Task Force on Climate-related Financial Disclosures

And

Project Progress Report

Liu Ruixia

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Contents

I. Introduction to the TCFD

II. Phase I Results of the TCFD

III. Phase II Roadmap of the TCFD

IV. China's Climate Change Adaptation Practices
i. TCFD - background

- Climate change has become a global challenge now. The increasingly prominent environment and climate issues are threatening human survival and impairing the sustainability of economic and social development. Climate change is one of the most complex issues facing business, governments and society at large.

- Global warming is gaining pace, which will bring increasingly more problems and challenges. World Meteorological Organization's Statement on the Status of the Global Climate in 2015 states that 2015 is the hottest year on record, 0.76 °C higher than the average temperature from 1961 to 1990. It is estimated that a 2°C rise in average global temperature will result in a loss equivalent to about 3% of world GDP.

- Climate change risk has directly or indirectly affected the entire economic system. Global Risks Report 2016 issued by the World Economic Forum points out that climate change risk is the most impactful risk in 2016.

- To tackle the important issue facing the mankind and control harms bought by greenhouse gas (GHG) emissions and climate change, UN Conference on Environment and Development adopted the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The Paris Climate Conference in 2015 established an enduring framework for global response to climate crisis, helping member nations strengthen efforts, enhance international cooperation and meet the long-term goal of global response to climate change.
i. TCFD - background

- **In April 2015**, G20 finance ministers and central bank governors published a communiqué requiring the Financial Stability Board (FSB) to call a meeting of public and private sectors to discuss how the financial service industry should deal with risks arising from climate change.

- **In September 2015**, the FSB met in London to discuss risks related to climate change and possible countermeasures.

- **In November 2015**, the G20 Summit in Turkey stated that it would "support strong and effective moves responding to climate change", requiring the FSB to continue the public and private sectors' researches on the impact of climate change.

- **In November 2015**, the UN Climate Change Conference held in Paris marked the entry into a new stage of global climate governance after 2020. Nearly 200 governments agree to cut carbon emissions with the aim of preventing average global temperature from rising by 2° C from pre-industrial levels.

- **In December 2015**, FSB announced at its Paris meeting to establish the Task Force on Climate-related Financial Disclosures. This industry-led task force is chaired by Michael R. Bloomberg, Former Mayor of New York City and UN Secretary-General's Special Envoy for Cities and Climate Change.
ii. TCFD - composition

- **In November 2015**, the FSB issued letters to its member nations inviting them to name candidates for Phase I experts of the TCFD.

- **On 7 January 2016**, the FSB disclosed list of TCFD members and their contact information, including chairman, vice chairs, data users, data preparers, other experts and special adviser. The 22 Task Force members are from the G20's constituency covering a broad range of sectors and financial markets.
ii. TCFD - composition

<table>
<thead>
<tr>
<th>Role</th>
<th>Number</th>
<th>Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>1</td>
<td>Bloomberg LP</td>
</tr>
<tr>
<td>Vice Chairs</td>
<td>4</td>
<td>Singapore Exchange, Banco Bradesco, Unilever, AXA</td>
</tr>
<tr>
<td>Data users</td>
<td>8</td>
<td>JPMorgan Chase &amp; Co., UBS Asset Management, Industrial and Commercial Bank of China, Tokio Marine Holdings, Storebrand, Swiss Re, Aviva Investors, BlackRock</td>
</tr>
<tr>
<td>Data preparers</td>
<td>5</td>
<td>Tata Steel Limited, EnBW, Eni, Air Liquide Group, BHP Billiton</td>
</tr>
<tr>
<td>Other Experts</td>
<td>3</td>
<td>Mercer, KPMG, Standard &amp; Poor's</td>
</tr>
<tr>
<td>Special Advisor</td>
<td>1</td>
<td>HSBC Holdings</td>
</tr>
<tr>
<td>Secretariat</td>
<td>3</td>
<td>Promontory Financial Group, Bloomberg</td>
</tr>
<tr>
<td>Observer</td>
<td>4</td>
<td>FSB, Bank of England</td>
</tr>
</tbody>
</table>

- The Task Force consists of 22 members from many industries, ranging from consumer products to heavy industry. The membership is diverse enough to reflect climate-related financial issues spanning many industries and financial markets, other than only including industries that are always considered most affected by climate risk.
- The FSB added nine new members, as part of Phase II, from EY, PwC, Deloitte, UBS, Barclays, Canada Pension Plan Investment Board, PGGM and Daimler.
iii. TCFD - plan

The Task Force officially started its operation in January 2016, which will continue till March 2017. Its work is divided into two phases:

- **Phase I**: Review and disclose the current landscape, specify the objectives, scope and disclosure principles of the Task Force. Phase I expired at the end of March 2016.

- **Phase II**: Put forward a consistent, accessible, clear and useful framework for climate-related financial disclosures and improve the standard of disclosures. Phase II will expire at the end of March 2017.

According to the latest work plan, the **Phase II Report** will be issued on 5 December 2016 to solicit public comments; the Task Force will submit the final report to the FSB in March 2017.
iv. TCFD - progress

In February 2016, the Task Force held the inaugural plenary meeting in London to discuss the objectives, scope and workstreams.

In March 2016, the Task Force held the second plenary meeting in Singapore attended by 115 representatives from 100 organizations. Discussions were focused on Phase I report and Phase II plan.

At the end of March 2016, representatives of the Task Force submitted the Phase I report to the FSB in Tokyo.

On 1 April 2016, the Task Force issued the Phase I Report, including review of existing requirements on climate-related disclosures, scope and objective of the Task Force, basic principles of disclosures and plan for public consultation.

In May 2016, the Task Force held the third plenary meeting in Washington, D.C. to discuss key definitions and establish the Phase II work mechanism.

In July 2016, the Task Force held the fourth plenary meetings in New York to discuss specific recommendations on disclosures, including governance, strategy, risk management, data/objectives and scenario analysis.

Task Force members regularly met by telephone for over 10 times to communicate project information and discuss technical issues.
Contents

I. Introduction to the TCFD

II. Phase I Results of the TCFD

III. Phase II Roadmap of the TCFD

IV. China's Climate Change Adaptation Practices
i. Landscape of disclosures

- 16 governments in the G20 Group have established mandatory frameworks or guidelines for disclosures. Argentina, India, Russia and Saudi Arabia have other disclosure frameworks requiring organizations to disclose climate-related information, but only a few countries require climate-related financial disclosures.

- Stock exchanges: More and more exchanges require climate-related disclosures, which are regarded by most exchanges as part of the sustainability report.

- By market capitalization, 8 of the top 10 stock markets have created sustainability-related indices, 5 have signed commitment letters to join the Sustainable Stock Exchange (SSE) initiative, and 4 require comprehensive sustainability reports.
i. Landscape of disclosures - Basic disclosures required

- **Strategy, governance practices and policies**: Strategy, governance practices, and policies implemented by companies to mitigate, adapt to, and manage climate-change impacts including: extreme weather events, resource shortages, and changing market conditions.

- **Energy consumption**: Resource consumption that affects climate change.

- **Production of waste and pollutants**: Production of waste and pollutants that affect the climate, including GHG emissions.

- **Principal risks and opportunities expected**: Risks and opportunities expected by companies as a result of climate change, such as demand for new products and changes in climate-related regulatory policies.
## i. Landscape of disclosures - Governments' frameworks

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Target Reporter (Financial Firms)</th>
<th>Report Provider (Non-financial Firms)</th>
<th>Target Audience</th>
<th>Mandate or Voluntary</th>
<th>Types of Information Disclosed</th>
<th>Disclosure Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>EU Directive regarding disclosure of non-financial and diversity information</td>
<td>Yes, if meets size criteria (i.e. have more than 500 employees)</td>
<td>Yes, if meets size criteria (i.e. have more than 500 employees)</td>
<td>Investors, consumers, and other stakeholders</td>
<td>Mandatory</td>
<td>Land use, water use, greenhouse gas emissions, use of materials, energy use</td>
<td>Annual report or separate report</td>
</tr>
<tr>
<td>France</td>
<td>Energy Transition Law</td>
<td>Yes, if listed</td>
<td>Yes, if listed</td>
<td>Investors, general public</td>
<td>Mandatory</td>
<td>Consequences on climate change of the company's activities and of the use of goods and services it produces, GHG emissions, contribution to goal of limiting global warming</td>
<td>Annual report</td>
</tr>
<tr>
<td>Australia</td>
<td>National Greenhouse and Energy Reporting Act</td>
<td>Yes, if meets specified emissions or energy production or consumption thresholds</td>
<td>Yes, if meets specified emissions or energy production or consumption thresholds</td>
<td>General public</td>
<td>Mandatory</td>
<td>GHG emissions, energy consumption, energy production</td>
<td>Report to government</td>
</tr>
<tr>
<td>US</td>
<td>SEC Guidance Regarding Disclosure Related to Climate Change</td>
<td>Yes, if subject to SEC supervision</td>
<td>Yes, if subject to SEC supervision</td>
<td>Investors</td>
<td>Mandatory</td>
<td>Climate-related requirements, treaties and agreements, business trends, and physical impacts</td>
<td>Annual report or other reports</td>
</tr>
<tr>
<td></td>
<td>NAICs, 2010 Insurer Climate Risk Disclosure Survey</td>
<td>Yes, insurers meeting certain premium thresholds</td>
<td>No</td>
<td>Regulators</td>
<td>Mandatory</td>
<td>Climate change-related risk management and investment management</td>
<td>Survey sent to state regulators</td>
</tr>
<tr>
<td>India</td>
<td>National Voluntary Guidelines on Social, Environmental, and Economic Responsibilities of Business</td>
<td>Yes</td>
<td>Yes</td>
<td>Investors, general public</td>
<td>Voluntary</td>
<td>Materials, energy consumption, water, discharge of effluents, GHG emissions, biodiversity</td>
<td>Not specified</td>
</tr>
<tr>
<td>UK</td>
<td>Companies Act (Strategic Report and Directors Report) Regulations</td>
<td>Yes, if a &quot;Quoted Company&quot;</td>
<td>Yes, if a &quot;Quoted Company&quot;</td>
<td>Investors</td>
<td>Mandatory</td>
<td>GHG emissions</td>
<td>Directors Report</td>
</tr>
</tbody>
</table>
### i. Landscape of disclosures - exchanges' guidelines

<table>
<thead>
<tr>
<th>Country (Region)</th>
<th>Name</th>
<th>Target Audience</th>
<th>Mandatory or Voluntary</th>
<th>Types of Information Disclosed</th>
<th>Disclosure Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>Policy Statement on, and Guide to, Sustainability Reporting for Listed Companies</td>
<td>Investors</td>
<td>Voluntary</td>
<td>Business/legal developments related to climate change that may affect company, Biodiversity management, Environmental management, etc.</td>
<td>Discretion of company</td>
</tr>
<tr>
<td>Australia</td>
<td>Corporate Governance Principles and Recommendations</td>
<td>Investors</td>
<td>Mandatory</td>
<td>General disclosure of material environmental risks</td>
<td>Annual report or the company's website</td>
</tr>
<tr>
<td>Brazil</td>
<td>Recommendation of report or explain</td>
<td>Investors, regulator</td>
<td>Voluntary</td>
<td>Social and environmental information; methodology used; if audited;</td>
<td>Discretion of company</td>
</tr>
<tr>
<td>South Africa</td>
<td>Code of Governance Principles</td>
<td>Investors</td>
<td>Mandatory</td>
<td>Sustainability performance</td>
<td>Annual report</td>
</tr>
<tr>
<td>China: Shenzhen Stock Exchange</td>
<td>Social Responsibility Instructions to Listed Companies</td>
<td>Investors</td>
<td>Voluntary</td>
<td>Waste generation, resource consumption, pollutants</td>
<td>Not specified</td>
</tr>
<tr>
<td>World or regional indices</td>
<td>Dow Jones Sustainability Index, Sample Questionnaires</td>
<td>Investors</td>
<td>Voluntary</td>
<td>GHG emissions, SOx emissions, energy consumption, water, waste generation, environmental violations, electricity purchased, biodiversity, carbon, mineral waste management</td>
<td>Nonpublic</td>
</tr>
</tbody>
</table>
i. Landscape of disclosures- NGOs' guidelines

<table>
<thead>
<tr>
<th>Country or region</th>
<th>Name</th>
<th>Target Reporter- (Financial Firms)</th>
<th>Report Provider (Non-financial Firms)</th>
<th>Target Audience</th>
<th>Mandatory or Voluntary</th>
<th>Types of Information Disclosed</th>
<th>Disclosure Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global: CDP</td>
<td>Annual Questionnaire</td>
<td>Yes</td>
<td>Yes</td>
<td>Investors</td>
<td>Voluntary</td>
<td>Energy use, carbon, GHG emissions, water, forests</td>
<td>CDP database</td>
</tr>
<tr>
<td>Global: CDSB</td>
<td>Climate Change Reporting Framework</td>
<td>Yes</td>
<td>Yes</td>
<td>Investors</td>
<td>Voluntary</td>
<td>GHG emissions</td>
<td>Annual report</td>
</tr>
<tr>
<td>US: SASB</td>
<td>Conceptual Framework</td>
<td>Yes; any public company traded on US exchanges</td>
<td>Yes; any public company traded on US exchanges</td>
<td>Investors</td>
<td>Voluntary</td>
<td>Sector-specific requirements</td>
<td>SEC filings</td>
</tr>
<tr>
<td>Global: GRI</td>
<td>Sustainability Reporting Guidelines</td>
<td>Yes, any public or private company</td>
<td>Yes, any public or private company</td>
<td>All Stakeholders</td>
<td>Voluntary</td>
<td>Materials, energy, water, biodiversity, emissions, waste</td>
<td>Sustainability reports</td>
</tr>
<tr>
<td>Global: IIGCC</td>
<td>Oil &amp; Gas</td>
<td>No</td>
<td>Yes</td>
<td>Investors</td>
<td>Voluntary</td>
<td>GHG emissions, clean technologies data</td>
<td>Not specified</td>
</tr>
<tr>
<td></td>
<td>Automotive</td>
<td>No</td>
<td>Yes</td>
<td>Investors</td>
<td>Voluntary</td>
<td>GHG emissions, clean technologies data</td>
<td>Discretion of company</td>
</tr>
<tr>
<td></td>
<td>Electric Utilities</td>
<td>No</td>
<td>Yes</td>
<td>Investors</td>
<td>Voluntary</td>
<td>GHG emissions, electricity production</td>
<td>Discretion of company</td>
</tr>
<tr>
<td>Global: Asset Owners Disclosure Project</td>
<td>2016 Global Climate Risk Survey</td>
<td>Yes, pension funds, insurers, sovereign wealth funds &gt;USD2bn</td>
<td>No</td>
<td>Asset managers, investment industry, government</td>
<td>Voluntary</td>
<td>GHG emissions, Carbon</td>
<td>Public or not</td>
</tr>
<tr>
<td>Global: IIRC</td>
<td>International Framework</td>
<td>Yes, any public company traded on international exchanges</td>
<td>Yes, any public company traded on international exchanges</td>
<td>Investors</td>
<td>Voluntary</td>
<td>General challenges related to climate change, loss of ecosystems, and resource shortages</td>
<td>Sustainability or integrated report</td>
</tr>
</tbody>
</table>

Phase I Results of TCFD
# i. Landscape of disclosures- mandatory regulations affecting banks

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of Framework</th>
<th>Scope</th>
<th>Targeted Constituency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Environmental Risk Management Guidelines for Banks and Financial Institutions in Bangladesh</td>
<td>Environmental and Social Risk Management</td>
<td>Banks and financial organizations</td>
</tr>
<tr>
<td>Brazil</td>
<td>Internal Capital Adequacy and Assessment Process under Basel III</td>
<td>Risk assessment and capital adequacy</td>
<td>Financial institutions</td>
</tr>
<tr>
<td></td>
<td>Resolution No. 4,327</td>
<td>Social and Environmental Responsibility Policy (PRSA) guidelines</td>
<td>Financial institutions and other entities</td>
</tr>
<tr>
<td>China</td>
<td>Green Credit Guideline (GCG)</td>
<td>Environmental &amp; social risk management, internal management and management structure, information disclosure</td>
<td>Policy banks, state-owned commercial banks, joint-stock commercial banks, financial assets management companies, Postal Savings Bank of China, and other institutions directly regulated by the China Banking Regulatory Commission</td>
</tr>
<tr>
<td>EU</td>
<td>Directive on annual and consolidated accounts of certain types of companies, banks and other financial institutions and insurance undertakings</td>
<td>Include analysis of environmental and social aspects</td>
<td>Most credit institutions and other financial institutions</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Nigerian Sustainable Banking Principles and Guidance Note</td>
<td>Environmental and Social Risk Management</td>
<td>Banks, discount houses and development finance institutions</td>
</tr>
<tr>
<td>Peru</td>
<td>Resolution March 2015</td>
<td>Environmental and Social Risk Management</td>
<td>Banks</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Environmental and Social Risk Management Circular</td>
<td>Environmental and Social Risk Management</td>
<td>Banks</td>
</tr>
</tbody>
</table>
i. Landscape of disclosures- existing problems

- **Absence of a standardized framework for disclosures:** In most G20 jurisdictions, issuers have a legal obligation to disclose any material climate-related financial risks, but there is no standardized framework for disclosures.

- **Fragmented and uncomparable disclosures:** Fragmented and uncomparable climate-related disclosures prevent investors, creditors and underwriters from accessing complete information that can inform their financial decisions.

- **Unmeasurable systemic risk:** This landscape of disclosures prevent regulators from accurately judging the financial system's vulnerability to climate risks.
ii. Objectives

- To develop a set of recommendations and guidelines to form useful, consistent, comparable, reliable, clear, and efficient voluntary disclosure standards and enhance market participants' understanding and decision-making, help government understand the risk, and help regulators manage systemic risk.
iii. Fundamental principles for disclosures

- The Task Force initially set fundamental principles and, after discussions, finally established 7 fundamental principles for climate-related disclosures, which are more accurate. The "forward-looking" principle has been merged into the "complete" principle.
iii. Fundamental principles for disclosures

- Seven fundamental principles
  - Relevant. The organization should explain the implications of climate-related risks and opportunities for its business model and corporate strategy, provide details on the markets, business divisions, and assets or liabilities that are significantly exposed to these risks and ensure report users' needs are satisfied.
  - Complete. The disclosure report should provide a thorough overview of the exposure to climate-related impacts, the company's strategy, governance, risk management and performance, and provide forward-looking dynamic disclosures, e.g. sensitivity risk or scenario analysis.
  - Clear. Information should be concise and accurate. Disclosures should show an appropriate balance between qualitative and quantitative information.
  - Consistent. Disclosures should be consistent over time to enable users' understanding.
  - Comparable. Disclosures should enable comparison across sectors and/or at the portfolio level.
  - Reliable. Disclosures should meet the criteria for high-quality disclosures. Internal control processes and mechanisms should be established.
  - Timely. Information should be regularly disclosed. Any unexpected climate-related risks should be disclosed in a timely manner.
Contents

I. Introduction to the TCFD

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III. Phase II Roadmap of the TCFD

IV. China's Climate Change Adaptation Practices
Issues addressed in Phase II

- Phase I has reached a consensus on existing problems, objectives and principles for disclosures, laying a good foundation for furthering implementation of disclosure recommendations in Phase II.

- Phase II will develop a framework for disclosures that focuses on addressing key definitions, financial impacts of climate risks, climate risks’ transmission paths towards the financial sector, scenario analysis and implementation strategies.
Four workstreams

- Governance
- TCFD
- Financial sector
- Non-financial companies
- Stakeholder Outreach and communication
i. Framework for disclosures

The organization’s governance framework for climate-related risks and opportunities.

Impacts of climate-related risks and opportunities on companies' business models, strategies and financial plans.

The organization’s processes to identify, assess and manage climate risks.

The organization’s methodology and objectives to assess and manage climate risks and opportunities, including scenario analysis.
### Phase II Roadmap of the TCFD

## i. Framework for disclosures

<table>
<thead>
<tr>
<th>Disclosure recommendations</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporate governance</strong></td>
<td>1. Describe the board's duties related to climate risks and opportunities; 2. Describe the management's duties for assessing and managing climate-related risks and opportunities; 3. Describe how the organization confirms the &quot;materiality&quot; of climate risks and opportunities.</td>
</tr>
<tr>
<td>Disclose an organization's governance framework for climate-related risks and opportunities</td>
<td></td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>1. Describe the organization's climate-related risks and opportunities, and their short-term, mid-term and long-term impacts on business models and strategies; 2. Describe the short-term, mid-term and long-term impacts of climate-related risks and opportunities adaptation strategies on financial plans</td>
</tr>
<tr>
<td>Potential impacts of climate-related risks and opportunities on an organization's business models, strategies and financial plans</td>
<td></td>
</tr>
<tr>
<td><strong>Risk management</strong></td>
<td>1. Describe the organization's processes to identify and assess climate-related risks; 2. Describe the organization's processes to manage climate-related risks; 3. Describe how the organization incorporates climate risk management in the comprehensive risk management process.</td>
</tr>
<tr>
<td>Disclose the organization's processes to identify, assess and manage climate-related risks</td>
<td></td>
</tr>
<tr>
<td><strong>Data/objectives</strong></td>
<td>1. Describe the organization's objectives of managing climate-related risks and opportunities; 2. Describe direct GHG emissions in Scope 1; 3. Describe GHG emissions in Scope 2; 4. Describe GHG emissions in Scope 3; 5. Describe assumptions and the process and results of analysis on climate-related risks and opportunities in different scenarios.</td>
</tr>
<tr>
<td>Disclose the methodology, data and objectives used to assess and manage climate-related risks and opportunities.</td>
<td></td>
</tr>
</tbody>
</table>
ii. Key definitions - climate-related risks

- Broad definition: At present, there is no standardized definition of climate-related risks. In its February 2016 white paper, the TCFD identifies GHG emissions, carbon risk, water risk, resource availability, physical impacts, and policy/regulatory risk as climate-related risks. The nine main aspects are as follows: global warming (e.g. GHG emissions), biosphere integrity (e.g. biodiversity), freshwater use, land-system change (e.g. deforestation and human migration), ocean acidification, depletion of stratospheric ozone, biochemical flows (e.g. nitrogen and phosphorus cycles), atmospheric-aerosol loading, novel entities (e.g. chemical pollution and new types of engineered materials or organisms).
ii. Key definitions - climate-related risks

According to the latest research findings of the TCFD, climate risks refer to potential physical and nonphysical impacts of climate change on organizations.

- **Physical impacts** can be event-driven (acute), such as floods and hails, and also relate to longer-term changes in precipitation, temperature, and weather patterns (chronic).

- **Nonphysical impacts** can be grouped into four categories: policy/legal/litigation; technological changes; market and economic responses (e.g., consumer preferences) and reputational considerations.
## ii. Key definitions - climate-related risks

<table>
<thead>
<tr>
<th>Risk type</th>
<th>Physical risks</th>
<th>Nonphysical risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive</strong></td>
<td>Impact of more and more catastrophic weather events on assets, such as hurricane and heavy rainfalls.</td>
<td>Changes in supply, demand or competition; the re-pricing of carbon-intensive financial assets, and the speed at which any such re-pricing might occur.</td>
</tr>
<tr>
<td><strong>Financial impacts</strong></td>
<td>Disruptions to operations, transportation, supply chains, distribution chain, etc.; damage to physical assets (plant, equipment, transportation, infrastructure); impacts on insurance liabilities</td>
<td>Viability of certain business models, company or securities valuation, asset impairment; affect the value of operating assets and investments</td>
</tr>
<tr>
<td></td>
<td>Degradation or limitations on resource availability (e.g. water, timber, arable land, etc.); affect companies and investments reliant on the use of resources (e.g. water, natural materials).</td>
<td>Damage to brand value or reputation, lost revenue, additional expenditures</td>
</tr>
</tbody>
</table>

### Physical risks
- **Acute**
- **Chronic**

### Nonphysical risks
- **Technology**
- **Market/economic**
- **Reputation**
Climate change is principally reflected by the rising global temperature. GHG emissions are considered one of the main drivers of climate change and global warning. The Task Force focuses on promoting the application and disclosure of existing generally accepted standards for GHG accounting.

GHG measurement. Now the generally accepted and widely used methodology and guidance for corporate accounting of GHG emissions is the "GHG Protocol: Corporate Accounting and Reporting Standard" jointly developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The TCFD recommends this accounting methodology now.
ii. Key definitions - GHG accounting

- **Scope 1 - Direct emissions.**
  - Emissions controlled by a company, including GHG emissions from the static combustion, mobile combustion and chemical or production processes of equipment and facilities owned or controlled by the company.

- **Scope 2 - Indirect emissions from consumption of purchased electricity, etc.**
  - Emissions resulting from purchased electricity under a company's control. Emissions can be regarded as electricity buyers' indirect emissions, though produced during electricity generation. In addition, purchases of steam, heat and refrigeration are also within Scope 2.

- **Scope 3 - Other indirect emissions**
  - To be reported at the company's discretion. Emissions resulting from a company's internal activities that are not owned or controlled by the company, such as emissions from production of purchased products, transport of purchased fuels, purchased services, outsourced activities, waste disposal, etc.
iii. Transmission mechanisms for climate risks

- **Non-financial institutions** face physical and nonphysical impacts of climate-related risks, including operational, financial, compliance, strategic and reputational risks. Required disclosures include costs and revenue by region and segment, climate risk management strategy, emissions associated with carbon-intensive assets, carbon assets' price sensitivity and exposure to climate policy impacts.

- **Financial institutions** mainly face risks from climate-related events of investors or borrowers and their projects, which produce credit, market, underwriting, funding or liquidity risks. Banks and insurers mainly face credit, market and underwriting risks; asset managers also face financing or liquidity risk. Required disclosures include stress tests and regression analysis.
iii. Transmission mechanisms for climate risks

- Financial system
- Financial market
- Financial institution
- Portfolio
- Sector
- Firm
- Assets or project
iv. Application of disclosures

- Disclosures mainly apply to member jurisdictions of the FSB, intended to provide voluntary disclosure standards for broad application across global industries.

- Information to be disclosed mainly includes quantitative, qualitative, historical, and forward-looking metrics and provides supports for the use, analysis and aggregation of information by all organizations. The Task Force suggests that issuers of public securities, listed companies, and key financial-sector participants disclose relevant information voluntarily.

- Disclosures will promote advanced practices of governance, strategic planning and risk management and provide a basis for consistent and comparable application by firms in countries throughout the G20.
Contents

I. Introduction to the TCFD

II. Phase I Results of the TCFD

III. Phase II Roadmap of the TCFD

IV. China's Climate Change Adaptation Practices
### China's Climate Change Adaptation Practices

#### i. History of development philosophy innovations

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1983</td>
<td>&quot;Environmental protection&quot; defined as a basic national policy.</td>
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<td>1994</td>
<td>The State Council's white paper included the sustainable development strategy in China's long-term economic and social development plan for the first time.</td>
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<tr>
<td>2007</td>
<td>Developed the strategy to build a &quot;resource-saving and environment-friendly society&quot;.</td>
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<tr>
<td>2011</td>
<td>Developed main objectives of climate change adaptation during the 12th Five-year Plan period.</td>
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<tr>
<td>2012</td>
<td>The report of the 18th National Congress of the CPC included promoting ecological progress in the &quot;5-in-1&quot; overall approach to China's socialism.</td>
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<tr>
<td>2015</td>
<td>The 5th plenary session of the 18th CPC Central Committee developed the philosophy of &quot;innovative, coordinated, green, open and shared&quot; development. Chinese government issued an action program defining the main objectives of climate change adaptation by 2030.</td>
</tr>
<tr>
<td>2016</td>
<td>Developed the objectives of climate change adaptation during the 13th Five-year Plan period.</td>
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</table>

- China formulated a series of policies and procedures for climate change, e.g. the National Plan on Climate Change, the National Program on Climate Change, the Work Plan for Controlling Greenhouse Gas Emissions, the National Strategy for Climate Change Adaptation and the Interim Measures for the Management of Voluntary GHG Emission Reduction Transactions.
ii. A good foundation for GHG accounting

- The National Development and Reform Commission (NDRC) successively issued the guidelines for accounting and reporting of GHG emissions of enterprises in 24 key industries, laying a solid foundation for relevant disclosures.

Batch 1
10 categories
- Electricity generators, power grids, steelmakers, chemicals producers, electrolytic aluminum producers, magnesium smelters, flat glass manufacturers, cement manufacturers, ceramics manufactures and civil aviation companies.
- 15 October 2013

Batch 2
4 categories
- Petroleum and natural gas producers, petrochemical enterprises, Independent coking enterprises, coal producers
- 3 December 2014

Batch 3
10 categories
- Paper and paper product manufacturers; other nonferrous metals smelting and rolling enterprises; electronics manufacturers; machinery manufacturers; mining enterprises; food, tobacco and alcohol, beverage and refined tea manufacturers; public building operators; land transportation enterprises; fluorine chemicals enterprises; other industrial enterprises.
- 6 July 2015
iii. China's regulatory requirements on disclosures

- **Environmental Information Disclosure Rules (Trial)** - issued by the State Environmental Protection Administration of China and effective in May 2008. "Chapter III: Disclosure of Environmental Information of Enterprises" (Articles 19 to 23) set out disclosure requirements.

- **Circular on Issuing the Green Credit Guidelines** - issued by CBRC and effective in February 2012. Article 24 in "Chapter V Internal Control Management and Information Disclosure" set outs disclosure requirements.

- **Guidelines for Environmental Information Disclosures of Listed Companies** - issued by Shanghai Stock Exchange and effective in May 2008. Article 3 reads that a listed company may, at its own discretion, disclose the following environmental information in its annual social responsibility report or separately.

iv. Chinese banks' achievements in green credit and climate risk control

- In recent years, Chinese banking institutions have paid close attention to environmental and social risks in credit business and implemented the national policies on industrial restructuring and the Green Credit Guidelines under the philosophy of sustainable development. Supporting energy conservation, emissions reduction and environmental protection has become an important part of the operating strategy of Chinese banks.

- China's banking industry has an effective green credit promotion mechanism and sound frameworks for environmental and social risk management. Innovative green credit products are developed to expanding sources of financing for energy conservation, emissions reduction and elimination of backward industrial capacities through accounts receivable pledge, pledge of anticipated CDM income, share pledge and factoring, thereby improving the financing capacity of enterprises associated with energy conservation and environmental protection.

- According to the latest annual report of the CBRC, in 2014, Chinese banking institutions aligned their resource allocations with environmental protection, promoted greener transformation of heavy-polluting industries, energy-intensive industries and industries with overcapacities and accelerated innovation in green finance products. As at the end of 2014, Chinese banking institutions recorded RMB7.59 trillion in balance of green credit.
v. ICBC's green credit practices - well-established framework

- In the course of development, ICBC persistently fulfills economic and social responsibilities, maintains green/low-carbon operation, steps up credit supports for environment-friendly, energy-efficient enterprises and projects and exits from energy-intensive, technologically backward and overcapacity enterprises, thereby effectively furthering "green adjustments" to its credit structure.
- ICBC integrates green development into its corporate vision, development strategy, credit culture, policies/procedures, management processes and products/services to form a viable, sustainable mechanism for green finance.

Green Finance System

- Objectives/strategies of green finance
- Green finance policies/procedures
- Green finance process and system control
- Green finance products
- Green finance research and dissemination
- Green finance capacity building
v. ICBC's green credit practices - well-established framework

- **Industry-specific green credit policies**
  - ICBC has built and developed industry-specific credit policies since 2003. Sixty industry-specific credit policies were issued, covering encouraged green segments of the economy and heavy-polluting industries, energy-intensive industries and industries with overcapacities.
  - As to the use of credit proceeds, ICBC encourages supports for green economic sectors (ecosystem preservation, clean energy, energy conservation/environmental protection and recycling economy) and strictly controls credits to heavy-polluting industries, energy-intensive industries and industries with overcapacities.

- **Green credit classification of corporate loans**
  - ICBC divides domestic corporate customers and their loans into four classes (subdivided into 12 categories) according to the environmental impact of borrowers or projects and the environmental/social risks facing them: Friendly (4 categories), Qualified 2 categories), Watch (2 categories), Rectification(4 categories).
v. ICBC's green credit practices - strict process management and remarkable achievements

- **Incorporate "green credit" in the total credit process management**
  - Include due diligence, credit approval, loan disbursement and post-disbursement management,

- **Strengthen control over financing risks in key fields**
  - For enterprises with overcapacities, backward capacities and heavy metal discharges, ICBC urges financing risk control through limit management and financing suspension.

- **Remarkable achievements.**
  - As to supports for green economic development, at the end of December 2015, ICBC had RMB702.84 billion in balance of loans to green economic sectors, representing 10.2% of total corporate loans and up 7.3% from the beginning of 2015 (4.9 percentage points higher than one year ago).
vi. Discussions on the ways climate risks affect the banking industry (stress test methods)

1. Quantitatively measure the impact of environmental factors on banks' credit risk
2. Provide a basis of measuring environmental risk factors in credit product pricing
3. Facilitate banks' reasonable design of credit and investment portfolios
4. Provide banking regulators with a reference point in considering environmental risk factors.
Thanks!