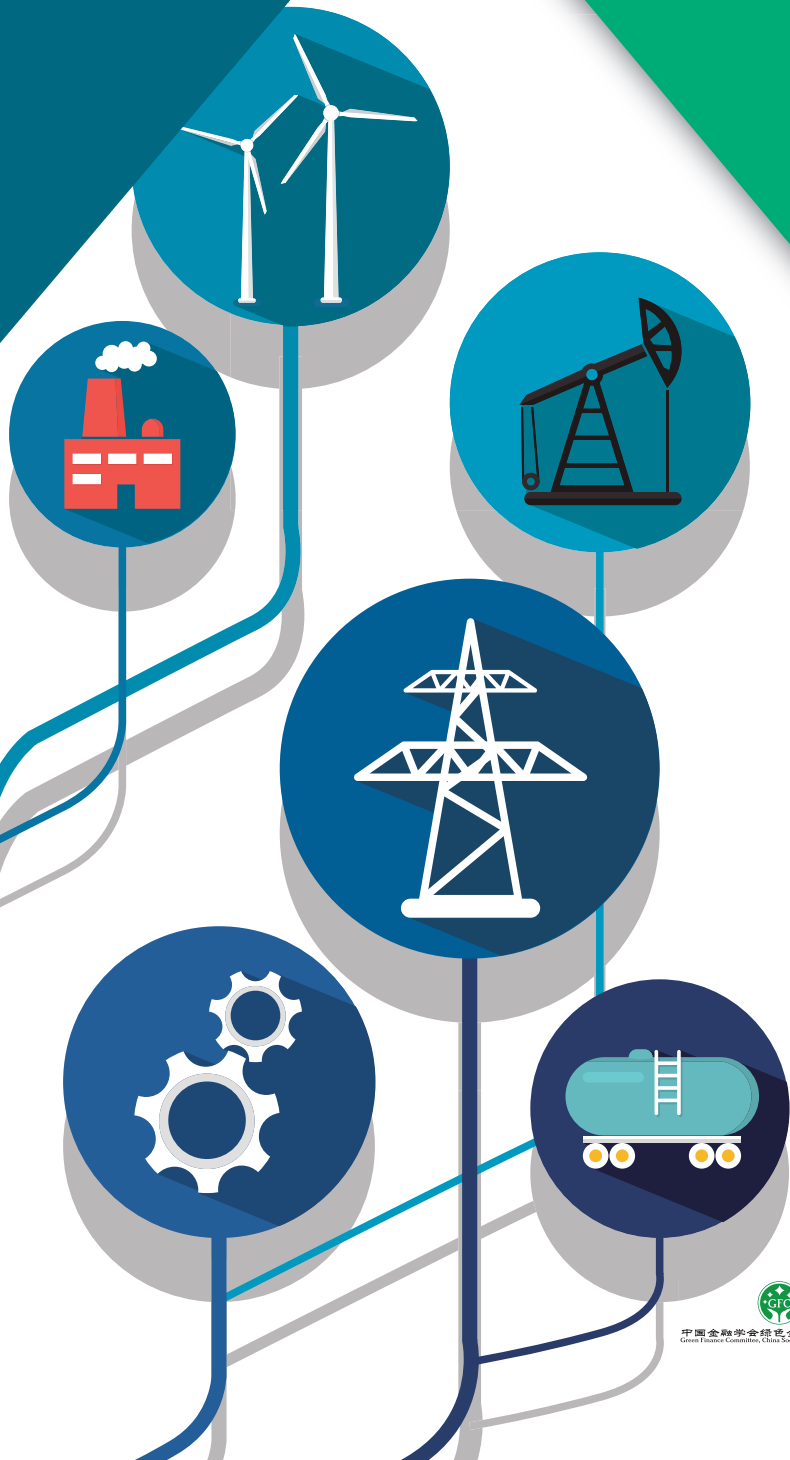


REPORT ON THE PROGRESS OF PILOT PROGRAM OF UK-CHINA CLIMATE AND ENVIRONMENTAL INFORMATION DISCLOSURE

IN
2018

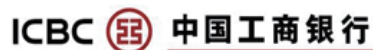


REPORT ON THE PROGRESS OF PILOT PROGRAM OF UK-CHINA CLIMATE AND ENVIRONMENTAL INFORMATION DISCLOSURE IN **2018**

PILOT LEADING INSTITUTIONS



PILOT PARTICIPATING INSTITUTIONS



FOREWORD

The challenges posed by climate change and environmental pollution are at the core of the debate of how the global economy and society could sustainably achieve long term growth. The financial sector is in no different to other economic sectors which would be negatively impacted if these issues were not addressed. The Green Finance Agenda is taking shape and major financial institutions are also increasingly paying attention to their own contribution to the green economy transition.

Timely and accurate access to information of climate and environmental-related opportunities and risks is an important foundation for the green financial market. In June 2017, the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) issued the Recommendations of the Task Force on Climate-related Financial Disclosures (hereinafter referred to as the TCFD Framework), providing framework and recommendations for investors, lenders and financial institutions to assess risks and opportunities related to climate change. In China, green finance has been elevated to a national strategy. Seven ministries and commissions jointly issued the Guiding Opinions on Building a Green Financial System; China Banking Regulatory Commission (CBRC) formulated the Green Credit Statistics System and organized major banks to carry out self-evaluation on green credit; and China Securities Regulatory Commission (CSRC) also unified and standardized the environmental information disclosure of listed companies.

Based on the above background, on the Ninth China-UK Economic and Financial Dialogue held on December 15, 2017, the Chinese and British governments agreed to strengthen cooperation on green finance and to encourage financial institutions of both countries to jointly conduct an

environmental information disclosure pilot program. Subsequently, the Green Finance Committee of China Society for Finance and Banking (hereinafter referred to as the "Green Finance Committee" or "GFC") and the City of London selected 10 Chinese and British financial institutions¹ to jointly work on the pilot of climate and environmental information disclosures. Throughout the past year, the pilot institutions have discussed the objectives, contents, methods and action plans of environmental information disclosure, and those relevant climate risks and opportunities according to the TCFD recommendations, with considerations of the unique characteristics across both markets and among institutions.

Under the leadership of GFC Chair, Dr. Ma Jun, and the City of London Green Finance Initiative's Chair, Sir Roger Gifford, and owing to the coordination of China's pilot project manager ICBC (led by Ms. Yin Hong) and UK's pilot manager UNPRI (responsible by Mr. Edward Baker), the pilot has made significant progress. Meanwhile, we would like to express our gratitude for the independent partners² who provided valuable advice on the technicalities. This report summarizes the progress and achievements of the environmental information disclosure pilot for both Chinese and UK financial institutions.

1. The 10 pilot financial institutions include ICBC, Industrial Bank, Bank of Jiangsu, Bank of Huzhou, China AMC, E Fund, HSBC, Aviva, Hermes Investment Management and Brunel Pension Partnership.

2. Including TCFD Secretariat, UNEP-FI, CDP, S&P Trucost, Transition Initiative, Investment Initiative, Syntao, Beijing Institute of Public and Environmental Affairs, Bloomberg, etc.

01

MAJOR CONFERENCES AND CONSENSUS IN 2018

The objectives of the pilot program for environmental information disclosure of Chinese and UK financial institutions are to: raise awareness of the financial materiality of environmental risk factors on financial institutions and their role in advancing the development of green finance; provide a platform for peer exchange; a Chinese guide for more financial resources to enter the green fields and inhibit the effect of financial resources entering the polluted and high-carbon industries without further use of fiscal resources to foster economic transformation; help financial institutions identify, quantify and mitigate various financial risks related to the environment, strengthen the ability of financial institutions to resist risks, and enhance the robustness of financial system.

In 2018, the Pilot Working Group of UK-China Climate and Environmental Information Disclosure has held three meetings respectively in Beijing and London. GFC and the City of London organized a series of events where the representatives of pilot institutions explored the subject matter and the experts of relevant international organizations and think tanks discussed their views and findings. A consensus was reached on the significance, objectives, methods and timetables of environmental information disclosure. The Chinese pilot financial institutions also conducted three seminars, determined the “Action Plan for Climate and Environmental Information Disclosure of the Chinese Financial Institutions”

and the “Target Framework for Environmental Information Disclosure of Chinese Pilot Financial Institutions”, and published a progress report on the pilot work of Chinese institutions¹.

Both China and UK believe that the impact of and risk posed by environmental and climatic factors are increasingly important on the markets and financial institutions are growing. Environmental information disclosure may help financial institutions improve the ability to assess and manage these risks. Conducting scenario analysis or environmental stress tests may help financial institutions measure the exposure to environmental risk factors as well as the environmental impact of financial institutions' own business, investment and financing activities. Research and innovation should be strengthened to carry out research on the aspects of data collection, system construction, model development, quantitative methods and application of results. Both China and UK will jointly explore the methods and models for measuring environmental and climate-related information.

¹. The China-UK meetings were held respectively on January 11, March 19 and July 23, 2018. The meetings of Chinese pilot institutions were held on February 7, April 21 and June 11, 2018.



KEY THEMES FROM THE FIRST YEAR OF THE PILOT

Throughout these discussions there have been a number of reoccurring themes:

1) *The benefits of peer exchange.* Participants valued the opportunities to exchange information and experience on implementing TCFD and other disclosure frameworks with peers from other markets as well as different financial sectors. This has provided an opportunity to see the same issues from a different vantage point, work through issues relating to initiation the implementation of disclosure frameworks.

2) *The growing materiality of climate and environmental risk factors.* The effects of climate change and environmental pollution are no longer subtle. For example, Moody's, the credit rating agency has identified 11 sectors, with \$2 trillion of rated debt, with immediate or emerging climate-related risk¹. Research by the IEA has identified \$26 trillion in capital re-allocation needed by 2040 to deliver the objective of the Paris Agreement of limiting warming well below two degrees².

3) *The value of a common yet, flexible framework.* There are now over 500 official supporters of the TCFD recommendations, this includes over 287 financial firms responsible for nearly \$100 trillion. Other reporting frameworks also exist, such as those developed in China. Having a comparable approach helps to reduce implementation costs for participants. Participants also cited the importance of flexibility to account for organizations with different sizes, strategies and operating in different markets which helps to make broad based implementation achievable.

4) *Need for multi-year implementation plans.* Disclosure is often the final 10% of the work for companies and financial institutions, implementation of disclosure frameworks is unlikely immediate and will typically take several years. The decision to extend the pilot to a three-year programme was made in this light. The figure below summarises a three-year approach to implementing the TCFD recommendation. In the first year, the focus is on securing internal commitment, establishing internal processes as well as initial disclosure. Followed by incorporation into risk management, identification of useful metrics, detailed sectoral work as well as scenario analysis in the second and third years.

1. Moody's Investors' Service (November 2015) Environmental risk heat map

2. Unpublished research

5) *The challenges with and innovation in data collection.* A common challenge cited by participants in implementing a disclosure framework was the availability of accurate disclosures from corporates on materially relevant climate or environmental information to inform financial decision making. However, a theme of pilot workshops were developments in technology and data capture that utilise production data, these sources are independent of corporate disclosures and are an alternative source of information about climate and environmental risks.

6) *The evolution and application of scenario analysis.* Conventionally, carbon and environmental disclosure has relied on historical data. Yet, some environmental problems, notably climate change, are non-linear in nature and will grow over time. Scenario analysis, which is already commonly used to inform investment and lending decision making, can be applied to climate and environmental problems to assist financial institutions understand how the concentrations of risk arising from these factors could affect investment portfolios and loan books over the near to midterm.

China and UK have agreed that: with the advancement of pilot environmental information disclosure, the ability of pilot financial institutions to identify and manage market opportunities and risks brought about by environmental factors will be further enhanced. Disclosure may help to enhance the ability of investors, lenders, asset managers and financiers, to promote a green economy and sustainable development. China and UK should closely communicate and cooperate with each other to timely disseminate the breakthroughs in the pilot's work progress, practical experience and progressive results, to further enhance public understanding of environmental information disclosure.

The Pilot Working Group of UK-China Climate and Environmental Information Disclosure will work to raise the awareness of TCFD recommendations and China's environmental disclosure reporting framework through meetings, seminars, financial institutions' participation and publication of reports; by means of seminars, publications and existing tools to strengthen financial institutions' understanding and reference to the TCFD framework as well as the capacity building for the application of environmental risk quantification methods; meanwhile, the annual progress reports will be published to disclose the progress of environmental information disclosure of pilot financial institutions.

02

PROGRESS OF ACTION IN 2018

i. Action plan jointly issued by China and UK

On the basis of consensus, China and UK jointly issued the “Action Plan for the Pilot Working Group of UK-China Climate and Environmental Information Disclosure” in the fall of 2018, encouraging pilot financial institutions to conduct environmental information disclosure.

The disclosure will comply with the following principles:

Comparable indicators. The information disclosed by each financial institution should be based on a consistent framework, calculation methods and tools, so that the results can be comparable.

Adapt to local conditions. Pilot institutions should draw on the disclosure recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD) to determine appropriate disclosure framework and content based on the regulatory requirements of home country and their actual situation.

Gradual disclosure. A timetable should be set to carry out a step-by-step disclosure timetable. When disclosing the impact of financial institutions’ investment and financing activities on the environment, the method of promoting by industry can be adopted.

1. Chinese Financial Institutions’ action plan

(1) Action Plan for Pilot Commercial Banks (see Table 1 for details)

By 2019, the environmental impact of 2018 green credit (based on the approach of CBRC) will be disclosed. On the basis of CBRC’s measurement methods, basic data will be sorted out, and qualified data will be disclosed step by step.

By 2020, relevant environmental risk information of power, cement and electrolytic aluminium industries (based on the scenario analysis or stress testing methods) will be disclosed according to the situation of pilot institutions.

By 2021, pilot financial institutions will be encouraged to further expand the industries covered by environmental information disclosure according to their business characteristics and optimize environmental risk analysis methods and disclosure indicators. Additionally, efforts will be made to increase the number of financial institutions engaging in environmental information disclosure.

Table 1: Action Plan for Environmental Information Disclosure by Pilot Commercial Banks in China

Time	Goals	Qualitative Indicators	Quantitative Indicators
Phase I (2018–2019)	Pilot banks, based on their own situation, disclose the environmental impact of 2018 green credit (based on the approach of CBRC). On the basis of CBRC's measurement methods, basic data will be sorted out, and qualified data will be disclosed gradually.	<ol style="list-style-type: none"> 1. Governance: Describe the role of board of directors and senior management of commercial banks in green finance development 2. Strategy: Describe the development strategy of commercial banks for green credit in the strategic development planning, to significantly enhance the green development of commercial banks 3. Policy system: Describe the measures of commercial banks for improving the green credit policy and promoting the green adjustment of credit structure 4. Risk management: Describe the environmental risk management process and measures of commercial bank 5. Green finance innovation 6. Practical cases 7. Research results 8. Annual results 	<ol style="list-style-type: none"> 1. Balance of green credit 2. Proportion of green credit 3. Equivalent emission–reduction standard coal 4. Emission–reduction carbon dioxide equivalent 5. Emission–reduction chemical oxygen demand 6. Emission–reduction ammonia 7. Emission–reduction sulfur dioxide 8. Emission–reduction nitrogen oxides 9. Water saving 10. Green operation indicators: including green office, vehicle energy consumption 11. Green credit training hours/man–time 12. Carbon emissions: direct greenhouse gas emissions, indirect greenhouse gas emissions, waste statistics, etc. (Note: Pilot banks may make differential disclosure, as the case may be.)

Phase II (2020)	Pilot banks select power, cement, electrolytic aluminium and other industries to analyze and evaluate environmental impacts and risks in light of their own circumstances, and make corresponding disclosures.	As mentioned above. Further refine the content of the above qualitative disclosure. Analyze and evaluate environmental impacts and risks, and tentatively carry out scenario analysis and stress testing on environmental impacts and risks for high-emission industries such as power, and disclose relevant environmental conditions according to own situation. It may include: 1. Internal and external factors that may cause environmental risks to banking operations; 2. Environmental risk analysis and assessment ideas, methods and tools; 3. A bank's ability to withstand environmental factors, and environmental risk management measures adopted by the bank.	As mentioned above. Add industry-specific information about environmental impact and risk scenario analysis and stress testing. It may include: 1. Structural adjustment targets for key emission industries such as power; 2. Stress testing methods, models and conclusions regarding the impact of environmental factors on credit risk of power and other industries. 3. Measurement of environmental benefits from credit structure adjustments in the power and other industries.
Phase III (2021)	Pilot banks are encouraged to expand the scenario analysis and stress testing on environmental impacts and risks according to their own business characteristics, and make corresponding disclosures; further improve the analytical methods; and make efforts to increase the number of financial institutions participating in the disclosure of environmental information.	As mentioned above, further improve the disclosure contents of qualitative indicators.	As mentioned above, Further expand the scope of industries for environmental impact and risk analysis and stress testing, and make corresponding disclosures.

(2) Action plan for asset management institutions

The first phase is the preparatory phase (details are shown as follows), to start the disclosure of some contents, and the disclosure will be gradually expanded in the second and third phases.

- 1) Cooperate with third-party agencies to collect basic data and establish an indicator system on the environmental impact of assets held by the asset management institutions and the analytical methods for the impact of environmental risks on the valuation of asset holdings and the probability of default (such as stress testing methods).
 - 2) Establish and improve the system of research, investment and risk control.
 - 3) Develop the investment strategies and fund products that include environmental factors.
 - 4) Provide responsible investment report according to the requirements of applicable international and regional responsible investment organizations.
 - 5) Work out and estimate the environmental disclosure indicators and disclosure format for investment portfolios.
 - 6) Assist regulatory authorities/associations in working out and establishing the guidelines or framework for disclosure of environmental information by asset management institutions.
- Evaluate the relationship between public disclosure of environmental information and fiduciary duty, and provide research support and advice to relevant regulators and associations.

2. UK financial institutions action plan (see Figure 1 for details)

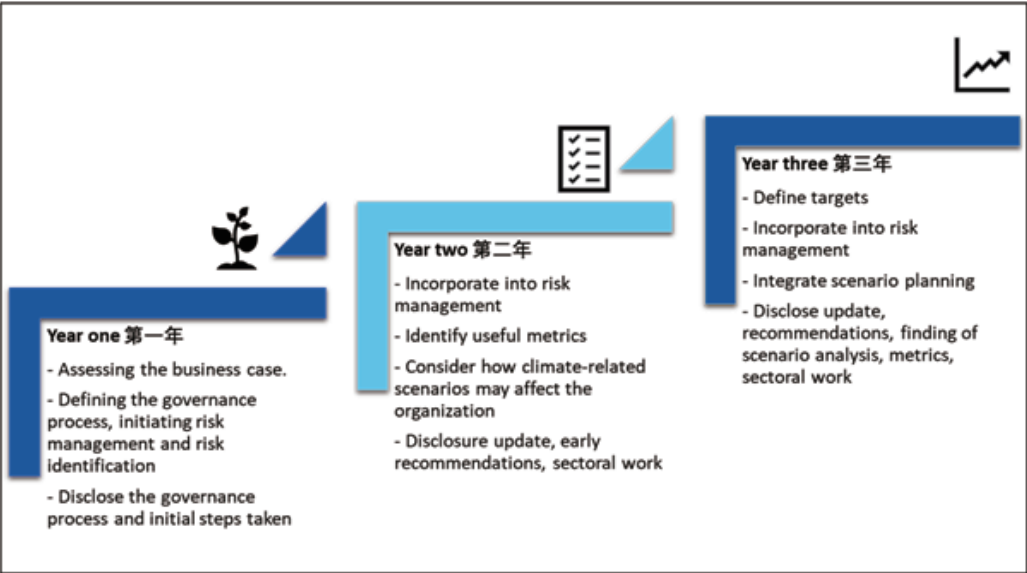


Figure 1: Outline of a three-year implementation plan for TCFD¹

¹ Adapted from the TCFD secretariat presentation on implementing the TCFD recommendations.

ii. Target framework for environmental information disclosure constructed by Chinese institutions

On the basis of interpreting and sorting out disclosure contents at home and abroad, Chinese pilot institutions attempt to establish a target framework for environmental information disclosure, which mainly includes the following two parts:

1. Environment-related qualitative information and indicators, including the institution's environment-related strategies and objectives, governance structure, policy system, impact of environmental risks and opportunities, risk management and processes, green finance innovation and cases, researches and results on green finance, and next year's action objectives and plans.
2. Quantitative indicators and scenario analysis. In which, quantitative indicators cover the environmental impact of financial institutions' own business activities (see Table 2) and that of the institution's investment and financing activities (see Table 3). The pilot institutions can also use the scenario analysis to quantitatively measure the impact of environmental factors on the opportunities and risks of financial institutions, such as scenario analysis and stress testing on environmental impacts on and environmental risks of high-emission industries including electricity, steel and cement.

Table 2 Environmental Impact of Financial Institutions' Business Activities

Greenhouse gas emissions and natural resource consumption directly generated by operating activities (equivalent to Scope1)	Fuel consumed by own transportation vehicles
	Fuel consumed by own heating/cooling equipment
	Water consumed in business and office activities
Indirect greenhouse gas emissions and indirect natural resource consumption from purchased products or services (equivalent to Scope2)	Electricity consumed by business and office activities
	Paper used for business and office activities
	Fuel consumed by purchased heating/cooling services
	Energy consumed by employees on public transportation vehicle for business purpose
Effect of environmental protection measures	Resources and energy consumed by activities that replace online business and paperless office
	Trainings or public welfare activities to enhance the environmental protection awareness of employees and the general public

Table 3 Environmental Impact of Investment and Financing Activities of Financial Institutions

Green credit balance and proportion	Green credit balance
	Green credit proportion
Equivalent emission reduction from changes in green credit balance	Equivalent reduction of standard coals
	Equivalent reduction of carbon dioxide emissions
	Equivalent reduction of COD
	Equivalent reduction of ammonia and nitrogen
	Equivalent reduction of sulfur dioxide
	Equivalent reduction of ammonia and nitrogen compound
	Equivalent of volume of saved water
Environmental impact of investment and financing activities in specific industries	Changes in the amount of investment and financing in specific industries
	Changes in credit structure of specific industries
	Environmental impact of the above changes

Financial institutions may decide on the disclosure degree of the above qualitative and quantitative indicators according to their actual conditions, and adopt different forms of disclosure, including issuing special sustainable development report, opening special environmental information section in the social responsibility report, or organically including environment-related information in the annual report and social responsibility report.

iii. Chinese and UK pilot institutions promoting environmental information disclosure

Since 2018, the pilot financial institutions of the two countries have actively promoted their environmental information disclosure and made good progress in accordance with the pilot action plan. See the attached case for details.

ICBC  中国工商银行

 兴业银行
INDUSTRIAL BANK CO.,LTD.
好银行 助生活更美好

 30
1988-2018

 江苏银行
BANK OF JIANGSU

 湖州银行
BANK OF HUZHOU

 华夏基金
CHINA ASSET MANAGEMENT

 E Fund

 AVIVA


BRUNEL
Pension Partnership

Environment Agency
Pension Fund

HSBC 


HERMES
INVESTMENT MANAGEMENT

PARTICIPANT CASE STUDY ANNEX

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- 14 / Brunel Pension Partnership (Brunel)
- 16 / Environment Agency Pension Fund (EAPF)
- 20 / Hermes
- 24 / HSBC
- 26 / ICBC
- 31 / Industrial Bank
- 34 / Bank of Jiangsu
- 38 / Bank of Huzhou
- 40 / ChinaAMC
- 42 / E Fund Management



As an international insurance group, our sustainability and financial strength is underpinned by an effective risk management system. We have been reporting on climate change in our annual report since 2004. We make this disclosure in respect of Aviva in our multiple role as an asset owner with assets to the value of £490bn, an insurer with gross written premiums of £27.6bn, and asset manager with assets under management of £353bn.

At the Aviva Plc Board level, two committees oversee our management of the climate-related risks: the Board Risk Committee and the Board Governance Committee.

Aviva was involved in shaping the recommendations of the Taskforce on Climate-related Financial Disclosure (TCFD). We have taken this as a guide for our own disclosure. We have included a high-level response within our 2016 and 2017 Aviva Annual Report and Accounts. Our latest more detailed response can be found here (<https://www.aviva.com/social-purpose/climate-related-financial-disclosure/>).

Aviva's strategy to implement the TCFD recommendations includes conducting climate-related scenario analysis consistent with the recommendations, wherever possible using commonly agreed sector/subsector scenarios and time horizons. The results of the scenario analysis should promote the embedding of environmental, social and governance (ESG) factors in all internal decision-making and business processes. In particular, it should assist the identification of climate risks and opportunities so that appropriate action is taken in order to manage the risks and grasp the opportunities.

Our work this year aims to identify appropriate climate related scenarios, assess those scenarios, and develop reporting formats for the results of the scenario analysis. In order to do this, we continue to partner with industry associations, sector

peers (asset owners, asset managers and insurers), academics, professional bodies, external consultancies, as well as regulators and international agencies to drive consistency in scenarios and analysis and so provide comprehensive and comparable information.

Aviva's climate-related scenario analysis work draws on significant expertise from the business and involves an inter-disciplinary team including Group Risk, Group Capital, Finance, Aviva Investors, Group Reinsurance, the General and Life insurance businesses, and the Corporate Responsibility and Public Policy teams. It covers transition and physical risk and the impact on both the asset and liability side of the balance sheet. Where appropriate, it will leverage our existing economic capital modelling capability, in particular, our natural catastrophe modelling capability.

Aviva has joined a United Nations Environment Programme Financial Institutions asset owners/asset managers pilot to promote climate transparency by piloting the recommendations and jointly develop scenarios, models and approaches which will be made publicly available at the end of the project. This will enable other investors to pick up and expand on this joint work and encourage the wider investment community to assess how they can adapt to and promote a climate-resilient, low-carbon economy.

We aim to first report the results of our scenarios analysis in our 2018 disclosure.



Brunel was formed in July 2017 and will oversee the investment of the pension assets (around £30bn/\$40bn) of ten¹ Local Government Pension Scheme funds in the UK.

Managing the risks of Climate Change

Brunel recognises climate change as a systemic risk to the economy, markets and society. It has the potential to significantly impact on investment returns of our portfolios and therefore on our partnership client funds. As such, climate change has been identified as a strategic and investment priority.

Brunel advocates strongly for improved transparency and will disclose in line with the recommendations of the Task Force on Climate-related Financial Disclosure. We have summarised our approach below and commit to developing more extensive disclosures as we rollout our investment strategy and operations.

Governance

Our commitment is communicated in both our Responsible Investment and Stewardship Policies, which are approved by the Brunel Board. The Board is collectively accountable, but operational accountability on a day-to-day basis is held by the Chief Responsible Investment Officer.

Brunel's Board, Executive and Investment team all strongly advocate for effective management of climate change through speaking at events, sharing expertise and ensuring it is integrated into all our own investment and operation practices.

Strategy

Brunel's framework for assessing the impacts of climate change encompasses adaptation and physical risks (the risks posed by the consequences of climatic change) as well as those risks and opportunities arising from the transition to a low carbon economy (risks from addressing the root causes of climate change).

We recognise the power of collaboration and are members of Institutional Investors Group on Climate Change (IIGCC), Climate Action 100+ and Principles for Responsible Investment.

Risk management

Brunel does not support complete divestment, but is committed to decarbonising listed portfolios, providing carbon footprinting to assist in reducing unrewarded carbon risk and low carbon portfolio opportunities for clients. Climate risk is evaluated as part of all Brunel's portfolios, across all asset classes.

Our Chief Responsible Investment Officer Co-chairs the Transition Pathway Initiative (TPI), which assesses how listed companies in high carbon sectors are preparing for the transition

to a low-carbon economy. This tool is used to evaluate risk of individual holdings, portfolios and to inform our stewardship activities.

Metrics and Targets

The investments that Brunel's managers will form the most significant climate impact for the firm. However, we are also committed to capturing emissions arising from our own operations. The focus for 2019 is the design and implementation of mechanisms to capture all our climate-related metrics through risk, accounting, investment and reporting systems at Brunel. For example:

- Capturing operational emissions data relating to travel, energy and water use
- All manager selection and manager monitoring includes the requirement to provide climate and carbon risk analytics and encourages disclosure to the TCFD
- Clear voting stance linked to annual engagement plan
- Developing capabilities to provide the following information to each client fund:
 - Details and case studies of positive low carbon opportunities
 - Carbon foot printing of all listed portfolios
 - Fossil fuel exposure of all listed portfolios
 - Development of other carbon and climate change-related metrics for asset classes

Once we have established the mechanisms to capture all the metrics required, Brunel will seek to set targets appropriate to its sphere of influence.

Environment Agency
Pension Fund

Environment Agency
Pension Fund (EAPF)

Introduction

We are the UK government Environment Agency’s pension fund. We have 39,500 members, an overall funding rate of 103% and £3.5bn under active management. EAPF is a part of the £28bn Brunel Pension Partnership, a pool of ten UK local government pension funds.

Industry Engagement and Contribution on Responsible Investment

We have been active in our support for the work of the Financial Stability Board’s Task Force on Climate-related Financial Disclosure (TCFD). The Task Force, initiated by the G20 Finance Ministers and Central Bank Governors and established in December 2015, was asked to design a set of recommendations for consistent “disclosures that will help financial markets participants understand their climate related risks”.

We report in line with the Task Force on Climate-related Financial Disclosure (TCFD) recommendations which are structured around four thematic areas that represent core elements of how organisations operate:

- Governance - The organisation’s governance around climate-related risks and opportunities
- Strategy - The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning
- Risk Management - The processes used by the organization to identify, assess, and manage climate-related risks.
- Metrics and Targets - The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

We have shown direct support (i.e. contributing to the TCFD

consultation in 2017) and through active participation in industry initiatives of which we are members of (e.g. the supporting statement of Accounting For Sustainability (A4S) in December 2017). We promote the TCFD recommendations, which can be found on the TCFD website (www.fsb-tcfd.org/), both in conversations with companies and with organisations across the investment industry. We also show our support by aligning our reporting to the TCFD recommendations and this year we were pleased to be able to also report our TCFD support via our annual Principles of Responsible Investment (PRI) reporting. Our progress against the TCFD recommendations and our wider work are summarised below:

Governance (policy impact to address the impacts of climate change)

We published our Policy to Address the Impacts of Climate Change in October 2015 and updated it in 2017 to demonstrate to our members we have a credible plan to deliver strong long term financial returns as the impacts of climate change materialise. We believe financial risk and opportunities will come from the physical impacts, regulation and policy alongside increased competition from alternatives and technological innovation.

In the policy we identified that our biggest

barrier to our ability to achieve our objective was the availability of accurate disclosure of material climate risk information to support informed investment decision making.

Progress against the policy is reported in our Annual Report and Financial Statements approved by the Environment Agency Pensions Committee (as well as the Audit, Risk and Assurance Committee).

The Chief Pensions Officer is the principal lead in the assessment and management of climate related issues.

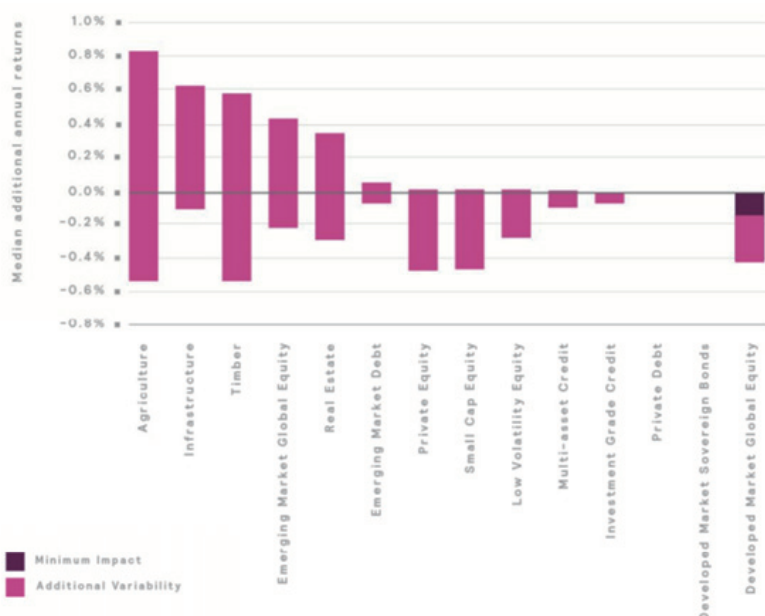
Strategy

Climate related risk and opportunities have been part of our equity strategy since 2005 and fully integrated into broader

strategic asset allocation from 2010, when we partnered with other asset owners globally, as part of the Mercer-led research, considering the implications of climate change scenarios on strategic asset allocation. This was further enhanced in 2014 with the follow up study Investing in a Time of Climate Change. This study provided four climate change scenarios and looked at impact across different asset classes over 10 and 35-year time horizons. Our tailored report is publicly available on the climate risk area of our website.

We have been progressively integrating the assessment of the effect of the impacts of ESG issues into our investment strategy for over a decade. These impacts can arise from multiple factors, for example, emissions and water security. Each year, increasing scientific analysis of the impact on the world and in the financial markets allows us to develop this work, share it and continually improve.

We integrate the research included in the Investing in a Time of Climate Change study into our own review of our strategic asset allocation (SAA) that informs the



Source: Investing in a time of climate Change
<https://www.mercer.com/content/dam/mercer/attachments/global/investments/mercer-climate-change-report-2015.pdf>

development of a robust portfolio, where the investment strategy is positioned to reduce risk and maximise investment opportunities presented by climate change.

Our strategy has a particular focus on identifying financial opportunities arising from technological changes and innovations that provide competition and substitution. One example is identifying opportunities from investing in real assets covering real estate, infrastructure, forestry and agricultural land for which we used Townsend Group (15% strategic asset allocation). The mandate places a high priority on long term responsible investments that meet our financial targets, with a preference to invest positively in real assets such as energy efficient buildings, renewable energy projects, public transport, water treatment facilities, eco-friendly farming, and sustainable forestry.

Risk Management

The fund is committed to working with others to engage with companies to mitigate and or adapt to climate change. Our primary programme will be based on the Transition Pathway Initiative.

However, we also work collaboratively with many other

organisations to encourage positive action. We have highlighted these Industry Collaboration activities throughout the report.

Monitoring and metrics

The Fund uses a range of tools to help us establish the level of risk relating to climate change issues. These are more developed and quantitative in some asset classes more than others. In listed equities and bonds, fossil fuel exposure analysis and carbon footprinting provides us with useful information on the absolute exposure and the relative carbon intensity of holdings and summarises the indicators that underpin the reporting against the targets in our climate change goals

Private Equity and TCFD recommendations

As part of the ESG survey for 2017, private equity managers in EAPF's private equity (PE) portfolio¹ were asked about their alignment

Table 1: Climate-related activities of private equity managers in EAPF portfolio

Climate policies and targets in place	39%
No climate activities	11%
Some climate activities in place	50%
CEO, CIO and other chief-level staff, Investment Committee responsible for climate-related issues	56%
Target low carbon or climate resilient investments	56%
Reduced portfolio exposure to emissions-intensive or fossil fuel holdings	39%
Use emissions data or analysis for investment decision making	28%
Execute scenario analysis	17%
Have process for climate-related risks integrated into overall risk management	33%
Engage with investee companies to encourage better disclosure and practices around climate related risks	22%

Source: private equity managers, Robeco Private Equity, PRI

with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) for the first time². Their responses are summarised in Table 1 and below.

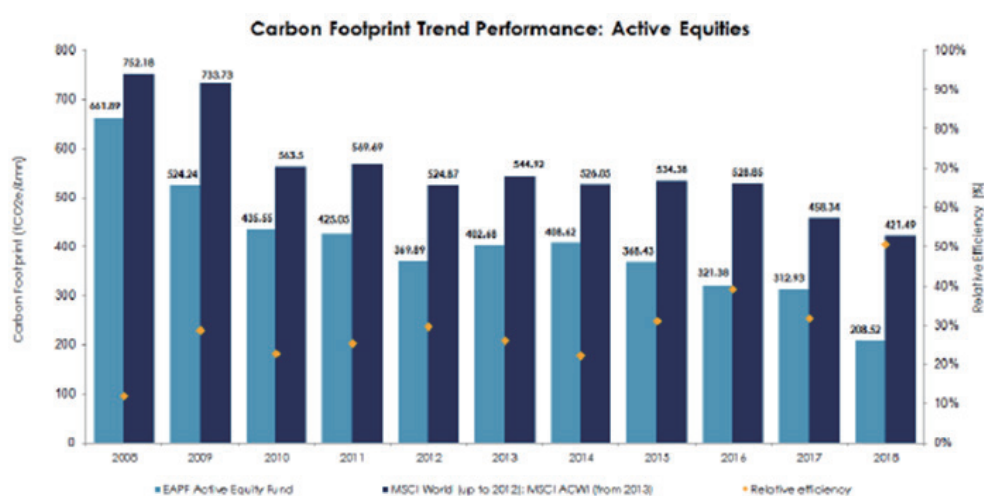
Almost 40% of the analysed managers in the portfolio have already introduced climate related policies and targets. Half of the respondents report to have undertaken some activities to respond to climate change risk and opportunity, while two (mainstream buyout) managers currently perform no climate related activities. The Chief level staff and Investment Committees are most frequently responsible for oversight and implementation of climate related issues.

With respect to the activities undertaken to respond to climate change risk and opportunities, most of the surveyed managers - including all clean tech-focused - target low-carbon or climate resilient investments or reduce portfolio exposure to emissions intensive or fossil fuel holdings. Only 28% of the respondents currently use carbon emissions data or analysis in their

investment decision making and 17% execute scenario analysis to manage emissions risks and opportunities.

We have also carbon footprinted our entire equity portfolio which is currently 55.26% more carbon efficient than our custom benchmark and our active bonds which is 37.35% more carbon efficient than our bond benchmark. The composition of the custom benchmark has changed since 2017.

So, in total, we carbon footprint 75% of our assets under management. Currently we do not carbon footprint our exposure to sovereign debt, currency or our unlisted portfolio. However, we do monitor developments in analytical tools and will look to use these if they are useful and cost effective.



1. Excluding Targeted opportunities portfolio.

2. 18 private equity managers were included in the survey, conducted by one of our fund managers. Excluded were the managers in the run-down mode that mostly manage down their portfolios. Half of the respondents focus on clean tech and resource efficiency related investments.



Hermes Investment Management was founded as the in-house manager for the BT Pension Scheme, but today manages money for more than 604 clients in 32 countries around the world. We have £35.3bn in assets under management and in Hermes EOS we have £346.3bn of assets under advice². We are majority owned by Federated Investors, Inc a leading US asset manager.

We have integrated compliance with the Taskforce for Climate-Related Financial Disclosures (TCFD) recommendations

within Hermes' climate risk and opportunities management approach. Our approach covers our public equities and credit, private real estate and infrastructure assets. It is based on our belief that we can create positive feedback loops between investment and stewardship. Our strategy has four leading elements: Awareness, Integration, Engagement and Advocacy.

1 Awareness	2 Integration	3 Engagement	4 Advocacy
Portfolio managers are aware of the carbon risks in their portfolios, which investments are the largest contributors and what are the associated risks and mitigation strategies	Portfolio managers integrate carbon risk considerations alongside other value and risk considerations, exploiting green investment opportunities or divesting where carbon risk alongside other factors impacts value	We act as engaged stewards of the investments we manage or represent on behalf of our clients. Where we hold assets with significant carbon risk exposure, we will manage directly-owned assets, and engage with public and private companies, to mitigate the carbon risk	We engage with public policymakers and sector organisations, nationally and internationally, to encourage policy or best practice which facilitates the transition to a low-carbon economy

1. This case study was prepared by Tatiana Bosteels, Christine Chow
2. Please note the total AUM figure includes £ 6.2bn/US\$8.2bn/ € 7.0bn of assets managed or under an advisory agreement by Hermes GPE LLP (“HGPE”), a joint venture between Hermes Fund Managers Limited ("HFM") and GPE Partner Limited. HGPE is an independent entity and not part of the Hermes group. £ 146.9m/US\$193.9m/ € 166.1m of total group AUM figure represents HFM mandates under advice. Source: Hermes as at 30 June 2018 with the exception of two portfolios totalling £ 2.6m/ US\$3.7m/ € 3.0m valued as at 31 May 2018.

TCFD implementation progresses

We have made good progress in the implementation of the TCFD requirements in the last year. In particular in Governance and Risk Management. Over the last 3 years we have been thriving to make explicit our carbon risk management

approach and we have been publically disclosing our activities annually. We report on our decarbonisation activities for 90% of our AUM, and we measure the carbon footprint of 82% of our AUM as of August 2018.

Governance	Strategy	Risk Management	Metrics and Targets
<p>Disclose the organisation's governance around climate-related risks and opportunities.</p> <p>Recommended Disclosures</p> <p>a) Describe the board's oversight of climate-related risks and opportunities.</p> <p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.</p> <p>Recommended Disclosures</p> <p>a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.</p> <p>b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.</p> <p>c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>Disclose how the organisation identifies, assesses, and manages climate-related risks.</p> <p>Recommended Disclosures</p> <p>a) Describe the organisation's processes for identifying and assessing climate-related risks.</p> <p>b) Describe the organisation's processes for managing climate-related risks.</p> <p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.</p>	<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p> <p>Recommended Disclosures</p> <p>a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> <p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p> <p>c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.</p>
Full disclosure – full coverage			
Full disclosure – coverage to be increased			
No disclosure – work in progress			

As we deepen our understanding, we are reviewing our own management approaches and disclosures and intend to fully comply with the TCFD recommendations in the next two years.

Developing Hermes' Portfolio climate management process

Hermes' climate internal working group is working to strengthen our understanding and analysis of carbon risks beyond our current management practices.

Therefore we are developing a comprehensive Portfolio climate risk and opportunity management process that covers carbon modelling tools, climate risk assessment, making sense of 2-degree scenario analysis, impact to value and including a dynamic element to carbon footprints throughout the investment and engagement process in ways that are

meaningful within different asset classes and investment time frames.

Our investment and engagement overlap acts as a continuous positive feedback loop.

Moreover, we ensure that the process is clearly disaggregated so that investors, portfolio managers and engagers are able to understand the key drivers of the transition, and challenge assumptions, either of companies or of third-parties.

On element of the process is Hermes' internal "The Carbon Tool" to help fund managers and engagers alike have easy and accessible information on carbon risk in portfolios

Developing Hermes Portfolio climate management process



Image: Developing Hermes’ portfolio carbon management process

and in companies. Importantly, the tool neatly incorporates our stewardship intelligence. It is also able to calculate the potential financial impact of climate impacts, such as the profit at risk in an investment fund under different carbon pricing and policy scenarios.

Given the level of uncertainty and lack of understanding of underlying assumption we use scenario analysis with care, and are working towards a more dynamic assessment of risks. Our key finding is that deep engagement in the climate scenario analysis process is indeed fundamental in order to best understand the low-carbon transition and apply it to both engagement and investment decision-making.

Whilst we do not discount the use of climate’s value-at-risk outputs from industry models, given the degree of uncertainty

baked in, it is used as one element of the story and is complemented by a deep analysis of trends and scenarios aiming to paint the full story of companies and underlying progress.

Stewardship in action

Stewardship and corporate engagement is a crucial element of our climate process positive feedback loop, as it both enables us to raise risks and controversies with the boards and encourages actions to address them, as well as to capture intelligence on the dynamic process at play in the development of a company strategy and business plans. The depth of engagement’s outcomes can be seen in the example of our climate engagement with Siam Cement.

Hermes climate engagement with Siam Cement

Background

The Siam Cement Public Company Limited (SCG) is a diversified industrial company in Thailand. The company's operations include cement manufacturing; petrochemicals manufacturing; paper and packaging manufacturing; building product manufacturing; and distribution.

In September 2017, the company was reviewed by the Transparency Pathway Initiative (TPI) – a global, asset-owner-led initiative, which assesses how companies are preparing for the transition to a low carbon economy. At this point, SCG had been rated as a level one company (level five represents top ranking). It was unclear whether the company had made a commitment to the Paris Agreement's goal of limiting the rise in global temperature to a maximum of two degrees Celsius or had applied science-based targets.

Engagement

At a meeting with the chief financial officer, the planning and investment director and the president of the chemicals business in February 2018, we encouraged the company to review the emissions targets it had set for 2020, which we believe are likely to be achieved comfortably given current progress.

In April 2018, we delivered a Task Force on Climate-related Financial Disclosures (TCFD) workshop to over 10 senior executives of the company and shared a breakdown of key areas of concerns for the cement industry with regard to its impact on the environment. We also shared leading practice examples from other companies in the industry. In addition, we encouraged the company to improve assessment of physical risks of its assets, take part in industry collaboration and establish a group-wide climate governance mechanism.

Results

In September 2018, the company delivered a presentation on progress. It reported that it had committed to the Paris Agreement's global temperature limitation goal and set carbon emissions reduction targets for 2023 and 2030. Its 'roadmap' also included specific targets for a reduction in hybrid cement sale, clinker/cement ratio reduction

and use of alternative energy sources. In addition, SCG informed us that it was in the process of applying the science-based targets to various business units and that its scenario-based planning extends to 2050.

SCG also reported on other climate-related actions and climate governance.

On climate actions, it said that physical risks due to climate change had been incorporated within business continuity management to monitor natural disasters, weather pattern, dam capacity, water levels and storm forecasts. It explained that flood risk reports and water scarcity risk reports are submitted to the water management committee to determine an action plan.

On climate governance, SCG emphasised that the audit committee at board level had direct oversight of climate issues identified by the climate change and energy committee and also of those raised through the SCG Risk Management Committee, which is chaired by the president and CEO. The company also explained its climate action governance plans.

In September 2018, the TPI published an update report on cement producers. The report showed that SCG had advanced two rankings, to level three which reflects the company's progress on integrating climate change considerations into operational decision making. The company is also leading on circular economy initiatives for low carbon transition.

We continue to encourage the company to further refine its climate risks and opportunities assessments framework and to set more ambitious targets. We also ask that it discloses more information on its physical risks assessment and scenario planning beyond 2030, and that it improves industry collaboration on related topics.

The above information does not constitute a solicitation or offer to any person to buy or sell any related securities or financial instruments

1. Targets in line with the level of decarbonisation required to keep global temperature increase below 2°C compared to pre-industrial temperatures.



Founded in 1865 to finance trade between Asia and the West, today HSBC is one of the world's largest banking and financial services organisations serving more than 38 million customers worldwide.

A key objective for HSBC is to provide financing to enable the transition to a low-carbon economy and to help clients manage transition risk. Sustainable financing includes providing credit and lending facilities, as well as advisory services or access to capital

markets. Adopting the recommendations of the TCFD will help us identify climate-related risks and opportunities across our businesses. Our Chief Executive was a signatory to the TCFD recommendations, and Group Chairman Mark E Tucker highlighted the disclosures in his statement in the annual report, providing evidence of the continued top-down support.

Task Force on Climate-related Financial Disclosures ('TCFD')

Initial response to the Financial Stability Board

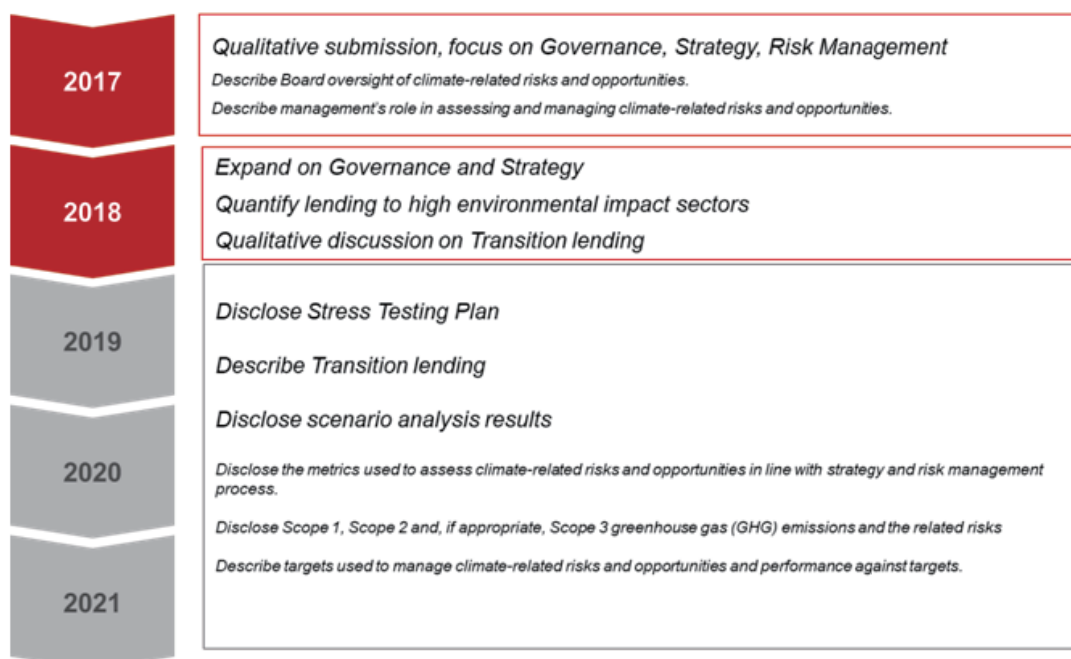
Reducing global carbon dioxide emissions is a critical challenge for everyone. We recognise its importance and seek to be a leader in managing climate change risk while developing opportunities with – and for – our customers. We welcome the new disclosure recommendations from the FSB taskforce, which assist the understanding of climate-related risks, and we were a signatory to the June 2017 TCFD report. This represents our first disclosure under the framework. We recognise this will evolve and expand over time.

Governance	<p>Sustainability is a key concern of the HSBC Group Management Board, with five presentations taking place during 2017.</p> <p>HSBC's 2016 Statement on Climate Change may be found on our website at www.hsbc.com/our-approach/measuring-our-impact. The site gives information on our approach to low/high carbon transition, managing our direct impact and partnerships.</p> <p>Our Climate Business Council ('CBC'), established in 2010, is an internal strategic committee whose role is to coordinate across the bank, identifying and developing products and services to meet customers' sustainable finance needs. There is also a group-wide ESG steering group, chaired by the Group Finance Director, leading our approach to ESG issues, including external disclosure and materiality considerations.</p>
Strategy	<p>HSBC's strategy is to connect customers to opportunities across a diversified range of products and services. This, along with our geographical presence in developing markets, gives us a unique opportunity to engage with our customers and support their transition strategies. HSBC has committed to directing \$100bn of financing and investment to the low-carbon economy by 2025.</p> <p>In order to facilitate the transition to the low-carbon economy for us and our clients, during 2017 we created a 'Global Head of Sustainable Finance' and an 'HSBC Centre of Sustainable Finance'. Additionally, via training, we have expanded our in-house sustainability expertise to approximately 1,300 employees across the Group. We are committed to strengthening our role as a thought leader in the financial services industry.</p> <p>During 2017, HSBC's Global Research Climate Change Centre was ranked number one by Extel and HSBC was the second-ranked bookrunner by Dealogic for green, social and sustainability bonds. We will work with our customers in all our businesses to develop sustainable products and support innovation.</p>
Risk Management	<p>Climate risk, both physical and transition, is an increasing risk. During 2017 the Executive Risk Management Committee approved a framework for measuring transition risks across our loan portfolio. We have identified the higher transition risk sectors as oil and gas, metals and mining, power and utilities, automobiles, building and construction, and chemicals. We actively engage with clients in these sectors to support their transition strategies. We monitor and report our exposure internally, and will do so externally in 2018. Over time we expect a reduction in the carbon intensity of our portfolio.</p> <p>Our Sustainability risk policies cover all our lending to sensitive sectors and we apply the Equator Principles to project finance. Details are available at www.hsbc.com/our-approach/measuring-our-impact. We also manage the physical risks to our global network relating to climate change by undertaking regular operational stress testing and contingency planning.</p>

Next steps

The HSBC Centre of Sustainable Finance, Risk Management and Finance will work with external experts to develop climate-related scenario analysis and related disclosures.

In our adoption of the TCFD, we have developed a five-year implementation plan. This starts with a qualitative submission (already disclosed), setting out executive level oversight and internally management processes, and builds year-on-year in its complexity and scope of the annual disclosures. An outline of this five-year plan is shown in the chart below.





I. ICBC's Participation in Pilot Environmental Information Disclosure of Chinese and British Financial Institutions

On December 16, 2017, the Ninth China-UK Economic and Financial Dialogue encouraged financial institutions of the two countries to carry out pilot environmental information disclosure with reference to the recommendations of climate-related financial information disclosure working group. Under the guidance of the Green Finance Committee ("GFC"), ICBC, as the leading institution of Chinese pilot institutions for the Sino-UK environmental information disclosure working group, undertook the following work in the process of promotion and made certain achievements:

1. ICBC organized Chinese pilot institutions to conduct in-depth research on the international climate and environmental information disclosure framework, principles, programs and best practices, drafted the "Action Plan for Climate and Environmental Information Disclosure of the Chinese Financial Institutions" and released it after discussions with Chinese pilot institutions.
2. At the annual meeting of GFC, ICBC represented the Chinese pilot working group for China-UK environmental information disclosure and issued the Report on China's Progress in the Pilot Work of UK-China Climate and Environmental Information Disclosure.
3. Based on the international experience and the actual situation in China, ICBC drafted the Objective Framework for UK-China Climate and Environmental Information Disclosure (Chinese Side). After discussions with the Chinese pilot institutions, the environmental information disclosure framework for Chinese participants was determined and the template for ICBC environmental information disclosure

framework was prepared for the reference of Chinese pilot institutions.

II. ICBC's Environmental Information Disclosure

Since 2007, ICBC has compiled social responsibility reports for ten consecutive years by referring to the regulatory requirements of the Shanghai Stock Exchange and The Stock Exchange of Hong Kong, with a six-dimensional social responsibility model (value creator, brand builder, green bank, creditworthy bank, harmonious bank, charity bank) as the main framework, to highlight three major elements of environment, society and governance for high-quality disclosure of responsibility information.

1. Clarification of strategic objectives
ICBC keeps in mind the development concept of "lucid waters and lush mountains are invaluable assets", promotes the new pattern of modernization for harmonious development of man and nature, and strives to achieve the unity of economic benefits and social values. It will fully implement green credit construction, actively support the development of green industries, continuously boost low-carbon operation, and advocate green office, low carbon and environmental protection, for the purpose of building a beautiful China with earnest practice.
2. Improvement of governance structure

ICBC continuously explores the sustainable development path of enterprises with global best social responsibility practice as the benchmark, to improve the social responsibility management system integrating with system construction, strategic planning, division and execution of responsibilities, information disclosure, education and training, index evaluation and international cooperation in a constant manner.

3. Amelioration of green credit system

ICBC improves the green credit policy system. By issuing the Administrative Measures for Green Credit Classification (2014 Edition), ICBC has classified the Bank's domestic corporate loan customers and projects into four levels and twelve categories according to the degree of impact of loans on the environment, and embedded in the Bank's asset management system, to achieve scientific and quantitative management of customers' environmental and social risks. In 2017, the Bank revised the Administrative Measures for Green Credit Classification (2014 Edition), to improve the green credit classification standards and management systems for corporate loans, and strengthen environmental and social potential risk prevention and control management. Besides, the whole-process management of green credit was applied, and the "green credit one-vote veto system" was fully implemented, putting forward specific requirements on the monitoring, identification, control and mitigation of environmental and social risks, for the implementation in the entire credit process. Moreover, the information-based green credit management is enhanced. In 2017, ICBC sorted out and verified the green credit classification and statistical data quality for the project loans of the entire bank's corporate customers, to ensure the timeliness and accuracy of green credit statistics and external information disclosure.

4. Optimization of environmental risk management

ICBC performs the responsibility as the risk prevention and control entity. It has formulated the Comprehensive Risk Management Regulations and Risk Appetite Management Measures for the Group, and prepared the 2018-2020 Risk Management Plan, to plan the objectives and tasks of future risk management. The construction of risk quantification capabilities was strengthened. The Bank continuously optimizes the internal risk measurement model and deepens the implementation and application. For the purpose of intensifying the continuous monitoring, optimization, verification, management and application of credit, market and operational risk measurement systems, it promotes the construction of enterprise-level data application systems. In addition, the green credit assessment and resource allocation are cemented. The Bank carries out self-evaluation of green credit implementation on a regular basis, and works out relevant rectification and improvement measures, to improve the implementation of green credit.

5. Assistance for green bond market

As of the end of December 2017, ICBC underwrote 20 various types of green bonds accumulatively, raising a total of RMB152.6 billion of funds, and ranking first among domestic banking institutions. In addition, as

an important investor in the interbank bond market, ICBC actively responds to policy calls and participates in green bond investments to prop up green bond development. As of the end of December 2017, the balance of its green bond investment accounts stood at RMB20.19 billion, covering a variety of categories including panda bonds, financial bonds and corporate bonds.

6. Contribution to green research wisdom

In terms of stress testing, ICBC takes a leading position in the world. In 2017, ICBC extended the “stress testing research on the impact of environmental risks on the credit risk of commercial banks” to the steel and electrolytic aluminum industries; it conducted the stress testing research on water risk in cooperation with a German international cooperation agency (GIZ); besides, the Bank cooperated with the Beijing Environmental Exchange to carry out stress testing on carbon price against the credit risk of commercial banks, expand the scope of stress testing and innovate research methods. The ICBC ESG Green Index was innovatively created. By focusing on the exploration of green finance, ICBC researched and established the ICBC ICG Green Index with the preparation of the Report on ESG Green Rating and Green Index Research, the first evaluation system of this kind among domestic commercial banks. Besides, a number of research results on green finance were compiled and published. The Bank led several institutions under the GFC to jointly compile the Green Finance Development and Case Study in China, International Green Finance Development and Case Study, and Environmental Risk Analysis and Case Study of Financial Institutions. The International Green Finance Development and Case Studies published in 2017 was selected in “Top Ten Financial Books” of 2017 China Banking Industry Development Forum. The two books of case studies are the world’s first teaching materials on systematic analysis and consolidation of classic green finance case studies in China and the world. The Environmental Risk Analysis and Case Study of Financial Institutions is the first and only book in the world to introduce environmental risk analysis theories, models and methods.

7. Gradual disclosure of quantitative indicators

In 2017, the carbon footprint measurement indicators disclosed to the public covered the environmental impact of financial institution’s own business activities (see Table 1) and the environmental impact of ICBC’s investment and financing activities (see Table 2).

Table 1 Greenhouse Gas Emissions and Natural Resource Consumption from ICBC's Business Activities

Environmental Indicator	Item	Unit	2017	2016	2015
Direct greenhouse gas emissions	Fuel consumption of official vehicles (headquarters of the Bank)	Liter	86,109	86,532	94,186
	Office water consumption (headquarters of the Bank)	Ton	170,196	156,324	150,450
Indirect greenhouse gas emissions	Office power consumption (ICBC Head Office)	kWh	19,408,280	19,867,300	19,825,712
	Office paper consumption (ICBC Head Office)	1 million pieces	8.73	7.71	8.44
Environmental protection measures	Proportion of domestic e-banking business volume	%	94.86	92	90.2
	Voluntary tree planting and greening expenses invested by headquarters of the Bank	RMB10,000	6.6	—	—
	Green food enterprises on ICBC Mall	Number of enterprises	943	—	—
	Electronic management of procurement files	—	Among 28 types of collection and procurement files, 21 types form online electronic files	—	—
	Other environmental protection measures	—	Innovative energy-saving and emission reduction mode	—	—
		—	Paperless counter operation	—	—
		—	Promotion of responsible procurement	—	—

Table 2 Environmental Impact of ICBC's Business Activities

Green Credit Greenhouse Gas Emission Reduction Indicator	Item	2017	2016	2015
Green credit balance and proportion	Green credit balance	RMB1099.199 billion	RMB978.56 billion	RMB914.603 billion
	Green credit proportion	7.72%	7.49%	7.66%
Equivalent emission reduction from changes in green credit balance (Unit: 10,000 tons)	Equivalent reduction of carbon dioxide emissions	7561.87	7333.64	7032.74
	Equivalent reduction of standard coals	4247.26	4110.82	3940.59
	Equivalent reduction of COD	15.83	28.7	44.17
	Equivalent reduction of ammonia and nitrogen	1.61	2.3	4.01
	Equivalent reduction of sulfur dioxide	12.43	38.31	100.77
	Equivalent reduction of ammonia and nitrogen compound	6.15	5.08	4.21
	Equivalent volume of saved water	3286.45	6126.49	5350.84



Industrial Bank

As the first equator bank in China and the advocate and practitioner of green finance, the Industrial Bank Co., Ltd. (“the Bank”) is the first bank in China that that set up a professional team. It has been engaged in green finance for 12 years and has formed rich group green finance products and service system. In the course of development, the Bank actively explored a harmonious and sustainable development path of economy, society and environment, and effectively performed its corporate social responsibilities, with consideration to

interests of all stakeholders. It has blazed a trail of sustainable development “from green to finance”. By the end of 2017, the Bank had provided green finance loans of RMB1,456.2 billion for 14,396 enterprises accumulatively, with outstanding green finance loans of RMB680.6 billion. The impact of the Bank’s green finance business on the environment is as follows:

Realizable Annual Reduction of Discharge of Green Finance Projects	Standard coal saved annually	29.12 million tons
	Annual reduced emission of CO2 equivalent	83,782,300 tons
	Annual reduced emission of chemical oxygen demand	3,854,300 tons
	Annual reduced emission of ammonia nitrogen	133,900 tons
	Annual reduced emission of sulfur dioxide	789,100 tons
	Annual reduced emission of nitric oxides	57,800 tons
	Water saved annually	408,423,700 tons
	Annual comprehensive utilization of solid waste	44,794,800 tons

In January 2018, the Bank was invited to join the task force for pilot environmental information disclosure of Chinese and British financial institutions. Thereafter, it attended relevant meetings of the task force, introduced its overall development of green finance, and relevant practices in environmental and social risk management. It also deliberated on the methods and measurement indicators of environmental information disclosure of financial institutions, feasibility of scenario analysis and other issues.

I. The Bank’s environmental information disclosure and plan

The Bank is earnestly carrying out the projects of green credits, green financial bonds and applicable equator principles, corporate social responsibility report and other environmental information disclosure work in strict accordance with regulatory provisions and equator principles. Relevant regular reports include annual implementation report, annual report on sustainable development, the Bank’s annual report and report on use of green financial bond funds and duration assessment, which are disclosed on the

Bank's website and other relevant websites. In the future, the Bank will gradually obtain environmental information channels and uniform measurement methods and plan on long and medium-term disclosure objectives, under the guidance of the framework of environmental information disclosure objectives of Chinese and British financial institutions.

II. The Bank's green financial business development and management system

Since the Bank made a debut of the first domestic energy efficiency financing product in 2006, it has successively launched such innovative products as energy saving and emission reduction loan, carbon finance, emission right finance and low carbon-themed credit card, and took the lead in building a group-based, multi-level and integrated green finance product and service system.

In the Group, it established a task force for advancing green finance; in the Head Office, the Green Finance Department is principally responsible for initiation of green finance products of the Group, marketing, brand building and planning, coordination and interaction of specific matters; in branches, it established green finance departments or corresponding specialized institutions of branches, and appointed full-time product managers. The Bank has nearly 200 employees engaging in green finance. In respect of system and mechanism, green finance has been incorporated into the assessment on integrated operation plans of branches; the Bank arranges for green credit risk assets or specific scale on an annual basis; it arranges earmarked financial resources every year support and encourage each branch to make achievements in development of green finance customers, launch of key projects and new products and construction of emission right platform; it continuously improves credit policy, and gives priority to approval of green credit projects by a professional team.

III. The Bank's environmental and social risk management objectives, strategy and governance framework

The Bank put forward the CSR Value of "attaching importance to both economic and social benefits", and supported sustainable social, economic and environmental development by providing quality green finance products and services. The Bank established comprehensive environmental and social risk system based on the equator principles, published the Environmental and Social Risk Management Policy, and formulated the Environmental and Social Risk Management Sub-strategy, building environmental and social risk management into various rules and regulations, organization framework, business procedures, product innovation, etc.

The responsibilities of institutions and departments at various levels for environmental and social risk management are well-defined: the Board of Directors and senior management are responsible for developing environmental and social risk management strategy and policy; the credit business handling departments, credit examination and approval departments, risk management departments and business management departments of the Head Office and branches perform environmental and social responsibilities within the scope of their respective responsibilities. The Bank continuously strengthened internal

and external measures for environmental and social risk management. Internal measures include formulating and improving credit process, and standardizing the Bank's environmental and social credit examination and approval procedures; external measures include fully communicating with and assisting customers in performing environmental and social obligations and providing integrated financial solutions. The Bank takes advantage of equator principles to select quality projects, help customers enhance environmental and social risk awareness, establish and improve risk assessment and management capability, and logically integrate the sustainable business mode and performance of social responsibilities of the Bank and customers. By the end of 2017, the Bank had judged the applicability of 1,016 projects accumulatively, of which 344 projects apply equator principles and involve a total investment of RMB1,439 billion.

IV. The Bank's participation in green finance researches and innovations in 2018

In 2018, the Bank constantly advanced such researches as innovation in green finance products, green building insurance finance mechanism, environmental rights and interests mortgage and pledge and green asset securitization, including pilot environmental information disclosure, and made the achievements including research reports and launch of pilot projects. On November 1, 2018, the Bank will issue RMB30 billion green finance bonds in the interbank bond market. It will strictly disclose relevant information on green finance bonds in accordance with requirements of regulators and related international organizations.



Bank of Jiangsu

I. The Bank's Participation in Pilot Environmental Information Disclosure of Chinese and British Financial Institutions

Since its participation in the pilot environmental information disclosure of Chinese and British financial institutions in early 2018, Bank of Jiangsu ("the Bank") has actively participated in relevant meetings of the pilot working group, perfected its rules and procedures on environmental information disclosure, actively studied environment stress test methods and constantly improved the quality of information to be disclosed, according to work plans and progress. In accordance with recent disclosure objectives, we fully reviewed the data of energy saving and carbon emission reduction related to the Bank's green credits, and analyzed and sorted the data that is missing or difficult to be quantified.

II. The Bank's Environmental Information Disclosure

1. The Bank's overall objectives, strategy and governance framework related to environment

(1) Strategy and objectives.

The Bank has developed the Development Plan of Bank of Jiangsu for 2014-2018, aiming at strategically advancing green credits, strengthening support for green economy, low-carbon economy and circular economy, and realizing its healthy and sustainable development while promoting coordinated and sustainable development of economy and resource environment. The Bank actively publicized the concept of green finance, promoted green office, carried out environment and public welfare activities, and fulfilled its social responsibilities.

(2) Governance structure

The senior management of the Bank is responsible for

implementation of green credit policy and procedures, and has designated a senior management member to assume the responsibility for implementation of green credit strategies. The management members in charge of corporate banking take the lead in management of green credit business. The Corporate Banking Department of the Head Office, as the Bank's lead department for green credit management, has a Green Finance and PPP Undertaking Department, which is mainly responsible for directly engaging in green finance and PPP projects, and fulfilling various operation assessment plans; developing the Bank's strategic plans for green finance and PPP projects, and promoting the Bank's green finance and PPP business; taking the lead in environmental risk management and adoption of Equator Principles, innovating in new products of green finance and PPP, and developing green finance and PPP service plans. Each branch designates its Corporate Banking Department as the lead management department for regional green credits, to advance the marketing of specific green finance business.

2. The Bank's environmental risk management

The Bank formulated the Administrative Measures on Environmental and Social Risks of Bank of Jiangsu ("the Measures") in June 2013, defined the general principles for environmental and social risk

management, developed a negative business list involving social and environmental risks, established the classification standards and assessment procedures for environmental and social risks, clarified department responsibilities, and endeavored to apply the Measures to credit activities, products and services. The Bank adopted the Equator Principles in January 2017, issued the Administrative Measures on the Equator Principles Project of Bank of Jiangsu and established the online management functions for the Equator Principles in June of the same year, and further strengthened the management of environmental and social risks in respect of project loan business. According to the two measures above, risks are divided into Class A, B or C depending on such factors as the potential impact of the project on the environment or the society. The Bank conducts dynamic assessment on the progress of control over environmental and social risks by Class A customers and part of Class B customers, regards relevant results as the important basis for credit access, management and exit, and adopts differentiated risk management measures in respect of “Three Inspections” on loans.

3. The Bank’s green finance study and innovation

The Bank actively innovated in green finance products, and successively developed such products as “green innovative investment business” and “environmental protection loan” in 2018. “Green innovative investment business” was jointly originated by the China Clean Development Mechanism Fund Center of the Ministry of Finance, the Department of Finance of Jiangsu Province and Bank of Jiangsu. It is an environmental protection project using collective trust plan financing to support Jiangsu Province’s green and low-carbon development, energy saving, emission reduction and

other climate change response measures. “Environmental protection loan” is a credit product launched in cooperation with the Department of Finance and the Department of Ecology and Environment of Jiangsu Province. The Department of Finance sets up a risk compensation fund pool of ecological and environmental protection loan to provide credit enhancement for “environmental protection loan”, and the Bank grants loans for the infrastructure construction and industrial projects of energy saving and environmental protection designated by the Department of Ecology and Environment, to meet enterprises’ fund demands in course of project construction and industrial development.

4. Internal rules and incentive arrangements
The Bank gives priority to green credit products and services by means of reasonable allocation of economic capital and credit resources, etc.:

(1) Develop and implement differentiated green credit resources allocation policies, implement differentiated FTP pricing, allocate specific limits for green credits, and give priority to green credits. (2) Set green finance as a strategic indicator in the measures for performance assessment on branches, and highlight the Bank’s strategic orientation towards green finance.

5. Awards (see Table 1 for details)

6. Relevant quantitative information on environment of the Bank

The Bank practiced economy and thrift, put efforts into energy saving and emission reduction, promoted green office and effectively fulfilled its corporate social responsibilities. In 2017, the total expenses on energy consumption of the Head Office

building decreased by 8.2% from the previous year, with a decline of 13.3% and 2.3% in per capita office paper consumption and oil consumption of official cars respectively.

Table 1 Green Finance Awards of the Bank

Presented by	Award
China Banking Association	Best Green Finance Award in Social Responsibility of Chinese Banking Industry in 2016
AsiaMoney	Best Green Finance Regional Commercial Bank Award
National Business Daily	Chinese Small and Medium Commercial Bank Pioneers in 2018 – Green Finance
China Banking Association	Outstanding Contribution Award of the Professional Committee for Green Credit Business

Table 2 Greenhouse Gas Emissions and Natural Resource Consumption from the Bank's Business Activities

Environmental indicator	Item	Unit	2017	2016	2015
Direct greenhouse gas emissions	Fuel consumption of official vehicles (Headquarters of the Bank)	Liter	28,630	29,312	30,445
	Office water consumption (Headquarters of the Bank)	Ton	73,472	51,024	
Indirect greenhouse gas emissions	Office power consumption (Head Office)	KwH	7,278,900	6,830,400	
Environmental protection measures	Transaction amount of personal Internet banking	RMB100 million	8,116.4	7,859.1	6,759.6
	Transaction amount of mobile banking	RMB100 million	7,349.8	4,566.4	1,656.8
	Transaction amount of corporate Internet banking	RMB100 million	53,141.9	85,040.2	53,550
	Public welfare activities	Person *times	1,001	–	–
	Video conference	Times	398	–	–

In respect of investment and financing, green credits increased quickly, with the balance of corporate credits rising from 5.2% in 2015 to 12.2% in 2017, showing obvious environmental benefits.

Table 3 Environmental Impact of the Bank' s Business Activities

Green Credit Greenhouse Gas Emission Reduction Indicator	Item	2017	2016	2015
Green credit balance and proportion	Green credit balance (RMB100 million)	669.7	467.4	243
	Green credit proportion	12.20%	9.10%	5.20%
Equivalent emission reduction from changes in green credit balance	Equivalent reduction of carbon dioxide emissions (10,000 tons)	120.6	111.9	139.3
	Equivalent reduction of standard coals (10,000 tons)	137.2	90.7	117
	Equivalent reduction of COD (ton)	5,847	5,604	2,249
	Equivalent reduction of ammonia and nitrogen (10,000 tons)	0.08	0.08	0.03
	Equivalent reduction of sulfur dioxide (ton)	3,686	8,456	8,489
	Equivalent reduction of ammonia and nitrogen compound (ton)	9,395	1,129	756
	Equivalent volume of saved water (10,000 tons)	10,237	17,146	3,362



Bank of Huzhou

I. The Bank's Participation in Pilot Environmental Information Disclosure of Chinese and British Financial Institutions

In 2017, Bank of Huzhou ("the Bank"), together with Industrial and Commercial Bank of China, Industrial Bank and Bank of Jiangsu, becomes one of the Chinese and British banking institutions first disclosing environmental information on a trial basis. The Bank, as a representative of small and medium city commercial banks in China, made an attempt to establish the environmental information disclosure framework, ESG report framework and social risk management capability suitable for small and medium banks. This year, the Bank undertook the UNEP China pilot projects of sustainable banks coordinated by the Green Finance Committee of China Society for Finance & Banking, and it was developing an IT management system for sustainable banks. Implementation of the pilot project can realize the automatic calculation of environmental benefit data of green credits and meet the requirements of the pilot project of Chinese and British environmental information disclosure. So far the project has completed the initial interview and surveys on emerging industries and traditional transformation and upgrade industries, and is scheduled to be launched by the end of this year.

II. The Bank's Environmental Information Disclosure

i. The Bank's environmental information disclosure objectives and plan

Under the uniform leadership of the Chinese team of environmental information disclosure and guided by its basic framework, the Bank has developed a plan for disclosure

by stages, and will complete the disclosure of qualitative indicators indicators of its green credit system and mechanism and quantitative indicators of environmental benefit data of key green industries in 2018. Thereafter, relying on its green finance management system, the Bank will gradually realize process management of all green credits, calculation of environmental benefits and analysis of impact of its operation on environment, etc.

ii. The Bank's environmental information disclosure for 2018

In 2017, the Bank disclosed its green credit development plan, green finance organization structure, related risk process control, innovative projects and practices in its social responsibility report. In 2018, the Bank will continue to disclose its environment-related information through social responsibility report and ESG report. As at the end of October 2018, the Bank's green loans accounted for 14.20% of total loans and the loans to power and other key discharge industries were zero, based on the statistical requirements of the People's bank of China on green credits.

First, overall objectives, strategy and governance framework. The Bank issued the Three-year Strategic Plan for Green Finance in 2016, which sets out the long and medium-term strategic plan and objectives for its green finance, and clarifies the responsibilities of

the Shareholders' General Meeting, the Board of Directors, the Board of Supervisors and the Management; meanwhile, it set up Green Finance Committee, Green Finance Department and sub-branches specializing in green business of small and micro enterprises. In 2017, it successively released the Implementation Plan and the Advance Plan, clarifying the specific green finance development tasks and completion time of each department.

Second, management of environmental risk process. In 2016, the Bank issued 10 rules, including the Guideline on Marketing of Green Credit Industry. It applied green credits into all operation links of the "Three Inspections" on credits, and implemented the "one-vote veto rule for environmental protection". Meanwhile, based on the green bond support list, the Bank developed the Administrative Measures for Corporate Customer Green Classification of Bank of Huzhou to conduct green classification of all loans, implemented targeted labeling management, and appointed green risk approval officers in all branches and sub-branches to strengthen environmental risk prevention and control capability in an all-round way. In 2018, the Bank's sustainable bank IT project also incorporated environmental and social risks into the full life cycle of green credit management. In pre-lending environmental due diligence, the Bank collects data related to environment, and marks green loans and green bonds; in loan approval, the Bank implements different credit policies depending on different green classifications; in post-lending review, customer managers monitor projects, submit post-lending environmental performance reports, and regularly issue warning on changes in environmental punishment/credit information, etc.

Third, new green finance innovation projects and practice. In the construction of green finance, the Bank creatively launched the "green park loan" project, to provide one-stop and chained financial services for cluster industries by allowing enterprises featuring "low technical content, small size and scattered distribution" to enter parks, thereby effectively realizing efficient utilization of energy resources, land saving, reduction of pollutant discharge and transformation and upgrade of traditional industries. Currently, the Bank's outstanding "green park loans" reached RMB770 million. Only a single project of "Sand Wash City" may reduce discharge of sewage by 1 million tons, emission of COD by 180 tons and emission of ammonia nitrogen by 30 tons; besides, it can save the consumption of electricity and coal by 13 million kWh and 15,000 tons respectively, reduce emission of sulfur dioxide by 57 tons and smoke and dust by 12.6 tons, and save land of 700 mu. The project has been documented by the Green Finance Committee of China Society for Finance & Banking, Fudan University in Shanghai and the Central University of Finance and Economics, and widely recognized, duplicated and publicized as a key survey project of green finance leadership (International Seminar) in May 2018.



ChinaAMC

Background

China Asset Management Co., Ltd. (ChinaAMC) is an asset manager registered with the China Securities Regulatory Commission (CSRC). Founded in 1998 and based in Beijing, ChinaAMC is one of the largest asset managers in China. ChinaAMC is also one of the six Chinese financial institutions on the Working Group for Environmental Disclosure for the China-UK Financial Dialogue, and a member of the Green Finance Committee. As a participant in the Chinese and global capital markets, ChinaAMC aims to provide sustainable long-term investment returns for its investors, and the firm believes that environmental factors are material to long-term performance of invested securities and companies.

In March 2017, ChinaAMC became the first full-service asset manager to support the United Nations Principles for Responsible Investment (UN PRI). Since signing the initiative, ChinaAMC has been actively advocating for the improvement on non-financial disclosures by public companies, and began to integrate Environmental, Social, and Governance (ESG) analysis into its investment process.

In September 2018, ChinaAMC became the first Chinese asset manager to support the Taskforce for Climate-related Financial Disclosure (TCFD) and the Climate Action 100+ (CA100) initiatives, aimed at improving companies' environmental-related disclosure, corporate strategy against climate change, and achieving emission reduction targets.

As a member of the Working Group for Environmental Disclosure for the China-UK Financial Dialogue, ChinaAMC assessed various aspects of environmental related disclosure in China, including regulatory compliance, data quality, operational feasibility, market impact, and other areas. Global practices and local market status-quo were referenced as part of the assessment. As an asset manager, a number of external factors including data quality remain to be a challenge.

Nevertheless, ChinaAMC is moving the agenda forward on a best effort basis and will remain a strong advocate for improvement of information disclosure.

Working progress

1. ChinaAMC's environmental-related practices

ChinaAMC has set up its dedicated ESG team performing dedicated analysis from the ESG perspective. The ESG team reports to the investment committee and senior management of ChinaAMC. On a day-to-day basis, the ESG team performs quantitative and qualitative analysis on company holdings, portfolios, and ESG risk events. The ESG team is also responsible for any ESG reporting as required by regulators or clients. In 2018, the ESG team has conducted three internal trainings for its investment research teams at ChinaAMC, and also brought in external subject matter experts on a number of occasions.

In addition to taking environmental considerations in investment research, ChinaAMC is also taking steps to operationally reduce its overall carbon footprint by requiring its employees to reduce usage of electricity, water, and other waste materials. Employees are required to turn off their computers and other power consuming electricals after working hours. Minimal printing is encouraged, and paper recycling programs are in place at various office locations.

2. Environmental risk management process

as part of investment research analysis

Environmental factors may help to identify and mitigate investment risks and may contribute to investment returns. In the reporting period, ChinaAMC has taken a number of projects to study the implementation of environmental risk management and their potential impact on the company's business operations and strategy. In the current phase, standardized, accountable, and relevant environmental disclosure at the company level remains a significant challenge. ChinaAMC is use a variety of investment research tools, internal analysis, and third-party data services to improve clarity on a number of environmentally related issues. On a broad market basis, ChinaAMC acknowledges that global and country specific environmental risks, such as climate change, water stress, etc. may impact economic development and capital markets. Identification of risks and opportunities is an important aspect of the investment management business.

3. Implementation and discoveries in investment research and management

In 2017, ChinaAMC has launched two thematic investment funds in China: ChinaAMC Energy Conservation and Environmental Protection Fund and ChinaAMC New Energy Fund. The funds are aimed at providing sector opportunities for Chinese investors as China transitions towards a long-term sustainable ecological civilization. The Chinese economy has grown to the stage where management of environmental issues are increasingly important. Investments in energy conservation, environmental protection, and energy solutions may expedite the transition process as well as potentially generate returns for the investors.

ChinaAMC's senior management has approved its first iteration of its six-step ESG integration program and began its implementation in 2018. A number of investment portfolios are currently assessed on ESG risks on a bi-annual

basis. ChinaAMC's ESG team works with the portfolio managers and investment analysts to identify and understand portfolio ESG risks.

In April 2018, ChinaAMC has established a strategic partnership with Netherland-based NN Investment Partners (NNIP). Leveraging ChinaAMC's domestic investment expertise and NNIP's experience, the two firms will collaborate on developing sustainable investment strategies in various markets.

Current research efforts are focused on actively managed equities due to its flexible nature of implementation. ChinaAMC is actively working with a number of external partners on environmental and ESG-related passive indices, quantitative factors and strategies, and fixed income strategies.

ChinaAMC has performed risk assessments for its core holdings to assess their overall ESG risk profiles. The research showed that most Chinese companies lack quantifiable and transparent disclosure. And upon engagement with a few Chinese companies, it was discovered that there is a significant discrepancy between what the companies disclose and what the companies actually implement. It is expected that for Chinese companies that have implemented (or will implement) sustainable strategies, and begin to properly disclose their practices, their sustainable assessment may quickly improve. This is the "low hanging fruit" for ESG implementation in China over the next few years.



E Fund Management

E Fund Management Co., Ltd. (“E Fund”) was established in 2001, it has become a leading asset manager in China through its market-oriented and professional operations to serve its domestic and foreign clients with asset management solutions. E Fund offers both mutual funds and customized asset management services to help its clients fulfill their investment objectives, allowing them to achieve long term stable and profitable returns. As of the end of September 2018, E Fund has overseen a total AUM over RMB 1.3 trillion, ranking the largest mutual fund manager in China. Since its establishment, it has issued cumulative dividends of over RMB 100 billion and won the credibility from over 78 million clients.

Focusing on long-term sustainable development, E Fund implements the concept of responsible investment from top to bottom with thorough consideration of the investment target’s social value other than the commercial value. ESG factors are systematically introduced into the investment and research system to analyze the impact of environmental, social and corporate governance factors on investment. Through reasonable control of investment in asset with social and environmental risks, and incorporation of corporate governance factor into long-term investment considerations, we aim to achieve long-term sustainable investment returns for our clients.

As a member of the Green Finance Committee of China Society of Finance and Banking, E Fund is one of pilot asset management companies to implement environmental information disclosure in China following the China-U.K. Economic and Financial Dialogue.

Through active participation in the planning of environmental information disclosure proposals in China's asset management industry, E Fund, together with UK financial institutions jointly promote the environmental information disclosure, and

inclusion of environmental information into investment and research process.

International Standards

Early in 2017, E Fund took the lead in China asset management industry joining the United Nations Principles for Responsible Investment (UNPRI) and Asian Corporate Governance Association organization (ACGA), integrating ESG (environmental, social and governance factors) into the investment and research process in accordance with international standards, and actively improved the proxy voting mechanism and corporate actions.

In early 2018, E Fund submitted the RI (Responsible Investment) Transparency Report to UNPRI and disclosed its ESG principles, work objectives and the ESG practice of various investment lines.

In 2018, E Fund also participated in the compilation of UNPRI annual ESG case report, and put forward the A-share ESG research method for the first time. The report analyses how to combine and integrate ESG research with traditional investment and research, and puts forward a practical case of A-share ESG investment for reference. The ESG research framework proposed includes the environmental evaluation indicators, evaluation methodology, valuation adjustment method, and how to incorporate environmental information into investment decision. Investment targets’ environmental risk, environmental management ability,

environmental protection, environment violation records and other various factors are integrated into the investment decision-making process.

Meanwhile, E Fund actively communicates with international organizations from research and investment perspective. Portfolio managers and research analysts have been participating in the MSCI ESG and UNPRI training activities for various times. Referring to the advanced international ESG research methods, they have been continuously optimizing and improving our ESG system by gradually incorporating more environmental factors widely considered by Europe and US institutional investors, such as water resources, carbon dioxide emissions, and recycling, into the investment consideration. Related research has been conducted actively internally.

Domestic Practice

In 2017, E Fund and APG, the largest pension fund in Europe, jointly launched the world's first ESG pension product that invests in China's A-share market following the international sustainable investment framework and standards. This product applies the complete ESG framework (environmental, social and corporate governance) for investment management in A-share market. Other ESG investment products are under development and to be launched in the future. E Fund aims to enhance the risk awareness of domestic investors, especially institutional investors, on environmental, social and governance issues, and to guide the market towards long-term and sustainable investment.

In 2018, the domestic regulatory authorities put forward various basic ESG requirements from top-level design. China Securities Regulatory Commission (CSRC) has included basic requirements of environment, society and corporate governance in the new edition of Code of Corporate

Governance for Listed Companies in China, and proposed mandatory environmental disclosure for key pollution prevention and control industries in the disclosure requirements of listed companies' annual and semi-annual reports. E Fund, as a leading enterprise, has actively responded to the call of the regulatory authorities and put forward the corresponding investment principles and guidelines for the China asset management industry. In the work of Asset Management Association of China in 2018, we participated in the formulation of Green Investment Guidelines and helped revise ESG Evaluation Method of Listed Companies, which laid a certain foundation for ESG investment and green investment for environmental benefits.

Through over one year's practical experience, we believe that ESG is of great significance to the development of China's asset management industry from three aspects: First, ESG is a supplement and perfection to the traditional investment and research system, which helps to improve the quality of investment and reduce investment risks; Second, ESG investment concept is consistent with national industrial policy, corporate governance, and the trend of emphasizing social responsibility from whole society, which is helpful to discover the long-term investment value of listed companies. Third, through ESG, asset management institutions could promote their social responsibility to guide enterprises to enhance environmental awareness, actively

protect the rights and interests of upstream enterprises and downstream consumers, and constantly improve corporate governance quality, thus, stimulate the enterprises' business transformation towards higher-quality and more efficient direction.

Internal System Construction

In 2017, E Fund established the ESG research team, as well as an ESG investment system in line with international standards, considering the market characteristics and actual conditions in China. Based on the environmental, social and corporate governance themes and a large number of indicators, we incorporated the complete ESG evaluation method into the existing investment and research system, and integrated ESG with other existing investment factors into the research, investment, risk control and other correlated processes.

In 2018, E Fund established an independent ESG database internally. Through capturing the announcement of the regulatory authorities and media reports, we addressed the problem of insufficient disclosure of existing environmental information by listed companies effectively. In the future, we will continue to promote the research and development of ESG database, and combine the ESG evaluation system to further improve our overall investment quality.

