energy and Resources identified a roadmap for the short, medium, and long terms with five priority technologies: clean hydrogen; electricity from storage; low-carbon steel and aluminium; carbon capture and storage; and soil carbon (Figure 2.5). The Commonwealth of Australia committed to implement the roadmap through the Clean Energy Finance Corporation (CEFC) (A\$13 billion), the Australian Renewable Energy Agency (ARENA) (A\$1.4 billion), the Clean Energy Regulator (A\$2.9 billion), and CSIRO (A\$1 billion). However, the CEFC and the ARENA were set up by the Labour and the Greens to offer loans and grants to new projects, but were initially barred from supporting carbon capture and storage (CCS). In May 2021, the Commonwealth allowed ARENA to fund CCS projects, and potentially gas projects, with new regulations to align them with its 'technology not taxes' emissions roadmap (Mazengarb, 2021). The Labour and the Greens are not in favour of the inclusion of CCS in the CEFC funding because it will reduce the annual funding for renewable energy.

The Government will invest A\$249.6 million over 4 years to modernise recycling infrastructure. reduce waste, and recycle more within Australia. Energy and Emissions **Reduction Minister Angus Taylor** directed the CEFC to invest A\$300 million in hydrogen projects, which can include gas power, and ARENA has a A\$70 million fund to fast track development of wind- and solarpowered hydrogen projects. There are also sub-national hydrogen strategies and action plans. Examples include the Queensland Hydrogen Industrial Strategy, South Australia's Hydrogen Action Plan, the Western Australian Renewable Hydrogen Strategy, and the Tasmanian Renewable Hydrogen Action Plan. (Longden, 2020).

With respect to Australia's regional cooperation contribution to boost green growth, Sun Cable has been developing the A\$22 billion Australia-Association of Southeast Asian Nations (ASEAN) Power Link, which has been awarded 'Major Project Status' by the Australian Government.<sup>3</sup> The Australia-ASEAN Power Link involves the world's largest battery with about 22 gigawatt-hours of storage. the world's largest solar farm (12,000 hectares of solar arrays), and a 4.500 kilometres of high-voltage direct current submarine cable producing 10GW of dispatchable electricity.<sup>4</sup> The project will provide dispatchable renewable electricity to the Northern Territory and will supply up to 20% of Singapore's electricity demand. Eventually, it will supply to Indonesia as well. It is expected that the APPL will export about A\$2 billion of solar energy per year to Singapore by the end of 2027, connecting Australia into the ASEAN Power Grid (Sun Cable, 2020). Sun Cable could profit from letting other projects export electricity to Asia through shared-cost use of its infrastructure. This would encourage future renewable energy exports, especially to ASEAN. This would strengthen Australia's economic relationships with its ASEAN neighbours.

A report commissioned by the Pilbara Development Commission and authored by Australian and Indonesian researchers investigated the potential to export electricity generated by photovoltaic solar in Pilbara to Asia. The study found that it was feasible to deliver

<sup>&</sup>lt;sup>3</sup> Major Project Status is the Commonwealth Government's recognition of the strategic significance of a project to Australia. It provides projects with support from the Major Projects Facilitation Agency, which acts as a single entry point for Commonwealth Government approvals, project support and coordination.

<sup>&</sup>lt;sup>4</sup> Construction is expected to start in late 2023, with solar energy to reach Darwin in 2026 and Singapore in 2027.



#### Figure 2.5 Australia's Short-, Medium-, and Long-term Green Technology Roadmap

Source: Department of Industry, Science, Energy and Resources (DISER) (2020).

energy generated from a Pilbara solar facility and send it via a high-voltage direct current cable under the sea to Indonesia. A pilot project has been planned to involve the development of a three-gigawatt solar farm and a subsea transmission cable by 2030. The Queensland Government announced its support for the construction of Australia's largest solar farm, near Chinchilla. major parties—the Labour and the Liberal—so far find it difficult to work together for decarbonizing Australia's CO<sub>2</sub>-intensive power syst Nevertheless, the current Governme has acknowledged that technologica innovations concerning solar, wind, and hydroelectric projects are instrumental to revive the Australia economy in the post-COVID-19 era. The Government has already made

As a regional cooperation in green growth, the hydrogen energy supply A\$10 billion invested in more than chain is provided as an example of Australia and Japan cooperating on a pilot project in 2020–21. The project will make use of the world's first liquefied hydrogen carrier named the SUISO FRONTIER. Liquefied hydrogen will be transported from Latrobe Valley in Victoria to Kobe in Japan. The ship has been launched, but the storage tank is scheduled to be launched by the last quarter 2020 (Longden, 2020).

#### 4. Conclusions and Policy Suggestions

It is crucial to note that the Australian economy has not explicitly adopted a net zero carbon emissions target for 2050, while most of the major trading partners of Australia including China and Japan have committed to a net zero carbon emission target for 2050. This uncertainty has the potential to discourage investors from coming forward for increasing green investment in Australia. The governance arrangement of the Australian energy market model is a unique one. It is interesting to know that the energy policy is the domain of the State Governments. while climate change policy is the domain of the Federal Government. It is a serious concern that both the

major parties—the Labour and the Liberal—so far find it difficult to work together for decarbonizing Australia's CO -intensive power system. Nevertheless, the current Government has acknowledged that technological and hydroelectric projects are instrumental to revive the Australian economy in the post-COVID-19 era. The Government has already made substantial investments in clean have the potential to reduce global emissions by up to 163 million tonnes by displacing more emissions-intensive fuels overseas. Acknowledging that fact shows that technology offers the best prospect of reducing global emissions while maintaining and strengthening Australia's position as an energy export leader.

Australia has been lagging many of the comparable developed countries in the use of electric vehicles for road transportation. Governments can accelerate this adoption by committing to fleet transitions. Currently, the Australian Capital Territory (ACT) and Oueensland Governments have strong policies in place. For example, all newly leased ACT Government fleet passenger vehicles will be zero emissions vehicles from 2020-21 (ACT Government, 2018). To increase the public demand for electric vehicles, governments need to tailor proper incentive measures. These could be financial incentives to reduce the existing gap between the purchasing cost of an electric vehicle and an internal combustion engine. Further

benefits to consumers of electric vehicles may include tax rebates, infrastructure subsidies, stamp duty exemptions, and registration discounts. Non-financial incentives, such as access to bus lanes and parking, could also boost the demand for electric vehicles.

Australia is well placed to achieve low-cost green hydrogen production due to its low-cost renewable energy supply and the potential to achieve large economies of scale (Longden, et al. 2020), which have prompted regional collaboration with the Republic of Korea and Japan in the field of hydrogen energy. Acknowledging the fact that technology offers the best prospect of reducing global emissions without reducing economic growth, the Government should take on a leadership role in stimulating research and development and the early deployment of emerging economic clean technologies. Reinstating the carbon price will contribute billions of dollars to the exchequer.

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42 Assessing the Impacts of COVID-19: Regional Policies and Practices for Green Recovery

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