11 August 2020

Asia's lamentable green response to Covid-19

Why too many countries in the Asia-Pacific region are failing to reach for the environmental reset button

Rarely spotted dugongs swimming in clearer waters off the coast of Thailand
Source: Shutterstock

For all the very bad effects that this Covid-19 pandemic is having on the global economy: illness, death, joblessness, business destruction, there have been one or two unexpected spill-overs that may remind us of the costs we have incurred in achieving the level of industrialization and globalization we had in the world before Covid-19.

Reduced movement and a sudden and dramatic economic slowdown have also delivered a big drop in pollution levels. Smog has disappeared from cities. Some rivers have cleared and fish and other aquatic life has returned.

As we've sat locked up at home, how many of us have been surprised at an unexpected bird or animal appearing in our gardens, perhaps for the very first time? Nature, it seems, has pushed quickly back as people have increasingly locked themselves away.

We might not be happy about the cause of these changes (the pandemic and associated lockdowns), which arguably has its roots in environmental abuse and neglect. But for the most part, we like what it has done in terms of the environment.

The Covid-19 pandemic has offered governments around the word an opportunity for a total rethink on how their economies will operate in the decades to come. Covid-19 might be a near-term crisis, but global warming remains the longer-term threat. Few governments in Asia appear to have grasped this chance, with most choosing easier, but arguably less effective traditional stimulus approaches.

The following discussion covers a very fast-moving area, a lot of economies, and a lot of policies. Though we have tried to be as accurate as possible, in such an environment it is entirely possible that certain situations have evolved from how they are portrayed here. We appreciate your understanding if that is the case.

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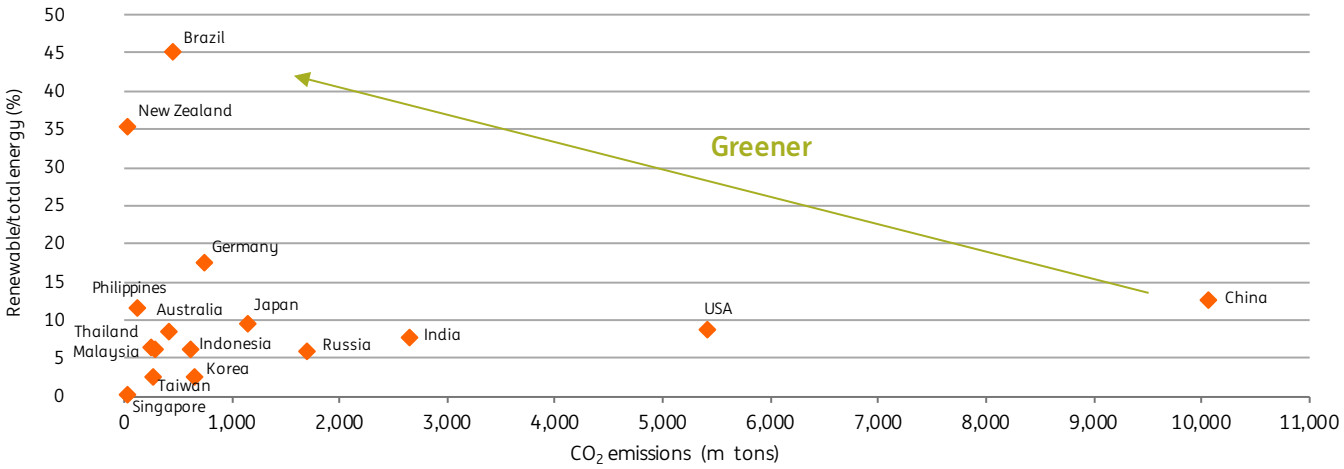
Asia chooses more of the same

With most of our economies likely to look very different when we finally emerge from social distancing, this is being seen by some countries and regions as a once-in-a-lifetime opportunity to lock in these environmental gains. The fiscal rule books have been ripped up, and cost can no longer be cited as an excuse for inaction. This isn't quite a clean slate for a total rethink of our economies, but it is probably the closest thing to that we will ever get.

Regions such as the EU are using the pandemic as an opportunity to press the restart button on their economies and to focus hard on the environment. The UK too seems to be re-inventing some green credentials and is also increasing its stimulus to measures concerned with energy efficiency.

But is the same true for the Asia Pacific region? Is Asia reaching for the environment reset button too? The short answer to that question, which we shall address in detail in the following note, appears, disappointingly, to be a resounding "No". And this is particularly disappointing when you consider the significant role Asia-Pacific plays in greenhouse gas emissions and global warming.

Fig 1 Total CO_2 emissions vs Renewables as % of total primary energy consumption (2018)



Source: Global Carbon Atlas, BP Statistical Review of World Energy

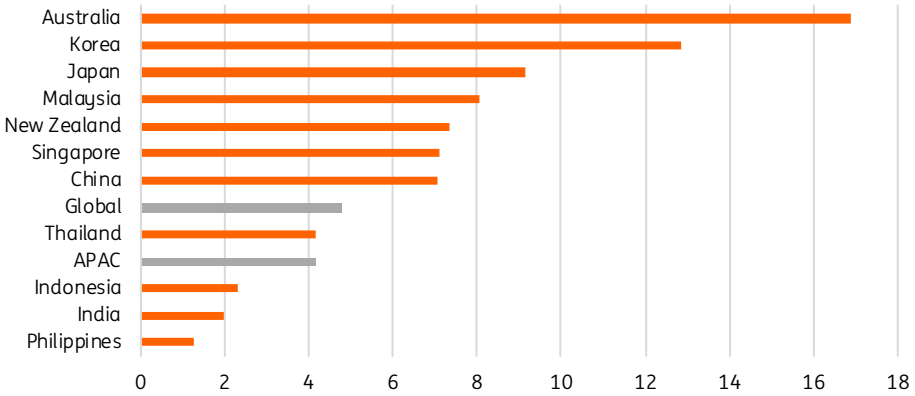
Asia state of play

The APAC region is a substantial carbon emitter, making up around 47% of total global emissions. It is no surprise that China is the main contributor, making up around 58% of the APAC total, or almost 28% of total global emissions. For comparison, the US contributes 15% to total emissions, while the EU's share is a mere 9%.

Since 2000, carbon emissions from the APAC region have grown by 125% (China's emissions over the period have increased by about 200%), while over the same period US and EU emissions have declined by 10% and 18% respectively.

It is always going to be a difficult task for developed countries, which have already passed their peak industrialisation phase to persuade emerging economies to cut their emissions when these economies are focused on growth. On top of which, the low price environment we are currently seeing in fossil fuels will do little to push these emerging economies towards meaningful green policies.

Fig 2 Per capita CO_2 emissions (metric tons per person, 2018)



Source: Global Carbon Atlas, UN

However, saying that, a number of countries within APAC have agreed on some target reductions. This includes the Copenhagen Accord, where participating countries agreed to reach certain emission targets by 2020. The results of this have been mixed for the region and for the vast majority of Asian countries participating, their target was more focused on reducing carbon intensity or reducing carbon emissions from "business as usual" (BAU) projections. Therefore, overall emissions from these countries are still clearly trending higher. But the likes of China and India have hit their targets and have done so ahead of schedule. China has managed to reduce carbon emission intensity by 40-45% from 2005 levels, while India reduced emission intensity by 20-25% from 2005 levels.

Australia, New Zealand and Japan all pledged to reduce overall emissions by 2020, and unfortunately, with the exception of Japan, it looks as if they will miss these targets. Australia was initially on track, with a carbon tax that was introduced in 2011. However, this was repealed in 2014, which has not helped.

As for the Paris Agreement, it is yet to be seen how countries in the region will perform. Under current policies, the UN expects that of G20 members in the region, only China and India will achieve their 2030 targets, whilst Australia, Japan, South Korea and Indonesia will need additional policies to reach their targets.

In addition, there are questions around whether the nationally determined contributions from countries are ambitious enough, with many of them falling short of the share that would be needed so that collectively, global warming limits are achieved. Therefore, in the absence of more aggressive targets, we will need to see deeper cuts from other regions in order to meet the 1.5 degree Celsius increase target under the Paris Agreement.

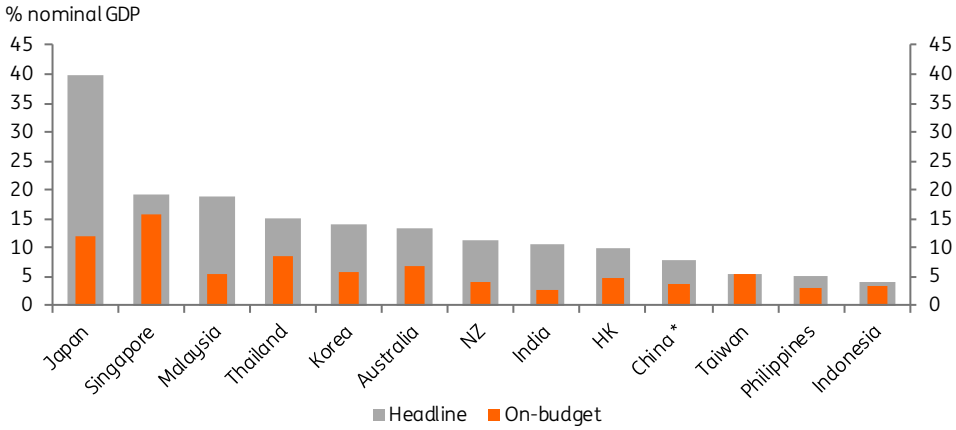
Fiscal spending has been substantial

Setting the stage for some potential shift of government focus on the environment, fiscal stimulus plans in the APAC region have been huge. The convention in this part of the world is to throw the kitchen sink into official estimates of the scale of stimulus.

Exactly why this is done is not clear, as it must be pretty obvious to most people that counting figures already included in previous budgets, soft loans and funds that will never be drawn or grants that will never be disbursed is not likely to provide much in the way of stimulus. In the chart below, we show the difference between "on-balance sheet" spending figures, which we can reliably assume will make it into the economy and provide some support, and the myriad of other measures, which in all likelihood, largely won't, but which do boost the headline. Japan takes the gold medal for implausibly large support claims. But even its on-balance sheet figures probably won't all see the light of

day in the 2020/21 period, and we would be extremely surprised if this significantly nudges the needle on Japan's perennially soft GDP growth.

Fig 3 Fiscal packages – claimed and "real" (on-budget)



Source: ING, Local Finance Ministries, Newswires

Others, notably Australia, New Zealand and Singapore are employing a lot more "real" support. And while this still probably won't lead to stellar growth, it will provide some insurance that there is at least an economy left to recover when Covid-19 is finally brought under control. But how much, if any, of this spending can be described as green? Has the world's largest emitting region, Asia-Pacific (50% of total global CO_2 emissions), taken a leaf out of the world's greenest region, Europe (12%)? Or is it back to business as usual?

What's green, and what isn't?

In what follows, we dissect the stimulus measures adopted across the region, highlighting any actions which we can describe as "green". Defining what's green and what's not in this note is a bit subjective. But basically, if it has had the faintest whiff of green credentials, we have tried to include it. To do otherwise would have left us with a very short list. So, if committing some funding to a training facility that will look into renewable energy sounds a bit lame compared to adopting a carbon tax and trading system and subsidising e-vehicles, then yes, it probably is. But it seems a lot greener compared to building more coal powered electricity generation, which disappointingly, seems to be the outcome of several countries in Asia.

For full transparency, the only "green" policy we have excluded from our calculations is the Snowy 2.0 project by Australia, which has proved highly controversial with the environmental lobby and is in any case "pumped" hydro, which may also rely heavily on coal power, at least initially, even if it helps to transition the grid to more renewables in the future.

Reasons why Asia has not acted

That the near absence of any green policies in Asia's Covid-19-stimulus packages is a missed opportunity is one thing; it is doubly disappointing given how important Asia-Pacific is for global greenhouse gas emissions.

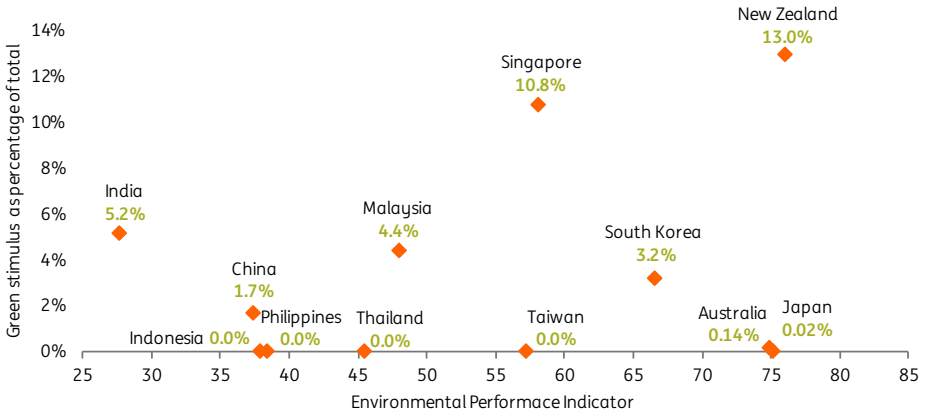
This was an opportunity not just to catch up with other regions, but to restore trajectories towards Paris Agreement objectives.

Instead, several countries in our region have taken decisions that lock them into a trajectory of even higher greenhouse gas emissions from which it will be even harder to back-pedal.

The chart below shows green stimulus as a percentage of total Covid-19 stimulus measures, plotted against their Environmental Performance Index. For a disappointing

number of countries, their marker has not even risen off the x-axis. It looks as if the poorer the EPI, the less effort has been made to improve conditions with Covid-19 stimulus – whereas those with better scores continue to make more efforts. For environmental targets to be achieved globally, we need to see this chart deliver the opposite slope.

Fig 4 Environmental Performance Indicator and Green spending as a percentage of total Covid-19 stimulus



Source: Yale University, ING

One or two countries were already placing more stress on the environment before the pandemic (India, China), and the dearth of specifically green policies in their Covid-19 stimulus packages can be partly explained via a background of general environmental progress. But while there is undoubtedly some truth in this, you could also make this argument for Europe, and they have not shirked from a much bolder environmental push. Conversely, one might argue that those countries already embarking on environmental policies would more easily have found 'oven ready' green projects by accelerating existing project pipelines given the need for urgent job creation and demand protection.

Others may not explicitly be embarking on environmentally harmful stimulus policies themselves but are continuing to fund these overseas. This is a particular trait of some of Asia's richer countries which are continuing to fund coal-fuelled electricity generation capacity in developing nations as they look for a quick, and quite literally dirty boost to the economy.

Others have talked up their green credentials while delivering relatively little in terms of actual spending (South Korea falls into this camp). Only New Zealand comes out of this analysis, looking like it has enhanced its green credentials to any extent. Singapore may also come out on the positive side of the ledger.

There don't seem to be any clear reasons why countries in Asia-Pacific have not taken a greener route to Covid-19 stimulus. A lack of imagination enhanced by lower cultural weights placed on environmental sustainability than on economic growth and wealth creation probably explains part of this outcome. That said, research suggests that in many if not most cases, green stimuli can deliver a stronger boost to the economy than other policies and generate a greater number of jobs. So, if this is the reason, it may well be a misguided one.

China: Taking advantage to achieve environmental indicators

Where do we stand? Air pollution was reduced tremendously during the peak of Covid-19 in China as transportation was almost stopped in major cities. But with the recovery from Covid-19, air pollution has come back. China has taken advantage of Covid-19 to meet its green indicators set by the 13th five-year plan. This is shown by five additional forward guidance targets on environmental indicators announced after the Two Sessions, which are on top of the 13th five-year binding targets.

- Number of days of heavily polluted air to be reduced by 25%
- Total VOC (volatile organic compounds) emissions to be reduced by 10% for targeted industries
- The water quality compliance rate of important rivers and lakes water function area reached more than 80%
- The proportion of excellent coastal waters (Class I and II) is about 70%
- The eco-environmental status index of counties under key ecological function zones reached 60.4 and above

Economic recovery is one of the most important targets in China. But it does not necessarily imply that China is going to get economic growth at the expense of the environment.

In addition, under the Paris Agreement, China has pledged that carbon emissions will peak by no later than 2030. While China is on track to reach this target, it is thought that this target still falls short of meeting the Paris Agreement's 1.5 degree Celsius limit.

What's green in the Covid-19 stimulus? Green stimulus within the Covid-19 stimulus package accounts for 0.14% of GDP. During Covid-19's peak, China used a lot of medical supplies and has created a big medical waste issue. The central government has allocated an additional CNY500 million for provinces that suffered from this problem.

The commencement of the National Green Development Fund in July 2020 highlights the government's priority to environmental policies. The Fund started with capital of CNY88.5 billion. Around 32% of this capital comes from the government. Other funding sources include banks and SOEs operating in the polluting sectors.

Apart from this Fund, there is also an increase in the size of the government funding pool of around 1% (+CNY1.54 billion) for renewable energy in 2020 from the 2019 fiscal budget.

There are increases in export tax rebates to fight against the economic damage brought by Covid-19 but not for energy-intensive, polluting and resource products. This shows that China's fiscal stimulus is adopting a targeted approach and still wants to protect the environment even though the economy has been in contraction.

The famous "New Infra" scheme to support economic growth has aimed for more electric-car chargers and high-speed rail lines, paving the way for more electric vehicles and greener transportation in the future.

What could have been done? Despite these green policies, environmental evaluations have been relaxed during the peak of Covid-19 for building more hospitals and other social services for citizens. There is a risk that these relaxations could be misused. The potential consequences might only be apparent after some years.

The choice of investing in renewable energy could have replaced investment in traditional energy. Instead, China's CO_2 emissions have surged back from the coronavirus lockdown, rising by 4-5% year-on-year in May 2020, according to carbonbrief.org. The biggest drivers of the overall increase in CO_2 emissions in May were 9% increases in thermal power generation and in cement output.

China has also approved plans for new coal power plant capacity at the fastest rate since 2015, in a sign that pressure to stimulate the economy is undermining the transition towards cleaner energy sources. New coal plant projects proposed this year in China would add more than 40GW to the country's power supply.

Cement demand is driven by real estate and infrastructure investment, which are yet to fully recover. It is not clear yet if the jump in May represents short term catch-up growth or a more profound increase in construction volumes.

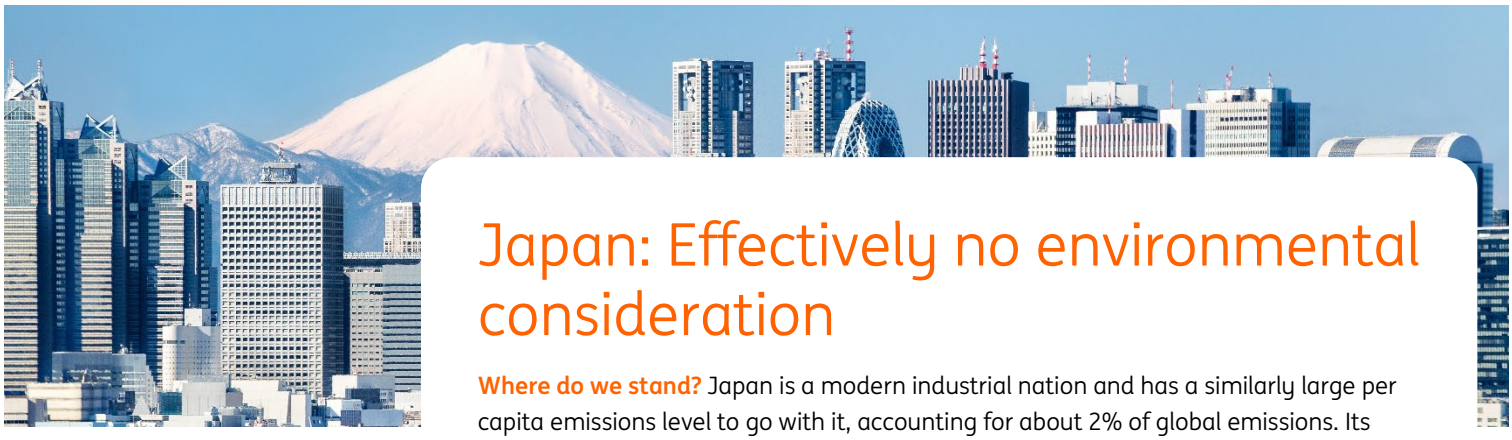
In short, it looks as if the government found it difficult to ignore the quick economic benefits of producing more electrical power from coal and more cement for construction to get the economy moving again, in spite of its greener ambitions.

Fig 5 Mainland China: Where stimulus spending is going

Total stimulus 8% of GDP: On Budget >3.6%, Monetary 3.3%, Green 0.14%

Stimulus measures	CNYbn	Stimulus measures	CNYbn
Stimulus funds to be used on the following items	**>1,305**	**Farming, marine, and dairy infrastructure**	**29**
		National Green Development Fund (Capital CNY88.5 bn, of which 32.3% comes from the central and local governments)	29
Micro, small, and medium enterprises	**-**	**Renewable energy, anti-pollution**	**2.5**
Tax and fee cuts	-	Renewable energies	2
Defer contribution to pension	-	Clean up medical waste from Covid-19	0.5
Migrant workers	**-**	No export tax rebates for energy-intensive, polluting and resource products	-
Tax and fee cuts	-		
Other government measures	**-**		
Tax reduction for sales to domestic market from processing trade manufacturers	-	**Structural reforms - New Infra (CNY10tr 2020-24, front loaded in the first two years)**	**3,000**
Subsidies for passenger aircraft reconstructed to cargo aircraft	-	5G infrastructure	-
Value-added tax waiver for cinemas	-	Electric car chargers	10
Monetary stimulus – PBoC measures	**3,250**	AI and Industrial Internet of Things	-
SME account receivable loans	800	High-speed rails	100
SME bonds	300	Big data centres	-
SME loans from policy banks	350	Ultra-high voltage connectors	-
New re-guarantee	400		
Re-lending program line	1,000		
Extra loans generated by RRR cuts as of 20 July 2020	400		

Source: Ministry of Finance, PBoC, Newswires



Japan: Effectively no environmental consideration

Where do we stand? Japan is a modern industrial nation and has a similarly large per capita emissions level to go with it, accounting for about 2% of global emissions. Its primary energy mix is 81% oil, gas and coal, renewables account for only 9.6% with nuclear making up the remainder.

Under the Paris Agreement, Japan has agreed to reduce emissions by 26% from 2013 levels, by 2030. Based on current policies, Japan is set to fall short of this target, whilst the targets themselves appear inconsistent with the Paris Agreement's 1.5 degree Celsius limit.

Japan has a very long way to go to meet its emissions target reductions. But there is virtually no concession to the environment in its Covid-19 stimulus projects.

The government has implemented two emergency response packages, and two supplementary budgets since the Covid-19 outbreak for a total of about JPY60tr – equivalent to about 12% of GDP in terms of actual spending/revenue adjustment measures. However, this figure rises to 40% of GDP when balance sheet measures are added.

What's green in the Covid-19 stimulus? Digging through the numbers, only JPY0.011tr of this spending could reasonably be described as Green.

Fig 6 Japan: Where stimulus spending is going

Total stimulus: 40% of GDP: On balance sheet 12%, Balance sheet 28%, Green 0%

First supplementary budget	JPYbn
Preventative measures	1,809
Protect employment (subsidies)	19,490.5
Public private partnerships (affected industries - tourism etc.)	1,848
Economic resilience	917
Preparation for future	1,500
Total	**25,691**

Second Supplementary budget	JPYbn
Employment subsidy*	4,51.9
Financial support (Loans)	11,639
Rent support for SMEs	2,024
Medical treatment support	2,989
Other	4,712
Contingency funds	10,000
Total claimed	**31,817**

* includes JPY8bn subsidy for energy-efficient ventilation and JPY3bn for public parks
Source: Ministry of Finance, PM Office

As a percentage of total spending, green projects account for only 0.02%, and as a percentage of GDP, it is 0.002%. It is not much of an exaggeration to say that there is no green content to Japan's Covid-19 measures.

What could have been done? The thinking behind the supplementary budgets is divided into five pillars.

These are separated as followed:

1st pillar: Measures to prevent the spread of Covid-19, build medical treatment structures and develop pharmaceuticals.

2nd pillar: Protecting employment and keeping business viable. Laying the foundation for a strong economic recovery thereafter.

3rd pillar: The recovery of economic activity with public/private partnerships focussing on the tourism/transportation industry, the foodservice industry, and the events/entertainment industries. Stimulating consumption and restoring the vitality of local regions.

4th pillar: Enhancing the resilience of supply chains by returning production to Japan and/or diversifying the production bases beyond certain economies. In addition, the Government will accelerate efforts for remote operations and digital transformation by using ICT such as work from home, distance education, remote medical treatment and pharmaceutical guidance

5th pillar: The fifth pillar is preparation for the future. A special contingency fund for measures against Covid-19.

Entirely missing from these pillars is any consideration of using this crisis as an opportunity to make some progress towards a greener future. The government could have set an interim target to meet ahead of meeting its 2030 UN targets and then geared projects to deliver this – new renewable energy programs, hydrogen production and distributed storage, residential housing insulation, e-vehicles charging stations and smart grids. All we have got is some more efficient ventilation and national parks restoration.

South Korea: Much talk, little action

Where do we stand? South Korea is only responsible for 2% of the world's global emissions of greenhouse gases, but it produces more than its fair share, being the 7th largest emitter on the planet, considerably more than proportionate to its size as the 12th largest global economy. The environment is pushing up the electorate's list of priorities, with concern about the health effects of fine dust particles in the big cities. Prior to this year's legislative elections, there was encouraging talk of carbon taxes, and a net zero emissions target for 2050. But for all the talk of a Green New Deal, the "Green" content of this year's Covid-19 fiscal stimulus measures seem to be more of an afterthought, a green garnish on top of some conventional brown policies.

As for the country's commitment to the Paris Agreement, South Korea has agreed to reduce emissions by 37% from a business-as-usual projection by 2030. This is yet another country in the region, whose target is just not consistent with reaching Paris Agreement goals.

What's Green in the Covid-19 stimulus? President Moon Jae-in's government has announced a series of supplementary budgets this year to boost the economy.

The first supplementary budget passed on 17 March was worth about KRW11.7tr and was largely aimed at disease control (KRW2.4tr), as well as support for SMEs and households, as well as regional support measures.

The second supplementary budget, confirmed on 1 April, was worth about KRW12.2tr and was done to fund cash payments made to all families affected by the pandemic.

The third and largest supplementary budget was proposed following President Moon's Democratic Party's landslide win in legislative elections on 15 April, capitalising on a successfully managed pandemic. The budget, which was passed by the government in early July, was bigger than the preceding two, coming in at KRW35.1tr.

The third supplementary budget includes KRW11.3tr of infrastructure spending named the "New Deal", of which the "Digital New Deal" is worth KRW2.3tr, and the "Green New Deal" is only KRW1.4tr. Put into perspective against an economy that recorded KRW1,919tr in nominal GDP in 2019, the Green New Deal is in fact no big deal, representing only about 0.1% of GDP.

With the total of the three stimulus plans coming in at about KRW59tr, or KRW712tr if you include in addition the March emergency budget of KRW12tr, total green spending as a percentage of all the stimulus measures amounts to a less-than-impressive 2-2.3% of the total Covid-19 stimulus package.

You could potentially add KRW0.44tr and KRW0.03tr of "smart management" of utilities/transport and smart cities from the Digital New Deal as part of the Green New Deal, taking the proportion of the total to between 2.6-3.2% of the total stimulus.

Fig 7 Summary ex soft loans and BoK measures

Job retention/SME support	KRWtr
1st Supplementary budget	0.7
3rd Supplementary budget	5.0
Social welfare	
1st Supplementary budget	3.0
2nd Supplementary budget	12.2
3rd Supplementary budget	9.4
Economic revival*	
1st Supplementary budget	0.7
3rd Supplementary budget	11.3
Disease Control Measures	
1st Supplementary budget	2.3
Regional assistance	
1st Supplementary budget	0.8
*Korean New Deal	5.1
Digital New Deal	2.7
Green New Deal	1.4
Job security	1.0

Source: Ministry of Economy and Finance

Fig 8 South Korea: Green New Deal

Eco-friendly management of cities and infrastructure	KRWtr
Make public facilities energy efficient, including public schools and daycare centres	0.37
Invest to solve urban problems such as fine dust and water shortage	0.32
Build a Smart clean water management system	0.01
Promote green industries and eco-friendly manufacturing	**0.48**
Develop 100 green enterprises as well as 5 green industries	0.45
Promote eco-friendly manufacturing by building a low-carbon eco-friendly industrial complex	**0.04**
Promote low-carbon and distributed generation	0.58
Build smart grids	0.06
Promote new renewable energy production	0.39
Replace old public vehicles with eco-friendly ones	0.13
Total	**1.40**

Source: Ministry of Economy and Finance

One of the government's stated aims is to increase hydrogen vehicles - with a target of 500,000 H-fuel cell vehicles for export and domestic use by 2030. And from 2021, 80% of public vehicle purchases are to be eco-friendly, up from the current rate of 28%.

What could have been done? The Green New Deal has already come in for a lot of criticism from green activists. Although the measures do include some green initiatives, the overall Covid-19 stimulus can hardly be described as "Green" and the measures it does include are pretty small and certainly don't come across as a serious change in stance from one of the world's most heavy greenhouse gas emitters.

Talk of introducing a carbon tax before the legislative elections does not appear to have made it into any of the stimulus packages, though it could possibly re-emerge later in standalone legislature. Also missing is any sign of a legally binding zero net emissions target by 2050, which was also indicated before elections.

On individual measures, critics argue that the e-vehicle aims make little sense whilst the primary energy source for electricity generation is heavily dependent on coal. They also argue that the smart grids and smart cities needed to take advantage of them will take years to develop. Other critics note that the policies often just add to existing measures, and note that this is not substantially different from the 2008 "Low Carbon and Green Growth" plan of ex-President Lee Myung-Bak 2008. That initiative constructed 16 dams and nuclear power plants.

In short, at best, Korea's Covid-19 measures could be considered a small first step in the direction of a more sustainable future, but there is little doubt that more could have been done, and this appears to be a lost opportunity.

Taiwan: Missing the opportunity to pick up the green agenda again

Where do we stand? Since the beginning of Tsai's presidency in 2016, the government has emphasised the importance of increasing renewable and sustainable energy, and at the same time lowering Taiwan's CO_2 emissions according to the 2016 Paris Climate Agreement. But after the Government suffered a setback to its green agenda in its anti-nuclear policy in November 2018, the green agenda has become less emphasised in the government's policy agenda as shown in Tsai's inauguration speech in May 2020, according to Risk Society and Policy Research Center at the National Taiwan University. Research has identified that fossil-fuelled vehicles and motorbikes along with other mobile sources of air pollution contributed to almost 40% of suspended fine particulate matter (PM 2.5), according to the University of Nottingham's "Taiwan Insight".

What's green in the Covid-19 stimulus? There has so far been no particular stimulus allocated for green policies in the stimulus package for Covid-19. The four fiscal stimulus items are:

- Cash subsidies for businesses and workers so that jobs can be secured.
- Financial burden relief given to the most in need of help, eg, people who lost their jobs during Covid-19.
- Loan assistance programs to help businesses continue to operate. We are aware that the government allowed the programme size to increase to TWD1.32 trillion as of July 2020, and that the whole stimulus package is at a lower amount of TWD1.05 trillion, so it is difficult to gauge how much of the loans go into the accounting of the stimulus package. We apply TWD1.05 trillion to get the overall stimulus size at 5.4% of GDP.
- Consumer coupons have been handed out to all Taiwan nationals. There is a short list of goods and services that the coupons cannot be used for. Though green items are not on the exclusion list, there is no particular promotion for green consumption with the consumption coupons. This has been seen as a missed opportunity for the government to promote green policy at the same time as supporting consumption.

What could have been done? The focus of the stimulus in 2020 has been economic recovery. The goal could have been achieved at the same time, including green policies in context. The government could have included a clause of green loans in its Loan Assistance programme to companies, especially for bigger companies. This could have helped companies to survive the post-Covid19 recovery, and at the same time enhance green elements in a company's operation, which could have had a long-term impact on embedding green elements in a company's operation.

Consumer coupons were a good channel for promoting green consumption. There are environmentally friendly products in Taiwan, including recycled clothing and daily necessities. If spending on green items could have yielded further coupons from the government, it would have amplified the impact on consumption and helped boost sales of green items.

Gasoline price have been low due to the Covid-19 pandemic, which could result in more PM 2.5 particles. If the government had introduced a fossil fuel tax at the time of very low gasoline prices then it could have provided an additional incentive to purchase electric vehicles.

Fig 9 Taiwan: Where stimulus spending is going

Total Stimulus 5.4% of GDP: On Budget 5.4%, Monetary 2.1%, Green 0.0%

Stimulus measures	TWDbn
Job security	**92.2**
Subsidies to businesses	-
Cash disbursements to workers	-
Loan assistance from state related banks and FIs	**1,320**
For individuals and businesses	-
Consumption vouchers	**46**
Other government measures	**-**
Financial burden relief	-
Monetary stimulus	**400**
SME low interest rate loans	400

Source: Executive Yuan, CBC, Newswires

India: Throwing good money after bad

Where do we stand? Clean air, blue skies, and wild animals venturing out in cities – the Covid-19-induced shutdown was a blessing in disguise for India's otherwise heavily-polluted cities. The capital Delhi dominates headlines for its pollution every year and was ranked as the world's most polluted city for the second straight year in 2019 (IQ AirVisual – a Swiss group collecting global air quality data). A study by the Global Centre for Clean Air Research (GCARE) showed that the lockdown helped a drop in the concentration of harmful particles (particulate matter, PM 2.5) by more than half in Delhi. Four other metropolitan cities also experienced a significant improvement in air quality. However, things were back to normal once the lockdown ended, while the country also had to face other climate change challenges of Cyclone Amphan and a locust surge.

Despite all the negative headlines, with a per capita CO_2 emission of only 1.73 tons, India has been one of the lowest carbon-emitting countries in Asia and the world. And it's also one of the second-biggest renewable energy producers in the region after China. Renewables accounts for 21% of India's total energy production currently, up from 13% in 2014. Under the Paris Agreement, the government aims to double this share to 40% by 2030. India has also agreed to reduce emission intensity by 33-35% below 2005 levels by 2030, and given current policies the country is on track to meet this target.

What's green in the Covid-19 stimulus? Investment in sustainability appears to be the least of the government's priorities at the moment as the Covid-19 pandemic continues its rapid spread across the country. The government has announced a stimulus package worth 10% of GDP to turn the Covid-19 tide. We estimate the green content of this at just about 0.5% of GDP, comprised of rural infrastructure development (not necessarily green), herbal and medicinal plantation, afforestation and job creation for tribal people in forest management among other scant environmental initiatives.

India's stimulus is ranked to be the fifth-worst on the Green Stimulus Index compiled by a UK-based strategic consultancy, Vivid Economics. Fanning the flames, the stimulus in India focused on carbon-intensive sectors, such as enhancing production capabilities of the state-owned coal companies for thermal power generation, privatisation of power distribution and mining sectors, and atomic energy development.

What could have been done? Just as the Covid-19 outbreak is partly blamed on years of environmental recklessness, the massive stimulus required for the economy to withstand the crisis is viewed as an opportunity to right the wrongs by fostering a clean recovery. However, this entails a strong political will, planning, and policy thrust toward a sustainable economy, without which India's road to a greener future remains bumpy, and a large Covid-19 stimulus comes to nothing but throwing good money after bad.

Avoiding inconsistent policies: for example, it's not consistent to try to step up low-cost renewables production but at the same time raise import duties on required equipment as part of the government's "Make in India" strategy. Likewise pushing on with hydro-power projects by building new dams at the cost of deforestation is also inconsistent.

Among other things the package could have focused on are solarisation of un-electrified health centres in rural India, dismantling subsidies to fossil fuel sectors, a carbon tax,

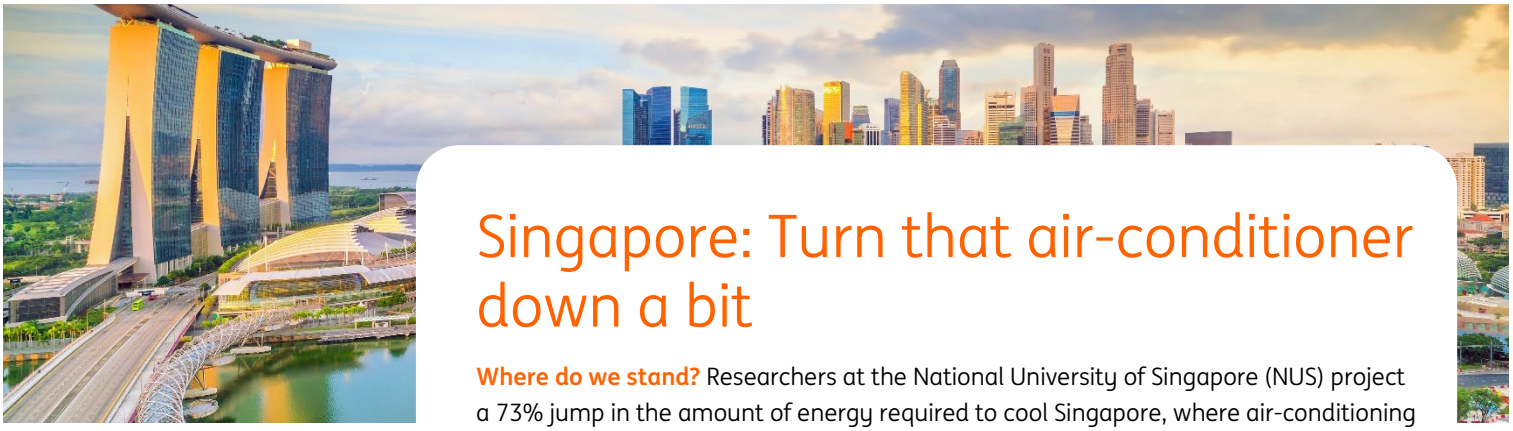
incentives for renewable adoption, capital infusion in small enterprises to facilitate low-cost energy efficiency upgrades, diversion of savings from low oil prices and hikes in excise taxes on fossil fuel to development of renewables, investment in distribution grids and storage, and upgrading and preparing workers for jobs in renewables. The list of things that could have been done is a substantially longer one than the list of things that have been done.

Fig 10 India: Where stimulus spending is going

Total Stimulus 10.5% of GDP: On Budget 2.9%, Monetary 7.5%, Green 0.5%

Stimulus measures	Rs bn	Stimulus measures	Rs bn
Micro, small, and medium enterprises	**5,946**	**Migrant workers, vendors, and farmers**	**3,100**
Collateral free loans	3,000	Food supply for migrant workers	35
Subordinate debt provision	200	National portable ration card	-
Equity infusion fund	600	Rental housing for migrant workers	-
EPF support for 3 months	25	Interest subvention of 2%	15
Cut in statutory EPF contribution	68	Credit facility for street vendors	50
Special liquidity scheme for investment in NBFCs	300	Housing subsidy for middle-income group	700
Partial credit guarantee for NBFCs	450	CAMPA funds for tribal employment	60
Liquidity injection for power distribution cos	900	Working capital facility for farmers	300
TDS reduction	500	Concessional credit to farmers	2,000
Farming, marine, and dairy infrastructure	**1,500**	**Structural reforms of 8 critical sectors**	**81**
Fund for farm gate infrastructure	1,000	Enhancing coal production	-
Micro food scheme	100	Enhancing private invest in mining	-
Marine and inland fishery	200	Indigenisation of defence production	-
Vaccination of livestock	133	Promoting PPP in aviation	-
Dairy infrastructure	150	Privatisation of power distribution cos	-
Herbal and medicinal plantation	40	Viability gap fund for social infrastructure	81
Bee keeping	5	Boosting PPP in in space sector	-
Operation greens	5	Atomic energy development with PPP	-
Other government measures	**2,328**	**Monetary stimulus – RBI measures**	**8,016**
Rural development scheme (MGNREGS)	400	TLTRO - two auctions of 500bn each	1,500
Enhancing online education	-	100bp CRR cut to 3%	1,370
Exemption of Covid-related debt from IBC	-	Increase MSF from 2% of SLR to 3%	1,370
Increase in borrowing limit for states	-	Financing window for NBFCs	500
Decriminalising companies act	-	Variable repo operation	1,760
Others previously announced (PMGKP)	1,928	Others	1,516

Source: Ministry of Finance, Reserve Bank of India, Newswires



Singapore: Turn that air-conditioner down a bit

Where do we stand? Researchers at the National University of Singapore (NUS) project a 73% jump in the amount of energy required to cool Singapore, where air-conditioning is so pervasive given the tropical climate and the systems are typically cranked up to the highest cooling level. Such a surge in energy requirement won't come without boosting the country's already high carbon footprint. Over 10 tons per capita of carbon emissions is more than double the 4.6 tons global average and puts Singapore among the top 10% of polluting countries in the world.

The share of renewables in total energy production remains close to nil. Singapore's small size (716 square kilometre) and high population density constrain biofuel production, relatively calm seas and narrow tidal ranges rule out tidal power generation, insufficient wind speed for commercial turbines also limits this source of energy, while hydro-electricity isn't an option without big rivers, hills and dams. But there is enough ecological awareness among people in Asia's garden city, as reflected through initiatives such as mass cleaning of beaches, using reusable straws and shopping bags, vertical gardening, roof-top farming, controlling vehicle population, and more greener buildings. The Sustainable Singapore Blueprint 2015, aims to make it a "zero waste" nation of "eco-smart" towns and a leading green economy.

In terms of the Paris Agreement, Singapore's nationally determined commitment is to cap emissions at 65mt by 2030, which would mean reducing emission intensity by 36% from 2005 levels. However, this target is not consistent with the needs of the Paris Agreement.

What's green in the Covid-19 stimulus? There isn't much greenery visible in one of the biggest Covid-19 stimulus packages in Asia (19% GDP equivalent). Besides the usual annual budget in February, termed this year as the "Unity Budget", the government announced three supplementary budgets (Resilience, Solidarity, and Fortitude Budgets). Total stimulus flows from all four budgets amount to S$93 billion, leaving a fiscal deficit equivalent to over 15% of GDP. The stimulus largely focused on supporting households and businesses, and preserving jobs, which is warranted as the pandemic has stifled the economy with over 12% year-on-year GDP plunge in the second quarter.

There were some long-term ecological measures in the budget, including coastal and flood protection funds, green town programme for public housing, gradual phasing out by 2040 of vehicles with internal combustion engines, and incentives for early adoption of E-vehicles. But the long-term nature of these plans dilutes their urgency in avoiding further climate deterioration.

In its bid to make Singapore a global hub for green finance, sustainability formed a key objective of the Monetary Authority of Singapore's (central bank) policy response to the Covid-19 crisis. The central bank is encouraging FinTechs to develop green (financial) products, and financial institutions to have robust practices to assess, monitor and manage environmental risks. The MAS is also developing grant schemes for green and sustainability-linked loans to be launched in the fourth quarter of the year.

What could have been done? Indeed, a significant thrust on supporting jobs and incomes is the need at this time. But, at the same time, accelerated efforts to tap unused renewable potential would have made a mark as a more sustainable recovery of a highly resource-constrained economy. According to the latest Solar PV Roadmap for Singapore, solar energy has the potential to meet 43% of the city-state's electricity demand and reduce carbon emission by 3.4 million tons by 2050.

Reports of large solar and wind energy installations undertaken in the plains of northern Australia to generate energy and transport it to Singapore are encouraging. So are efforts locally of converting public housing rooftops to grow food and install solar panels. That said, there was certainly scope for more emphasis on expediting such initiatives in the Covid-19 stimulus measures so far announced.

Fig 11 Singapore: Where stimulus spending is going

Total Stimulus 19.2% of GDP: On Budget 15.4%, Monetary 3.8%*, Green 2.1%

Four budgets (S$bn)	Unity	Resilience	Solidarity	Fortitude	Total
Announced on	18-Feb	26-Mar	6-Apr	26-May	
Total stimulus	**6.400**	**48.400**	**5.100**	**33.000**	**92.900**
Support for households	**1.600**	**3.000**	**1.100**	**0.800**	**6.500**
Care and Support Package for households	1.600		1.100		2.700
Postponement of GST hike beyond 2025	-				
Covid-19 Support Grant				0.800	0.800
Solidarity Utilities Credit					
Support to seniors and students to own digital learning device					
Support for Businesses	**4.000**	**16.700**	**4.000**	**31.915**	**56.615**
Job Support and Wage Credit Schemes	2.400	15.100	3.800	2.900	24.200
Stabilisation and Support Package	0.400				0.400
Corporate income tax rebate	0.400				0.400
Cash assistance to self-employed	-	1.200			1.200
Assistance to low-income workers and unemployed		0.145			0.145
Training support schemes - SG United		0.048		2.000	2.048
Extra support for sectors affected by Covid-19	0.157	1.000			1.157
Commercial property tax rebate and rental waivers	0.045				0.045
Aviation	0.112	0.350			0.462
Tourism		0.090			0.090
Transport (taxi and private hire car)		0.095			0.095
Arts and culture		0.055			0.055
Commercial property tax rebate and rental waivers	0.045			2.000	2.045
Credit flow measures (part of Solidarity Budget)					
Freeze on repayment of govt. loans one year					
Enterprise Financing Schemes for easy access to credit					
Moratorium on debt repayment and insurance premium					
Others	**0.800**	**28.700**		**0.285**	**29.785**
Measures to fight Covid-19 outbreak	0.800				0.800
Building capabilities for economic recovery		1.900			1.900
Support for start-ups				0.285	0.285
Digital transformation and innovation				0.500	0.500
Invictus Fund top-up for social service agencies				0.018	0.018
Long-term support measures (3 to 10 years)	**14.300**				**14.300**
GST hike offset for five to 10 years	6.000				6.000
Economic transformation and growth over 3 years	8.300				8.300
Start-up SG Equity	0.300				0.300
Green initiatives	**10.000**				**10.000**
Coastal and Flood Protection Fund	5.000				5.000
Green Town Programme for HDB	5.000				5.000
Phase out vehicles with internal combustion engines by 2040	-				
Incentives for early adoption of E-vehicles from 2021	-				

*Monetary stimulus is assumed to be total stimulus less officially announced fiscal deficit of 15.4% of GDP.
Source: Singapore Ministry of Finance, Newswires

Malaysia: Shift to renewables is grindingly slow

Where do we stand? It took nearly half a century for Malaysia to increase its renewable energy production from just 1 terawatt-hour in 1970 to 26 terawatt-hours by 2018. Yet it still forms less than 2% of the country's total energy composition. This goes to stress the sheer unsustainability of an ambitious official target to boost the renewable share in total energy generation to 20% by 2025 and 50% by 2050. Malaysia has agreed to reduce its emission intensity by 35% from 2005 levels by 2030 under the Paris Agreement.

The greater reliance of the economy on commodities, especially crude oil and gas production and exports, explains a significant portion of energy production based on these traditional sources. Two-thirds of total energy is generated from gas and a fifth from coal-fired plants. This leaves a relatively high carbon footprint in Asia, estimated at over 8 tonnes per person.

Clearly, the shift to less carbon-intensive energy remains painfully slow for the nation with a significant natural advantage, especially for solar generation given its location in the equatorial region. Among the recent renewable initiatives are the introduction of Net Energy Metering (NEM) for solar generation and Large Scale Solar (LSS) competitive bidding. The NEM covering domestic, commercial, industrial and agriculture sectors allows excess generation after own-consumption to be delivered to the national grid on a one-on-one offset basis. The LSS aims to lower the cost of energy for the development of large scale solar plants. There have also been measures taken to promote small hydro and bio-power technologies.

What's green in the Covid-19 stimulus? At 19.5% of GDP, the total Covid-19 stimulus puts Malaysia in the ranks of big spenders to soften the impact of the pandemic on the economy. Coming amid a change in the political leadership of the country, there have been four stimulus packages announced so far. The first package worth MYR20bn unveiled by former Prime Minister Mahathir Mohamad in late February. The other three packages came under the new Muhyiddin government for total measures worth MYR275bn.

The only green strand in this massive stimulus is MYR13bn of infrastructure projects to upgrade to LED street lightening, rooftop solar panels, and transmission lines. The Ministry of Energy, Science, Technology, Environment and Climate Changes (MESTECC) will also be opening up tenders for 1,400 MW for solar generation projects, based on an estimated MYR5bn of private investment and 25,000 new jobs. There are also some explicitly "brown" measures, however. For example, the exemption of sales tax in its entirety on the purchase of domestically made cars and 50% reduction on imported ones.

What could have been done? The energy ministry estimates MYR33bn, a little over 2% of GDP of investment to reach the goal of 20% of renewables in total energy by 2025. A bit more allocation in the Covid-19 stimulus to further this sustainability goal wouldn't have hurt.

Large investment requirements remain a barrier to entry for private players in the sector. Besides continuing to encourage Private-Public partnerships (PPI) in the sector, the stimulus could have been used for enhancement to existing green financing

schemes (the Green Technology Financing Scheme and the Green Investment Tax Allowance).

Besides funding, public awareness plays a key role in furthering such drives. There might be sufficient awareness at present, though it's all in vain without affordable renewable energy sources for people to tap from. Some efforts could have been directed at making renewables affordable to masses through subsidies and other such incentives. An emphasis on e-vehicles within the support for the auto sector would have been a positive move towards a more sustainable future.

Fig 12 Malaysia: Where stimulus spending is going

Total stimulus 19.5% of GDP: On Budget 8.6%, Monetary 10.9%, Green 0.9%

Four packages (MYR billion)	First	Second	Third	Fourth	Total
Announced on	27-Feb	27-Mar	6-Apr	5-Jun	
Total real and monetary support	**20.0**	**230.0**	**10.0**	**35.0**	**295.0**
On budget (real) spending	16.5	75.5	10.0	28.6	130.5
Support for businesses	0.5	5.9	10.0	9.7	26.1
Support for individuals		38.4		11.3	49.7
Infrastructure development	16.0	29.5		4.2	49.7
Automation and digitalisation	3.0				3.0
LED street lighting, rooftop solar panels, transmission lines	13.0				13.0
Food security programmes		1.1		0.1	1.2
Other		0.6		3.3	3.9
Monetary support	3.5	154.5		6.5	164.5
Credit for SMEs and others	3.5	4.5		6.5	14.5
Debt moratorium, loan guarantees		150.0			150.0
Others (non-real, excluded from total)	10.0	41.0			51.0
Cut in EPF contribution rate to 7% from 11%	10.0				10.0
Early withdrawal of pension funds		41.0			41.0

Source: Malaysia Ministry of Finance, Newswires

Thailand: Climate has taken a backseat in the health crisis

Where do we stand? The natural abundance including beautiful beaches and green mountains, archaeological riches, majestic royal palaces, and ornate temples - all have made Thailand the one of the world's most popular tourist destinations. And to maintain this position, protecting the environment ought to be high on the agenda. Indeed, the extent of CO_2-emission here is relatively low; 4.6 tons per capita ranked as 66th in the world. But the country's push for renewables has been rather anaemic. It forms only 12% of total energy production currently.

However, just as tourism led to years of infrastructure development, it also had adverse environmental fallouts, with frequent flooding one aspect of this. This could get worse with the implementation of the ambitious Eastern Economic Corridor (EEC), a US$43 billion infrastructure development along the coast of the Gulf of Thailand spanning three eastern provinces of the country. The Covid-19 outbreak may have been a setback to this environmental degradation though.

In early 2019, the National Energy Policy Council approved a power development plan (PDP) for 2018-37, aiming to enhance the share of non-fossil generation to 35% of total capacity and reducing coal-fired generation to just 12% by 2037. Even so, fossil fuels will remain a dominant source of energy in the future. Yet the authorities remain confident about meeting the Paris Agreement goal of reducing greenhouse gas emission by 20-25% by 2030.

What's green in the Covid-19 stimulus? Thailand joined the global bandwagon of undertaking multiple stimulus packages to reduce the economic fallout of the virus. Four packages for a total of 14.5% of GDP equivalent policy boost, a little over half of this forming real (on-budget) spending.

It seems climate goals have taken a backseat in this unfolding health crisis. It was a struggle to find green initiatives in the entire stimulus. And, in the end, we found none given rather scanty details of the various packages.

What could have been done? Without losing sight of the immediate need of helping the economy weather the impact of the pandemic, the authorities could have assigned some of the stimulus to facilitate a faster transition to renewables.

A boost to investment in disruptive technology, such as smart power grids, and measures to encourage private participation in the energy sector could have received some attention. The smart grid system works to reduce tariffs as well as integrate renewable energy systems, it's also a proposed development for the EEC. Greater private participation not only stimulates competition but it also drives technological innovations.

Promoting energy trading markets, green bond funding for renewable projects, tax incentives for individuals and businesses adopting eco-friendly operations, alternative eco-friendly production methods, zero-waste campaigns, community programmes to address environmental issues, all could have been other considerations. More than 10 local companies had planned their green bond issuances this year, but had to shelve their plans due to the virus.

A recent Financial Times report of rice farmers testing alternate methods of wetting and drying', instead of keeping fields submerged throughout the growing season, was encouraging. This reportedly helps to reduce the water usage and greenhouse gas emissions. This comes as drought across Thailand has been hurting agriculture production and exports this year, bringing the country to the verge of losing its position as the world's second-biggest rice exporter.

Fig 13 Thailand: Where stimulus spending is going

Total stimulus 14.5% of GDP: On Budget 7.6%, Monetary 6.8%, Green 0%

Four packages (THB billion)	First	Second	Third	Fourth	Total
Announced on	10-Mar	24-Mar	31-May	16-Jun	
Total real and monetary support	**400.0**	**117.0**	**1,900.0**	**22.4**	**2,439.4**
On-budget (real) spending	220.0	47.0	1,000.0	22.4	1,289.4
Cash hand-outs, aid to farmers and informal workers	20.0	45.0	555.0		620.0
Support for grassroot economy, social rehabilitation			400.0		400.0
Fund for healthcare readiness			45.0		45.0
Support for tourism sector				22.4	22.4
Subsidising hotel room rates and food services				18.0	18.0
Subsidising air fares				2.0	2.0
Holiday travel expenses of health workers and volunteers				2.4	2.4
Other	200.0	2.0			202.0
Monetary support	180.0	70.0	900.0	0.0	1,150.0
Soft loans for businesses @2% interest	150.0	70.0	500.0		720.0
Lending from Security Fund @3% interest	30.0	x			30.0
Market stabilisation fund			400.0		400.0
Personal emergency loans		x			0.0
Easing debt classification criteria	x				0.0
Debt repayment moratorium	x				0.0
Debt restructuring without any strain on credit history	x				0.0
Exemption of taxes and fees for debt restructuring		x			0.0
Cut in minimum payment for credit cards to 5% from 10%	x				0.0

Note: 'X' marks denotes the package in which the measures was announced but no allocation was required or provided
Source: Thailand Ministry of Finance, Newswires

Philippines: Small improvements but not a true directive

Where do we stand? Although environmental sustainability is not at the forefront of the current political agenda, the Philippines enjoyed partial gains in the area of sustainability even prior to the pandemic with authorities actively promoting and crafting policies that cover green financing. The securities and exchange commission (SEC) adopted the ASEAN Green Bond Standards framework in August 2018, issuing guidelines for bond issuance to finance projects that provide environmental benefits. The Bangko Sentral ng Pilipinas (BSP) followed suit, recently approving the sustainable finance policy framework for banks that are under the central bank's supervision, showing that the Philippines would like to embed sustainability in the country's recent growth push.

In terms of environmental performance and sustainability, the Philippines scored a 38.4 EPI rating under Yale University's Centre for Environmental Law and Policy Framework, slightly lower than the regional average of 40.8. Meanwhile, the air quality index for the Philippines as measured by IQAir deteriorated to 17.63 in 2019 from 14.62 in 2018 likely due to its current energy production mix. The Philippines is currently heavily reliant on oil and coal power for power generation, constituting 81.1% of total electricity use while hydroelectric and renewable generation makes up just 11.7%. Major Philippine power generation companies however have expressed the intention to divest from coal over the next five years which should help improve air quality and reduce greenhouse gas emissions as companies shift production to renewable energy.

Under the Paris Agreement, the Philippines has committed to reducing emissions by 70% from a business as usual scenario by 2030. While the current target is compatible with keeping global temperatures from rising by more than 2 degrees Celsius, it still falls short of the 1.5 degrees Celsius goal of the Paris Agreement.

What's green in the Covid-19 stimulus? The Philippines has rolled out a Covid-19 stimulus package of Php604bn to date, worth roughly 3.1% of GDP. On-budget spending totalling Php409.6bn, consists primarily of cash dole outs, income subsidies and expenditure on the healthcare sector with no emphasis on the environment or sustainability. Currently, the Philippine Congress is deliberating a new fiscal rescue bill worth Php630bn which covers income replacement, spending on healthcare and support for small and medium sized businesses (SMEs). Authorities are planning projects such as bike lanes to augment mass transportation although such a move may have been carried out to safeguard against the virus and not with any sustainability purpose in mind. The pending Philippine fiscal stimulus bill will likely continue to focus on income replacement with the economy on partial lockdown and healthcare improvements as new Covid-19 infections remain elevated with no emphasis on green projects or programs.

What could have been done? With Covid-19 spreading across the Philippines and the economy in recession, it may be understandable that the majority of funds have been allocated to income subsidies, healthcare and support to SMEs. The government has opted to channel a part of the Covid-19 response into loan support for SMEs given that the bulk of employment is generated by this sector. Authorities might have opted to tie some of these salary subsidies and low interest rate loans with requirements to help promote the environment and sustainability. Meanwhile, the government is set to

resume its aggressive infrastructure development plans, however, these projects had been designed, bid out and implemented prior to the pandemic and cannot be tagged as part of the Covid-19 response. The government could perhaps identify and prioritise infrastructure projects depending on their green criteria.

Fig 14 Philippines: Where stimulus spending going

Total stimulus: 5.2% of GDP: On budget: 2.1%, Monetary: 3.1%, Green 0%

Stimulus measures	PHP bn	
Fiscal stimulus measures	**604.6**	
Health care	10.48	Medical assistance to indigent, support to healthcare workers
	0.60	Purchase of medical equipment
Social safety net	205.0	Cash disbursement program for indigent
	23.18	Pension assistance
	8.73	Assistance for indigent
	1.25	Quick response fund
Support to GOCC	195.49	Capital infusion for government corporations
Department of Labor	6.79	Displaced worker program
	1.50	Displaced OFW program
Local government sector	195.49	Budget support for government to government corporations
	51.0	Wage subsidy for SME workers
	4.78	Metro Manila Development assistance
	29.09	Local government unit cash assistance
	0.05	Barangay officials death benefit fund
	8.85	Local government support fund
	0.37	Special share to LGU for cash aid
	7.0	Special allocation for Bangsomoro Autonomous region
Department of Agriculture	6.5	Purchase of rice buffer stocks
Department of Tourism	14.0	Subsidy for tourism related businesses
Monetary stimulus measures	**602.0**	
Direct lending & reserve drawdown	320.0	Bangko Sentral repurchase agreement with Treasury
Secondary purchase: government securities	166.2	Bangko Sentral purchase of government securities in secondary market
Support policies for short-term lending	220.0	Reduction in reserve requirement ratio and policy rate cut

Source: Ministry of Finance, Bank Indonesia, Newswires

Indonesia: Early strides but reality bites

Where do we stand? Indonesia is the fourth most populous nation on earth, heavily endowed with natural resources on which it relies heavily for economic growth (raw materials comprise roughly 50% of its export base) while also supporting domestic consumption and energy production. In line with this, Indonesia is also one of the top greenhouse gas emitters according to the World Resource Institute and its air quality also rated 6th worst in the world according to IQAir. Not surprising, the capital Jakarta ranks as the city with the thrid worst air quality in terms of particulate matter. In terms of environmental performance and sustainability measured by the EPI framework of Yale university, Indonesia scored a 37.8, slightly lower than the regional average of 40.8 and rising 4.1 points over a 10-year period.

Against this backdrop, Indonesia has pledged to lower emissions by 29% versus its baseline by 2030 after previously following through on their promise to lower emissions by 26% from 2009 to 2020. Prior to Covid-19, Indonesia had hoped to draft the 5-year development plan for 2020 to 2024 with low carbon targets but much of that may be on hold given the pandemic. Although Indonesia reiterates its pledge to lower emissions over the next ten years, renewable energy comprises only about 6% of total production while oil and coal account for 76.2% of the total energy mix. Government officials indicate that they would like to cut down on coal power to meet emissions goals even as new coal power plants are being constructed to help keep electricity costs affordable. Thus, Indonesia has shown the capability and intent to lower emissions in the medium term although such goals may face some headwinds as government officials seek to also keep power costs affordable while also supporting local coal industries.

What's green in the Covid-19 stimulus? Indonesia has allocated IDR697.7 trillion (4.2% of GDP) to address the Covid-19 fallout with roughly 44% of the stimulus package allocated for income subsidies, cash outlays and food programs to support the general population[1]. Meanwhile, government officials set aside IDR87.55 trillion for the healthcare sector to purchase equipment and compensate healthcare workers. The balance of the Covid-19 budget covered capital injections for state owned enterprises, tax cuts for small and medium sized enterprises (SME) and 19 select sectors identified as to be hardest hit by the pandemic. As of this report, there are no specific funds allocated for green projects with Indonesia placing emphasis on income support and loan support to both state-owned enterprises and SMEs.

What could have been done? Covid-19 continues to spread in Indonesia, logging the highest number of infections in ASEAN to date. Despite the high prevalence of the virus, a recent poll showed that most Indonesians (61%) are in favour of relaxing mobility restrictions to get the economy up and running, indicating that the economic impact is severe for most citizens. By far the most effective policies would have involved shelving new coal fired generation in favour of renewables, though it seems as if this was not considered politically feasible at this stage, which locks in future emissions form this source. For credit support to businesses and SMEs, government officials could have attached guidelines or incentives to shift to green alternatives to power generation or waste disposal. Further efforts at social information could have been made to increase awareness on sustainability, a programme that was recently instituted in the education curriculum.

[1] Ministry of Finance, various news articles

Fig 15 Indonesia: Where stimulus spending is going

Total stimulus: 6.2% of GDP: On budget: 2.7%, Monetary: 2.5%, Green 0%

Stimulus measures	IDRtr	
Fiscal stimulus measures	**697.77**	
Health care	87.55	Incentives for medical workers, purchase of equipment and tax incentives for health care sector
Social safety net	203.9	Social aid preemployment card program and food program
MSME	123.46	Tax cuts for corporates and income tax exemptions for workers
Tax incentives	120.6	Tax incentives for 19 economic sectors, including corporate and income tax cuts
Corporate financing		SOE capital injections and working capital investment, loan restructuring in labour intensive business
Regional administration budget	300	Funding for regional administrations for cash outlays, housing incentives, income subsidy
Biodiesel subsidy		
Monetary stimulus measures	**414.7**	
Direct lending & reserve drawdown	26.07	Bank Indonesia purchase of primary market issuances from the Treasury
Secondary purchase: government securities	166.21	Bank Indonesia purchase of secondary market issuances from the Treasury
Short-term lending	56.0	Term repurchase operations
Support policies for short-term lending	117.8	Reduction in reserve requirement ratio and policy rate cut
Forex operations	48.62	Reduction in reserve requirement for FCDU and increased swap operation

Source: Ministry of Finance, Bank Indonesia, Newswires

Australia: Old style federal meets new-age states

Where do we stand? Australia does not have a great track record when it comes to its environmental stance. It is one of the heaviest per-capita greenhouse gas emitters in the world, second only (and only just) to Saudi Arabia and ahead of the US at 15.6T. Within the Asia-Pacific region, it is the biggest per capita emitter by some margin, even compared to industrial countries like Korea and Japan, mainly due to the high emissions linked to its agricultural activity. But it goes further than this, contributing substantially to the GHG emissions of other countries in Asia Pacific through its exports of coal, oil and natural gas, not to mention other energy intensive extraction industries.

At over 15 tonnes per capita of Carbon dioxide (22 tonnes when adding in methane from agriculture and LNG production), Australia only just misses out on a global top ten place for emissions.

Australia has agreed to cut emissions by 26-28% from 2005 levels by 2030,under the Paris Agreement. Given current policies, it is unlikely to meet this target. Meanwhile the nationally determined commitment has drawn criticism for not being ambitious enough, while also not consistent with the 1.5 degrees Celsius limit. Independent advisors to the government had recommended a 40-60% reduction from 2000 levels. The country's pledge is equivalent to just a 19-22% reduction from 2000 levels.

To be fair, in years gone by, Australia has embarked on a number of support schemes for green energy sources. The Long term Renewable Energy Target (LRET: 33TWh pa) was reached in 2019, ahead of the 2020 target. To this we could add the Clean Energy Finance Corporation (CEFC: AU$10bn to aid transition to cleaner energy across industry and agriculture), and the Australian Renewable Energy Agency (ARENA). But there is a dearth of new initiatives to carry this progress forward, and such as there are, they have mainly been dominated by ambitious state projects.

The Australian Federal Government support measures to offset the Covid-19 pandemic are some of the most generous in the Asia Pacific region , with on-budget measures estimated at about 6.9% of nominal GDP, out of a total of more than 13% of measures.

But the bulk of the Federal stimulus money is aimed at conventional support policies, such as household income and employment support, notably "job keeper payments", and other support measures for SMEs.

What's Green in the Covid-19 Stimulus? At the Federal level, there is very little that you can single out as being green. One measure is the snappily titled "Funding for small businesses to improve energy efficiency, reduce costs and lower energy consumption".

The program title is self-explanatory, but the total budget for this scheme is only AU$9.06m. Within the AU$1bn earmarked for regional assistance, a small portion of that may be used for environmental measures – wildfire restoration, re-fencing etc. But that will probably be far less than the AU$715m earmarked for airlines and airport support, which provides some perspective.

The vast bulk of the Federal stimulus measures are aimed at supporting household spending power and employment through the job keeper payments scheme, income support and targeted cash handouts.

At the State level, however, it is a different story, and though not many of the states stimulus packages are particularly green, some states, like Tasmania are really embracing a more environmental future. We highlight the key features of these below: Though in terms of sheer scale, the AU$13bn of on-budget state stimulus measures is dwarfed by a factor of about ten by Federal Stimulus measures, so even with a greater emphasis on green measures in some states, this doesn't change the overall mix towards green policies substantially.

Fig 16 Australia: Where stimulus spending is going

Federal stimulus 13.3% of GDP: On Budget 6.9%, Balance sheet 6.4%, Green 0.01%

Stimulus measures	Description	AU$m
Support for individuals/households		**93,839**
Jobkeeper payment	Pays AU$1500 each fortnight to cover wages	70,000
Income support	Expanded eligibility to income support at AU$550 per fortnight	14,133
Payments to support households	2 payments of AU$750 to soc security, veteran, other income support recipients	8,830
Reduction of social security deeming rates	Reduction of assumed income from savings, reducing tax liabilities	876
Temporary early release of superannuation	Income tax free access up to AU$10,000 in each of 2019/20 and 2020/21	1,150
Support for businesses		**1,500**
Job keeper payment	See above	see above
Support apprentices and trainees	Wage subsidy of up to 50% for eligible businesses	1,265
Temporary relief for distressed businesses	Increased thresholds for bankruptcy proceedings	n/a
Cash flow boost	Tax free cash-flow of AU$20,000 to AU$100,000 to eligible SMEs	31,900
Increase instant write off	Threshold increased from AU$30,000 to AU$150,000 for businesses up to AU$500m	700
Backing business investment	Time limited investment incentive via accelerated depreciation	3,200
Energy efficiency fund	Energy saving investments by SMEs	9.06
Regional Support	**Regional grants and airline assistance**	**1,000**
Support for airlines/airports		715
Supporting the flow of Credit		n/a
Miscellaneous environmental		10
Balance sheet measures		
Cash flow support for SMEs	Guarantee of 50% of unsecured loans to SMEs up to AU$40bn of lending	<=20,000
Reserve Bank of Australia measures	See above	<=90,000
Credit Access for SMEs	Cut red tape concerning responsible lending	<=15,000
Monetary Policy		
Official Cash rate cuts	OCR cut to 0.25	n/a
Yield curve control	QE implemented to bring 3Y bond yields to 0.25%	n/a

Source: x

State fiscal support

Tasmania

The Draft Tasmanian Renewable Energy Action plan has yet to be passed into law, but if it is, it represents a very ambitious set of plans with a 200% net renewables target by 2040, 100% by 2022, and plans for development of a credible hydrogen industry based off Tasmania's hydro capacity.

Costed amounts for these projects though, are pretty small. The Hydrogen industry plan is only AU$50m, spread over ten years. The support for the Cooperative Research Centre for studying marine conservation and offshore renewables is only AU$2m over 10 years, and it looks as if by far the bulk of the investment will be from the private sector, with perhaps some federal support thrown in.

The draft renewables action plan is written in language that suggests this is a response to the Covid-19 outbreak. The reality is that this is probably just good timing, and Covid-19 makes selling a draft policy like this easier to do when fiscal rulebooks are being torn up and when these projects do promise to create significant returns and create jobs. So while we can include some of the costed spending amounts in our assessment of how green Tasmania's fiscal stimulus is being, we are probably being a bit generous, as all of this might have been slated without Covid-19.

Besides the Renewables Action Plan, the Tasmanian stimulus package is similar in its mix to other States and Federal programmes, with the majority of the money aimed at supporting household incomes, SME support and finance (see table). It's a promising backdrop though.

Fig 17 Tasmania: Where stimulus spending is going

On budget, Balance sheet, Green

Description	AU$m
Emergency relief	1
Accommodation support	1
Support for primary healthcare	2
Accommodation support for frontline workers	1
Mental health support	1
Interest free loans for SMEs	20
Payrolls tax waivers	
Fast tracked government maintenance program	50
Improve business cash flows	
Grants program for apprenticeships	
Youth Employment scheme	
Local government upgrades to infrastructure	50
Targeted assistance for Tourism, hospitality and fisheries	1.1
Total claimed	**420**
Additional Green from Renewables Draft (rough guess)	7

Source: CPA Australia

Fig 18 Tasmania: Where green spending is going

Green goals and achievements	AU$m
Net Zero emitter by 2022 Target of 200% renewable needs by 2040 Hydrogen development industry support 95% reduction in emissions since 1990. Produce almost 1/4 of Australia's renewable energy, consumes 2%	50m (over 10 years)
Coperative Research Centre (seafood and marine, offshore)	2
Energy efficiency subsidies for appliances	1
Energy saving measures for households	0.85

Source: Tasmanian Government, Department of state Growth

New South Wales

Like Tasmania, the New South Wales Covid-19 emergency stimulus packages (package 1 and package 2) are very standard in terms of content, with jobs and income support measures for households, and cash flow assistance for small businesses dominating. None of that can really be described as green, though it isn't particularly "brown" either.

Like Victoria, New South Wales is reportedly adopting environmental criteria for projects which it will take up, though it is hard to make this judgement from the level of detail supplied by the NSW State Government. Although the aim recently has been to make streamlined planning to speed up the pipeline of projects, there does appear to be a nod in the direction of the environment in terms of longer times available for appeals, though you need to be a lawyer to really decipher the shake-up to the NSW planning process. And it is not clear if the net effect is to provide a greater environmental hurdle before projects are given the go-ahead, or more likely, just speed up the pipeline of ready-to-go projects to keep the economy moving.

Likewise, the document, New South Wales 2040 by the NSW Treasury largely dodges the issue of whether to adopt a greener energy policy, abdicating this to the Commonwealth government, which seems content for there to be no change to the current fossil-fuel heavy energy mix, which New South Wales embodies.

Fig 19 New South Wales: Where stimulus spending is going

On budget, Balance sheet, Green

Stage 1	AU$m
Hospital resources	700
Economy support through tax cuts and job creation	1,600
Small business support through waived fees / charges	80
Payrolls tax threshold changes	
Employment of extra cleaners	250
Accelerated capital works	500
Accelerated maintenance on social housing	250
Stage 2	
Business support fund	750
Payrolls tax waivers	4,000
Fund to prevent homelessness	34
Assistance with energy payments	30
Charities and food security	10
Total stimulus	**8,204**

Source: NSW Government, Treasury

There is a possibility that the Covid-19 emergency will spur the New South Wales Government to bring forward its "Net Zero plan, stage 1", which aims to reduce the State's emissions by 35% relative to 2005, by 2030. And part of this may be an acceleration of implementation of their electricity strategy too, which would possibly see a reduction in electricity generation from coal, which currently accounts for 80% of all electricity generation in the state.

More controversially, the NSW government has reportedly approved an expansion of the Snowy Hydro project, named Snowy 2.0. The Snowy 2.0 project relies on "pumped energy" And it will depend on conventional energy sources initially, mainly coal, to pump water, and enable it to act as a massive battery. This could help transition in less reliable sources of renewable energy into the grid in the future. But Snowy 2.0 cannot be considered "renewable" energy in its own right. And environmentalists are angry that the project will damage the Kosciuszko national park, and threaten some rare fish species with extinction.

Otherwise, the stimulus plan is much the same mixture of measures taken elsewhere, except being from one of the larger more prosperous states, the sums are larger.

Victoria

The Victoria government announced an AU$1.7bn economic survival package on 21 May, followed by AU$534m business support package on 10 July. The measures contain the usual job support and payrolls tax waivers of other state packages.

Fig 20 Victoria: Where stimulus spending is going

On budget, Balance sheet, Green

Economic survival package	AU$m
Payroll tax refund for SMEs	550
Early payment of government invoices	750
Working for Victoria Fund	500
Total package	**1,800**
Business Support Fund	**AU$m**
Night time economy support fund	30
Mental Health support	26
Business mentoring	10
CBD business support fund	20
Extended/expanded payrolls tax relief	10
Support for pubs clubs and restaurants	40
Total package	**534**

Source: Victorian Chamber of Commerce and industry, Victoria State Government DELWP

The Victoria Government building works package on 18 May did, however, contain some measures that could be described as "Green". The AU$2.7bn package includes AU$129m for the Department of the Environment ,which can be used for upgrading public land facilities, support for solar, water infrastructure and bush-fire damage restoration and protection, erosion and flood risk. Adding the building works package to the economic survival package and business support fund, this spending is equivalent to about 2.5% of the total, but likely dwarfed by "brown" construction projects in the rest of the package.

Queensland

The Queensland government has delivered a number of support packages, starting with stage 1 support of AU$6bn for emergency medical support, payrolls tax relief, and jobs support.

Stage 2 initiatives include some explicit green projects, including AU$23m support for renewables training and some national parks works.

Fig 21 Queensland: Where stimulus spending is going

On budget, Balance sheet, Green

Stage 1 initiatives	AU$m	Stage 2 initiatives	AU$m
Expand emergency medical care, fever clinics	1,200	Agriculture, diversification, digitisation, trade support	12.5
Jobs support loan facility	1,000	Construction, housing, community improvements, access	276
Fund to support significant and important firms	1,000	Tourism - airline route support	15
Payrolls tax relief	950	Tourism - national parks works	8.93
Assistance for job losers	500	Resources - renewables training facility	23
Utilities bill relief	500	Resources - including coal and other mining	10.65
Support for retail and commercial tenants	400	Art and culture - support and grants	22.55
Uncosted initiative to support hydrogen industry		Small business - grants	100
		Industry support - mainly taxi support	23.26
Total of costed initiatives			**491.89**

Source: Queensland Government

The combined sum of green initiatives of just under AU$32m represents 6.5% of phase 2 spending, or about 0.5% of total stimulus spending including phase 1. To put this into some further context, the total spending on green projects by the Queensland Government is less than that on supporting taxis and airlines. Add in support for mining including coal mining, and the overall balance comes across as fairly brown, rather than green. But better than some.

Western Australia

The Western Australia government produced a Covid-19 stimulus package of AU$607m in March. Most of this is directed at freezing utility bills, and other bills, charges for households, as well as the usual payrolls tax relief.

Fig 22 Western Australia: Where stimulus spending is going

On budget, Balance sheet, Green

Description	AU$m
Freeze household fees/charges	402
Small business support measures	114
Total Economic support	**607**

Source: WA Government

There is no readily available detail on measures that might be considered green, or environmentally positive.

Australian Capital Territory (ACT)

The ACT government announced that it was to fast-track projects that could benefit the environment, including improving water quality, land restoration and improved fencing. An additional 26 temporary jobs in the ACT Parks and Conservation Service would be created.

There is limited detail on the breakdown of the projects in terms of cost. Most of the spending detailed appears to be on road improvements, though there are some cycle path developments which could arguably be included as under a broad green heading, as well as public transport improvements. As a totally wild guess, we will assign AU$5m from the AU$35m spending on fast track spending to green projects, but that is probably too much, and less than amounts spent on roads.

Northern Territories

The Northern Territories government has delivered a AU$65m jobs rescue and recovery plan together with a further AU$50m small business survival fund. There is no separately costed element directed at green spending, renewable energy, energy efficiency, or the environment. Adding in future spending, the NT government comes up with a total of AU$189m in support measures. We are only counting spending in 2020/21 for the purposes of this report.

Fig 23 Northern Territories: Where stimulus spending is going

On budget, Balance sheet, Green

Description	AU$m
Home improvement	30
Business improvement	20
Immediate work grant	5
Small business survival fund	50
Other including tourism, fee freeze, payroll tax relief	10
Total fiscal support	**115**

Source: NT Government, CPA Australia

South Australia

There isn't a lot of detail available for South Australia's Covid-19 stimulus packages, but the two packages implemented so far provide all the usual payrolls tax relief, fee and charges waivers and jobs support, measures included in other states packages for a total for both packages of a nice round billion dollars.

Fig 24 South Australia: Where stimulus spending is going

On budget, Balance sheet, Green

Description	AU$m
Package 1	**350**
Package 2	
Business and jobs support fund	300
Community and jobs support fund	250
Other including payrolls and land tax relief, fee waivers	100
Total for package 2	**650**
Grand total	**1,000**

Source: SA Government

There is no separately costed indication of any spending directed at the environment, renewable energy or anything else that might be considered "Green".

What could have been done? Given that of a total of AU$13.2bn spent on pandemic stimulus plans at a state level, plus a further AU$133bn at a federal level (fiscal spending only, not balance sheet support), we can identify only AU$173m of clearly green spending in Australia, it is not so much a case of asking what more could have been done, but why so little has been done.

Fig 25 States vs Federal spending

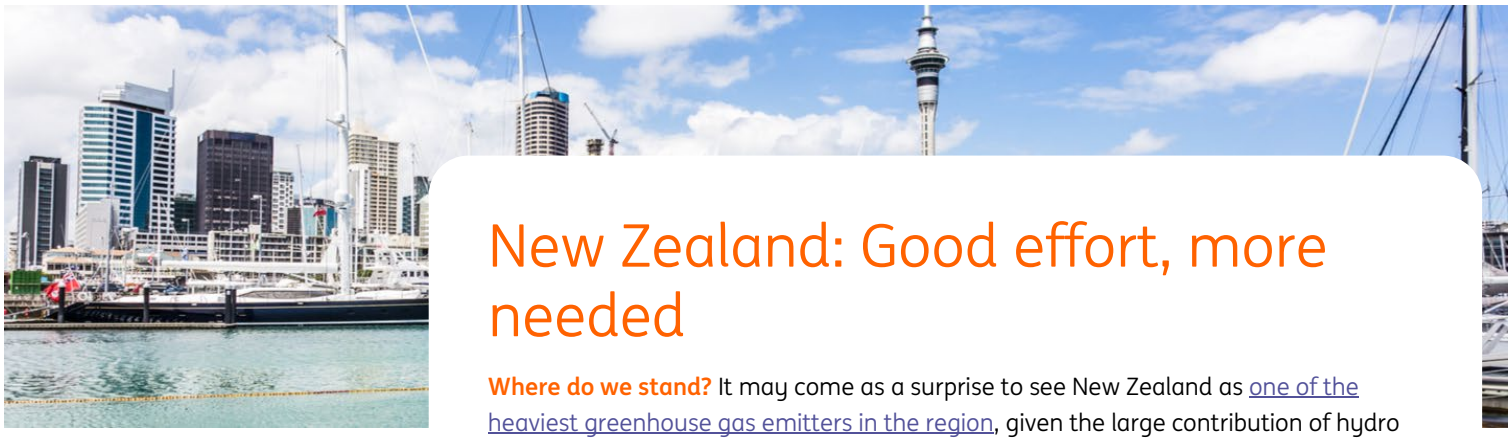
Total on budget, Green

	AU$m	% GDP
Federal	133,769	6.2
States	13,172	0.6
Green	192	0.1
Grand total	**146,940.89**	**6.9**

Source: Federal Government, State Governments, ING

The total of green spending in Australia's Covid-19 response represents barely 0.1% of total stimulus measures, with almost all of that taking place at the state, not federal level. As creating jobs is a big part of these stimulus plans, and public property restoration another element, these packages come across as unambitious, and do not seem to have picked up any ideas from activity undertaken overseas, for example, to improve insulation (not all of Australia is hot all the time) and energy efficiency of public buildings. Following the recent bushfires, greater amounts of money spent on environmental restoration, protection and management would also have seemed obvious and probably labour hungry policies.

This isn't simply to say that green is always better. But there is a reasonable body of research to suggest that the returns to such spending typically exceed those of conventional spending, and can be more effective at job creation. With the pandemic leading to the unemployment of more than quarter of a million Australians, some very quick wins could have been achieved with a programme of environmentally targeted and labour intensive public works schemes which would also have generated in addition a substantial social return to the spending.



New Zealand: Good effort, more needed

Where do we stand? It may come as a surprise to see New Zealand as one of the heaviest greenhouse gas emitters in the region, given the large contribution of hydro power to electricity generation. The apparent disparity is down to agriculture, and the impact of livestock on methane emissions (no further explanation really needed).

That said, New Zealand has taken a strong stand on the environment, and the recent Covid-19 stimulus packages are consistent with this stance.

What's green in the Covid-19 stimulus? The New Zealand Government announced a NZD12.1bn stimulus package on 17 March

Wrapped somewhere within the stimulus package is a NZD1.3bn jobs for nature package.

The purpose of the package is to provide up to 11,000 jobs while ensuring environmental benefits.

The funding for the package will be used to improve freshwater, improve biosecurity, and enhance biodiversity.

Fig 26 New Zealand: Jobs for nature

Description	NZDm
New Jobs in regional environmental projects aimed at freshwater improvement	433
Biuosecurity including weed and pest control	315
"Kaimahi for nature"	200
Enhancing biodiversity on public and private land	154
Freshwater initiatives	73
Additionally	
Fencing waterways, water reticulation and riparian management	100
One billion trees funding	35
Total	**1,310**

Source: NZ Ministry for the Environment

There are, in addition , a lot of other "green" initiatives within the NZ$50bn Covid-19 Response and Recovery fund foundational package announced in May as part of the Budget 2020. Much of this spending is multi-year, but includes things such as

- Wallaby management to protect native plants
- Expanded animal well-being support activities
- Conifer control
- Food waste prevention
- Housing insulation
- Biodiversity and pest management
- Phasing out plastics

Of all the initiatives, crossing all departments from police to transport and agriculture, almost 10% of the 2020/21 vote (NZ$278m by our calculations) could be described as green.

Digging a little deeper, while the jobs for nature programme is advertised as part of the Covid-19 package, it seems that most of the funding for this comes from the 2020 budget passed in May 2020.

So it can be considered part of the response to Covid-19, but not part of the two specifically Covid-19 packages highlighted earlier.

What could have been done? New Zealand stands out in Asia Pacific for having utilised the Covid-19 pandemic as an opportunity to reinforce its commitment to the environment with spending in absolute and proportionate terms well in excess of its regional peers.

Could it have done more? Certainly, that is always possible. One approach that could further strengthen New Zealand's green credentials would be to legislate to account for the environment with every policy, and compensate for any adverse consequences with mitigating actions. That may sound pretty extreme, but it is basically what will be needed to achieve a net zero emissions target, which remains a common goal outside Asia-Pacific.

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