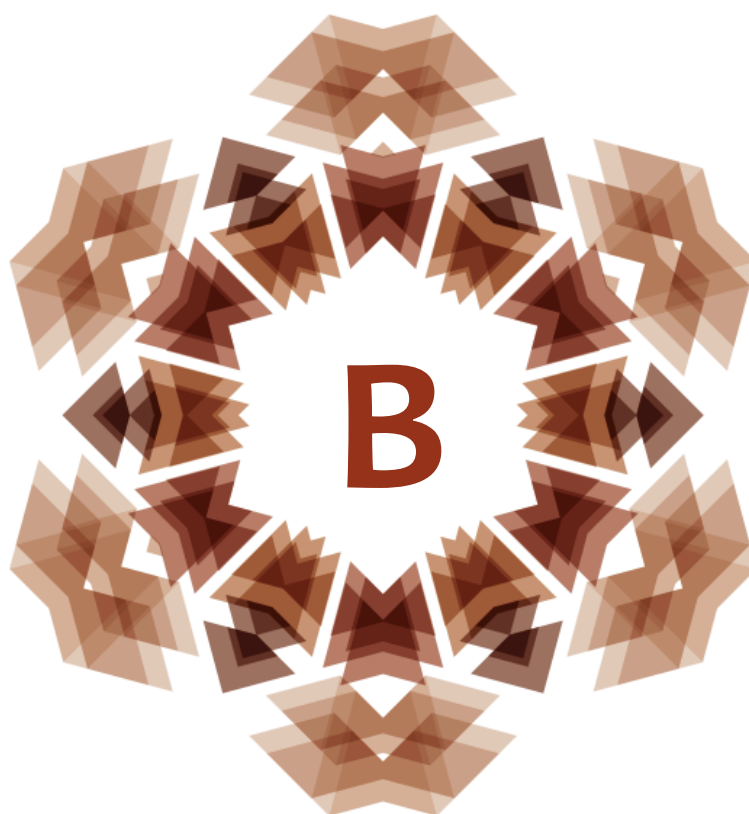




# ESTABLISHING CHINA'S GREEN FINANCIAL SYSTEM

## Background Paper B: International Experience of Green Finance



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## **Background Paper B: International Experience of Green Finance**

Green finance had its roots in Western countries, which were the first to face widespread environmental problems from consumption of fossil fuels and industrialization. China will benefit greatly from drawing on their experiences with synergizing financial policies, building institutions and facilitating product innovations to promote green investment. The following is a brief overview of some of the typical practices to promote green finance internationally.

### **(I) Categories of green financial products**

#### **1. Green lending**

Green lending policy usually refers to supportive products such as preferential interest rates offered by banks for environmentally friendly projects or restrictions of projects with negative environmental performance. Green lending includes personal housing mortgage loans, motor-vehicle loans and green credit card services, along with project financing, construction lending and equipment leasing for enterprises.

Regarding corporate loans, the Equator Principles are internationally popular principles of voluntary green credit. According to the Equator Principles, banks should refuse to provide financing to borrowing companies that are not in compliance with the social and environmental standards of the Equator Principles. For the first time in history, the Equator Principles provide quantitative, explicit and specific environmental and social criteria for project financing. By 2013, the Equator Principles were accepted by a total of 78 financial institutions from 35 countries and regions with total project financing accounting for more than 86 percent of the market total.

Currently, China has already promulgated some regulations and policy documents on green credit (including *Opinions on the Implementation of Environmental Protection Policies and Regulations for the Prevention of Credit Risks*, *Guiding Opinions on Credit Issuance for Energy Conservation and Emission Reduction* and *Green Credit Guidelines*). These green credit policies aim to limit the offering of loans to polluting and energy-intensive enterprises with limited emphasis on measures for the promotion of loan issuance to environmental protection industry and environmentally friendly companies. To promote the Equator Principles, the Ministry of Environmental Protection has published the translated version of *International Experience in Promoting Green Credit: the Equator Principles and IFC Performance Standards and Guidelines* (IFC/MEP, 2008). Nevertheless, the Equator Principles are yet to be widely adopted by Chinese commercial banks and the China Industrial Bank (CIB) is currently the only Chinese bank that has become a signatory of the Equator Principles (Equator Principles, 2014).

## **2. Green private equity and venture investment fund**

Large-scale green direct investments are currently dominated by well-known international financial conglomerates with the participation of some professional investors. There have also been several experiments in investment targeted at scaling up investment in environmentally sustainable entrepreneurship. In 1999, the World Resources Institute launched the ‘New Ventures’ project with the financial support from Citibank. This project is dedicated to investing in small and medium-sized enterprises of the environmental industry in emerging market economies. Between 1999 and 2012, this project had assisted 367 SMEs that “generated significant environmental benefits” in receiving venture investments totalling US\$370 million and contributed to a cumulative reduction of 3.3 million tons of CO<sub>2</sub>, protection of 4.5 million hectares of arable land, and conservation and purification of 5.7 billion litres of water.<sup>1</sup> Dedicated providers of green industry investment and financing services, such as Environmental Capital Partners are also emerging.

Between 2007 and the first half of 2013, Chinese VC/PE funds made a total of 694 lots of investment in the area of clean energy with a total volume of US\$8.2 billion, which resulted in the successful IPOs of many companies in Mainland China and abroad (Zero2IPO, 2013). Strikingly, the number of clean energy projects has reduced the recent couple of years, which reflects the following issues in the development of China’s clean technology industry: first, insufficient policy support and inadequate return of green industry projects with a long cycle to recoup investment; second, inadequate market-based operation and infrastructure (such as barriers to grid connection for wind power and solar power) and dependence on exports for certain products with wild fluctuations of demand; third, investors and consumers have yet to develop a favourable awareness and sense of social responsibilities for clean technologies and products.

## **3. Green ETF and mutual funds**

A considerable number of highly liquid green financial products are already available in overseas financial markets. Many of them are Exchange Traded Fund (ETF) indices and fund products while others are derivatives of carbon emission rights. These products have attracted extensive investors including individuals.

Currently, the main green indices traded internationally are: Standard & Poor’s Global Clean Energy Index (covering 30 major clean energy companies from around the world), NASDAQ Clean Edge Green Energy Index (tracking more than 50 US public companies in clear energy), and FTSE Japan Green Chip 35 (following Japanese companies in the environmental protection industry). These indices have spawned related investment funds. In addition, other indices and funds include: Deutsche Bank’s db x-trackers, Standard & Poor’s US Carbon Efficient Index and Barclays’

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<sup>1</sup> <http://www.wri.org/project/new-ventures>

iPath Global Carbon ETN. China is a late entrant on this front. There are some fund products currently listed in China's A-share market (such as the Full Goal Low-carbon and Environmental Stock Securities Investment Fund and the Zhonghai Environmental Protection New Energy Fund) but most are relatively small and their investments are strictly limited to the environmental protection industry.

#### **4. Green bonds**

Green bonds are bonds issued by international financial organizations and government-backed financial institutions. Due to their high credit ratings, such issuers can raise funds at lower interest rates to support green projects. Institutions that have issued green bonds include the World Bank, the Asian Development Bank, and the Export-Import Bank of Korea. International investment banks usually serve as the underwriters of these green bonds; the investor base comprises large institutional investors and some high-net-worth individuals. The average maturity of green bonds is five to six years. Since 2007, around US\$18 billion worth of green bonds have been issued internationally, mainly by international financial institutions such as the World Bank, IFC and EIB (Kidney and Oliver, 2014). Green bonds are attractive to investors for the following reasons: (1) Their green vision and social value; (2) Their relatively short maturity and high liquidity. Most green bonds have a maturity between three to seven years and can be readily traded in the secondary markets; (3) Many green bonds are tax-exempt and thus present good investment returns; (4) They have relatively low risk. By investing in green bonds, investors can avoid the investment risk associated with individual environmental project. The issuer of a green bond will also have a stringent screening process for its candidate investment projects.

#### **5. Green banks**

The Green Investment Bank is a policy bank wholly funded by the British government. The British government injected £3 billion into the bank as its capital and holds one seat on its board, but the bank is otherwise operating independently from government control. The Green Investment Bank was created to address market failures in financing British green infrastructure projects, and through it, the British government hopes to stimulate private investments to accelerate the country's transition into a green economy. According to the Annual Report of the Green Investment Bank, every pound invested by the Green Investment Bank is able to invite private investments to the amount of almost three pounds (GIB, 2014).

The Green Investment Bank evaluates a potential project on its investment robustness, leverage effect and green effect, with priorities given to highly commercial green infrastructure projects. At least 80 percent of such investments will go to such sectors as offshore wind power, waste recycling, energy recycling from wastes and non-residential energy efficiency. The Green Investment Bank can make investments through such means as shares, bonds and guarantees, but does not provide soft loans, venture investment or subsidies.

## **6. Green insurance**

Green insurance is also known as ecological insurance and serves as a tool for managing environmental risks in a market-based economy. Generally speaking, environmental insurance policies cover potential liabilities arising from the pollution of water, land or air by the policyholder. The significance of this type of insurance is twofold. Firstly, without ecological insurance, many companies will be unable to provide indemnities and restore the environment after an accidental pollution event. Secondly, compulsory insurance for certain industries will help internalize the environmental costs and curb investment activities with excessive environmental risks.

The EU has maintained a firm stance on the principle that ‘polluter pays’ through legislation and enacted the EU Environmental Liability Directive in 2004, which spurred the rapid development of green insurance services. In 1990, the German government passed the Environmental Liability Act, which requires the compulsory insurance of 96 sectors (including, among others, thermal power, mining and petroleum) across ten major industries. The Association of British Insurers has also coordinated the launch of similar insurance services by British insurance companies which, in the event of a pollution incident, will not only cover the cost of clean-up, but also penalties, damages to and losses on immovable properties, all legal expenses and medical costs.

In 2007, China began to carry out the pilot programs of environmental pollution liability insurance. In January 2013, the Ministry of Environmental Protection and CIRC jointly issued a document on the launch of compulsory liability insurance of environmental pollution for high-risk sectors including heavy metals, petroleum and chemical engineering and for the first time identified the concept of ‘compulsory’. However, this document remains a guiding opinion without legal efficacy.

### **(II) Leverage effect of fiscal measures on green finance**

Incentives supported by fiscal funding represent a major means for the internalization of the externalities of environmental protection projects. According to research commissioned by UNEP, a fiscal fund of US\$10 billion is able to stimulate US\$100 billion of private investments in green industry and “public finance mechanism which could deliver between \$3 to \$15 of private investment for every \$1 of public money are part of the solution”(Ward et al., 2009). Below, we will identify the specific cases of a few countries for illustration.

#### **1. Government offers interest rate discounts for green loans**

An important characteristic of Germany’s green credit policy is state participation. The KfW Development Bank is a policy financial institution with state controlling shares but not affiliated with the government. It has played a decisive role in supporting the financing of SMEs, particularly SMEs in the area of environment. The KfW Development Bank has launched many programs

including ‘KfW Environmental Loan Program’, ‘KfW Energy Efficiency Program’ and ‘KfW Energy Fund Transit Program’, which offered loans at discounted interest rates supported by federal German government.

## **2. Government offers green loan guarantee**

The British government mentioned in the research documents on SME financing that the government is not in the best position to decide whether individual SMEs can have access to financing (BIS, 2012). Therefore, the government must facilitate investment and financing decision-making by the private sector. Meanwhile, the British government has adopted a ‘loan guarantee program’ to support SMEs, particularly SMEs in the area of environment. In the process of determining final guarantee proportion and loan repayment, the environmental impacts of companies will serve as an important reference criterion.

## **3. Feed-in tariff**

Feed-in tariff (FIT) is an effective instrument of economic subsidy, i.e. the government offers a long-term guarantee of the purchase price of outputs for clean energy companies, groups or individual investors, so as to ensure relatively good return. Considering that investment return is a key factor of market growth, the FIT serves as an instrument for promoting new energy development based on the mechanism of market regulation. Today, more than 50 countries have employed FIT with maturity ranging between ten to 25 years.

Internationally, the FIT is employed most extensively in solar energy industry. For instance, the Renewable Energy Act enacted by Germany in 2000 stipulates the feeding tariff of €0.35 to €0.5 for newly installed solar energy systems. As long as solar energy systems are connected to the national power distribution network, solar energy companies will be entitled to a 20-year guarantee fixed-tariff purchase<sup>2</sup> and may allocate additional costs evenly to all users. Under the policy guidance, the share of solar energy in the total power generation of Germany increased from less than 0.1 percent before 2003 to 5.3 percent in 2012 while the additional average cost for users is only €0.036 per each kilowatt hour of electricity (2012).

## **4. Government procurement**

Government procurement refers to the procurement of goods, engineering and services using fiscal funds. The EU explicitly advocates green public procurement and encourages member states to sign green contracts to increase the share of green products in government procurement to more than 50 percent. Major green products include: energy efficient computers, chairs and tables made of renewable materials, electric or hybrid vehicles and renewable energy power generation.

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<sup>2</sup> Deutsche Energie-Agentur, [www.dena.de/en/](http://www.dena.de/en/)

Annual European government procurement worth €2 trillion (equivalent to 19 percent of the EU's GDP) has vigorously expedited the development of environmental protection industry.

The US enacted the *Federal Acquisition Regulation: Sustainable Acquisition* in 2005 for the promotion of green procurement. The US government at all levels has constructed or put into use more than 500,000 green and energy efficient buildings. According to an empirical study by American scholars, thanks to green procurement policy, the state government of California has not only stimulated demand for the environmental protection industry but also exerted positive spillover effects and inspired the purchase of green products by the private sector (Simcoe & Toffel, 2014). The Chinese government recently began to promote government procurement of green products and a typical example is the government procurement of new energy vehicles.

#### **5. Tax exemptions for green bonds**

According to the laws of most Western countries, the proceeds of negotiable securities must be accounted into the total revenues of investors and subject to income tax. In order to attract the investment of green bonds, some countries have exempted income tax for green bonds. In the US for example, the State of Massachusetts became the first state government that independently issued tax-free green bonds in 2013 and the funds raised from these bonds will be directly used for infrastructure construction for environmental protection. Regarding corporate bonds, the US Congress adopted a tax-free bond program worth US\$2 billion in 2004 that requires that the tax-free bonds included in the program must be infrastructure construction bonds for the promotion of new energy and that bond investors can be exempted from federal income tax.

#### **6. Fiscal financing for the creation of green banks**

According to the 2012-2013 Annual Report of the Green Investment Bank, direct investments of green investment banks amounted to £635 million while third-party private investments totalled £1.63 billion, i.e. investment of each pound led to three pounds of private investment and this proportion is as high as 1:9 for a few projects. As project initiator, the government provides a certain degree of implicit guarantee for private capital and increased the expected return or reduced expected risks for private investors; meanwhile, by conducting preliminary project evaluation and preparation, the government has reduced the investment cost for private investors.

### **(III) Guidance of financial institutional development for green investments**

Aside from fiscal funds, a series of financial institutional arrangements may also help encourage private investments in green industries. These arrangements may not require much fiscal input yet may increase investor preferences for green projects and mitigate their investment inclinations for polluting projects by making legislation, reforming evaluation system, creating social responsibility systems and providing environmental cost information.

## **1. Clarify the legal responsibilities of financial institutions for polluting projects through legislation**

In 1980, the US pushed out the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), under which banks may be held liable for pollution caused by their clients and any environmental restoration expenses. CERCLA stipulates that a lender must assume liabilities if it participates in the business operation, production and waste disposal of its borrower that have resulted in pollution, or has ownership over the facilities that caused the pollution. Such liability is referred to as the lender liability, which can be applied jointly and severally and retroactively in the most severe terms. In 1986, Maryland Bank and Trust Company was sued by the US Environmental Protection Agency for holding polluting properties liquidated by the borrower and refusing EPA's request to clean up pollutants.<sup>3</sup> The bank eventually lost the case and was ordered by a Maryland district court to pay the EPA for clean-up costs. Since CERCLA was passed, there have been over a hundred such cases in the US. (Geisinger, 1994)

China began to clarify the environmental responsibilities of financial institutions only recently and relevant regulations have remained at the conceptual level without much operability and no banks ever faced litigations for environmental problems.

## **2. Require institutional investors to consider environmental factors in their decision-making process**

The United Nations for Responsible Investment (PRI) is an international framework sponsored by United Nations and organized by major international investors with the objective of launching on a global scale a set of principles for responsibility investment. By April 2013, a total of more than 1,200 institutional investors took part, with total assets under management worth more than US\$35 trillion. There are only three Chinese participating institutions including JD Capital, Lunar Capital and SynTao.<sup>4</sup>

The framework emphasizes the considerations for environmental, social and corporate governance (ESG) factors in the investment process. Completed and ongoing activities under this framework include: first, providing investment guidelines to help signatory institutions

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