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Fostering Green Finance in Asia

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Fostering Green Finance for Sustainable Development in Asia

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Abstract: Placing the Asian economies onto a sustainable development pathway requires an unprecedented shift in investment away from greenhouse gas, fossil fuel and natural resource intensive industries towards more resource efficient technologies and business models. The financial sector will have to play a central role in this 'green transformation'. This study discusses the need for greening the financial system and the role of financial governance. It reviews the state of green lending and investment in Asia and provides an overview of green financial governance initiatives across Asia. It also identifies market innovations to increase green finance in Asia as well as barriers to green investments and financial policy and highlights priority areas for policy makers.

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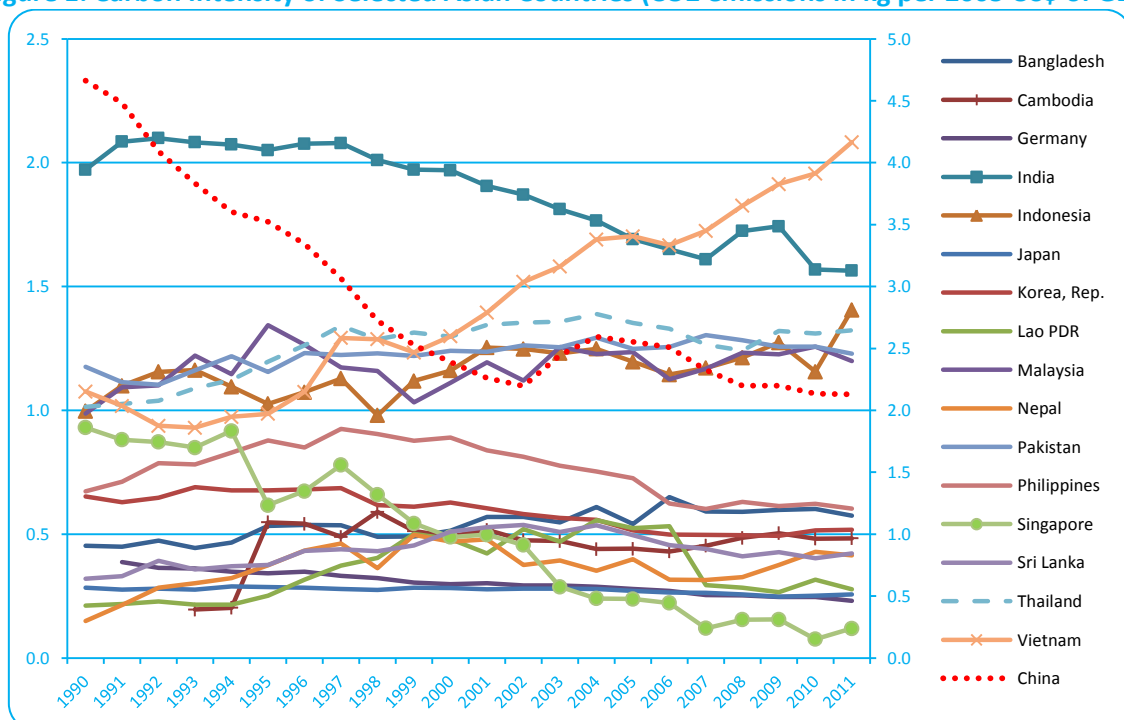
1. Introduction: Green Finance for Sustainable Development

To place the Asian economies onto a sustainable development pathway requires an unprecedented shift in investment away from greenhouse gas, fossil fuel and natural resource intensive industries towards more resource efficient technologies and business models. The financial sector will have to play a central role in this ‘green transformation’. Green finance is defined as comprising “all forms of investment or lending that consider environmental effect and enhance environmental sustainability” (Volz et al. 2015: 2). Important aspects of green finance are sustainable investment and banking, where investment and lending decisions are taken based on environmental screening and risk assessment to meet sustainability standards, as well as insurance services that cover environmental and climate risk.

“The growth of resource use in Asia has been much faster than the global average. This increasing share of resources extraction, pollution and carbon dioxide emissions have been characteristics of the ongoing industrialization process of Asia.” (ADB and ADBI 2012: 1)

Aligning economic growth with sustainable development is a universal challenge. Yet the challenge is vast for most developing Asian economies given that their growth models have been very resource and carbon intensive. Although the carbon intensity of economic output has declined substantially in most developing Asian economies over the last decades – with Bangladesh, Indonesia and Vietnam being notable exemptions – it is still much higher than in advanced economies inside or outside of the region (Figure 1).

Figure 1: Carbon Intensity of Selected Asian Countries (CO2 emissions in kg per 2005 US\$ of GDP)



Source: Compiled with data from World Development Indicators (April 2016).

Note: Scale for China is on the right axis.

Moreover, many Asian countries are also extremely vulnerable to climate risk. Myanmar, the Philippines, Bangladesh, Vietnam and Thailand have been among the countries world-wide that have been most affected by climate change over the last two decades (Table 1). According to the

University of Notre Dame's Global Adaptation Index, South and Southeast Asian countries are highly vulnerable to climate change while economic, social and governance readiness to improve resilience is lacking (Table 2).

Table 1: Climate Risk Index (CRI) for Asian economies, 1995–2014

CRI rank	Country	CRI score	Fatalities (annual average)		Fatalities per 100 000 inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
			12	Afghanistan	34.67	259.85	15	0.9649	17	150.102
6	Bangladesh	22.67	725.75	8	0.5157	33	2,438.332	10	0.855	26
103	Bhutan	97.33	1.20	139	0.1887	73	5.064	149	0.170	75
177	Brunei Darussalam	167.33	0.10	171	0.0283	155	0.387	173	0.001	175
13	Cambodia	36.17	57.45	42	0.4363	39	235.280	51	0.945	23
31	China	49.67	1410.40	4	0.1086	98	31,749.918	2	0.338	48
39	Chinese Taipei	55.00	76.05	34	0.3362	50	876.100	26	0.136	85
180	Timor-Leste	174.33	0.10	171	0.0098	168	0.025	181	0.000	179
183	Hong Kong SAR	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
16	India	39.17	3449.05	2	0.3120	54	9,514.966	3	0.248	61
66	Indonesia	70.83	257.10	16	0.1163	93	1,679.467	17	0.095	103
96	Japan	90.00	75.70	35	0.0595	120	2,213.086	11	0.058	127
59	Korea, Republic of	66.17	87.25	29	0.1817	75	1,179.110	22	0.106	98
81	Laos PDR	78.83	5.60	99	0.0961	100	74.961	84	0.375	45
87	Malaysia	85.67	39.75	53	0.1540	80	270.359	47	0.058	127
181	Maldives	175.50	0.00	176	0.0000	176	0.059	179	0.002	173
45	Mongolia	58.17	10.80	78	0.4230	40	66.515	87	0.307	52
2	Myanmar	14.17	7137.20	1	14.7464	1	1,140.288	24	0.744	29
17	Nepal	40.83	246.90	18	0.9963	16	108.908	75	0.250	60
8	Pakistan	31.17	487.40	10	0.3190	53	3,931.403	5	0.699	33
4	Philippines	19.00	927.00	7	1.1003	15	2,757.296	9	0.675	34
179	Singapore	171.33	0.10	171	0.0022	175	3.006	155	0.001	176
53	Sri Lanka	62.67	44.00	50	0.2277	69	247.865	50	0.199	69
9	Thailand	32.33	164.20	20	0.2544	63	7,480.765	4	1.046	22
7	Vietnam	27.17	361.30	13	0.4418	37	2,205.983	12	0.703	32

Source: Compiled with data from the Global Climate Risk Index 2016.

Note: The CRI 2016 is based on the loss-figures from 1995-2014. Each country's index score has been derived from a country's average ranking in all four indicating categories, according to the following weighting: death toll, 1/6; deaths per 100,000 inhabitants, 1/3; absolute losses in PPP, 1/6; losses per GDP unit, 1/3.

Table 2: Notre Dame Global Adaptation Index, 2015 (scores for 2014)

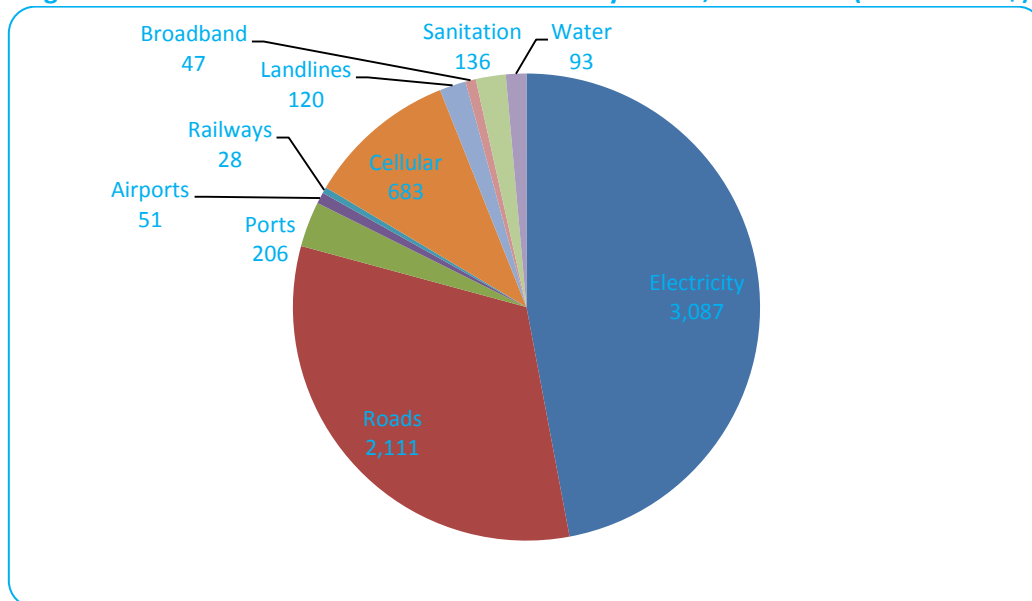
	ND-GAIN Country Index Score	ND-GAIN Country Index Rank (out of 180)
Singapore	78	9
Republic of Korea	74.9	15
Japan	73.2	18
Malaysia	63.1	39
China	59.7	52
Thailand	58.4	57
Brunei Darussalam	58.2	59
Mongolia	55.6	69
Indonesia	50.4	95
Sri Lanka	50.1	96
Maldives	49.9	97
Viet Nam	49.7	99
Philippines	49.6	100
India	45.2	120
Nepal	44.9	122
Laos	44.7	124
Pakistan	43.6	126
Cambodia	42.3	131
Bangladesh	39.7	140
Timor-Leste	39.5	141
Myanmar	36.1	163
Afghanistan	33.4	169

Source: University of Notre Dame Global Adaptation Index, <http://index.gain.org/ranking>

Note: The ND-GAIN Country Index summarises a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. A country's ND-GAIN score is composed of a vulnerability score (considering six life-supporting sectors: food, water, health, ecosystem service, human habitat, and infrastructure) and a readiness score (considering three components: economic readiness, governance readiness and social readiness). Vulnerability and readiness are based on compiled indicators. 36 indicators contribute to the measure of vulnerability. 9 indicators contribute to the measure of readiness.

Against the backdrop of climate change vulnerability and the need for a reduction of carbon emissions, huge investments in green and climate-resilient infrastructure are needed across the region. The infrastructure gap has been assessed by the Asian Development Bank Institute to amount to US\$8 trillion between 2010 and 2020, of which 68% would be for new capacity (ADBI 2009), with 51% of the investments needed for electricity, 29% for roads and 13% for telecommunications. More recent estimates put the investment needs in infrastructure in Asia at US\$ 6.5 trillion between 2015 and 2020 (Figure 2). For Southeast Asia alone, the *ASEAN Investment Report 2015* estimates that US\$ 110 billion a year will be needed for infrastructure investment in power, transport, information and communication technology, and water and sanitation in ASEAN through 2025 (ASEAN Secretariat and UNCTAD 2015).

Figure 2: Asia infrastructure investment needs by sector, 2015-2020 (in billion US\$)



Source: Mizuho Research Institute, 2015.

All of this investment will have to be sensitive to environmental, climate and associated policy risks. Funds for this investment will need to come from both the private and public sectors, including both domestic and international sources. The financing of sustainable infrastructure requires new approaches for mobilising and intermediating long-term finance in the region. Integrating environmental and social considerations into lending decisions and product design is only a first step in making the financial systems instrumental in funding the required transformation towards a “green economy” in the region. The funding of energy efficiency, renewable energy and sustainable infrastructure requires new concepts and new financial instruments which are adapted to local circumstances. Green banks, green bonds and appropriate regulatory frameworks are to be introduced in a coordinated framework. Last but not least, there is also a need for developing the insurance of climate risk, including risk mitigation instruments for agriculture, which for many countries in Developing Asia remains a major economic sector.

As pointed out in a recent study by ADB and ADBI (2012: 6), “[d]ecoupling emissions from economic growth requires a fundamental and wide-ranging response encompassing the public and private sector, targets and regulations as well as deep investment.” There is no question about the importance of implementing an adequate environmental policy and regulation and for the need of targeted industrial policies for creating the conditions for sustainable investment and thereby

enhancing green, low-carbon growth. But there has been a growing recognition that for achieving a green transformation it is also crucial to align the financial system with sustainability goals, given that the financial system is the place where investment decisions are taken or influenced. The need for financial institutions to “incorporate climate-proofing and climate resilience measures” (UNFCCC 2015: §44) has also been recognised in the Paris Agreement. Accounting for climate and other environmental risk is not least important with respect to safeguarding the stability of financial systems (Volz 2016). A failure to address systemic sustainability challenges will in the longer-term impinge on the growth and returns of individual firms and economies at large, with repercussions for the financial institutions that have financed non-sustainable investments. There is hence a strong case for financial institutions as well as for financial regulators to take account of environmental, social and governance (ESG) risks.

“The full potential of the financial system needs to be harnessed to deliver the transition to sustainable development.” (UNEP Inquiry 2015b: xi)

Against this backdrop, this study reviews the state of green lending and investment in Asia and provides an overview of green financial governance initiatives across Asia. It also identifies market innovations to increase green finance in Asia as well as barriers to green investments and financial policy. Based on an analysis of current developments in Asia in the financial markets and in the regulatory sphere, the study will highlight priority areas for enhancing the scope for green finance in Asia.

2. What are Asian banks and institutional investors currently doing?

For the time being, only few financial institutions in Asia integrate ESG factors into their lending or investment decision making processes. Green banking and sustainable investment are still niche market, and few staff in the industry have been trained in ESG issues.

A relatively small number of Asian financial institutions has signed up to global sustainable finance initiatives (Box 1). Only 71 out of 1,441 Signatories to the Principles for Responsible Investment (5%) are from the Asia Pacific region. Signatories include asset owners, investment managers, professional service partner. 64 out of 216 global signatories (30%) of the UNEP Statement of Commitment by Financial Institutions on Sustainable Development are from the Asia Pacific, while eight out of 81 Equator Principles Financial Institutions (10%) are from the Asia Pacific region. Of the 52 partner exchanges of the Sustainable Stock Exchanges (SSE) initiative, nine are from Asia (17%). Like all SSE partner exchanges they have made voluntary public commitments to promote improved ESG disclosure and performance among listed companies.¹ Of the globally 51 insurance companies that have signed the UNEP FI Principles for Sustainable Insurance seven are from Asia (14%).

¹ These are: BSE India Ltd., National Stock Exchange of India (NSE), Kazakhstan Stock Exchange (KASE), Korea Exchange, Bursa Malaysia, Colombo Stock Exchange, Stock Exchange of Thailand, Hanoi Stock Exchange, and HoChiMinh Stock Exchange.

Box 1: International commitments to sustainable finance practices

Principles for Responsible Investment

Principle 1: We will incorporate ESG issues into investment analysis and decision-making processes.

Principle 2: We will be active owners and incorporate ESG issues into our ownership policies and practices.

Principle 3: We will seek appropriate disclosure on ESG issues by the entities in which we invest.

Principle 4: We will promote acceptance and implementation of the Principles within the investment industry.

Principle 5: We will work together to enhance our effectiveness in implementing the Principles.

Principle 6: We will each report on our activities and progress towards implementing the Principles.

UNEP Statement of Commitment by Financial Institutions on Sustainable Development

“We members of the Financial Services Sector recognize that economic development needs to be compatible with human welfare and a healthy environment. To ignore this is to risk increasing social, environmental and financial costs. We further recognize that sustainable development is the collective responsibility of governments, businesses and individuals. We are committed to working collectively toward common sustainability goals.”

Equator Principles

“Large infrastructure and industrial Projects can have adverse impacts on people and on the environment. As financiers and advisors, we work in partnership with our clients to identify, assess and manage environmental and social risks and impacts in a structured way, on an ongoing basis. Such collaboration promotes sustainable environmental and social performance and can lead to improved financial, environmental and social outcomes.”

Sustainable Stock Exchanges Initiative

“We voluntarily commit, through dialogue with investors, companies and regulators, to promoting long term sustainable investment and improved environmental, social and corporate governance disclosure and performance among companies listed on our exchange.”

The UNEP FI Principles for Sustainable Insurance

Principle 1: We will embed in our decision-making environmental, social and governance issues relevant to our insurance business.

Principle 2: We will work together with our clients and business partners to raise awareness of environmental, social and governance issues, manage risk and develop solutions.

Principle 3: We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues.

Principle 4: We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles.

Sources: <http://www.unpri.org/about-pri/the-six-principles/>; <http://www.unepfi.org/about/statements/statement/>; <http://www.equator-principles.com/>; <http://www.sseinitiative.org/sse-partner-exchanges/become-a-partner-stock-exchange/>; <http://www.unepfi.org/psi/the-principles/>.

The relatively low scale of involvement of Asian financial institutions in international sustainability initiatives is reflected in the low level of green lending and investment. According to the *2014 Asia Sustainable Investment Review*, sustainable investment assets in Asia (excluding Japan) reached US\$ 44.9 billion in 2013 (ASrIA 2015), a year-on-year increase of 22% since 2011 (Table 3). Singapore, Hong Kong, Seoul and Kuala Lumpur account for 90% of all reported sustainable investment assets in the 11 markets covered by this survey.² The most widely adopted sustainable investment strategies in Asia, according to ASrIA (2015: 8), are ESG integration (US\$ 23.4 billion or 52% of all sustainable investment assets) and exclusion/negative screening (US\$ 16.6 billion or 37% of all sustainable investment assets).

“In order for growth to be sustainable, economic development in Asia needs to be resilient to climate change. Capital should be deployed to promote corporate strategies that understand these risks and the management that practices good governance to protect long-term interests. Investors in Asia play a key role in determining where capital should go and their decisions now will have an impact for generations to come.”

Yulanda Chung, Director of the Board, Association for Sustainable & Responsible Investment in Asia (ASrIA 2014: 15)

² ‘Asia excluding Japan’ comprises China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam (ASrIA 2015).

Table 3: Sustainable investment assets under management by market (US\$ millions)

	2011	2013
Bangladesh		14
China	1,535	1,729
Hong Kong	7,328	11,329
India	153	115
Indonesia	595	1,142
South Korea	6,288	8,426
Malaysia	9,956	15,087
Pakistan	427	505
Singapore	2,967	5,660
Taiwan	724	714
Thailand	14	20
Vietnam		195
Asia	29,987	44,936

Source: ASrIA (2015: 11).

Overall, sustainability-themed investment strategies are becoming more prominent in Asia with rising awareness of challenges such as climate change, energy and water security. However, whilst the sustainable market segment has grown rapidly over recent years, it has grown from a very small base and still constitutes only a small percentage of the funds under management in Asia. Indeed, with US\$ 53 billion the proportion of socially responsible investments (SRI) relative to total managed assets in Asia (including Japan) stood at only 0.8% in 2014, much lower than in other world regions (Table 4).³ Asia comprised only a meagre 0.2% of SRI globally in relation to professionally managed assets in 2014 (GSIA 2015: 7).

Table 4: Global Sustainable Investments 2012–2014

	2012	2014
Europe	49.0	58.8
Canada	20.2	31.3
United States	11.2	17.9
Australia	12.5	16.6
Asia	0.6	0.8
Global	21.5	30.2

Source: GSIA (2015: 7).

A common problem complicating sustainable investment across the region has been the lack of or insufficient disclosure requirements that address environmental or long-term systemic risk factors. A good example for insufficient disclosure practices are palm oil, timber and pulp and paper companies in Indonesia, Malaysia and Singapore. Even though there is a strong business rationale for improved ESG performance of these firms, WWF (2015: 11) points out that “the leading companies from these sectors listed in Singapore, Indonesia and Malaysia provide insufficient relevant disclosure for investors to assess their management of material ESG issues.” Only recently, ESG disclosure and reporting requirements have been enhanced across the region (cf. Section 3). WWF (2015) also highlights that domestic investors have undertaken little efforts to address the disclosure gaps – in contrast to international investors for whom ESG scrutiny has already become standard practice. A survey among institutional investors in Indonesia confirmed this general picture (Volz 2015a): with the exemption of general insurance firms, hardly any institutional investors in Indonesia integrate ESG factors into their decision-making processes, and very few professional investment staff in the industry have been trained in ESG issues.

³ Sustainable investment is defined by GSIA (2015) as encompassing the following activities and strategies: (i) Negative/exclusionary screening; (ii) Positive/best-in-class screening; (iii) Norms-based screening; (iv) Integration of ESG factors; (v) Sustainability-themed investing (vi) Impact/community investing, and (vii) Corporate engagement and shareholder action. GSIA (2015) comprises data for 13 Asian markets: Bangladesh, China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Pakistan, Singapore, Taiwan, Thailand and Vietnam.

The recent case of Malaysian palm oil firm IOI, whose sustainability certification was temporarily suspended by the Roundtable on Sustainable Palm Oil (RSPO) in March 2016 because of serious non-compliance with RSPO standards, causing major international customers to cancel their contracts with IOI (Taufik 2016), shows clearly how non-sustainable business practices can adversely affect a firm's cash flow – and diminish its market value. Given the importance of the palm oil and other extractive sectors in many of the region's countries, there is a strong case for both investors and financial authorities to take sustainability challenges more seriously.

At the same time, however, there are examples of green financial innovation across Asian markets, even if the market for sustainable investment is still nascent. In China, for instance, the Shanghai Stock Exchange (SSE) launched the SSE Sustainable Development Index in 2013. In Malaysia, Bursa Malaysia Bhd announced the launch of an ESG index, FTSE4Good Bursa Malaysia (F4GBM) Index, including listed companies demonstrating strong ESG practices in December 2014. In neighbouring Indonesia,⁴ the Indonesian Stock Exchange (IDX) and KEHATI launched a Social and Responsible Investment (SRI) index in June 2009. The stocks of 25 companies listed at IDX are selected based on both negative (excluded sectors) and positive (enhanced social and environmental management) criteria. IDX and KEHATI consider the SRI KEHATI Index as the “first green index in ASEAN”, even though the criteria for “green” are rather low. In 2014, an exchange-traded fund tracking the SRI KEHATI index was listed on the IDX. Yet, despite such positive developments, the sustainable investment market in Indonesia is still embryonic, and “investors continue to channel funds towards assets that maximize short-term risk adjusted investment returns, with environmental, social or governance considerations of less concern” (ASrIA 2014: 34).

Local bond markets as a source of long-term finance have developed quite well in a number of Asian countries, although governments and enterprises still rely to a large extent on bank finance and forex finance, which entails considerable macroeconomic and stability risks. The reasons for the relative underdevelopment of bond markets differ between countries, but regulatory and corporate governance issues are at the core. It will be important to further develop local currency bond markets as a source for financing long-term infrastructure, while at the same time enhancing ESG disclosure requirements through bond exchanges and financial regulation.

The Asian green bond market has started to develop only recently, but current developments are encouraging. While Asia accounted for only 1% of global green bond volumes in 2014, it rose to 14.4% in 2015. The green bond market has been developed not least by public development banks and international financial institutions which also helped to develop standards such as the Green Bond Principles. In Asia, the International Finance Corporation (IFC) has helped several green bond issuances. The Development Bank of Japan placed the first Japanese green bond issuance of € 250 million in October 2014 (Allens Linklaters 2015). The Asian Development Bank, which has issued US\$ 2.2 billion of water and clean-energy bonds since 2010, issued its first green bond over US\$ 500 million in March 2015.

The first Asian green bond was issued in 2013 by Export-Import Bank of Korea, raising US\$ 500 million (Allens Linklaters 2015). Indonesia saw its first green bond launch in April 2014. Supported by a partial credit guarantee from the IFC, PT Ciputra Residence, a residential property developer, issued an IDR500 billion (US\$ 44 million) bond based on green building standards on the IDX. In July 2014,

⁴ For a survey of sustainable finance in Indonesia, see Volz (2016a).

Taiwanese firm Advanced Semiconductor Engineering issued the first Asian corporate green bond without public support (Münzer-Jones and Johnson 2016). India saw its first green bond issuance by Yes Bank in February 2015, with further issuances over the year by Yes Bank, Export-Import Bank of India, CLP Wind Farms and IDBI that brought the total green bond issuance to US\$ 1.1 billion for 2015 (Kidney 2016). The September 2015 issuance of Yes Bank was purchased by the IFC which financed this through the issue of the first green “Masala” bond, the first green bond issued in the offshore rupee markets (IFC 2015). The Indian green bond market is expected to expand after the Securities and Exchange Board of India (SEBI) published official green bond requirements in January 2016. In February 2016, Hero Future Energies issued India’s first certified climate bond with proceeds being used to fund wind energy (Münzer-Jones and Johnson 2016).

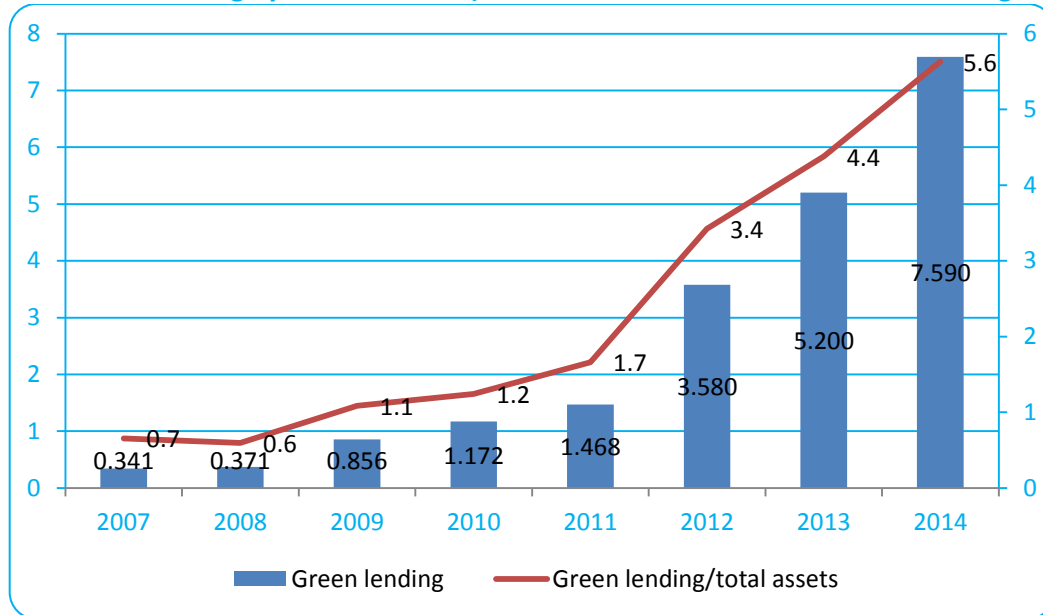
In August 2015, China’s first corporate green bond was issued offshore in Hong Kong by Xinjiang Goldwind Science and Technology (Kidney 2016). This was followed by the first green bond issue by a Chinese bank by Agricultural Bank of China (ABC) in London in October 2015. According to Reuters (2015), 94% of the US\$ 1 billion issue was sold to Asian investors, suggesting that demand for such assets is there. Following the release of Green Financial Bond Guidelines by the People’s Bank of China in December 2015, China has seen the launch of its first two domestic green bonds (by China Industrial Bank and the Shanghai Pudong Development Bank) in January 2016. The Chinese green bond market is expected to grow rapidly, not least because of the government’s ambitions to make it a cornerstone of its plan to meet annual investment needs in clean energy, energy efficiency and environmental protection which are estimated to amount to about RMB 2 trillion (Zhang et al. 2015). The Chinese green bond market is expected to yield RMB 1.5 trillion (US\$ 230 billion) for renewable energy and environment projects in the period 2016 to 2020 (Bloomberg 2016).

While bond markets have become more important as a source of long-term finance across Asia, Asian financial systems continue to be dominated by banking. Reliable data on green banking is scarce, given that only few Asian countries have introduced green lending frameworks and therefore for most part banks had no definition of what constitutes green or sustainable lending. In most Asian economies, the concept of green banking is rather new, and most banks have little or no experience in environmental risk analysis. Overall, lending for sustainable consumption and production constitutes only a small share of total commercial lending and is sold at a premium compared to conventional finance (e.g., SWITCH-Asia and ASrIA 2015a; SWITCH-Asia and ASrIA 2015b).

There are, however, also positive developments as increased efforts at green financial governance (which will be discussed in Section 3) have raised awareness in the banking industry. Two notable pioneers in green banking in Asia are China and Bangladesh.

In China, green lending has increased substantially over recent years as a result of Chinese financial authorities efforts to boost green finance.⁵ While green credit stood at RMB 341 billion in 2007, it has increased to RMB 7.59 trillion (US\$ 1.24 trillion) at the end of 2014 – an increase from 0.7% of total banking assets to 5.6% (Figure 3). According to the China Banking Association, 21 major Chinese banks reported more than RMB 6 trillion in lending to green projects at the end of 2014, about 9% of their total outstanding loans.

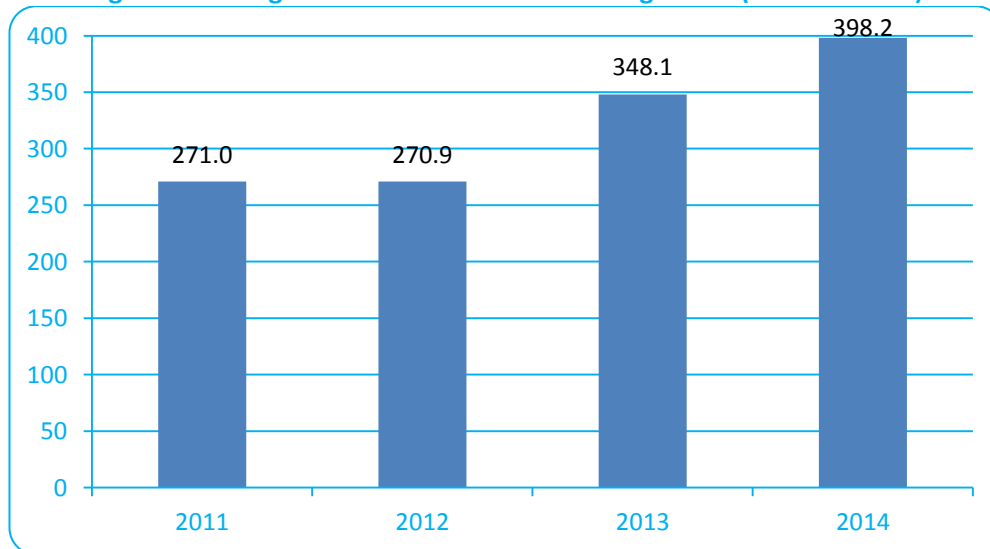
⁵ According to CBRC’s definition, green credit comprises loans to: green agriculture; green forestry; energy/water saving in industrial sector; nature protection, biological restoring and disaster prevention; recycling projects; garbage treatment and pollution prevention; renewable energy and clean energy; water projects in urban and rural areas; green buildings; green transportation; energy efficiency and environmental services; overseas green projects.

Figure 3: Green lending by Chinese banks (in RMB trillion and as share of total banking assets)

Source: Compiled with data from Zadek and Zhang (2014: 17), CBRC and China Banking Association.

Note: Scale for green lending/total assets is on the right axis.

In Bangladesh, the central bank's efforts at greening the banking system have had considerable effect. In the fiscal year 2014, Bangladeshi banks extended a total of BDT 398.2 billion in green finance (Figure 4) – a share of 8.5% of total credit; moreover, all banks have conducted environmental risk rating (BB 2015).

Figure 4: Total green finance extended in Bangladesh (in billion taka)

Source: Compiled with data from Bank Bangladesh (various publications).

Note: 'Total green finance' includes loans disbursed to key green sectors and loans disbursed to industrial facilities with effluent treatment ('indirect green financing').

"The sustainable finance programme is not only intended to increase financing but also to improve the resilience and competitiveness of financial institutions"

Muliaman D. Hadad, Chairman, Indonesia Financial Services Authority (OJK) (UNEP Inquiry 2015b: xxi)

In Indonesia, efforts by Bank Indonesia and Otoritas Jasa Keuangan (OJK), the financial regulatory authority, to boost green finance still need to yield tangible results. A review by Bank Indonesia of

green lending by banks (defined as lending for renewables, sustainable agriculture, green industry and ecotourism) found that amongst 29 banks surveyed between 2011 and 2013 the share of lending identified as green was very small, with only 1.2% of total lending described as green in 2011, a share that increased only slightly to 1.3% in 2012 and 1.4% in 2013, amounting to IDR10.2 trillion (about US\$1 billion) (Volz 2016a). For the time being, banks mostly still lack the necessary tools to assess environmental credit risks, but the Indonesian financial authorities have been trying to help the development of capacities through various training schemes and green lending manuals, often in cooperation with international development partners such as GIZ or IFC.

Lastly, turning to the insurance sector, even though efforts have been made for several years to establish weather and climate insurance products across Asian countries, the share of uninsured households is still large. For instance, according to World Bank FINDEX data for 2011, only 5.7% of people working in agriculture in South Asia are insured against climate-related risks (GIZ 2015). Traditional, publicly subsidised agricultural insurance schemes such as the ones provided by the Agricultural Insurance Company of India have already been in place for a while. However, the success of such traditional indemnity based weather insurance schemes has been viewed critically by some (Sirimanne and Srivastava 2015), and there is clearly a need to further develop innovative insurance products such as index-based insurance programmes for farmers or flooding risk insurance and extend their outreach in Asia (e.g., Schanz and Wang 2015).

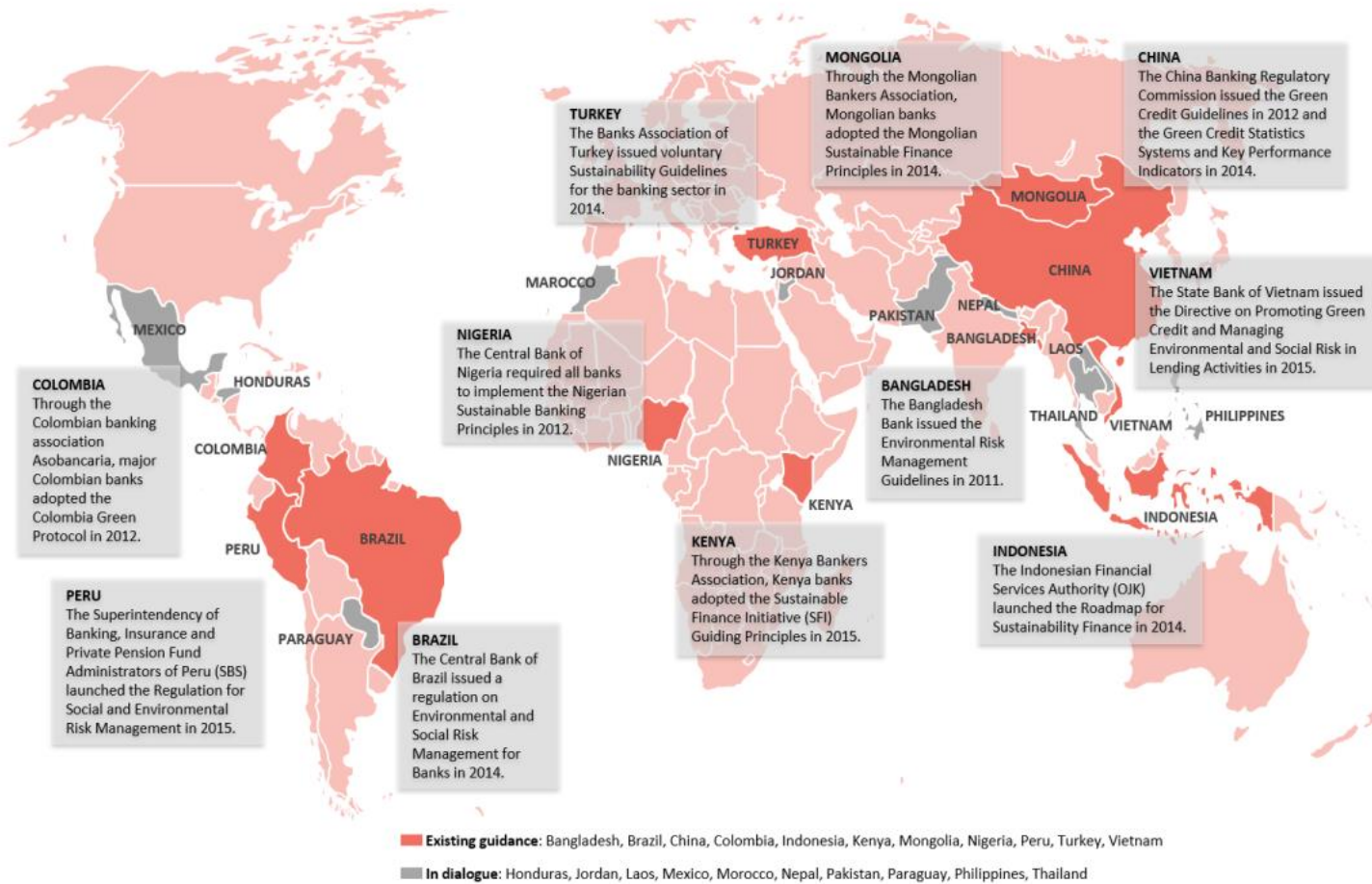
3. Green finance policies in Asia

Several Asian countries have been at the forefront of introducing sustainable finance guidelines and regulation. As can be seen in Figure 5, nine out of the 21 countries represented in the Sustainable Banking Network – a knowledge-sharing network of banking regulators and banking associations established in 2012 that supports the development of environmental and social risk management by financial institutions and promotes green and inclusive lending – are from Asia.⁶

As can be seen in Table 5, financial authorities in Bangladesh, China, India, Indonesia, Mongolia and Vietnam have already started to take concrete steps to align the financial system or parts of it with sustainable development. Financial authorities in Laos, Nepal, Pakistan, the Philippines and Thailand are currently working on green finance policies. Financial authorities in Bangladesh and China in particular have been pioneers in green finance.

⁶ The Asian SBN members are: [Bangko Sentral ng Pilipinas \(Central Bank of the Philippines\)](#), [Bank of Bangladesh](#), [Bank of Lao PDR](#), [Bank of Mongolia](#), [China Banking Association](#), [China Banking Regulatory Commission](#), [China Ministry of Environmental Protection](#), [Department of Environmental and Natural Resources of the Philippines \(DENR\)](#), [Mongolia Bankers Association](#), [Mongolia Ministry of Environment and Green Development](#), [Nepal Rastra Bank](#), [Otoritas Jasa Keuangan \(Indonesia Financial Services Authority\)](#), [State Bank of Pakistan](#), [State Bank of Vietnam](#), [Thai Bankers Association](#), and [Vietnam Ministry of Natural Resources & Environment](#).

Figure 5: Sustainable Banking Network members and countries having introduced green finance guidelines and regulations



Source: Created with information from the Sustainable Banking Network website (April 2016), http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Partnerships/Sustainable+Banking+Network/.

Table 5: Sustainable finance policies across Asia

2007	2008	2011	2012	2014	2015	2016
<p>China China Banking Regulatory Commission (CBRC), People’s Bank of China (PBOC), Ministry of Environmental Protection (MEP): Green Credit Policy (“Opinions on Enforcing Policies and Regulations on Environmental Protection to Prevent Credit Risk”); MEP and China Insurance Regulatory Commission: Green Insurance Policy (‘Guiding Opinions on Environmental Pollution Liability Insurance’)</p>	<p>Bangladesh Bangladesh Bank: Circular on ‘Mainstreaming Corporate Social Responsibility in Banks and Financial Institutions in Bangladesh’</p> <p>China China Securities Regulatory Commission (CSRC) and MEP: Green Securities Policy (‘Guidance Opinions on Strengthening the Oversight of Public Companies’)</p>	<p>Bangladesh Bangladesh Bank: ‘Policy Guidelines for Green Banking’ and ‘Guidelines on Environmental Risk Management’</p>	<p>China CBRC: Green Credit Guidelines</p>	<p>Indonesia OJK: Roadmap for Sustainable Finance in Indonesia 2015-2019</p> <p>Mongolia Bank of Mongolia & Mongolia Banking Association: Mongolia Sustainable Finance Principles and 4 Sector Guidelines</p> <p>China CBRC: Green Credit Monitoring & Evaluation mechanism and Key Performance Indicators Checklist launched PBRC: Green Finance Task Force</p>	<p>Bangladesh Bangladesh Bank: Updated Guidelines on Environmental and Social Risk Management (ESRM) for Banks and Financial Institutions (draft in consultation)</p> <p>Vietnam State Bank of Vietnam: Directive on Promoting Green Credit and Managing Environmental and Social Risks and 10-sector checklists</p> <p>China PBOC: Green Financial Bond Directive and Green Bond-Endorsed Project Catalogue for bonds issued by financial institutions and corporations National Development and Reform Commission (NDRC): Guidelines for enterprise and municipality bonds PBOC: Green Finance Committee</p>	<p>India Securities and Exchange Board of India (SEBI): Disclosure requirements for issuance and listing of Green Bonds</p> <p>Hong Kong SAR Securities and Futures Commission: Principles of Responsible Ownership.</p> <p>Bangladesh Bangladesh Bank: ‘Integrated Risk Management Guidelines for Financial Institutions’</p>

Source: Compiled by author.

“A financial mechanism is the decisive top-down design for green growth. It might be difficult to invest in a green manner at the beginning, but it pays in the long run.”

Ma Jun, Chief Economist, Research Bureau of the People’s Bank of China (Xinhuanet 2015)

In China attempts at addressing environmental risks through financial regulation date back to 1995 when the People’s Bank of China issued an ‘Announcement on Credit Policy for Environmental Protection’ while the State Environmental Protection Agency (forerunner of the Ministry of Environmental Protection) issued a guideline an ‘Announcement on Making Use of Credit Policy for Promoting Environmental Protection’ (Bai et al. 2014). Neither was implemented, but over time new regulation was introduced and enacted, including the Green Credit, Green Insurance and Green Securities Policies introduced in 2007-08.⁷ In 2012, the China Banking Regulatory Commission (CBRC) issued Green Credit Guidelines “for the purpose of encouraging banking institutions to, by focusing on green credit, actively adjust credit structure, effectively fend off environmental and social risks, better serve the real economy, and boost the transformation of economic growth mode and adjustment of economic structure”. In 2014, CBRC complemented the Green Credit Guidelines by introducing a Green Credit Monitoring & Evaluation mechanism and a key Performance Indicators Checklist. The green credit policies have thus “evolved from an initial principle based approach in 2007 to a standardized, metrics-driven performance assessment of all licensed banks” (UNEP Inquiry 2015b: 27).

In 2014, the PBOC launched a Green Finance Task Force which developed 14 recommendations relating to disclosure and information flows, legal frameworks, fiscal incentives and institutional design (PBOC and UNEP Inquiry 2015). The Green Finance Task Force was succeeded by the Green Finance Committee which is tasked by the PBOC to develop green finance practices including environmental disclosure, environmental stress testing for the banking sector, and guidelines on greening China’s overseas investment. In December 2015, the PBOC published a Green Financial Bond Directive and the Green Bond-Endorsed Project Catalogue for bonds issued by financial institutions and corporations. At the same time, the National Development and Reform Commission (NDRC) issued guidelines for enterprise and municipality bonds – the first government-sponsored green bond guidelines world-wide. As mentioned before, Chinese authorities regard the development of a green bond market as an important source of raising private capital for sustainable development. China has also started to promote the idea of green finance globally; in January 2016, the Chinese G20 Presidency launched the Green Finance Study Group which is co-chaired by China and the UK (i.e., the PBOC and the Bank of England).

Like in China, financial authorities in Bangladesh have been working on a regulatory framework for sustainable banking.⁸ The cornerstone of Bangladesh Bank’s (BB) efforts to green the financial system are its policy guidelines for green banking. In 2008, Bangladesh Bank (BB) published a circular on ‘Mainstreaming Corporate Social Responsibility (CSR) in Banks and Financial Institutions in Bangladesh’. Banks have to report bi-annually to BB on their CSR activities, and since 2010 BB publishes an annual report on CSR Initiatives in Banks. In 2011, BB published ‘Policy Guidelines for Green Banking’ and

⁷ In 2004, the China Banking Regulatory Commission, the People’s Bank of China and the National Development and Reform Commission issued an ‘Announcement on Further Strengthening Industrial Policy and Credit Policy To Control Credit Risks’ which banned or restricted lending to certain polluting activities. In 2005 and 2006, the State Council banned bank lending to projects and enterprises phased out because of severe pollution (‘Regulation on Accelerating Adjustment of Industrial Structure’ and ‘Announcement on Accelerating Adjustment of Industrial Structure with Excess Capacity’). Cf. Bai et al. (2014).

⁸ For an overview, see UNEP Inquiry (2015c) and Barkawi and Monin (2015).

‘Guidelines on Environmental Risk Management’ to encourage banks to conduct systematic environmental risk analysis as part of the credit appraisal process. The green banking policy was extended to all non-bank financial institutions (NBFIs) in 2013. The same year, a uniform reporting format was introduced by BB. The Policy Guidelines set out three phases for banks and NBFIs:

- **Phase one:** policy formulation and governance, incorporation of environmental risk in credit risk methodology, initiating in-house environmental management, introducing green finance, creating a climate risk fund, introducing green marketing, supporting employee training, promoting consumer awareness, and conducting green events.
- **Phase two:** developing sector specific environmental policies and green strategic planning together with setting up green branches and improving in-house environmental management.
- **Phase three:** developing environment-friendly initiatives and introducing innovative products.

In 2015, BB released a draft of ‘Updated Guidelines on Environmental and Social Risk Management (ESRM) for Banks and Financial Institutions’ which are currently under consultation.

Besides the policy guidelines for green banking, BB has implemented two other key policies to develop green finance: green refinancing and a mandatory credit quota for loans. As parts of its broader policy of targeted refinancing lines through which commercial banks investing in priority sectors of the economy can get concessional credit, BB introduced a revolving green refinancing scheme for banks in 2009. A BDT 2 billion (approx. US\$ 26 million) revolving fund was set up to disburse low-interest loans for solar energy, biogas and waste treatment projects. Over time the list of permissible projects has been expanded and now covers 47 items. Under this scheme, banks can obtain loans at 5% from BB with interest chargeable to bank customers capped at 9%. With support from the Asian Development Bank, BB introduced another US\$ 50 million refinancing window in 2012 for brick kiln efficiency improvement projects which will help lower carbon and other greenhouse emissions (ADB 2012). In January 2006, BB announced a new US\$ 200 million fund to “provide low-cost loans to textile and leather industries for switching to environment-friendly production” (ANN 2016). BB has also introduced priority lending requirements to rural enterprises and for green finance. Since 2015, at least 5% of banks’ loan portfolios has to be allocated to green finance (and at least 2.5% to the agricultural sector). The lending requirements are linked to capital adjustments and preferential refinancing opportunities.

“Sustainable development requires changes in the deployment and relative value of financial assets and their relationship to the creation, stewardship and productivity of real wealth. A sustainable financial system is therefore one that creates, values and transacts financial assets in ways that shape real wealth to serve the long-term needs of an inclusive, environmentally sustainable economy.” (UNEP Inquiry 2015b: xi)

For sure, the policies and guidelines implemented by financial authorities in China and Bangladesh are not transferable one-to-one to other Asian countries, many of which have been experimenting with similar approaches to green financial governance. In its global survey of sustainable finance approaches, the UNEP Inquiry (2015b) has indentified five areas of emerging practice in embedding sustainable development into the financial system. Examples for each of these areas can be found across Asia and are given in the following.

(i) Enhancing market practice: disclosure, analysis, risk management

— **Sustainability disclosure:** The Shanghai Stock Exchange introduced Guidelines on Listed Companies' Environmental Information Disclosure already in 2008. In 2011 the Singapore Stock Exchange (SGX) released a Guide to Sustainability Reporting for Listed Companies. SGX plans to make it mandatory for all listed companies to publish sustainability reports from 2017. In 2012, the Hong Kong Exchanges and Clearing Limited introduced voluntary ESG Reporting Guidelines. Since 2012, the Securities and Exchange Board of India requires the 100 largest listed enterprises to publish annual Business Responsibility Reports, while the Indian Ministry of Corporate Affairs' imposed CSR reporting requirements under the Companies Act 2013. The Philippines Securities Exchange Commission requests an Annual Corporate Governance Report from listed firms since 2013. In Vietnam, the State Securities Commission introduced a Sustainability Reporting Handbook for Vietnamese Companies in 2013.

— **Integrating environmental risks into financial regulation:** Bank Bangladesh requires environmental risk management from bank and non-bank financial institutions.

— **Industry guidelines for sustainable market practice:** The Association of Banks in Singapore released a ABS Guidelines on Responsible Financing in October 2015. The same year the Indian Banking Association introduced the National Voluntary Guidelines for Responsible Finance.

(ii) Upgrading governance architectures: internalising sustainable development into financial decision-making of financial regulators and central banks

— **Inclusion of environmental risk to secure financial and monetary stability:** The Bangladesh Bank considers its green finance policies as integral part of its mandate to maintain monetary and financial stability. The Reserve Bank of India pays close attention to agricultural prices as these have a significant impact on consumer price inflation. Bank Indonesia is considering to include environmental and climate risk into its macroprudential framework.

— **Multi-stakeholder dialogue between financial authorities and the financial industry:** In 2015, the PBOC established the Green Finance Committee to develop green finance practices, environmental stress testing for the banking sector, and guidelines on greening China's overseas investment. Also in 2015, the Indonesian financial services regulator OJK has established a multi-stakeholder task force to promote and further develop its Roadmap for Sustainable Finance through dialogue.

(iii) Encouraging cultural transformation: capacity building, behaviour, market structure

— **Action to enhance the current skill set of financial professionals and regulators:** Indonesia's Sustainable Finance Roadmap seeks to develop the sustainability skills of professionals.

— **Mainstreaming CSR and ESG considerations:** Bangladesh Bank has mainstreaming CSR in banks and financial institutions.

— **Market development:** With the new Green Financial Bond Directive, the PBOC has taken a first step to develop a new market segment for sustainable investment in the Chinese capital market.

(iv) Harnessing the public balance sheets: fiscal incentives, public financial institutions and central banks

- **Fiscal incentives for investors:** Thailand introduced a feed-in premium programme in 2010 which has helped to more than doubled its installed clean energy capacity.
- **Preferential central bank refinancing:** Banks in Bangladesh extending loans for green projects can access the Bangladesh Bank's refinancing arrangements and pass on preferential interest rates to their clients.
- **Green credit and bond guarantees:** Development banks such as the ADB have offered risk-sharing facilities in various Asian countries where partial credit guarantees were provided to partner banks sharing the payment risk of underlying borrowers, for example for energy efficiency projects. USAID's Development Credit Authority has extended bond guarantees to support Asian municipalities in raising funds for constructing urban resilient infrastructure.
- **Public pension funds:** In Japan, the Government Pension Investment Fund and the Pension Fund Association for Local Government Officials endorsed the Principles for Responsible Institutional Investors along with 160 other institutions within six months of its launch in February 2014 by Japan's Financial Services Agency (GSIA 2015: 25). In April 2014, the Korean National Assembly requested from the National Pension Service, the world's fourth largest pension fund, to enhance its ESG standards.

(v) Directing finance through policy: requirements and prohibitions, enhanced liability

- **Green lending requirements:** Since 2015, Bangladesh Bank requires banks to allocate 5% of bank lending into green projects, including renewable energy, energy efficiency and waste management. It also uses differentiated capital requirements and preferential refinancing to incentivise green financing.
- **Priority sector lending programmes:** In April 2015, the Reserve Bank of India (RBI) included lending to small renewable energy projects and drinking water facilities within the Priority Sector Lending (PSL) targets. The PSL scheme requires banks to allocate 40% of lending to key sectors such as agriculture and small and medium-sized enterprises.
- **Quotas for priority areas:** Since 2002, the 'Obligations of Insurers to Rural Social Sectors' issued by the Insurance Regulatory and Development Authority of India require Indian insurance firms to satisfy quotas for the extension of insurance coverage to low-income and rural clients.

While the first three areas of emerging green finance practice are straightforward and fairly uncontroversial, this cannot be said about (iv) and (v). For instance, using the central bank balance sheet to incentivise green lending or even invest directly is considered a taboo in orthodox central banking circles (Volz 2016). Likewise, directed credit allocation has earned a bad reputation in the 1960s and 1970s (e.g., Krueger 1990), although there certainly have been successful cases too. The initiatives referred to above are mostly too recent to provide a conclusive assessment of their efficacy, and in the case of Bangladesh, where the central bank's targeted refinancing policies have been in place since 2009, a comprehensive evaluation is still outstanding. In each specific country context, policy options have to be considered cautiously and instruments and policies have to be

designed carefully to avoid potential adverse effects. The respective policy frameworks also have to take account of differences in financial market structure which are likely to impact on policy outcomes (Volz 2015b). To counter the danger that green finance policies may result in politicised or crony lending, it will be crucial to strengthen corporate governance of the involved institutions, including through tighter internal and external auditing, and improved accounting practices and risk management. Moreover, once implemented, green finance policies need to be reviewed regularly and adjusted – or abolished – if needed.

4. Priorities for financial sector governance for aligning the financial system with sustainable development and fostering green investments

Before turning to priorities for financial governance to enhance green finance and investment, it is imperative to highlight the role of ‘real economy’ barriers and bottlenecks. Gaps in the enforcement of environmental regulation and the non-pricing of negative production and consumption externalities such as carbon emissions clearly reduce the demand for green investment. Addressing such real economy barriers through binding environmental regulation, emissions trading schemes or other policies that help to internalise negative externalities, is critical to mobilising green investment.⁹

Price distortions from fossil fuel subsidies constitute a particularly important challenge for most Asian economies (ADB 2016b; Bárány and Grigonytė 2015). Emerging and Developing Asia is the region with the second largest fossil fuel subsidies after the Middle East and North Africa (Bárány and Grigonytė 2015). Recent IMF estimates for post-tax energy subsidies – which also include costs of environmental damage – suggest that the distortions in a large number of Asian economies are enormous (Table 7). To make progress in sustainable development, these economies will have to phase out energy subsidies.

Table 6: Asian energy subsidies by energy product, 2015

Nominal GDP US\$, billions	Population, millions	Post-tax subsidies in US\$ billions (nominal)					Post-tax subsidies as percent of GDP					Post-tax subsidies in US\$ per capita (nominal)				
		Petroleum	Coal	Natural Gas	Electricity	Total	Petroleum	Coal	Natural Gas	Electricity	Total	Petroleum	Coal	Natural Gas	Electricity	Total
Developing Asia																
Afghanistan	23.23	32.01	0.00	0.03	0.06	0.09	0.00	0.14	0.25	0.39	0.00	1.02	1.84	2.86		
Bangladesh	209.32	159.86	1.53	0.49	4.26	2.56	8.84	0.73	0.23	2.04	1.22	4.22	9.56	3.05	26.68	15.99
Brunei Darussalam	17.54	0.42	0.46	0.00	0.45	0.05	0.95	2.60	0.00	2.54	0.30	5.44	1085.57	0.00	1062.62	126.94
Cambodia	18.35	15.54	0.51	0.00	0.00	0.51	0.51	2.77	0.00	0.00	2.77	32.67	0.00	0.00	32.67	
China	11285.13	1374.96	111.72	2133.75	26.41	0.00	2271.88	0.99	18.91	0.23	0.00	20.13	81.26	1551.87	19.21	0.00
India	2247.58	1276.27	72.19	195.82	9.29	0.00	277.31	3.21	8.71	0.41	0.00	12.34	56.56	153.44	7.28	0.00
Indonesia	914.97	255.08	48.80	11.12	4.48	4.82	69.22	5.33	1.21	0.49	0.53	7.57	191.31	43.58	7.58	18.90
Malaysia	375.63	30.78	14.94	5.13	4.20	0.00	24.27	3.98	1.37	1.12	0.00	6.46	485.36	186.73	136.43	0.00
Mongolia	12.22	2.97	1.14	1.43	0.00	2.56	9.30	11.67	0.00	20.97	382.83	480.43	0.00	863.26		
Myanmar	73.62	51.85	1.07	0.35	0.25	1.67	1.45	0.48	0.34	2.27	20.57	6.79	4.81	32.17		
Nepal	21.23	28.43	0.22	0.20	0.00	0.42	1.04	0.95	0.00	1.99	7.74	7.11	0.00	14.85		
Pakistan	190.01	1.35	1.40	7.40	0.00	10.15	0.00	0.00	0.12	0.12	7.11	7.34	38.96	0.00	53.41	
Papua New Guinea	20.33	7.72	0.00	0.02	0.02	0.02	0.00	0.00	0.12	0.12	0.00	0.00	3.15	3.15		
Philippines	330.26	101.42	4.37	3.73	0.48	0.00	8.58	1.32	1.13	0.14	0.00	2.60	43.13	36.78	4.72	0.00
Sri Lanka	78.50	21.11	2.27	0.29	0.00	0.00	2.56	2.90	0.37	0.00	0.00	3.26	107.67	13.62	0.00	0.00
Thailand	397.47	68.84	11.88	10.07	4.38	0.00	26.34	2.99	2.53	1.10	0.00	6.63	172.64	146.30	63.65	0.00
Vietnam	204.54	91.58	0.00	1.51	4.82	6.33	0.00	0.74	2.35	3.09	0.00	16.53	52.59	69.12		
Advanced Asia																
Japan	4881.91	126.73	102.08	34.06	20.96	157.09	0.43	0.43	0.00	3.22	805.50	268.74	165.37	0.00	1239.60	
Korea	1560.57	50.64	29.01	34.88	9.07	0.00	72.95	1.86	2.24	0.58	0.00	4.67	572.77	688.78	179.05	0.00
Taiwan Province of China	545.54	23.49	12.51	14.42	3.31	1.34	31.58	2.29	2.64	0.61	0.25	5.79	332.66	613.84	140.74	56.92

Source: Extracted from the IMF dataset “How Large are Global Energy Subsidies?” (29 June 2015) by Coady et al. (2015), <http://www.imf.org/external/np/fad/subsidies/data/codata.xlsx>

Note: The energy subsidy estimates reported here are based on the broad notion of post-tax subsidies, which arise when consumer prices are below supply costs plus a tax to reflect environmental damage and an additional tax applied to all consumption goods to raise government revenues. Pre-tax subsidies, which arise when consumer prices are below supply costs, are also reported as a component of post-tax subsidies. These subsidies will not necessarily coincide with definitions used by governments or with their reported subsidy numbers.

⁹ For a recent overview of emissions trading schemes in Asia see ADB (2016a).

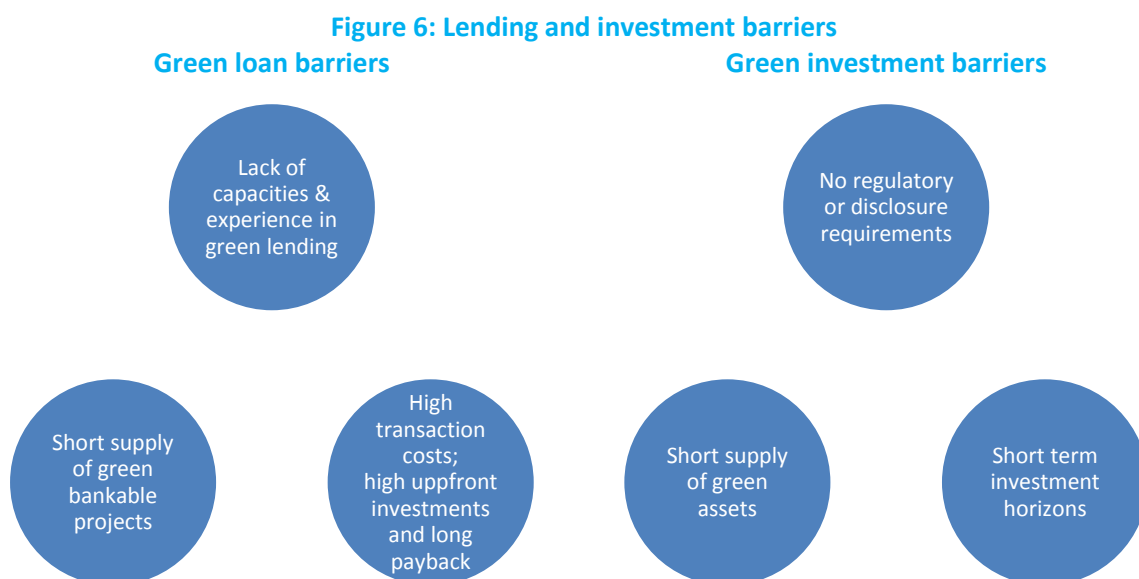
Without ‘getting the prices right’, the quest for a green transformation will be elusive. There are, of course, many other real economy investment barriers that need to be addressed, especially in the energy sector.¹⁰ Green investments, including investments in renewable energy, are often held back by difficult investment conditions, adverse regulatory and legal environment, inconsistent policies and cumbersome permission procedures (Volz 2015a). Countries with more transparent, coordinated long-term and credible policies capture more investment and build new industries, technologies and jobs while reducing emissions faster and more efficiently than countries with weak and disjointed policies.

However, as discussed earlier on, there are also weaknesses and failures within the financial system that are constraining its ability to respond to risks and opportunities for viable, resilient investments. At a general level, there is still a lack of awareness that environmental and climate risks can pose a threat to the financial sustainability of single projects or firms as well as entire industries; by implication these risks can also cause problems to individual lenders and investors or even constitute a systemic risk to the entire financial sector. This problem is compounded by the fact that the lending and investment horizon tends to be short while many of the risks are more long term. Bank of England Governor Mark Carney has famously termed this the ‘tragedy of the horizon’ (Carney 2015).

A second and related problem is the lack of staff in the financial industry that have been trained in assessing environmental and climate risk. Likewise, there is a shortage of staff with experience in green lending, for example for renewable energy projects. A small number of green lending projects increases transaction costs, which makes green lending less attractive compared to business as usual.

A third problem is the shortage of bankable and investable projects, a problem that is related to the ‘real economy’ barriers discussed above.

Fourth, where mandatory environmental risk analysis and ESG disclosure requirements are lacking, lenders and investors may be reluctant to forgo opportunities for fear that competitors will snap them up.



Source: Compiled by author.

¹⁰ See, for instance, Wolff et al. (2016) for a recent study on renewable energy investments in Indonesia.

“In Indonesia we developed a Sustainable Finance Roadmap together with industry. We asked them to develop a common definition of objectives to create a sense of belonging, commitment and purpose together with government.”

Mulya E. Siregar, Deputy Commissioner of Banking Supervision, Indonesia Financial Services Authority (OJK) (Siregar 2015)

As discussed above, many different instruments can be used to enhance green finance. The most adequate choice of instruments will depend on the specific country context; while certain market-based instruments may be more appropriate in one country, another country may opt for more interventionist policies. Yet what is needed in all countries to enable a fundamental cultural change in financial markets and to mainstream sustainability in financing and investment is a coordinated and systematic approach which involves all relevant stakeholders. Financial authorities need to set incentives for financial firms to enhance green finance and provide support and guidance, but experience from different countries suggests also that often rules and regulations are needed for financial firms to act.

To successfully align the financial system with sustainability goals, financial governance should target the following goals:

- Raising awareness among regulators and market participants in the financial sector for environmental and climate risks.
- Developing capacities in the financial industry for environmental risk analysis and management through knowledge-building and sharing.
- Building up the capacities in the financial industry needed to develop sustainable financing practices and new lending instruments for financing sustainable projects such as renewable energy.
- Enhancing transparency through ESG disclosure requirements.
- Providing incentives, where needed, to banks and NBFIs for the financing of green projects.
- Supporting the development of new market segments such as the green bond market or climate risk insurance.
- Developing long-term, local currency refinancing sources for banks to enable them to extend long-term credit.

To achieve these goals, a dialogue among all relevant domestic stakeholders is needed. Public financial institutions, including central banks, development banks and public pension funds, can play an important role in developing and promoting the adaption of new green financial products. International initiatives and networks such as the UNEP Finance Initiative, the Sustainable Banking Network, the Sustainable Stock Exchanges Initiative, the G7 Initiative on Climate Risk Insurance (“InsuResilience”) and the G20 Green Finance Study Group can help countries to leverage on international experiences.

While green finance and investment is currently still a niche market in Asian financial systems, growth rates have been high, and different Asian markets have already seen various green financial innovations. Moreover, the financial authorities of several Asian countries –Bangladesh, China, India,

Indonesia, Mongolia and Vietnam – have been developing green finance frameworks, while other countries, including Laos, Nepal, Pakistan, the Philippines and Thailand are currently in the process of doing so. The challenges for achieving a green transformation to a low-carbon economy are high; aligning the financial sector with sustainable development will be a key element for Asian economies to succeed.

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