Economic Watch

Asia | Battling against climate change: what role can central banks play?

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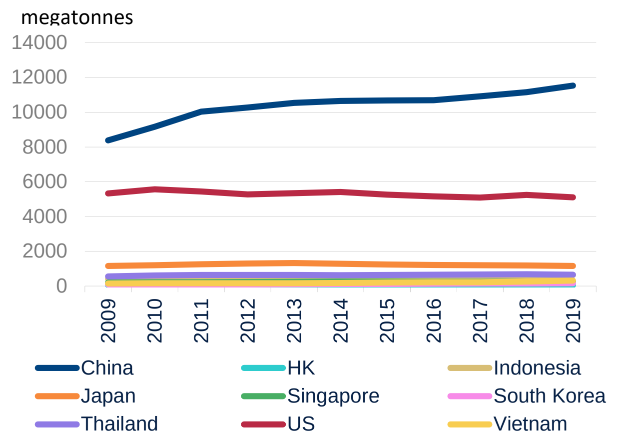
Climate change risk to Asia is enormous

Asia is at the frontier of battling against climate change in that it has suffered greater economic impacts compared with other regions in the world. In Asia, many low-lying coastal cities, albeit populous and prosper, exposed to rising sea levels as well as increasingly frequent attacks of hurricanes and typhoons. Moreover, dramatic increases in global warming have led to extreme precipitation in some areas while extreme drought in others with wild fires. Many Asian economies have been increasingly vulnerable to those disasters caused by the climate change. Things won't get better until the target of net zero carbon emission is achieved globally.

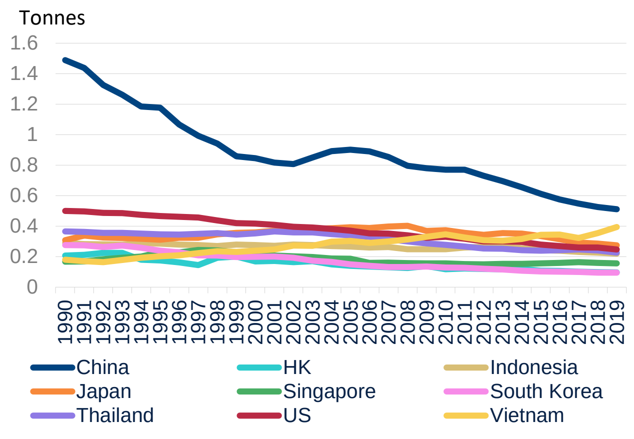
How to balance environmental protection and economic growth has invariably been challenging to those policymakers of Asian countries. Compared with advanced economies that have already achieved the high-level economic prosperity which allows their policymakers to put more attention and efforts to environmental-protection issues, most of emerging Asian countries have to maintain their growth pace at certain levels so as to promote the living standard of their people. Therefore, it is indeed not an easy task for these emerging Asian economies to ensure a shift to a low-carbon economy, while concurrently safeguard economic prosperity and the stability of the financial system.

Figure 1. **DUE TO THE LARGE ECONOMIC SIZE, CHINA HAS THE LARGEST AMOUNT OF FOSSIL CO2 EMISSION IN ASIA**



Source: CEIC and BBVA Research

Figure 2. **FOR FOSSIL CO2 EMISSION PER USD 1,000 OF GDP, CHINA STILL RANKS THE HIGHEST, ALTHOUGH DECLINING OVER TIME**



Source: CEIC and BBVA Research

Asia has the majority of the world's population, is the main driver of global growth, and composed by many emerging economies with substantial development needs. Unsurprisingly, Asia has become the main greenhouse gas emitting (GHG) region, producing about half of the world's carbon dioxide (CO_2) emissions. The Brown economy in Asia has the highest GHG per unit of GDP at 0.48, versus 0.41 in Latam and 0.25 in the EU. In addition, power sector, which represents 35% of Asian carbon emissions, is highly dependent on coal that represents 90% of total sector emissions versus 70% global average. (Figure 1 and 2) These all pointed to a seeming neglect of climate change concerns as Asian countries are still trying to pursue a faster economic growth compared with its counterparts of advanced economies. That means, at a time when the world needs to step up environmental protection efforts, greater emissions reductions from China and other Asian countries need to shoulder more and greater responsibilities.

However, at the current stage, due to the strong demand of economic growth among Asian economies, recognizing this reality has not yet changed people's mindsets and behaviors widely across the region. There is quite limited climate change awareness so far in emerging Asia, with lack of concrete national plans to reduce carbon emissions. Only China (2060), South Korea (2050) and Japan (2050) have Net Zero carbon emission commitments at a national level. Although the environmental protection has been gradually promoted and rooted in people's mind in Asia, the social atmosphere and national strategy of environmental protection are still much weaker than that of the advanced economies.

Central banks in Asia are poised to join the battle

To balance economic growth and environmental protection as well as to encourage the enterprises and individuals to support transformation to a low carbon emission economy, central banks' monetary policy can play an important role for Asian economies. Individual enterprises, due to their growth-driven necessities, are much less motivated to voluntarily reduce carbon emission and other activities which potentially damage environment. Thus, a national level institutional design, including the monetary policy framework, is urgently needed to address this issue. Asian central banks unanimously agreed that the region should come together to better understand what climate risks in the region and convert this understanding into real actions that can be conducted both individually and collectively.

In the mainstream economics theories, the mandates of monetary policy could be unemployment, inflation, exchange rate or financial stability. But environmental protection is not on the list. However, the new circumstance of acute climate change risks calls for the global central banks to carefully consider how to link climate change to their monetary policy framework. Indeed, it is a challenging task as there has been no theoretical guidance to include such a theme in the monetary policy targeting, thus, central banks around the globe are wading the river by feeling stones. That being said, they are trying to facilitate environmental protection target through ingenuities of monetary policy tools and macro-prudential policy.

At the current stage, there are multiple ways through which Asian central banks could actively address climate-related risks and support the scaling up of sustainable finance. First, they could support measures to improve financial markets and commercial banks' ability to identify climate change related risks, i.e. the "green" and "brown" economy etc. Second, they could authorize commercial banks and other financial institutions to assess the climate-related financial risk exposures of their clients, including what data and methods they are using in assessing the environmental related risks. Third, they might also consider whether they should account for climate-related factors in determining eligibility of assets for asset purchase programs or as collateral in open market operations (OMO). And fourth, the central banks could promote the green bond and loan markets to facilitate green economy financing. Last but not least, Asian central banks should join the Network for Greening the Financial System (NGFS), a global network of central banks and monetary authorities advocating a more sustainable financial system.

Asian central banks' initiatives to counter climate change risks

In this report we summarize the recent development of climate change related monetary policy initiatives for six ASEAN countries including Singapore, Malaysia, Thailand, Indonesia, Philippines and Vietnam, plus Japan, China, Hong Kong SAR and Korea. The Table 1 below summarizes the initiatives of each Asian country of linking monetary policy to climate change. And the APPENDIX describes these initiatives in more details after the Table 1.

After reviewing their recent policy moves, we found that based on the international experience, some initial steps have already been done by most Asian central banks, to ensure that they can continue to effectively meet their mandates of maintaining price and financial stability. In this regard, many central banks have begun incorporating aspects of climate-related risks into financial stability monitoring and macro-prudential supervision and adopted green finance policies, such as promoting green finance and sustainable funding options through amending the regulatory framework on commercial banks, encouraging green loans and green bonds to facilitate green economy, and introducing climate change considerations in their monetary and financial policy operations etc.

Despite the differences of the approaches adopted by Asian central banks, their relevant environmental policy tools to manage climate change can be broadly categorized into at least three types so far with some other initiatives adopted by each individual central bank:

(i) Alignment of climate change related monetary policy to national environmental protection policy. Different Asian countries have different national policy to address the environmental protection issue. Among them, only China, Korea and Japan have the carbon neutrality plan (2060 for China and 2050 for Japan and Korea). Some Asian countries have the proportional carbon emission reduction plan, such as Thailand to reduce its greenhouse gas emissions by 20% by 2030. Other countries also include the environmental protection into their national strategic plan, such as China' Five-Year Plan while many countries have specific National Plan for Green Economy, such as Viet Nam, Singapore, Indonesia etc.

(ii) Amending regulatory framework on commercial banks. Central banks adopt support measures to improve commercial banks' ability to identify climate change related risks. The aim is to correct the limited accounting of climate risks by financial institutions and the financial system, and support mitigation by influencing the demand for green and low carbon-intensive investments and the relative prices.

(iii) Mainstreaming green finance and sustainable funding. This aims to influence credit allocation and investment behaviors towards green economy, as well as address longer term goals of green economic development. Among the varied measures, most adopted policy is to issue green bonds and to promote green loans.

Other measures also include participating in international cooperation such as to join the Network for Greening the Financial System (NGFS), to facilitate to launch the emission trading scheme, to request all listed companies to report on sustainability on a "comply or explain" basis etc.

Except for the above measures already implemented by Asian central banks, more is needed to be done going forward to catch up with the frontrunners globally, such as the ECB. For instance, in the ECB's newly announced Action Plan in July, the ECB is set to further incorporate climate change considerations into its monetary policy framework, to expand its analytical capacity in macroeconomic modeling, statistics and monetary policy with regard to climate change, to include climate change considerations in monetary policy operations in disclosure, risk assessment, collateral framework and corporate sector asset purchases etc. (ECB, Action plan to include climate change considerations in its monetary policy strategy, July 2021)

Table 1. **INITIATIVES OF LINKING MONETARY POLICY TO CLIMATE CHANGE FOR INDIVIDUAL ASIAN COUNTRIES**

Countries	Alignment to National Policy	Amend the regulatory framework on commercial banks	Promote green finance and sustainable funding	Other initiatives
CHINA	Carbon emission peak in 2030 and Carbon neutrality in 2060. "Green finance included in 19th "two sessions" and 14th Five-Year Plan.	The PBoC requires mandatory disclosures for commercial banks to categorize what is "green" lending, "brown" lending, and "neutral" in their portfolios	Green bonds and loans already form part of the macro-prudential assessments by PBoC. Green Refinancing program that commercial banks to use green loans or bonds as collateral for borrowing from the PBOC at discounted rates.	Guidelines for green bond verifiers and verifications based on the international Climate Bonds Standard and Certification Scheme. Green Finance Pilot Zones have been established.
HONG KONG SAR		Develop a common framework to assess the "Greenness Baseline" of individual banks; Set tangible deliverables for promoting the green and sustainable developments of the HK banking industry	The CE announced in her 2017 Policy Address that the Government would issue a green bond to demonstrate the Government's support for sustainable development and to combat climate change.	
JAPAN	Net Zero carbon emission commitment at 2050.	Introduce a new fund-provisioning measure so that financial institutions that disclose a certain level of their efforts to address climate change can receive funds from the Central Bank. BOJ encourages financial institutions to enhance their disclosures based on the Task Force on Climate-related Financial Disclosures (TCFD) framework.	Promoting investment in climate-related financial products: These may include (1) green loans/bonds, (2) sustainability-linked loans/bonds with performance targets related to efforts on climate change, and (3) transition finance.	Climate Coordination Hub, to enhance bank-wide initiatives on climate change.
KOREA	Net Zero carbon emission commitment at 2050.	Green Management Company Finance Support System, enVinance: to promote the green financing of commercial banks through preferential treatment of companies with outstanding environmental management activities.	Green Bonds and Funds: Different from other countries, green bonds are not sovereign bonds but public or corporate bond to invest in environmental projects or renewable energy.	Green Management Company. Emission Trading Scheme. Loans from the State-Owned Environmental Fund.
INDONESIA	Financial Service Authority (OJK) produced a Sustainable Finance Roadmap, laying out a comprehensive plan for promoting green finance, covered both the medium-term (2015–2019) and the longer term (2015–2024) plan.	Since July 2017, OJK required commercial banks to develop action plans for sustainable financing and report their green financing exposures.	In 2018, Indonesia was the first country globally to issue a green sovereign sukuk bond.	Indonesian Internal Credit Rating scorecard system as well as the Indonesia Infrastructure Guarantee Fund to manage sovereign guarantees.

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Table 1. **INITIATIVES OF LINKING MONETARY POLICY TO CLIMATE CHANGE FOR INDIVIDUAL ASIAN COUNTRIES** (Cont.)

Countries	Alignment to National Policy	Amend the regulatory framework on commercial banks	Promote green finance and sustainable funding	Other initiatives
MALAYSIA	In April 2021, Bank Negara Malaysia (BNM) published national climate-focused sustainability taxonomy for the financial sector, the Climate Change and Principle-based Taxonomy (CCPT)	Greater climate disclosure by financial institutions is in the pipeline.	The central bank collaborates with the financial industry to accelerate initiatives to build the required capacity and expertise relating to green and sustainability.	Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF)
PHILIPPINES	To reduce its projected carbon emissions by 75 percent by 2030. Submitted its "Nationally Determined Contributions" to the UN Framework Convention on Climate Change.	In April 2020, the BSP issued the Sustainable Finance Framework (Circular No. 1085), which forms the first phase of enabling regulations on sustainability.	More than USD 1.0 billion and PHP 85.4 billion worth of green, social, and sustainability bonds have been issued by "first mover" banks since 2017.	The BSP launched its internal Sustainable Central Banking Program.
SINGAPORE	Promulgated Singapore's National Climate Change Strategy.	In 2018, the Association for Banks in Singapore issued its Guidelines on Responsible Financing with the support of the MAS.	In March 2017, the MAS launched a Green Bond Grant scheme to encourage the issuance of green bonds. In 2018, the MAS signed a memorandum of understanding with the IFC to accelerate the growth of green bond markets in Asia.	Singapore Exchange has required all listed companies to report on sustainability on a "comply or explain" basis from 31 December 2017. Creation of the Asia Sustainable Finance Initiative in January 2019.
THAILAND	To reduce its greenhouse gas emissions by 20% by 2030.	Prudential policies to recognizing systemic climate risk by requiring financial institutions to incorporate climate-related risk scenarios into their stress tests.	Thailand has also embarked on the issuance of sovereign sustainability bonds to fund green infrastructure projects as seen in August 2020.	Bio-Circular-Green (BCG) model, has been promoted to underpin Thailand 4.0 program.
VIET NAM	National Green Growth Strategy and the National Action Plan on Green Growth.	In 2015, the SBV issued Directive No. 3 on promoting green credit growth and incorporating ESRM in lending operations, and Decision No.1552 on an action plan for the banking sector to contribute to the National Green Growth Strategy to 2020.	Financial institutions are also required to develop green credit policy to increase the share of green credit in their portfolios, to formulate and execute ESRM in their credit granting activities	In 2017, the SBV launched the Green Project Catalogue, which defines green projects and sectors.

Source: BBVA Research, Asian Central bank's websites, and other references included in the References part of the Appendix

Conclusion

Fighting against climate change is a battle which humankind cannot afford to lose. To win this battle, the human society needs to mobile all the resources necessary. Now Asian central banks join the battle through various ways. It is a starting but welcome step to the world since the fast economic development of Asia has also made the region the utmost frontier of the battle. Looking ahead, we anticipate that Asian central banks will continuously enrich their arsenals of monetary policy so as to win the battle.

At the same time, climate change is a global phenomenon, requiring for an international solution. That being said, Asian central banks should enhance their inter-regional and intra-regional cooperation and coordination to secure policy results. For example, a lot of enterprises in the region actively participate in different forms of offshore financing to meet their demand for funds. The regulations and policy initiatives at a sole national level are not adequate to ensure firms' behaviors in line with the ultimate goal of net zero carbon emission.

Appendix

Below are the monetary policy related initiatives in details of six ASEAN countries plus Japan, China, Hong Kong and Korea to deal with climate change risks.

China

China is one of the leading countries in the world in terms of encouraging the green and low-carbon financial sector. On the other hand, due to its large economic size and the strong demand for GDP growth, China also has highest total CO2 emission and emission per USD 1000 GDP among Asian countries.

Chinese government announced to achieve carbon emission peak in 2030 and carbon neutrality in 2060. The theme of "Green finance" was also included in the 19th "two sessions" of China, and was set as one of the key targets in the 13th Five-Year Plan for 2016–2020. At the national level, the four key areas that are subject to increased green development include industrial sector, energy structures, transportation, and agricultural infrastructure. Under this grand target, there have been several initiatives conducted by the PBoC to facilitate the achievement of this goal, chief among them is to facilitate the provision of green loans, bonds, equity, insurance products and private funds to the "green industry" going forward.

First, the PBoC requires mandatory disclosures for commercial banks to categorize what is "green" lending, "brown" lending, and "neutral" in their portfolios. Risk weights can be lowered for "green" assets, for instance, lower non-performing loan ratios for green loans.

Second, the PBOC is also targeting monetary and regulatory policy tools to further incentivize green lending. Green bonds and loans already form part of the macro-prudential assessments carried out by the PBOC, which has expanded its Medium-Term Lending Facility (MLF) to incorporate such products. Moreover, Green Finance Pilot Zones have been established, and banks in these zones have been increasing their level of green lending. All this mean that there will be opportunities for green asset securitizations or green covered bond programs. In addition, the PBOC has launched a Green Refinancing program that allows commercial banks to use green loans or bonds as collateral for borrowing from the PBOC at discounted rates, the funds of which are then lent to green businesses.

Finally, the PBOC and the China Securities Regulatory Commission (CSRC) jointly issued guidelines for green bond verifiers and verifications. This is essentially a verifier licensing scheme, outlining tighter controls and higher penalties to ensure that the products are indeed “green”. They stipulate certain prerequisite qualifications and credentials, verification methods, and reporting requirements. The scheme is broadly modeled on the international Climate Bonds Standard and Certification Scheme.

Hong Kong SAR

Under the theme of environmental protection to address climate change risks, Hong Kong Monetary Authority (HKMA) is committed to promoting green and sustainable finance for the Asian’s financial center and a small open economy. In particular, the HKMA adopts a three-phased approach to promote green and sustainable banking:

Phase I: to develop a common framework to assess the “Greenness Baseline” of individual banks. The HKMA will also collaborate with relevant international bodies to provide technical support to banks in Hong Kong to better understand the green principles and methodology in undertaking the baseline assessment;

Phase II – engaging the industry and other relevant stakeholders in a consultation on the supervisory expectation or requirement on Green and Sustainable Banking, with a view to setting tangible deliverables for promoting the green and sustainable developments of the Hong Kong banking industry;

Phase III – after setting the targets, implement, monitor and evaluate banks’ progress in this regard.

In addition, The Chief Executive announced in her 2017 Policy Address that the Government would take the lead in arranging the issuance of a green bond to demonstrate the Government’s support for sustainable development and determination to combat climate change, and to promote the development of green finance. The Financial Secretary further announced in the 2018-19 Budget that the Government will launch a Government Green Bond Program (“GGB Program”).

The HKMA is also actively participating in international forums to support global development of green finance. As a member of the Central Banks and Supervisors Network for Greening the Financial System (NGFS), the HKMA participates in the Network’s working groups to explore how to incorporate climate risk and other green and sustainable factors in the supervisory framework and macro surveillance work.

Indonesia

Indonesia has established as a leading player in the green finance market among ASEAN economies. In 2014, Indonesia’s Financial Service Authority (OJK) produced a Sustainable Finance Roadmap, laying out a comprehensive plan for promoting green finance. The roadmap covered both the medium-term (2015–2019) and the longer term (2015–2024) plan for the financial industry to facilitate green finance. The aim was to promote sustainable development through key governmental, industry and international institutions. Given the large demand for energy to support economic growth in Indonesia, the sustainable finance program is mainly to promote energy conservation, and the funding of new and renewable energy sources. Similar to China, other areas of the program’s concentration also include agriculture, processing industries, general infrastructure, and SMEs. Here are some milestones of Indonesia’s central bank initiatives:

Since July 2017, OJK required commercial banks to develop action plans for sustainable financing and report their green financing exposures. This has underpinned the development of the green finance sector and helped to identify which banks have high position on carbon-heavy industries.

In 2018, Indonesia was the first country globally to issue a green sovereign sukuk bond. The proceeds raised from the placement were directed toward projects invested in renewable energy, public transport, low-carbon buildings, and water and waste management. The Government has sought to streamline existing regulations to relax administrative requirements and facilitate the financing of infrastructure projects by provincial governments, which is expected to propel the development of a municipal green bond market.

In November 2019, Bank Indonesia joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS) to contribute to work group on “Macro-financial” and “Scaling Up Green Finance.” It also announced a sustainable finance task force to coordinate efforts in strengthening the role of Bank Indonesia in helping Indonesia to achieve the SDG targets. It has made improvements to existing public–private partnership (PPP) regulations for infrastructure, developed a scheme for providing subsidies and credit enhancement for PPPs, and established an Indonesian Internal Credit Rating scorecard system as well as the Indonesia Infrastructure Guarantee Fund to manage sovereign guarantees. Furthermore, there is additional support for blended finance, combining commercial and development organization finance to mobilize additional finance toward sustainable development, which also supports the OJK’s sustainable development roadmap.

Japan

Japan is among the world's most disaster-prone countries with big earthquakes and typhoons happening frequently. Priority environmental issues in Japan include urban air pollution (NOx, suspended particulate matter, toxics), waste management, water eutrophication, nature conservation, climate change, chemical management and international co-operation for environmental conservation. The Bank of Japan (BOJ) has been actively communicating with financial institutions and engaging in international discussions. In addition, it has set up an internal network, the Climate Coordination Hub, to enhance bank-wide initiatives on climate change. With an intention of furthering its efforts on climate change consistent with its mandate of price stability and ensuring the stability of the financial system, BOJ decided the comprehensive strategy in the following five perspectives:

(i) Monetary policy: BOJ decided to introduce a new fund-provisioning measure so that financial institutions that disclose a certain level of information on their efforts to address climate change can receive funds from the Central Bank against their investment or loans made as part of such efforts. It will launch the measure likely within 2021.

(ii) Financial system: Through on-site examinations and off-site monitoring, BOJ will have in-depth discussions with financial institutions on their efforts in addressing climate-related financial risks and on their engagement with corporate customers in pursuit of decarbonization. There is a growing recognition that scenario analysis, which sets certain assumptions on the extent of climate change and its impact on the economy, is useful in measuring relevant risks. Taking account of the works by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) and other authorities, BOJ is currently working on pilot exercises of scenario analysis targeting large financial institutions using common scenarios. BOJ will also encourage financial institutions to enhance their disclosures based on the Task Force on Climate-related Financial Disclosures (TCFD) framework, which has been incorporated in the revised Japan's Corporate Governance Code.

(iii) Research: BOJ will deepen its analysis on how climate change would affect the macroeconomy including economic activity and prices, financial markets, and the financial system, and make efforts in collecting climate-related data and refining analytical tools to better conduct surveillance and identify risks. It will also examine the functioning of 3 financial markets and infrastructure, and consider ways to address issues relevant to payment systems and market infrastructures.

(iv) International financial cooperation: BOJ will make contributions in developing measures against climate change by learning from other jurisdictions' experiences at international forums, such as the Group of Seven (G7), the Group of Twenty (G20), and the Executives' Meeting of East Asia Pacific Central Banks (EMEAP), sharing the experiences gained through its measures. BOJ will also contribute to building an international framework for addressing climate-related financial risks at forums such as the Basel Committee on Banking Supervision, the Financial Stability Board, and the NGFS.

(v) Promoting investment in climate-related financial products: These may include (1) green loans/bonds, (2) sustainability-linked loans/bonds with performance targets related to efforts on climate change, and (3) transition finance. BOJ will strengthen its efforts to promote investment in climate-related financial products, such as green bonds, with the aim of fostering the development of financial markets. The Bank has been making investment in the Asian Bond Fund launched by EMEAP for the purpose of supporting the development of local currency-denominated bond markets in Asia. BOJ will also purchase foreign currency-denominated green bonds issued by governments and other foreign institutions based on the existing management principles.

Korea

Korea is the 7th-largest emitter of GHGs in the world and Korea has pursued full-scale green growth since 2008. Korea fully launched its green finance scheme in 2009 and then introduced the environmental information disclosure system and the emission trading scheme in 2013 and 2015, respectively. In the capital market, it launched the Korea stewardship code to boost the responsible investment of institutional investors in 2016, and it anticipates that it will contribute to the effective GHG reduction of companies through the engagement activities of institutional investors. Here are several initiatives in details conducted by Bank of Korea to promote green finance:

(i) Green Management Company Finance Support System, enVinance: The purpose of enVinance is to promote the green financing of commercial banks through preferential treatment of companies with outstanding environmental management activities by collecting and analyzing the corporate environmental information that the government owns according to the Framework Act on Low-Carbon Green Growth and the Act on Support of Environmental Technology and Industry.

(ii) Environmental Information Disclosure: The aim is to construct the nationwide environmental management infrastructure and establish voluntary environmental management by enhancing the voluntary will to promote environmental management at the corporate level and promoting the environmental communication with the public and to contribute to the green loans and investment of financial institutions by providing them with verified environmental information.

(iii) Loans from the State-Owned Environmental Fund: The MoE provides a loan service from the state-owned environmental fund for environmental industry, separate from the utility sector, in particular new and renewable energy. The loan area, loan period, and upper limit of loans per company vary according to the purpose of the loans. However, they are very attractive to companies, as the loan interest rate is lower than the commercial loan interest rate.

(iv) Emission Trading Scheme: The government launched the emission trading scheme (ETS) in January 2015 for effective as well as efficient GHG reduction in the industry sectors. The Framework Act on Low-Carbon Green Growth legislated in 2009 stipulates the introduction of the "cap and trade" ETS. The government implemented the ETS act in 2012. Companies with 3-year average GHG emissions of over 125,000 tCO2e or facilities with 3-year average GHG emissions of over 25,000 tCO2e are designated ETS objects.

(v) Green Bonds and Funds: Different from other countries, green bonds in the Republic of Korea are not sovereign bonds but a kind of public or corporate bond to invest in environmental projects or renewable energy, so the fund size is relatively small. The MoSF has announced that it has no plan to issue sovereign green bonds yet, as of March 2018

Malaysia

On April 30, 2021, Bank Negara Malaysia (BNM) published Malaysia's national climate-focused sustainability taxonomy for the financial sector, the Climate Change and Principle-based Taxonomy (CCPT) which is currently the main guidance of Malaysia's green financing activities. The CCPT sets out five Guiding Principles (GPs) intended to help financial institutions (FIs) assess and categorize economic activities according to the extent to which they meet climate objectives and promote the transition to a low-carbon economy. The CCPT is intended to serve as a guide for BNM-supervised FIs including licensed banks, investment banks, Islamic banks, insurers and reinsurers, and prescribed development financial institutions.

The CCPT is also intended to facilitate standardized reporting of climate-related exposures, encourage financial flows toward supporting climate objectives, assist in ratings decisions and support the design and structuring of green finance solutions and services. There are five Guiding Principles of the CCPT, including Climate Change Mitigation, Climate Change Adaptation, No Significant Harm to the Environment, Remedial Measures to Transition and Prohibited Activities.

Except for the CCPT, the central bank also collaborates with the financial industry to accelerate initiatives to build the required capacity and expertise relating to green and sustainability. Through the Value-based Intermediation Community of Practitioners (VBI CoP), various guidance documents have been developed to spur adoption of VBI. In August 2020, the Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF) Sectoral Guides on Palm Oil, Renewable Energy and Energy Efficiency were issued to guide financial institutions in implementing VBIAF on these sectors at a more granular and transactional level.

Furthermore, greater climate disclosure by financial institutions is in the pipeline. This is part of the priorities of the members of the Joint Committee on Climate Change over the next 12 months to pave the way for the adoption of disclosure standards by the industry in the immediate future. This will not only contribute towards lowering information asymmetry, but will also assist external stakeholders to hold financial institutions to account for their climate risk commitments.

Philippines

Philippines recently submitted its "Nationally Determined Contributions" to the UN Framework Convention on Climate Change. Under its commitment, the Philippines aims to reduce its projected carbon emissions by 75 percent by 2030. The Bangko Sentral ng Pilipinas (BSP), the central bank of Philippines, is one with the nation in stepping up efforts toward sustainable economic development. The work on sustainability falls on various areas:

First, capacity building. The BSP has joined global and regional networks that aim to promote sustainable finance for capacity-building purposes. Such networks include Sustainable Banking Network (SBN) and the Network for Greening the Financial System (NGFS), Association of Southeast Asian Nations (ASEAN), Executives' Meeting of East Asia and Pacific Central Banks (EMEAP), and the Alliance for Financial Inclusion – Inclusive Green Finance (AFI-IGF).

Second, enabling regulations. In April 2020, the BSP issued the Sustainable Finance Framework (Circular No. 1085), which forms the first phase of enabling regulations on sustainability. The framework sets out broad supervisory expectations on the integration of sustainability principles in the corporate and risk governance systems, as well as in the business strategies and operations of banks. The second phase of regulations will focus on more specific expectations on the integration of climate change and environmental and social risks to the enterprise-wide risk management frameworks of banks. The third phase will include potential incentives to banks to accelerate the process of adopting sustainable principles.

The BSP has also strengthened governance on treasury activities and streamlined processes to allow for more bond issuances of BSP-supervised financial institutions and contribute to the growth of capital markets. More than USD 1.0 billion and PHP 85.4 billion worth of green, social, and sustainability bonds have been issued by "first mover" banks since 2017.

Third, collaboration with other government entities. The BSP collaborated with key government agencies through the Green Force. The group aims to institutionalize and facilitate the implementation of a roadmap for sustainable finance. It also aims to facilitate investments in public infrastructure and mobilize funds to finance SDG-related projects such as clean energy. The inter-agency group is currently reviewing the draft principles-based taxonomy and finalizing the sustainable finance roadmap for the Philippines.

Fourth, internal program. The BSP launched its internal Sustainable Central Banking Program, which fosters environmentally responsible and sustainable policies and work practices within the BSP. Among which, they have started prohibiting single-use plastics within premises. This should help instill environmentally sound habits among our employees-ahead of the anticipated nationwide ban on single-use plastics that comes along our commitment on carbon emission reduction.

Singapore

The Monetary Authority of Singapore (MAS) was another founding members of the NGFS. The MAS has implemented a number of schemes to promote sustainable financing. One such initiative was the creation of the Asia Sustainable Finance Initiative in January 2019, a multi-stakeholder forum that aims to utilize the power of the financial sector to deliver on the SDGs and the Paris Agreement. The forum assembles stakeholders from the financial sector, academia, and nongovernment organizations (NGOs) to support financial institutions in implementing ESG best practices. As Singapore is a conduit for financial flows into Asia, it is hoped that the lending and investment decisions taken by financial institutions based there will have a significant impact on the region's contribution to climate resilience.

In March 2017, the MAS launched a Green Bond Grant scheme to encourage the issuance of green bonds. Under the scheme, qualifying issuers are reimbursed 100% of the additional costs of obtaining an external review of a green bond, up to SGD100,000 per issuance, thereby lowering the hurdle for green bond issuers to enter the market. The scheme runs until 31 May 2023. To be eligible for a grant, the bonds must meet three requirements regarding qualifying issuers, eligible expenses, and qualifying criteria. The eligible expenses for the green bond grant scheme require the appointment of an external reviewer to obtain an independent assessment of the proposed bond, based on internationally recognized standards.

In addition, in 2018, the MAS signed a memorandum of understanding with the IFC to accelerate the growth of green bond markets in Asia. Under this agreement, the IFC and the MAS will seek to encourage green bond issuances by financial institutions in Asia through enhancing the awareness and knowledge of professionals working in financial institutions on green finance issues. They will also promote the use of internationally recognized green bond standards and frameworks.

In 2018, the Association for Banks in Singapore issued its Guidelines on Responsible Financing with the support of the MAS. These define the minimum standards on responsible financing practices to be integrated into members' business models.

Last but not the least, the Singapore Exchange has required all listed companies to report on sustainability on a "comply or explain" basis from 31 December 2017.

Thailand

Thailand has made improvements in environmental performance and its policy framework. The country has framed policies to adapt to and mitigate climate change and intends to reduce its greenhouse gas emissions by 20% by 2030, and on a conditional basis (with technical and financial assistance) expects it could reduce emissions by 25% in that time frame. In addition, a new growth model, Bio-Circular-Green (BCG) model, has been promoted to underpin Thailand 4.0, which covers four industries: the food and agriculture industries; the medical and healthcare industries; bio-related industries; and the tourism and creative economy. However, progress so far has been limited due to both policy planning and implementation challenges. Thus, there are still much to be done going forward.

The financial system can play an important role by mobilizing the resources needed for investments in climate mitigation and adaptation related sectors. Sustainable financing from the financial sector can contribute to climate change mitigation by providing incentives for firms to adopt less carbon-intensive technologies and specifically financing the development of new technologies. In addition, Thailand has also embarked on the issuance of sovereign sustainability bonds to fund green infrastructure projects as seen in August 2020.

To preserve financial stability, prudential policies should also adapt to recognizing systemic climate risk by requiring financial institutions to incorporate climate-related risk scenarios into their stress tests. Capturing climate risk properly requires assessing it over long horizons and using new methodological approaches, so that prudential frameworks adequately reflect actual risks.

Vietnam

In accordance with the National Green Growth Strategy and the National Action Plan on Green Growth between 2014 and 2020, the State Bank of Vietnam (SBV) has been assigned to lead on institutional improvement and capacity building in the banking sector for green growth.

In 2015, the SBV issued Directive No. 3 on promoting green credit growth and incorporating ESRM in lending operations, and Decision No.1552 on an action plan for the banking sector to contribute to the National Green Growth Strategy to 2020. The directive requires the banking sector to consider "protecting the environment, improving the efficiency of the utilization of natural resources and energy; improving environmental quality and human health, and ensuring sustainable development" (SBV 2015) in its lending operations. Under this directive, the entities at the SBV are asked to coordinate capacity building and the monitoring of financial institutions, particularly in the areas of green credit and ESRM.

Financial institutions are also required to develop green credit policy to increase the share of green credit in their portfolios, to formulate and execute ESRM in their credit granting activities, and to report their green activities to the SBV on quarterly basis. The 2015 directive paved the way for further developments in sustainable and green banking in Viet Nam.

Following the issuance of the 2015 directive, the SBV also introduced a number of complementary initiatives to accelerate sustainable banking in Viet Nam. In 2016, the SBV issued a circular emphasizing that one of the main lending principles for customers and transactions is to comply with environmental laws and regulations. In 2017, the SBV launched the Green Project Catalogue, which defines green projects and sectors, as well as the Master Credit Program, which provides a framework to incentivize green projects in terms of rates and terms. In August 2018, the SBV issued Decision No. 1640, advancing a scheme to develop green banking in Viet Nam. The scheme aims to gradually increase the share of credit extension to green projects as defined in the Green Project Catalogue, to accelerate the application of green technologies in banking operations, and to ensure that by 2025 all banks will issue their internal regulations on ESRM and integrate an environmental risk assessment as part of their overall credit risk assessments.

The initiatives taken by the SBV thus far reflect the commitment of the regulator to steer the country and particularly the banking sector toward a greener economy.

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