GREEN FINANCE IN CHINA
中国绿色金融

February,2017

HOST:International Institute of Green Finance, CUFE

SUPPORT: Green Finance Committee, China Society for Finance & Banking

International Institute of Green Finance, CUFE
39 South College Road, Haidian District, Beijing, China, 100081

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EDITOR-IN-CHIEF: Wang Yao

EXECUTIVE EDITOR: Liu Suyang

WRITING EDITOR: Song Jing

TRANSLATOR: Liu Mengying, Chen Chuanqi

PROOFREADER: Song Jing, Chi Xiaohang

REVIEWER: Mathias Lund Larsen

ART EDITOR: Fan Yaqin，Chen Chunmao

CONTAXT：International Institute of Green Finance，CUFE
39 South College Road，Haidian District，
Beijing,China，100081

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01 CSRC actively support energy-saving and environmental protection enterprise listing and financing

csrc.gov.cn

On February 8th, China Securities Regulatory Commission (CSRC) published the reply to the Suggestions on Vigorously Promoting Science and Technology Industry Development of Energy-Saving and Environmental Protection which was raised by The Fourth Session of the Twelfth National People' s Congress. The CSRC responded that energy-saving, environmental protection and other strategic emerging industries have great significance for China' s economic transformation and upgrading. According to the characteristics of the development of energy-saving environmental protection industry, the CSRC will support the development of energy-saving and environmental protection industry through various measures such as private fund and bond market, and support the listing and financing of this kind of enterprises.

02 The three ministries issued a document to initiate a trial of certificates issuing within renewable energy green electricity

Shanghai Securities News

The National Development and Reform Commission (NDRC), Ministry of Finance, National Energy Administration (NEA) recently issued the Notification on the Transaction System to Try Out the Certificates Issuing of Renewable Energy Green Electricity and Voluntary Subscription, and intended to guide the whole society green consumption, promote the consumption and utilization of clean energy, and further improve wind power, photovoltaic power generation subsidy mechanism by testing the certificates issuing of renewable energy green electricity and voluntary subscription nationally.

03 CSRC actively support energy-saving and environmental protection enterprise listing and financing

china.com.cn

On January 16th to 17th, the first meeting of G20 Green Finance Study Group was held in Frankfurt, Germany. This conference focused on topics such as the measure to promote environmental risk analysis of the financial industry and to improve the availability of environmental data. The representatives had a fruitful discussion on the options for building a knowledge-sharing platform for environmental risk analysis and a guide to environmental data.

It was the first meeting of Green Finance Study Group since Germany has replaced the G20 presidency. More than 90 participants from G20 members, guests and relevant international organizations attended the meeting. It was decided that the second meeting of the Green Finance Study Group would be held on 30th March in Basel, Switzerland.

04 China's energy consumption in 2020 will be limited to 5 billion tons of standard coal

jjckb.cn

The National Development and Reform Commission (NDRC), the National Energy Agency (NEA) released the 13th Five Year Energy Development Plan, and said that China' s energy consumption in 2020 will be limited to 5 billion tons of standard coal, and coal consumption will be controlled within 4.1 billion tons. The total electricity consumption is expected to be 6.8 to 7.2 trillion kilowatt-hours.

According to the plan, in 2020, the proportion of non-fossil energy consumption will increase to 15% or more, the proportion of natural gas consumption will be 10%, and the

proportion of coal consumption will be reduced to below 58%. Per unit of gross domestic product, carbon dioxide will be reduced 18% from 2015. The level of environmental protection industry will be significantly improved, coal-fired power plant emissions will be significantly reduced and all the coal-fired power units which have modified conditions to achieve full low-emission.

05 SPD Bank has raised 45.592 billion RMB by issuing green bonds by the end of 2016

Xinhua08.com

On Jan 22nd, the SPD Bank released a special report of the fourth quarter of 2016 on the use of funds raised by issuing green bonds, showed that up to the end of December 31st, 2016, part of the funds raised by the SPD Bank issuing three deals of green bonds have been used on green project loans. The total amount of the raised funds is 45.592 billion yuan, the balance of the fund is 40.688 billion yuan, and the amount of the idle fund is 9.312 billion yuan.

The report showed that up to the end of December 31, 2016, the raised funds of these three deals of green bonds which the SPD Bank issued has been invested in six kinds of green projects, including energy saving, pollution prevention and control, resource conservation and recycling, clean transportation, clean energy, ecological protection and adaptation to climate change.

06 The third batch of national low-carbon cities pilot will start by the end of February

cs.com.cn

The National Development and Reform Commission (NDRC) decided to carry out the third batch of low-carbon cities pilot projects in 45 cities (districts and counties) in Inner Mongolia Autonomous Region, such as Wuhai City, in consideration of the pilot implementation plan, working base, demonstration, and representation of pilot layout in each declaring area.

According to the schedule, the scheme of the third pilot project should be modified and improved, and then start before the end of February in 2017. This pilot project should obtain a quite good achievement and gain available and replicable experience from 2017 to 2019. By 2020, the successful experiences should be gradually promoted nationwide.

07 Chinese company launched the world's first green digital finance alliance

Daily Economic News

On January 19th, China's Ant Financial launched the first Green Digital Finance Alliance with United Nations Environment Program (UNEP) at the World Economic Forum in Davos to attract global financial partners for seeking the new path to global sustainable development.

For 45 years since its establishment, it is the first time for the UNEP to launch this kind of international alliance which is also the first green digital financial alliance in the world with a Chinese company.

08 Financial leasing industry first green financial bonds will be issued on Jan 19th

Xinhua08.com

On Jan16th, Hebei Financial Leasing Co, LTD announced that its first deal of green bonds would be issued on Jan 19th 2017 for institutional investors at the national inter-bank bond market with a scale of not more than 100 million yuan and fixed rate of 3 years. It is the first single green bonds in the financial leasing industry.

01 Green bond issuance growth to slow after bumper 2016 – HSBC

Reuters

Jan 11， the growth in global green bond issuance could slow this year to $90-120 billion, with China unlikely to repeat its record issuance and policymakers abstaining from intervening in the nascent market, HSBC said on Wednesday.

HSBC expects issuance to be at around $90-120 billion this year, a growth rate of 0 to 30 percent." We think growth will slow, as last year's commencement of Chinese green bond supply was a one-off that cannot be repeated," the bank said in a research note. Policymakers are also not likely to intervene in the green bond market this year while it is still growing and developing standards.

02 France enters green bond market with 22-year maturity

Reuters

France is entering the fast-growing market for green bonds with longest maturity ever issued, the Agence France Tresor said on Jan 1st, as it launched the sale.

As host of the 2015 Paris Agreement to combat global warming, the government wants to put France at the centre of the green bond market, which has so far been dominated mostly by corporate issuers and international development banks.

AFT said the new bond would have a 22-year maturity coming due in June 2039 and would be tapped in the future to meet investor demand.

03 Energy Costs at Record Lows Thanks to Natural Gas and Clean Energy

Scientific American

The nation's rapid adoption of clean energy technologies, combined with sustained natural gas consumption, sagging oil prices and the widespread deployment of energy efficiency measures, helped U.S. consumers drive down energy costs to record lows in 2016.

Where energy spending occurred, it was concentrated in low- or zero-carbon forms of energy that should help the United States continue the transition to a sustainable energy future, according to a benchmarking report released this morning by the Business Council for Sustainable Energy and Bloomberg New Energy Finance.

04 Italy lays out roadmap for increasing flows of sustainable finance

Sat Press Releases

Italy faces a strategic opportunity to harness its financial system for sustainable development, according to Financing the Future, a new report released today by Italy’ s Ministry of Environment, Land and Sea (MATTM) and UN Environment.

The report is the result of a year-long national dialogue on greening Italy’ s financial system, which received inputs from over 100 experts from banks, capital markets, insurers, investors, corporations, financial regulators, academics and civil society.

Italy’ s Minister of the Environment Gian Luca Galletti said: “Strengthening the environmental dimension of finance is essential to deliver our goals for sustainable development and climate change. This report sets out a practical set of proposals to align risks and returns with the sustainability imperative.”

05 Macquarie focus on green energy and other businesses in Asia

Theaustrialian.com

Green energy investment and growing cross-border and in-market business in Asia are among the businesses Mac-

quarie Group will be focusing on as it looks to export well-developed skills in the Australian and developed markets to the rest of the world.

Macquarie Capital group head Tim Bishop said the investment bank wanted to take advantage of strong demand out of Asia to finance new green investment projects and was seeing growing pools of capital in the region looking to invest outside their home market.

"Green energy is a global story for us," Mr. Bishop told analysts and investors in Sydney yesterday. "We believe the green energy story is here to stay for the foreseeable future."

06 AIIB makes backtrack on coal financing

Gtreviw.com

The Asian Infrastructure Investment Bank (AIIB) has issued a draft energy strategy which suggests it may finance coal projects.

The proposal document, which is due to be approved in June, says that the development bank will consider funding coal-fired plants under certain circumstances. Should this be the case, it would run counter to the bank' s assertion that it would be a "clean, lean and green" financier.

"Carbon efficient oil and coal-fired power plants would be considered if they replace existing less efficient capacity or are essential to the reliability and integrity of the system, or if no viable or affordable alternative exists in specific cases, particularly in low income countries," says the document, which was written after lengthy public consultations.

07 RBI working on green finance framework

Business-standard.com

The Reserve Bank of India (RBI) is working on a framework for standardising green bond issuances and financing issues, to align India with other nations that already has such rules, according to sources.

The Indian Banks' Association (IBA) held a meeting on Monday to provide their inputs to the central bank to develop the framework. Sources said RBI has just started the process and no concrete step has been taken.

Some domestic institutions — like the National Bank for Agriculture and Rural Development, Small Industries Development Bank of India (SIDBI), Exim Bank, YES Bank, Axis Bank — have their own exacting standards for green financing. The Reserve Bank asked IBA representatives to collate these standards and pass it on to the central bank.

08 As Trump takes office, developing countries question green finance

Devex.com

Regardless of the incoming U.S. administration' s policy on climate change, developing countries have already lost faith in wealthy countries' commitments to invest in climate change mitigation, a top Indian government advisor said on Friday. He warned that any additional retreat by President Donald Trump could "erode trust further" between the U.S. and India, but wouldn' t eliminate "other ways to collaborate."

"India and other developing countries are aware that the promises that have been made for several years now ... on climate finance in general, have not been kept," Arunabha Ghosh told reporters on a conference call. He is adviser to the government of India for government, industry and civil society and CEO of the think tank Council for Energy, Environment and Water.

The warning comes amid mixed messaging from the incoming administration about its views and policy toward climate change.

Hong Lei: The asset management industry should actively practice green investment

China Securities Journal

On January 9th, the "Round Table on Sino-British Capital Management Industry in 2017" was held by the Asset Management Association of China (AMAC) and the UK Trade and Investment (UKTI) in Beijing. Hong Lei, President of the AMAC, said at the meeting that China's asset management industry should actively practice green investment and socially responsible investment based on the core of protecting environment, maintaining social justice and strengthening corporate governance at this important historical juncture to promote the sustainable development of China' s economy.

He mentioned that both China and the global economy have faced tough challenges in recent years. The original rough economic development model of China is hard to sustain. The reasons are as follows: firstly, supply and demand is unbalanced; secondly, the resources and environment are suffering; thirdly, the gap between the rich and poor is increasing. The development of China' s economy needs to be based on quality, efficiency and sustainability.

At present, China's asset management industry has been positively changing for 18 years. Depending on all kinds of booming asset management institutions and rapid growth industry scale, China' s asset management has become an important financial force which cannot be neglected. As of December 30th, 2016, the AMAC' s asset size has reached 51.65 trillion yuan under self-disciplinary management, which has increased of 39% over 2015. China' s asset management industry should take responsibility to actively practice green investment or socially responsible investment as the core of protecting environment, maintain social justice and strengthening corporate governance to promote China' s sustainable development as follows:

Firstly, we should establish a correct understanding. Green investment provides long-term funds for economically sustainable development, positively promote continuous optimization of economic fundamentals, share the benefits of economic development, and create investment value for investors. ESG integrated

investment has become a very important strategy in Europe and the United States. Morgan Stanley Capital International (MSCI), the world's largest ESG research institute, estimated that 57% of the global investment will be driven or impacted by ESG strategy in next five years. Therefore, the asset management industry should start from the investment value, establish green investment awareness, incorporate green investment themes into investment tools and strategies, and configure green investment products into the investors' wealth management.

Secondly, we should learn from advanced experiences. For the first time, green finance was included in the Group of 20 summit agenda as an important topic thanks to the efforts from China and England. As a positive practitioner of green investment, UK has accumulated rich experience in system construction of green investment, investment research, investment management, risk assessment and control, investor relations management, and index evaluation by setting up the world' s first "green investment bank" in October 2012. The asset management industry should pay attention on the whole situation and start from the details, create the green investment culture, actively learn and practice, combine the overseas experience and local reality to form Chinese experience and make it more widespread in green investment areas.

Thirdly, we should actively participate in corporate governance. Fund performance is based on the value and growth of enterprises, but not to make money from short-term speculation of listed companies stock or simply win the return of listed companies. Instead of holding shares negatively, fund managers should act on institutional investors' advantages and professional value as buyers, take trustees' duties, perform obligations such as the voting right for investors for promoting enterprises to improve corporate governance and business performance, enhancing long-term returns for investors, constructing same interest mechanisms accord with investors, business operators and fund managers, protecting the interests of investors, and making capital effective decisions rooted in the real economy for proper value and effectiveness.

Hong Lei, President of the Asset Management Association of China (AMAC).

China's green bond market

Wang Yao, Zhang Ricco

Since the People's Bank of China (PBOC) and the National Development and Reform Commission (NDRC) published their guidelines for issuing green bonds in China at the end of 2015, along with policy endorsements from other official bodies, green bonds have become important financing tools for China's capital market to serve the real economy. China Industrial Bank and Shanghai Pudong Development Bank were the first two issuers of green bonds. Since then, many financial institutions have started to take an active role in this expanding market. According to data from Wind, as of 30 November 2016, the size of China's labelled green bond market reached RMB 195.53 billion (US$ 28.211 billion), including 46 green bonds from 26 issuers, of which 4 are asset backed securities.

The development of China's green bond guidelines has relied on international experience and Chinese regulators keep regular contacts with international self-regulatory organizations, market standards providers, market participants and other regulators. In particular, China's Green Finance Committee (GFC) working under the PBOC has benefitted from the participation and input of the International Capital Market Association (ICMA) and the Climate Bonds Initiative (CBI) while developing the framework of China's green bond market. Both ICMA's Green Bond Principles (GBP) and the Climate Bonds Standards were used as references during the drafting of the Chinese green bonds guidelines and the Preparation Instructions on Green Bond Endorsed Project Catalogue (2015 Edition) (GB Catalogue). A number of important Chinese institutions have also become members or observers of the GBP and partners of CBI respectively.

During 2016, China's green bond market became the largest in the world. This article looks at the factors behind its rapid development.

01 Official support

Green finance is now becoming a top priority for the Chinese authorities. As a major component in building the green finance system, green bonds have been included in its development strategy. On 21 September 2015, the Central Committee of the Communist Party of China (CPC Central Committee) and the State Council released its policy paper, Systematic Scheme for Environmental Conservation Culture Structural Reform, explaining the top-level design of China's green financial system explicitly for the first time. This scheme suggests that, in facing the challenges presented by climate change, the "new normality", the green financial system will stimulate economic growth during the 13th Five-Year-Plan period (2016-2020).

02 Consistency with domestic policy

In recent years, a series of reform measures in China's bond market and the more relaxed policy environment have provided a powerful driving force for the development of green bonds.

First of all, the relaxation of the regulation around bond issues has provided the condi-

tions for the issue of all kinds of green bonds. For example, a wider range of companies are now able to issue corporate bonds, a system of private placement is allowed and project revenue bonds can be publicly issued through book building in the interbank bond market. Reform and innovation in the issue of enterprise bonds has been speeded up, simplifying the declaration procedure for enterprise bonds, increasing the efficiency of bond funds, intensifying the responsibility of the intermediaries for information disclosure and emphasizing regulatory supervision in the course of the issue and afterwards. The issuing terms for Quasi-Municipal Bonds have also been relaxed and high quality enterprises are encouraged to issue bonds to support such key projects and areas endorsed by the authorities. More local enterprises are encouraged to raise funds using enterprise bonds. Local treasury bonds have cash management guarantees from the central and local treasury and monetary policy operating tools guarantees from the PBOC, which will benefit the issue of the green municipal bonds in the future.

Second, the liberalization of the bond market in China allows easier transactions involving green bonds. For instance, approval for bond transactions in the interbank bond market is no longer a requirement and private investment funds are allowed to participate in cash bond transactions. More foreign agencies (namely other central banks, international finance corporations and sovereign wealth funds) have access to the interbank bond market. In addition, the examination and approval system will be replaced by the filing system. The restriction on the investment amounts will be relaxed and participants can choose their settlement agents themselves.

Encouragement of the use of financial bonds for infrastructure projects will also accelerate the development of the green bond market. In 2015, China Development Bank and Agricultural Development Bank of China offered a RMB 300 billion private placement to Postal Savings Bank of China as an infrastructure construction loan, which enjoys an interest subsidy at a 90% rate of the special project bond from the central finance. The speeding up of developments in asset securitization also offers development opportunities for green bonds.

Last but not least, several green bond related guidelines have been put forward by regulators, including PBOC, NDRC, Shanghai Stock Exchange, Shenzhen Stock Exchange and The National Association of Financial Market Institutional Investors, which directly give policy support to China’ s green bond development. Along with the development of China’ s green finance agenda, the GFC has been playing the key role. In the green bonds space, GFC has developed the GB Catalogue which is used to support the green bond guidelines by PBOC and Shanghai Stock Exchange. GFC is also responsible for harmonizing different Chinese green bond standards and promoting the Chinese onshore green bond market.

GFC also works closely with ICMA, GIZ and other international organizations to promote

green bond development in China. Commercial institutions such as HSBC, Bank of China, Agricultural Bank of China and other institutions who are active in the international green bond market contribute to the growing interaction between the international and Chinese green bond markets.

03 Market foundation

The development of green bonds relies on the overall success of the Chinese bond market. Since treasury bond issuance was resumed in 1981, in 30 years' of rapid development, China's bond market has shown tremendous potential. As of November 30th, the number of existing bonds in China's bond market is 30,112, with a nominal value RMB 63.6 trillion, while labeled green bonds represent 0.31% of the total amount. During 2016, 26,465 new bonds have been issued, reaching RMB 33.97 trillion, among which the total amount of labeled green bonds accounts for 0.58% of the total amount of all bonds. Although China is an emerging market, it is already the second largest bond market worldwide, with good credit and strong liquidity, and a wide base of market and public participation. As the scale of financing through markets is expanding and interest rate liberalization is moving forward, the scale and transaction variety of the Chinese bond market is developing rapidly.

The tremendous potential of China's bond markets is the foundation for the development of green bonds. It is expected that from 2015 to 2020, the direct financing of non-financial enterprises will increase from 17.2% to about 25%, and the value of outstanding bonds at the Chinese capital market will increase to 100% of China's GDP[1]. In 2015, China's total GDP reached RMB 67.67 trillion. If the GDP increases by 6.5% per year, China's total GDP will reach RMB 92.71 trillion in 2020, which means there is potential for more than RMB 29 trillion of issuance in China's bond market. If the ratio of green bonds increases to 1%, it means there will be RMB 290 billion of green bonds in 2020. But if the ratio of green bonds increases to 5%, it means there could be as much as RMB 1.45 trillion of green bonds in 2020.

04 Investor demand

Green bonds enjoy greater demand from responsible investors. Especially in the international capital market, banks, insurance companies, pension funds and some fund companies accept the principle of sustainable investment, so they have a considerable investment allocation for green projects in their asset portfolio and therefore a large demand for green bonds. In October 2015, Agricultural Bank of China issued green bonds of US$-denominated 900 million bonds and RMB-denominated 600 million bonds. The dollar bonds, including a 400 million 3-year bond and a 500 million 5-year bond, were 4.2-time oversubscribed at rates of 2.125% and 2.75% respectively. The offshore RMB bond was 8.2-times oversubscribed at a rate of 4.15%. Such successful examples show the interest that international investors have in China's green bonds and RMB-denominated green bonds.

The proceeds raised by green bonds are invested in green projects such as renewable

1 By Xiaochuan Zhou, the Governor of PBOC.

energy, and energy efficiency improvements etc. Most of the projects enjoy subsidies from central and local government. Further preferential policies for green bonds are expected, such as lower investment thresholds and more favourable tax rates. These preferential policies can lower the financing cost to some extent, leading issuers and investors to invest more in projects for environmental protection, low-carbon development and sustainable development. Green bonds also have stricter information disclosure responsibilities and more transparent use of the proceeds, so investors can invest in environmental projects at a lower risk, at the same time satisfying their sense of social responsibility.

05 Conclusion

In conclusion, as green finance has become a significant part of the national strategy, the development of China' s green bond market has been encouraged by the Chinese authorities. Meanwhile, a series of policy reform measures have promoted the development of the bond market, which in turn creates many opportunities for the green bond market. More issuance of green bonds in China and China' s green bond popularity among responsible investors in the international capital market has expanded the investor base for green bonds. Further development of the green bond market will rely on continuing stable policies, a favourable market environment, cooperation with the international market and a growing number of green investors.

By Yao Wang, Deputy Secretary-General of Green Finance Committee of China Society for Finance and Banking, PBOC and Ricco Zhang, Director Asia Pacific, ICMA

Zheng Baowei: Actively promote the green development and strive to improve climate communication

Zheng Baowei

Along with "innovation", "coordination", "opening up" and "sharing", "green development" is one of the "Five Major Development Concepts" which was introduced in the fifth Plenary Session of the 18th CPC Central Committee. Xi Jinping, the General Secretary of the Central Committee of the Communist Party of China, keeps emphasizing that " we want clear waters and green mountains at the same time, because clear waters and green mountains are equal to mountains of gold and silver." Recently, in his instructions on the construction of an ecological civilization, Xi emphasized again that "we need to effectively implement the new development concepts, establish a strong sense of 'clear waters and green mountains are equal to mountains of gold and silver' , and make efforts to enter into a new era of a socialist ecological civilization".

Therefore, it has become an important guideline of China's social and economic development to make a positive response to climate change and establish a green low-carbon development concept during the "13th five-year plan" . The important tasks for Climate Communication include the interpretation of the connotation of green development, dissemination of the concept of green development and the promotion the action of green development.

We have been working with Oxfam to establish the China Center for Climate Change Communication promoting the research and action of climate communication for six years since 2010. During these six years, we started with trailing the United Nations Climate Conference in Copenhagen, witnessed the signing of the Paris Agreement in 2015, experienced the process of China from being stigmatized and demonized to being affirmative and commendable, and thus truly recognized the importance and complexity of climate change issues. In 2016, the "Declaration of Action" adopted by Marrakesh United Nations Climate Conference enabled us to see the world's determination of coming together to confront climate change.

In recent years, China's discourse power of climate communication has become increasingly large and the communication effect is getting better and better. In the future, in order to make the concept of green development and climate change deeper in our minds, we need to further clarify the concept of climate communication, unify the understanding, specify the tasks, take conscious actions, gather the team, strengthen the power, and build a five-in-one framework of "government, media, NGO, enterprise, and

public " to respond to climate change. These five elements can complement, support, and interact with each other to offer the basis and protection for climate change.

01 Specify the concept and unify the understanding

To promote the development of climate communication theory and practice, we must first understand the basic concepts of climate communication, and strive to form a consensus.

The so-called "climate transmission" as we understand, is a kind of communication phenomenon, which is the understanding and mastery of climate change information and concerns scientific knowledge for the community and the public. And through public attitudes and behavior changes, we could seek social communication activities, with the goal of solving climate change problems. In short, climate communication is a social communication activity on climate change information and knowledge with the goal of seeking a solution of climate change.

In view of this, as a type of social communication activities, climate communication is not only an indispensable way of public opinion to solve climate change problems, but also an irreplaceable means of communication in the process of dealing with climate change.

It was suggested that "environmental communication" could include "climate communication". As we understand, the concept of "climate communication" has richer connotation than "environmental communication". "Climate change is an environmental issue, but it is, in essence, a development issue" says Hu Jintao. This statement links climate issues with the national economy and social development. It is a localization of the climate change problem.

It is inferred that climate communication involves more than environmental communication problem, but rather a bigger problem of development communication. "Development" includes development of a society, development of a nation, development of a country, development of a world and development of humankind. Positioning at this level, we have formed the consensus and aspirations on the international community that to solve climate change problems we need global co-governance. Based on this, the Paris Agreement was followed, practiced, and promoted by the whole world.

Therefore, "climate communication" is a general and overarching concept. It could include "environmental communication" "low-carbon communication" "ecological communication" and "green communication".

02 Specify the task and take conscious actions

In the future, to make climate communication a social consensus and universal action, we should closely relate with four key words of

"climate" , "communication" , "interaction" and "win-win" and lay a strong material foundation for the "five-in-one" action framework of government, media, NGO, enterprise, and public.

"Climate" and "communication" are two core words. Articles of all of our theoretical research and action promotion work are around the two words. In order to study how to form a consensus on the climate change problem in society, how to attract more concerns of climate change and protecting the ecological environment, we need to "communicate".

"Communication" is an interaction among communicators.

Governments need to propagate its policies and make statements to address climate change, to promoting the goal of environmental protection and green development.

Media needs to spread the knowledge and ideas of climate change, express positions and perspectives of government and civilian' s response to climate change and promote social action of addressing climate change.

NGOs need to explain the importance of climate change issues by the aid of communication, express the civil society's response to climate change, attract public attention to climate change and practice the concept of green and low-carbon development.

"Interaction": Governments, media, and NGOs need to "interact" to enhance communication and understanding, so as to form a concerted effort to establish a government-led climate change communication mechanism with media and NGOs as auxiliary forces, to exert the greatest influence on climate change to promote the smooth running of the work.

Enterprises and the public should also take part in communication interactions so as to form a complete interactive system.

It cannot be ignored that enterprises take a lot of responsibilities and make contributions by using green energy, developing environmental technologies, saving energy and reducing emission. As stakeholders in climate change, the public who is directly involved in climate change action, needs to further enhance the green concept and environmental awareness and take actions consciously from the little bits and pieces of things, in order to promote green low carbon development.

"Win-win": only by these five parts interacting and strengthening cooperation with each other can the "win-win" issue on the climate change be achieved. This is the reason why our project center has been emphasizing the need to establish a "five-in-one" framework for addressing climate change over the years, which is government-led, media-led and NGO promotion, corporations undertaking, and public participation.

The framework is a complete system. The cooperation, support, and interaction between the five parts are the basis and guarantee for achieving the goal of addressing climate change. To make progress on the basis of

"five-in-one" action framework, it is necessary to achieve the following objectives: to make government more active as the "leader", make media more dedicated as the "guide", make NGOs more active as the “promoter” , make enterprises try harder as the" responsible person" and make the public more conscious as the " participants". Through positive interaction, it will gradually form a national system and mechanism to respond to climate change, which enhances awareness of the whole society to cope with climate change and promote the formation of production and lifestyle of "low-carbon" and "green" mode.

03 Gather a team and grow in strength

Coping with climate change is a kind of social action that requires common attention and broad participation of the whole society. From December 17 to 18 in 2016, China Center for Climate Change Communication held a seminar on “Green Development and Climate Communication" in Beijing with Research Center of Green and Low-Carbon Development and Brand Communication and National Advertising Institute of Communication University of China. More than 80 participants who are concerned with climate change and climate transmission attended this seminar, including experts, scholars, medias and people come from NGO organizations. Participants analyzed and discussed the current situation of global green development and climate change, shared the frontier topics, dynamics, and achievements of climate communication research and designed cooperation model, action framework and strategy to promote climate communication research and practice. The seminar provided an academic platform for all sectors of society who concerned about climate change and climate communication. Through this seminar, we gathered a team, strengthened the power, and expanded the impact. It can be said that climate communication in China has gradually popularized.

We hope that more and more people will dedicate themselves to theoretical research and action promotion of climate change and climate communication, so that the platform will expand, the results will improve, and the generalization will be more realistic.

Looking back at the experience of theoretical research and action promotion of climate communication and action promotion at the China Center for Climate Change Communication for six years, we deeply understand the value and significance of climate communication research. We hope that we can work together towards the green and low-carbon, ecological environment protection goal. We also look forward to everyone beginning to start “from ourselves, from now on, and from every little thing" to achieve green development, and contribute our own strength in building a beautiful China.

Zheng Baowei, Professor and Director of School of Journalism of Renmin University of China, Director of China Center for Climate Change Communication, Academician of Social Science Committee of the Ministry of Education and Convenor of the Subjects of Journalism and Communication.

State and Trends of Carbon Pricing (Executive Summary)

World Bank

01 CARBON PRICING INITIATIVES AROUND THE WORLD

2015 witnessed an historic global step forward in taking action on climate change. In Paris, world leaders reached an agreement at the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC) to keep the global average temperature increase to well below 2 ° C and pursue efforts to hold the increase to 1.5 ° C. The Paris Agreement encouraged all countries, for the first time, to make individual, voluntary commitments to contribute to this global goal, marking the beginning of a new era in the cooperative effort to limit climate change. On October 5, 2016—less than a year after the agreement was adopted—the conditions for the Paris Agreement to take effect were met[1]. The Paris Agreement will enter into force on November 4, 2016.

The vast majority of governments around the globe—189 countries representing 96 percent of global greenhouse gas (GHG) emissions and 98 percent of the world' s population[2] —have committed to reduce their GHG emissions and adapt to the changing climate through their Intended Nationally Determined Contributions (INDCs)[3]. The urgent priority now is for governments to ensure implementation of these commitments, requiring sustained efforts to influence invest-

1 While this report covers the period from January 1, 2015 until September 1, 2016, the authors decided to include the entry into force of the Paris Agreement given its global significance. The authors recognize that other significant developments have occurred after September 1, 2016 and before the publication of the report. These developments include the agreement reached at the 39th Assembly of the International Civil Aviation Organization (ICAO) on a global market-based measure to control CO2 emissions from international aviation (see footnote 103 in the International aviation section in Section 2.2 for further details), the announcement of a minimum federal carbon price in Canada, and the adoption of the carbon pricing legislation in Washington State, which happened after September 1, 2016 and before the publication of the report. They will be discussed in the 2017 edition of the Carbon Pricing Watch and the State and Trends of Carbon Pricing report.

2 As of September 1, 2016. The 189 countries submitted 162 INDCs, with the European Union submitting an INDC on behalf of its 28 member states.

3 INDCs are voluntary statements which were invited by the COP without prescription related to form. Nationally Determined Contributions (NDCs) are legally distinct and will be under the Paris Agreement as and when it enters into force. They will be governed by Article 4 of the Agreement. Each Party to the UNFCCC that wishes to become a Party to the Agreement will have an obligation to communicate an NDC. The level of prescription attached to these will be determined by the negotiations of the operative elements of Article 4, which mainly take place under the Ad Hoc Working Group on the Paris Agreement.

ment and consumption decisions made every day by firms and households.

While implementation of INDCs will rely on a range of policies and programs, carbon pricing initiatives will play an increasing role, with about 100 Parties —accounting for 58 percent of global GHG emissions— planning or considering these instruments. The pivotal role of carbon pricing in supporting efforts to decarbonize is also reflected in the Paris Agreement. Article 6 of the Agreement provides a basis for facilitating international recognition of cooperative carbon pricing approaches and identifies new concepts that may pave the way for this cooperation to be pursued.

Already, about 40 national jurisdictions and over 20 cities, states, and regions are putting a price on carbon (see Figure 1). This translates to a total coverage of around 7 gigatons of carbon dioxide equivalent (GtCO2e) or about 13 percent of global GHG emissions (see Figure 2). The share of global emissions covered by carbon pricing initiatives has increased threefold over the past decade. This year saw the launch of two new carbon pricing initiatives: British Columbia put a price on emissions from liquefied natural gas plants alongside its carbon tax, and Australia implemented a safeguard mechanism to the Emissions Reduction Fund, requiring large emitters that exceed their set limit to offset excess emissions. Furthermore, advances in carbon pricing were made in 2015, including the launch of the emissions trading system (ETS) in the Republic of Korea and the carbon tax in Portugal. There have also been new carbon pricing developments at a regional level, with Mexico expressing interest in a North American carbon market and carbon pricing dialogues starting in the context of the Pacific Alliance[4]. At the same time, in the last year Kazakhstan suspended its ETS temporarily from 2016–2018 and South Africa delayed the start of its carbon tax to 2017.

Looking ahead, 2017 could see the largest ever increase in the share of global emissions covered by carbon pricing initiatives in a single year. If the Chinese national ETS is implemented in 2017 as announced, initial unofficial estimates show that emissions covered by carbon pricing initiatives could potentially increase from 13 percent to between 20 to 25 percent of global GHG emissions. This is reflected in Figure 2. The Chinese national ETS would become the largest carbon pricing initiative in the world, passing the EU ETS. Other initiatives scheduled to commence next

4 The Pacific Alliance consists of Chile, Colombia, Mexico and Peru.

year include an ETS in Ontario, a carbon tax in Alberta that will be implemented alongside its existing ETS and carbon taxes in Chile and South Africa. Also, France is planning to introduce a carbon price floor in 2017.

The range of carbon prices across existing initiatives continues to be broad. This year, observed carbon prices span from less than US$1/tCO2e to US$131/tCO2e (see Figure 3), with about three quarters of the covered emissions priced below US$10/tCO2e. The total value of ETSs and carbon taxes in 2016 is just under US$50 billion, remaining at 2015 levels. This relative stability is due to increases in various carbon tax rates being offset by lower carbon prices in most ETSs.

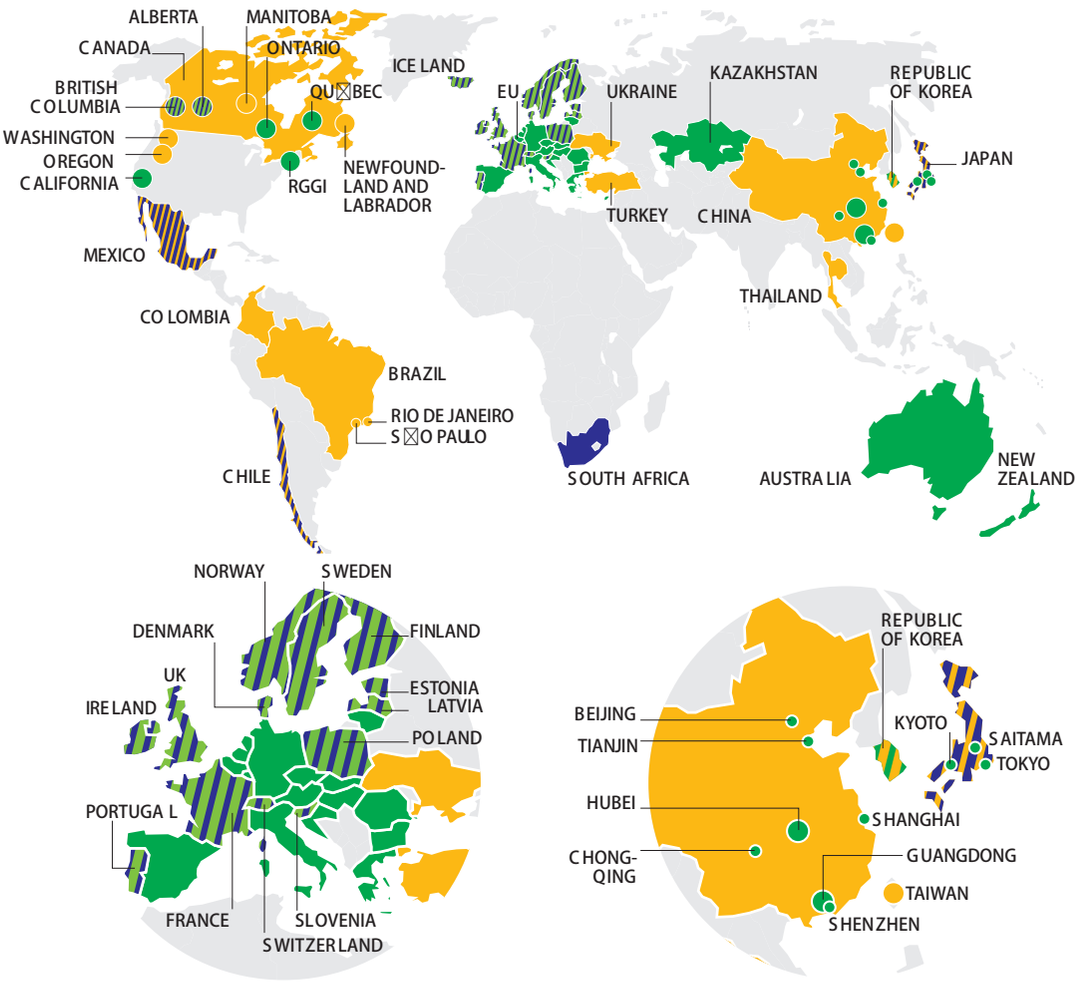
In addition to growth in the number of mandatory carbon pricing initiatives, the number of companies that reported to CDP in 2016 that they are implementing internal carbon pricing has also increased. In 2016, the number of companies that are using an internal price on carbon has more than tripled compared to 2014. The internal carbon prices in use are diverse, with reported values ranging from US$0.3/tCO2e to US$893/tCO2e. About 80 percent of the reported internal carbon prices range between US$5/tCO2e and US$50/tCO2e.

Further building momentum for the use of carbon pricing to mitigate climate change and enhance climate resilience, a number of new international platforms were introduced over the past year. These include, among others, the Carbon Pricing Leadership Coalition and the New Zealand-led Ministerial Declaration on Carbon Pricing. These platforms are reinforced by other developments that encourage the uptake of carbon pricing around the world, including the opening of membership to the G7 Carbon Market Platform to countries outside the G7. In addition, the High-Level Panel on Carbon Pricing, a group of government leaders and international organizations, has set forward a global target to double the emissions covered by carbon pricing initiatives to 25 percent by 2020 and to double this coverage again within a decade[5].

While carbon pricing has expanded significantly in recent years, in many instances these initiatives are still at an early stage in achieving impact. To mobilize political support, some policymakers have introduced carbon prices at relatively low levels. However, implementation of a carbon pricing policy framework and institutional structure is nonetheless a first step that can lay the groundwork for future increases in ambition and impact.

5 Source: World Bank, Leaders Set Landmark Global Goals for Pricing Carbon Pollution, April 12, 2016, http://www.worldbank.org/en/news/press-release/ 2016/04/21/leaders-set-landmark-global-goals-for-pricing-carbon-pollution.

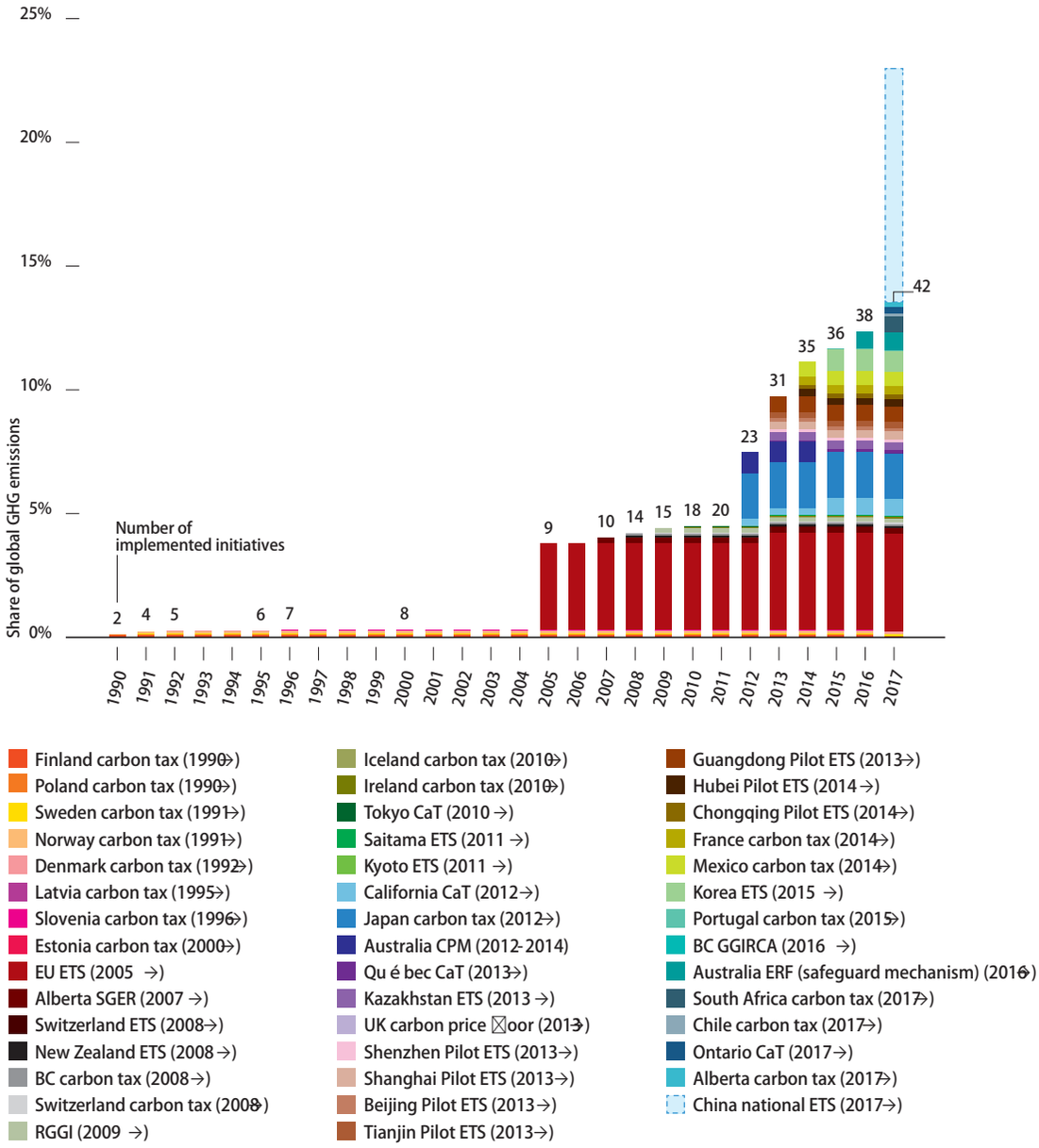
Figure 1 summary map of existing, emerging and potential regional, national and subnational carbon pricing initiatives (ETS and tax)



The circles represent subnational jurisdictions: subnational regions are shown in large circles and cities are shown in small circles. The circles are not representative of the size of the carbon pricing initiative.

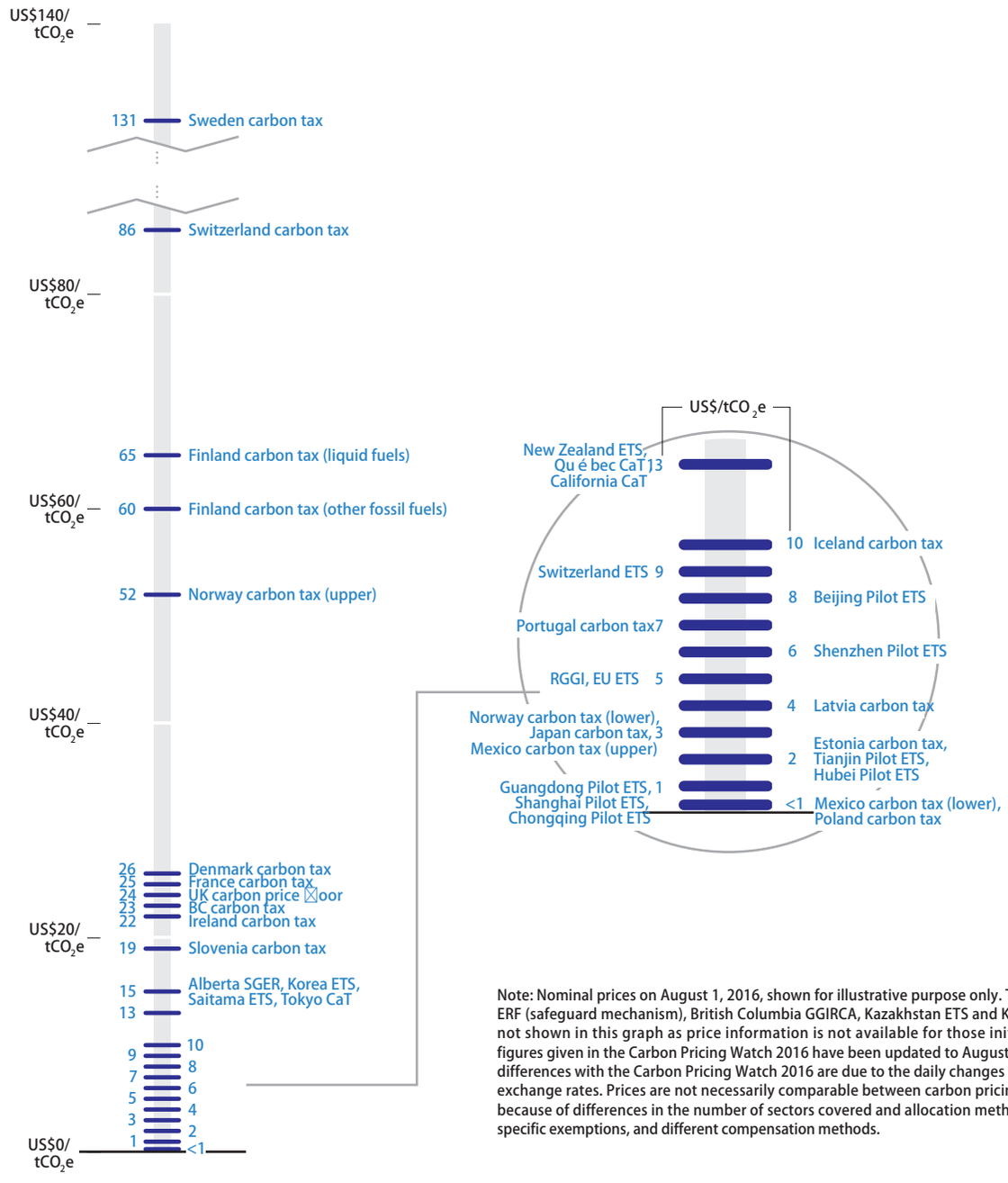
Note: Carbon pricing initiatives are considered "scheduled for implementation" once they have been formally adopted through legislation and have an official, planned start date. Carbon pricing initiatives are considered "under consideration" if the government has announced its intention to work towards the implementation of a carbon pricing initiative and this has been formally confirmed by official government sources. Jurisdictions that only mention carbon pricing in their INDCs are not included as different interpretations of the INDC text are possible. The carbon pricing initiatives have been classified in ETSs and carbon taxes according to how they operate technically. ETS does not only refer to cap-and-trade systems, but also baseline-and-credit systems such as in British Columbia and baseline-and-offset systems such as in Australia. Carbon pricing has evolved over the years and initiatives do not necessarily follow the two categories in a strict sense. The authors recognize that other classifications are possible.

Figure 2 regional, national and subnational carbon pricing initiatives: share of global GHG emissions covered



Note: Only the introduction or removal of an ETS or carbon tax is shown. Emissions are given as a share of global GHG emissions in 2012. Annual changes in global, regional, national, and subnational GHG emissions are not shown in the graph. Data on the coverage of the city-level Kyoto ETS were not accessible and the British Columbia Greenhouse Gas Industrial Reporting and Control Act (GGIRCA) does not cover any emissions yet; their coverages are therefore shown as zero. The information on the Chinese national ETS represents early unofficial estimates based on the Chinese President's announcement in September 2015.

Figure 3 Prices in existing carbon pricing initiatives



Note: Nominal prices on August 1, 2016, shown for illustrative purpose only. The Australia ERF (safeguard mechanism), British Columbia GGIRCA, Kazakhstan ETS and Kyoto ETS are not shown in this graph as price information is not available for those initiatives. The figures given in the Carbon Pricing Watch 2016 have been updated to August 1, 2016. The differences with the Carbon Pricing Watch 2016 are due to the daily changes in prices and exchange rates. Prices are not necessarily comparable between carbon pricing initiatives because of differences in the number of sectors covered and allocation methods applied, specific exemptions, and different compensation methods.

02 ALIGNING CARBON PRICING WITH THE BROADER POLICY LANDSCAPE

Carbon pricing can be most effective and acceptable to the public when it is well aligned with the broader policy context in a country. By necessity, policymakers must balance multiple objectives, of which climate mitigation is just one. An integrated package of climate mitigation policies that also supports other key objectives is more likely to gain widespread support and to be implemented more effectively than inconsistent policies that work at cross-purposes. In order for carbon pricing to have an optimum impact, policymakers should maximize the synergies with complementary policies, manage potential tensions with overlapping policies and address any trade-offs associated with countervailing policies.6 Section 3 of the report discusses these issues in depth.

A key objective is to combine carbon pricing with complementary policies in a way that enhances the performance of each of the policies. This will ensure that carbon pricing is effective in changing behaviors and that its consequences are acceptable to society. Opportunities for synergies exist: in the power sector carbon pricing works best in the context of efficient electricity markets, where producers and consumers respond to full cost-covering price signals to allocate resources. At the same time, when carbon pricing encourages an increasing share of renewables in fast growing, relatively small power systems, the challenges can be addressed successfully with complementary policies supporting flexibility of the system and its ability to incorporate power from renewable sources. To encourage the efficient use of energy and increased use of public transport, a carbon price needs to be accompanied by additional measures to remove barriers and to provide infrastructure that enables consumers to respond to the price signal.

Facilitating access to long-term financing of upfront capital costs can also be essential for carbon pricing to increase the rate at which abatement opportunities are adopted. Finally, it should be noted that carbon prices can help achieve other objectives—for instance by increasing the efficiency of raising tax revenue or helping to reduce local air pollution.

Policymakers also have to manage overlapping policies that operate in parallel with carbon pricing. For example, renewable and energy efficiency support measures, while motivated by other objectives, can provide the same incentive effect as carbon pricing. There is a wide range of legitimate reasons for these overlapping policies, such as green industrial

policy, supporting penetration of certain transformational technologies, or avoiding lock-in of capital in assets that may be stranded in the future. However, these policies represent an implicit carbon cost, which can far exceed the level of the explicit carbon price and increase the overall social cost of reducing emissions. Policymakers can manage the interactions between these policies and carbon pricing in a way that exploits their parallel objectives, while mitigating unwanted effects and minimizing costs.

Finally, policymakers may have to address the challenge of a range of countervailing policies that adversely affect the impact of carbon prices on the behavior of investors and consumers. Often, as with the case of fossil fuel subsidies, these policies are unsuccessful or inefficient in achieving their stated objectives, e.g. lowering the cost of energy for less affluent households. There are ways to achieve these objectives without distorting the intended carbon price signal. Carbon pricing does not have to wait for the phasing out of countervailing policies. Instead it can be used as part of a package of gradual reforms of fossil fuel subsidies, for example by using revenues to help address some of the political economy barriers to subsidy removal. However, in other instances, such as where regulations protect banking or fiscal prudency that discourages low-carbon investments, there may be a legitimate trade-off with carbon prices. Policymakers will need to determine whether there are ways to manage these tensions at the margin and/or decide which objective should take precedence.

The dynamic nature of the complex interactions between carbon pricing, other climate change policies and the broader domestic policy landscape means that problems cannot always be fully anticipated. The management of these interactions will be an evolutionary and iterative process. Understanding this, policymakers should incorporate regular processes of review and evaluation so as to be able to respond to challenges that may emerge, without causing inconsistent policy twists and turns that could undermine the confidence of businesses to plan and invest. There are analytical tools that policymakers can use to better understand the effectiveness of carbon pricing and its complex interaction with multiple policies jointly influencing choices made by economic actors.

03 BUILDING AN INTERNATIONAL CARBON MARKET ATHER PARIS

As well as being a powerful tool to realize domestic abatement opportunities, carbon pricing can support international cooperation on mitigation through the establishment of an international carbon market. Such a market allows those who have the financial responsibility for reducing emissions to purchase emission reductions wherever this is most cost-effective. This flexibility can significantly reduce costs, allowing for an increase in ambition.

Modeling analysis undertaken for this report shows that an international market could reduce the cost of delivering the emission reductions identified in the current INDCs by about a third by 2030. The modelling also finds that by the middle of the century, an international market has the potential to reduce global mitigation costs by 50 percent. At the same time, the analysis highlights that some of the poorer regions in the world may be able to generate financial flows from selling emission reductions amounting to 2–5 percent of gross domestic product in 2050. These benefits might be realized while also promoting greater knowledge sharing and technical cooperation, and increasing political and public commitment to pursue low-carbon growth. Another co-benefit of an international carbon market is that it increases the ability of policymakers to address the challenges of carbon leakage and the impact on competitiveness that domestic carbon pricing creates.

The development of mechanisms that will realize these opportunities has been given renewed impetus by Article 6 of the Paris

Agreement. However, there are a number of legitimate barriers must be addressed. In particular, sellers may fear that selling emission reductions today will make it more difficult to realize their NDCs or other commitments in the future. This, in turn, could cause potential buyers to be concerned that there will not be a robust and liquid carbon market which they can access. Other challenges include concerns about losing control of the value of the domestic carbon price and the political challenges created by the scale of international transfers that may be generated. The latter issue particularly relates to fears that countries with low ambition may be rewarded through the receipt of international transfers. Another concern is the loss of the co-benefits associated with reducing emissions.

Given these barriers, the same learning-by-doing process that policymakers could adopt to promote domestic alignment between carbon pricing and other domestic policies and objectives can also yield dividends in the development of an international carbon market. Solutions to many of these barriers include technical cooperation, results-based climate finance, sectoral approaches, mechanisms to measure and reflect differential ambition and the greater use of international standards. The use of a combination of these approaches is one possible route to the development of an international carbon market.

This article was excerpted from a report of the World Bank.

Translator: Xi Cen, Wen Xin, Liu Qian

Liu Qian is the Professor of the IIGF, CUFE and the Executive Director of the RCCEF.

GREEN FINANCE IN CHINA
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» Host: International Institute of Green Finance, CUFE

International Institute of Green Finance (IIGF) of Central University of Finance and Economics (CUFE), is known as the first international research institute in China whose goal is to promote the development of green finance. The IIGF grew out of the Research Center for Climate and Energy Finance(RCCEF), which was founded in September, 2011. RCCEF is one of the standing member of Green Finance Committee (GFC) of China Society of Finance and Banking while it has built an academic relationship with the Ministry of Finance. The IIGF aims to cultivate the economic environment and social atmosphere with the spirit of green finance and to build the domestic first-class, the world's leading financial think tank with Chinese characteristics. The main research areas of the IIGF are Green Finance, Climate Finance, Energy Finance and Pension Finance, including the PPP Lab, Green Finance Product Innovation Lab, Carbon and Climate Finance Lab, Green Bond Lab, etc.

» Support: Green Finance Committee

The Green Finance Committee of the China Society for Finance and Banking was established on April 22, 2015.

The Green Finance Committee, set up under at the China Society for Finance and Banking, is a non-legal-person, non-for-profit professional committee dedicated to academic research and coordination of the member institutions. Its mandate covers green finance research, promoting innovative green investment and financing products and services, increasing awareness of green investment among institutional investors, strengthening capacity building, and helping to implement green finance policies.

Until the end of 2016, the Green Finance Committee currently has 31 executive member institutions, 104 general member institutions and 14 specially invited member institutions. It is shown that the financial asset under management of the member institutions amounts to RMB 108 trillion, accounting for roughly 65% of the total asset of China's financial industry. Financial institutions such as ICBC, Agricultural Bank of China, Bank of China, China Construction Bank, China Development Bank, Export and Import Bank of China, China Investment Corporation, Silk Road Fund, PICC, and Galaxy Securities, as well as green companies such as CECEP are the executive council and the general council of the Green Finance Committee.

The current chairman of the Green Finance Committee is MA Jun, the chief economist of the Research Bureau, the People's Bank of China.

GREEN FINANCE IN CHINA

HOST: International Institute of Green Finance, CUFE

SUPPORT: Green Finance Committee, China Society for Finance & Banking

EMAIL: iigf@rccef.com.cn

TEL: 010-62288768