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Aiming for a Post-Covid-19 Recovery That Brings Resilience

*By **Dr Ng Shin Wei** (Penang Green Council, and Director of Global Policy Asia)*

Executive Summary

- The coronavirus pandemic presents a unique opportunity for countries to reset their growth strategies to address the threat of climate change and safeguard the wellbeing of society and the planet.

- Governments in both developed and developing countries need to do the following: 1. Strive for ambitious cuts in greenhouse gas (GHG) through mitigation measures; 2. Build resilience against a more dangerous climate scenario; and 3. Adopt contingency plans to deal with severe and large-scale climate impact.

- Governments need to transform vital socio-economic infrastructures such as energy, transport and buildings. Post-Covid-19 financial stimulus packages should target large-scale adoption of renewable energy, public transportation, clean vehicles, zero carbon buildings and so on, and should exclude funding for dirty technologies and fuels.

- Countries also need to protect carbon sinks (such as forests and oceans) and recognise the many co-benefits of preserving these natural habitats, including reducing the risk of future pandemics. Governments should strengthen their strategies for food and water security against the threats of climate change.

- Governments need to introduce regulations and incentive schemes to reward green technologies and practices and penalise dirty investments. Greening the financial system is one of the most effective ways of promoting this shift on a scale and timeframe that we need to improve climate security.

- Lastly, effective disaster management should become a core component of future growth strategies. It has to be science-based and supported by adequate funding – in fact, it should be included in the strategic spending for national defence. There is opportunity in every crisis, and this may be our last chance to reset our unsustainable growth trajectory.

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INTRODUCTION

After the ravages of Covid-19, countries are struggling to reopen their economies. However, they are doing it without blueprints for reversing the disruption done to the livelihood of their citizens. Learning from the crisis, governments should aim for an economic rejuvenation that makes sense, one that makes society safer and more resilient.

This coronavirus pandemic is not a "black swan" event[1] in the sense that many people and health experts had been warning governments of the probability of such an event.[2] Scientists have been pointing out that the destruction of habitats puts wild animals and humans in close proximity to each other, making it easier for diseases to cross species, as the case is with Covid-19. The event has been a strong reminder that economic growth does not exist in a bubble and to be sustainable, must be conducive to a safe and healthy environment.

In short, this means tackling head-on the greatest threat to human civilisation in the near future - climate change.

Irregular weather events, sea level rise and hotter days will cause displacement of people, food and water shortage, the spread of vector-borne diseases and severe loss of biodiversity, all at the same time. Climate change will have the greatest impact on vulnerable groups such as poor households, and the sick and elderly who do not have many options and safeguards to fall back on. Also, as with the current pandemic, global efforts to tackle the problems are likely to be uncoordinated and each nation will scramble to protect its own borders and people.

Going forward, it is imperative for governments to resist the urge to patch things up the way they were as the pandemic has exposed fundamental flaws in their growth strategies. Instead, they need to move towards a economic model that incorporates environmental damage as internal costs. Such a growth model also needs investments in social infrastructure with the wellbeing of the people and the planet as the ultimate consideration.

For the advancement of human and planetary welfare, governments need to consider the following: Mitigation, Resilience and Contingency Planning.[3] "Mitigation" refers to the need for an ambitious GHG reduction scenario (e.g. below 2°C increase in global temperature) through large-scale

[1] "Black swan", a term coined by Nassim Nicholas Taleb in 2007, refers to an unpredictable, rare and catastrophic event.
[2] "Coronavirus Is Significant, But Is It A True Black Swan Event?", The Conversation, 1 May 2020. https://theconversation.com/coronavirus-is-significant-but-is-it-a-true-black-swan-event-136675
[3] This is taken from the "ABC" Risk Management Framework proposed by E3G in "Degrees of Risk: Defining a Risk Management Framework for Climate Security", 2011. https://www.e3g.org/showcase/degrees-of-risk/

mitigation efforts. “Resilience” refers to the need to adapt to a more dangerous climate change scenario (e.g. 3-4°C increase). “Contingency Planning” means the need to build capability to respond to extreme climate change scenarios (5-7°C increase). Below is a list of priority actions governments in both developed and developing worlds should take to revive their economy post-pandemic that will also minimise the risk of a ‘runaway’ climate.

A. Reduce Greenhouse Gases (GHGs) Emission of Vital Socio-Economic Infrastructures

Modern societies are nothing without the fundamental infrastructures that power and support them, such as electricity, transportation and buildings. However, the construction and use of these infrastructures also emit a large volume of GHGs (in fact, these three sectors account for nearly half the global GHG emissions[4]), which cause global warming and climate change. This is because these infrastructures rely on conventional fossil fuels and materials such as cement and steels that are polluting by way of fuel/mineral extraction and in end-product disposal. Since societies will always need these infrastructures, it is pertinent that governments, which provide a large portion of these infrastructures as public goods, make a conscious decision to shift away from polluting sources and materials and adopt cleaner technologies.

Investment in renewable energy has increased steadily over the years globally, with renewables growth now outpacing fossil fuels.[5] This is because the cost of renewables such as solar and wind energy has reached parity with conventional energy, including even cheap fuels like coals in some places. However, an acceptable climate change scenario requires more fossil fuel generation to be replaced by renewables in a relatively short timeframe. The urgency of this shift has so far not been reflected in government policies especially in developing countries. In particular, only a few countries globally have adopted CO2 emission trading systems or imposed a carbon tax; measures that can facilitate an effective shift to renewable energy sources. Coupled with renewable energy sources, governments should also invest in smart grids that can accommodate more flexible energy sources and encourage distributed energy systems that allow cities and communities to be more energy independent. And as regional integration accelerates (especially in a post-Covid-19 world where globalisation will take a hit), regional grids can also play an important role in delivering cheap and secure energy across nations.

The transport sector is also a big GHG emitter, through our over-reliance on personal vehicles and the sprawling cities that are not designed for non-motorised transport modes. While emissions from air travel have plunged abruptly due to the pandemic, ridership of public transportation may take a hit after the pandemic due to health safety concerns, which may translate into an increase in travel in cars. The shift to electric or alternative fuel vehicles has been slow globally due to cost issues and the need for new charging/fuelling stations.

[4] Global Greenhouse Gas Emissions Data, United States Environmental Protection Agency. https://www.epa.gov/ghg emissions/global-greenhouse-gas-emissions-data
[5] Renewables 2019 Global Status Report, REN21 (2019). https://www.ren21.net/gsr-2019/

Despite this, governments need to recognise that investments in better (with better hygiene and sanitation) public transport systems and infrastructure for non-motorised transport modes (e.g. cycling, pedestrian walkways) are crucial in cutting GHG emissions as well as improving air quality in the long term.

Also, remote working and learning may become the "new normal" post-pandemic so governments should seriously consider switching the funds set aside for roads to building broadband and other IT infrastructure instead.

Buildings are another high GHG emitting sector that needs an overhaul. Although new buildings are becoming more energy efficient and building codes are being tightened, there are immense challenges in transforming old housing stocks. Concerted efforts by governments and other stakeholders are required to facilitate large-scale retrofitting of existing buildings due to the high upfront cost and disruption to people's lives. Governments should also facilitate the adoption of green building designs and technologies, and public housing bodies or associations should work with industry actors to become leading market players in creating and scaling up affordable green social housing. Going forward, perhaps more important than thinking about individual buildings is the promotion of green townships. Buildings are more than just shelters. They also shape social interactions. A well-designed township that emphasises not only green buildings but also easy access to amenities and workplace, that is pedestrian friendly and have public spaces for social activities will increase social wellbeing and reduce environmental pollution. Governments should also look for innovative ways to retrofit existing townships post-Covid-19 to make them more sustainable socially and environmentally.

B. Protect Carbon Sinks and Natural Habitats

In addition to reducing GHG emissions, governments should also step up protection of natural carbon sinks such as forests, mangroves, grasslands, oceans and soil. In the absence of effective technologies to extract CO2 directly from the atmosphere, these are our hedge against a runaway climate scenario. Coincidentally, these carbon sinks will also retain as much of the carbon trapped as possible. Another huge co-benefit from protecting these natural ecosystems is the preservation of habitats and biodiversity; this can slow or even reverse the mass species extinction that the planet is experiencing. Presently, more than 1 million species are under threat.[6] Halting the relentless encroachment into natural habitats will also reduce the risk of future pandemics. According to research, in a "diverse ecosystems well separated from human habitations, viruses ebb and flow without ever having a chance to make it to the big time".[7] Also, "virus spillover risk" from wildlife to people increases when natural habitats are encroached upon.

[6] "Extinction: A Million Species At Risk, So What Is Saved?" BBC, 28 December 2019. https://www.bbc.com/news/science-environment-50788571

[7] "Want To Stop the Next Pandemic? Start Protecting Wildlife Habitats", Time, 8 April 2020. https://time.com/5817363/wildlife-habitats-disease-pandemics/

Governments should establish clear redlines on reduction of carbon sinks and create an inventory of areas that are used as large carbon sinks. These areas should be protected and their value for reducing CO2 formally recognised. There should be programmes to explore land-efficient ways of creating large-scale carbon sinks, one option of which is algae sequestration. Reforestation efforts also need to be planned properly to protect land suitable for agriculture. Reforestation and other biosequestration efforts need to achieve various co-benefits including enhancing biodiversity and protecting critical habitats. At the same time, governments should monitor closely the state of carbon sinks to assess their storage capacity. In particular, oceans absorb almost a third of global CO2 emissions[8], with the capacity changing depending on temperature, currents and so on. However, the increasing amount of CO2 uptake means oceans will suffer from accelerated acidification, and this threatens many base-level components of the food chain.[9] The warming and acidification of oceans may also create a positive feedback loop that changes regional weather and accelerate global warming. This is a huge unknown that could be a ticking time bomb.

C. Increase Food Security

The current pandemic has caused food shortages in some places due to disruption in supply chain, panic buying and tighter border control. Climate change poses an even greater threat to food security since extreme weathers, excessive warming and sea-level rise will affect food production on a large scale. Plant diseases and pests will be more prevalent with the changing climate and their impact on food yield will potentially be huge. In dealing with these threats, governments should evaluate the current food production and supply chain to identify areas most susceptible to threats from climate change. Governments may need to move production areas, develop more drought or seawater resistant plant species, identify substitute crops and strengthen cross-border cooperation in research and development. Although nations need to increase food self-sufficiency, it is unrealistic to completely close the border to food import. Hence, governments should work together to devise plans to increase regional food security.

Increasing food security does not only mean raising food production but also focusing on food safety, affordability and accessibility as well as the nutritional intake of consumers. Governments should put in place comprehensive plans that safeguard food access especially that of vulnerable communities particularly during disasters. The current market-based system may not work during a prolonged period of disruption in food production, distribution and accessibility/affordability. Increasing the welfare and income stability of farmers as well as innovations in the agriculture sector will go a long way in building a resilient food production system.

[8] "Oceans Absorb Almost 1/3 of Global CO2 Emissions, But At What Cost?" World Economic Forum, 19 March 2019. https://www.weforum.org/agenda/2019/03/oceans-do-us-a-huge-service-by-absorbing-nearly-a-third-of-global-co2-emissions-but-at-what-cost

[9] "Scientists Study Ocean Absorption of Human Carbon Pollution", The Guardian, 16 February 2017. https://www.theguardian.com/environment/climate-consensus-97-per-cent/2017/feb/16/scientists-study-ocean-absorption-of-human-carbon-pollution

D. Better Water Management

According to the United Nations, water is the 'primary medium through which we will feel the effects of climate change'[10]. This is manifested in the increased unpredictability of water availability (e.g. due to prolonged drought and sea level rise), destruction of water points and increased water contamination caused by flooding and storms. In anticipation of water shortage due to changing weather patterns, governments need to identify and utilise all possible water sources including building more infrastructures to capture rainwater and store stormwater. Rainwater harvesting facilities should become mandatory for new construction projects. Governments may also need to clean up rivers to increase the supply of safe drinking water. Water desalination may not be a viable option for many governments now as it is expensive and energy-intensive, but going forward, better and cheaper technologies will help provide a lifeline to many.

Equally important to finding new water sources is the need to find ways to reduce water consumption. In many places, ultra-low water prices send out the wrong signal regarding the scarcity of water. Pricing water correctly while mandating the adoption of water-saving devices or practices will make sure that the taps can flow for a bit longer as governments look for alternative water sources. Governments should also make sure that water treatment facilities and distribution infrastructure are stress-tested against disasters. Access to clean water should be a top public health priority for governments. Lastly, governments also need to pay attention to water threats beyond their borders especially the issue of cross-border water subsidisation through food export. Countries or regions that suffer from severe water shortage in the future will not be able to produce and export the same amount of food.

E. Expand Green and Circular Economy

It is clear that going forward, governments need to build a new type of economy that is kinder and more nurturing to the natural world. Ever since the magnitude of climate change impact on human civilisation became clear, some countries have tried to identify a pathway towards a greener and more sustainable economy. The European Union (EU) is leading the way in transitioning towards a better growth model through the new Green Deal.[11] Essentially, this is a growth strategy that aims to transform the region into a modern, resource-efficient and competitive economy that, inter alia, allows no net emissions of GHG by 2050 and is decoupled from resource use.[12] The Green Deal Roadmap can provide a useful guidance to other countries on how to transform their economies post-Covid-19. Furthermore, the Green Deal may also have a more "forceful" impact on other countries through the introduction of a border tax on carbon, which will penalise economies that continue using the high-emission economic model.

[10] Water and Climate Change, UN Water. https://www.unwater.org/water-facts/climate-change/
[11] A European Green Deal, European Commission. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[12] Ibid.

Green economy means more than just having greener vital socio-economic infrastructures (e.g. energy, transport); it is essentially about transforming the whole value creation process from production to enjoyment and subsequently disposal of the waste. This applies to all sectors of economic activities including manufacturing, mining and agriculture and even services such as tourism and finance. Essentially, governments need to apply a 'climate friendly' development filter to all spectrum of economy and introduce both "carrots and sticks" to shift production and behavioural changes. For example, governments can introduce a "carbon budget", emissions trading scheme and carbon tax, invest in research and development or provide incentives for the uptake of low carbon technologies. Governments can also introduce minimum standards (e.g. of energy and water usage) for both the production process and products, and mandate the recovery of materials to achieve a 'closed-loop' or circular economy.

The transition towards a green economy requires governments to play an active role; market forces alone are not going to be enough. This is due to the following reasons: a) Markets are dominated by incumbents whose survival is tied to the status quo (e.g. oil or coal companies) so there is little incentive to "shift gear" at a speed that is needed; b) Investment in new technologies usually have higher capital requirements due to the risks involved, which can be better afforded by governments (government actions can also reduce the risks through policy/regulations and acting as guarantors); c) Governments can also better facilitate and pay for concerted effort on the research and development of critical new technologies; and d) Large-scale adoption of new technologies also requires some kind of governmental intervention such as monetary incentives (e.g. Feed-In-Tariff for renewable energy) or standard setting (e.g. fuel efficiency of vehicles).

F. Promote Sustainable Financing

The financial sector plays an important role in making sure that recovery continues on the pathway of sustainability. Before the coronavirus pandemic, there was already a movement within the global financial sector to channel money and investments into green and sustainable companies or projects. Examples are the Corporate Forum on Sustainable Finance, The Global Green Finance Council, Climate Bond Initiative and the Green Bond Pledge.[13] In addition, stock exchanges around the world have started to require public-listed companies to report on climate change risks and strategies as these risks are capable of causing widespread destruction of value and harm to the public interest.[14] Going forward, it is important to accelerate this trend to divert funds away from harmful investments that will cause financial and market instability in the long run (e.g. through stranded assets).

[13] Sustainable Finance Initiatives, International Capital Market Association (ICMA) https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainable-finance-initiatives/

[14] "Climate Resilient Stock Markets: Climate Change Reporting Proposals for Adoption or Support by Stock Exchanges", Climate Disclosure Standards Board, December 2014 https://www.cdsb.net/sites/cdsbnet/files/cdsb_climate_resilient_stock_markets_0.pdf

Governments can introduce a series of measures to support the shift in the financial sector towards green finance. Firstly, governments can promote green finance by providing more clarity on what it means, which will reduce the risk of greenwashing and market manipulation. The EU recently published its Taxonomy for Sustainable Finance, which is a "classification instrument to help financial players and companies determine which activities qualify as sustainable".[15] Secondly, governments can also mandate public or state-owned banks or funds to channel a certain percentage of its investments to green activities with the ultimate aim of diverting one hundred percent of its investments into "climate-friendly" activities. Furthermore, the central banks can play a powerful role in supporting the development of green finance models and enforcing adequate pricing of environmental risks by financial institutions through green micro-[16] and macro-prudential[17] regulations, green financial market development[18] and green credit allocation[19].

In addition, governments can reduce the financial risks of green projects or technologies by either acting as guarantors or lenders to leverage a larger amount of private funds. Governments can also provide the facilities to aggregate or consolidate green projects to make them more financially viable to private investors (e.g. warehouse facility for energy efficiency retrofitting projects that may not be attractive enough to investors if carried out separately). In 2012, the UK Government launched the world's first Green Investment Bank that uses public money to mobilise private finance into the green energy sector and managed to help finance more than £12bn of UK green infrastructure projects between 2012 and 2017.[20] This model can be replicated in other countries where special publicly-funded banks focus solely on investing in green projects and technologies.

G. Effective Disaster Management

The coronavirus pandemic has exposed the structural problems faced by many countries, not least the common failure in activating an effective disaster management system that deals with the threat in a timely and least disruptive manner. Many countries lack the experience and foresight to deal with climate change-related disasters that might be new or at a scale never seen before. Going forward, governments will need to adopt new approaches and technologies to make the society more resilient. Effective disaster management should also be made a core component of the growth strategy as failure to deal with the impact will cause untold damage to society and to the economy.

[15] "What Is the Taxonomy for Sustainable Finance?" BBVA. https://www.bbva.com/en/what-is-the-taxonomy-for-sustainable-finance/

[16] This includes introducing disclosure requirements, mandatory environment and social risks standards, differential reserve requirements and green financial regulations. "Central Banking, Climate Change and Green Finance", Simon Dikau and Ulrich Volz. September 2018 (ADB Institute). https://www.adb.org/sites/default/files/publication/452676/adbi-wp867.pdf

[17] Such as climate-related stress testing, differentiated capital requirements, counter-cyclical capital buffers and large exposure restrictions.

[18] Such as green bond guidelines.

[19] Such as preferred interest rates for priority sectors, targeted refinancing lines and minimum and maximum credit quotas.

[20] Green Investment Group. https://greeninvestmentgroup.com/about-us/

Governments should invest in better science-based forecast modelling and identify major vulnerable points in the socio-economic systems. This should be followed by creating effective cross-departmental coordination. Governments need to allocate adequate money to climate adaptation and resilience; in fact, all governments should see this as a strategic spending on par with spending for national defence. Climate security is one of the most important tools in protecting the stability and safety of a country in the long run. Climate adaptation strategy should also prioritise vulnerable communities – economic and social policy should be introduced to reduce their vulnerability (e.g. poverty, illness, disability) and increase their resilience. Providing adequate social safeguards will give much needed relief to these communities in the short term. Lastly, governments need to stress-test and increase the resilience of their vital infrastructures, and perhaps even designate areas that are not suitable for any type of development due to their vulnerability.

Post-Covid-19 economic recovery is exactly the time and place to fast-track global transition towards a much more sustainable form of development. There is opportunity in every crisis. Governments should use the "pause" in the global economy to switch direction and achieve their long-term goal of climate security. In particular, governments should accelerate (instead of delay) the implementation of green transformation such as the Green Deal of the EU, energy transition, and the greening of the financial sector that many countries have embarked on.

Governments should use every tool available to quicken the move towards a green and circular economy. Post-Covid-19 economic and financial stimulus packages should focus on building resilient social infrastructures, and on expanding existing and creating new sectors that are crucial to the development of an inclusive and climate-friendly future.

This may be our last chance to reset our growth trajectory.

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