Emerging Leaders Program

CLIMATE CHANGE: RISK AND OPPORTUNITY FOR FINANCIAL INSTITUTIONS

Alyson Slater, Sustainable Finance

“Climate Change is the defining issue of our time and we are at a defining moment.”

- UNSG
Outline

• Setting the Stage
• Climate Risk **Identification:**
  • Physical risk
  • Transition risk
• Climate Risk **Assessment:**
  • Climate scenarios
• Climate Risk **Action:**
  • Opportunities and Threats
• Climate Risk **Control:**
  • Qualitative
  • Quantitative
• Climate Risk **Reporting**
  • Operational
  • Financial
Climate as top risk

Source: GRI Annual Risk Outlook 2021
Financial policy response

Network for Greening the Financial System

Climate is different from other structural changes:
• Far reaching impact in breadth and magnitude
• Foreseeable
• Irreversibility
• Dependency on short-term action

Bank of Canada

Identified climate change as a vulnerability and risk to the financial system
• Significant research program on climate and financial stability
• Scenarios pilot with OSFI and 6 firms 2022

Climate-related prudential outcomes:
• 2021 consultation, 2022 letter to FRFIs
• Climate governance, strategy, risk management, financial and operational resilience
• OSFI to promote capacity, preparedness, resilience
• New guideline expected 2022
Paris Agreement – Where do we stand?

Global cooperation
• Humans have emitted enough GHG to warm the world 1.1°C above preindustrial levels, to carry on BAU is catastrophic
• Paris Agreement: Keep global temperatures below 2°C and strive for 1.5°C by 2050 ‘net zero’ carbon emissions
• US, EU, 100+ by 2050, China by 2060

Canada: New Zero Accountability Act
• Cut carbon emissions 45% by 2030
• Net zero by 2050 – but HOW?

• 420 FIs, $130tn+
• Banks, insurance, asset owners, asset managers
• Net zero portfolio by 2050
• Interim targets, reporting progress
Investor & lender net zero options

Engage policymakers
Engage borrowers & issuers
Reduce emissions in owned assets
Low carbon investments
Reduce exposure to high carbon investments

Less change to portfolios  More change
Illustrative example: Company net zero action plan

Microsoft’s pathway to carbon negative by 2030

Annual carbon emissions

- Net carbon emissions
- Microsoft and its supply chain carbon emissions
- Microsoft operational carbon emissions
- Avoided emissions offsets
- Carbon removal

Source: Microsoft trend
• Setting the Stage
• **Climate Risk Identification:**
  • Physical risk
  • Transition risk
• Climate Risk **Assessment:**
  • Climate scenarios
• Climate Risk **Action:**
  • Opportunities and Threats
• Climate Risk **Control:**
  • Qualitative
  • Quantitative
• Climate Risk **Reporting**
  • Operational
  • Financial
Sources of Climate Related Financial Impacts

### Physical
- Acute
- Chronic

### Transition
- Policy/legal
- Technology
- Market
- Reputation

Cyclones, fires
Water stress

Carbon price
Renewable energy
Electric vehicles
6 million marched

©Global Risk Institute
Sources of Climate Related Financial Impacts

**Climate Risks**
- Physical Risks
  - Chronic
  - Acute
- Transition Risks
  - Policy/legal
  - Technology
  - Market
  - Reputation

**Economic Impact**
- Macro
  - Productivity changes
  - Regulations/policy
  - Financing availability
- Micro
  - Damage to Assets
  - Shift in customer preference
  - Shareholders

**Enterprise Risks**
- Credit Risk
  - Defaults, collateral depreciation
  - Increased demand for liquidity
- Market Risk
  - Equity repricing
- Underwriting Risk
  - Insurance Loss (Life, Health, P&C)
- Operational Risk
  - Supply Chain Disruption
- Reputational Risk
  - Public, client and investor concerns

©Global Risk Institute
Determining Climate Related Financial Impacts

Climate-Related Risks, Opportunities and Financial Impact

Transition
- Policy and Legal
- Technology
- Market
- Reputation
- Acute
- Chronic

Physical
- Revenues
- Expenditures

Risks

Opportunities

Financial Impact

Income Statement
Balance Sheet

Resource Efficiency
Energy Source
Products/Services
Markets
Resilience
Assets
Liabilities
Capital

©Global Risk Institute
Climate-related criteria are not yet sufficiently accounted for in internal credit assessments or in [...] credit agencies’ models. Climate credit risk is thus likely to be significantly underestimated in current credit risk analysis.

- NGFS 2018

©Global Risk Institute
Canadian insurers is expected to double the claim payout on severe weather claims over the next ten years, from $2.1 billion to $5 billion a year.

- Insurance Canada 2020

©Global Risk Institute
Objectives

• Setting the Stage

• Climate Risk Identification:
  • Physical risk
  • Transition risk

• Climate Risk Assessment:
  • Climate scenarios

• Climate Risk Action:
  • Opportunities and Threats

• Climate Risk Control:
  • Qualitative
  • Quantitative

• Climate Risk Reporting
  • Operational
  • Financial

©Global Risk Institute
Climate Risk Assessments

What are we identifying and assessing?

IPCC Scenarios
• Flood, drought, extreme weather

IEA Scenarios
• Energy mix

Carbon Price Scenarios
• Projected prices of carbon

NGFS Climate Scenarios Framework

Based on whether climate targets are met

- Met
  - Disorderly
    - Sudden and unanticipated response is disruptive but sufficient enough to meet climate goals
  - Orderly
    - We start reducing emissions now in a measured way to meet climate goals

- Not met
  - Too little, too late
    - We don’t do enough to meet climate goals, the presence of physical risks spurs a disorderly transition
  - Hot house world
    - We continue to increase emissions, doing very little, if anything, to avert the physical risks
Example Questions to Ask:

- What climate risk are necessary and **acceptable** for achieving strategic ambitions?
- Do we want to take more proactive actions to **reduce** the impact of our portfolio companies to mitigate climate risk?
- Will climate be factored into **every** investment decision or selected portfolios?
- How do current investments, operations, and targets **align** with the entity’s risk appetite?
• Setting the Stage
• Climate Risk Identification:
  • Physical risk
  • Transition risk
• Climate Risk Assessment:
  • Climate scenarios
• Climate Risk Action:
  • Opportunities and Threats
• Climate Risk Control:
  • Qualitative
  • Quantitative
• Climate Risk Reporting:
  • Operational
  • Financial

©Global Risk Institute
Risk and Opportunities: Initiatives Taken to Manage Climate Risks

- Risk
  - Portfolio Changes
  - Operational Changes

- Opportunity
  - Investments
  - Climate Financing

©Global Risk Institute
Risk management actions to reduce climate risk

“The risks posed by climate change and climate policies will drive big changes in financial markets.”

- Mark Carney, UN Special Envoy for Climate Action and Finance

©Global Risk Institute
• Setting the Stage
• Climate Risk Identification:
  • Physical risk
  • Transition risk
• Climate Risk Assessment:
  • Climate scenarios
  • Link to Risk Appetite
• Climate Risk Action:
  • Opportunities and Gaps
• Climate Risk Control:
  • Metrics and Targets
• Climate Risk Reporting
PCAF – measuring portfolio emissions

GHG emissions from borrower or investee

\[ \text{Emission intensity} = \frac{\text{GHG emissions from borrower or investee}}{\text{FI’s attributed emissions (based on share of capital provided)}} \]
## Examples of climate risk metrics and targets

<table>
<thead>
<tr>
<th>Measurement</th>
<th>What does it measure?</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net zero or 2’C portfolio alignment</strong></td>
<td>Investment portfolio’s alignment to a 2’C decarbonization pathway</td>
<td>Degree and % (mis)alignment to a 2’C pathway</td>
</tr>
<tr>
<td><strong>Climate valuation</strong></td>
<td>Financial impacts on portfolio earnings, value, funded status</td>
<td>% climate value-at-risk % change in EBITDA</td>
</tr>
<tr>
<td><strong>Climate finance</strong></td>
<td>Financing for a low carbon economy and carbon impacts</td>
<td>$ invested in low carbon sectors, resilience, green finance</td>
</tr>
<tr>
<td><strong>Portfolio carbon footprint</strong></td>
<td>CO2e emissions and relative efficiency of an investment portfolio</td>
<td>CO2e per unit revenue or enterprise value % of carbon related assets to total assets</td>
</tr>
<tr>
<td><strong>Carbon performance or ‘temperature’ scores</strong></td>
<td>Company impact and preparedness for a low carbon economy</td>
<td>% impact and readiness</td>
</tr>
<tr>
<td><strong>Engagement with investees</strong></td>
<td>Number of investee companies that have been contacted to discuss reporting on climate risks</td>
<td>% increase in number of companies engaged with</td>
</tr>
</tbody>
</table>

©Global Risk Institute
Objectives

Execution

Plans

- Setting the Stage
- **Climate Risk Identification:**
  - Physical risk
  - Transition risk
- Climate Risk **Assessment:**
  - Climate scenarios
- Climate Risk **Action:**
  - Opportunities and Gaps
- Climate Risk **Control:**
  - Qualitative
  - Quantitative
- Climate Risk **Reporting**
  - Operational
  - Financial

©Global Risk Institute
How to Report on Climate Risk Management

Final Report
Recommendations of the Task Force on Climate-related Financial Disclosures

©Global Risk Institute
The Challenge:

• Incorporate climate change into existing risk management practice
  • Strategic, Operational, Financial, Compliance

• Is climate risk appetite aligned with company objectives? What are thresholds and limits?

• An iterative process, an emerging risk, high uncertainty and data gaps
Thank you

Be in touch for more on our climate and sustainable finance programs:

Alyson Slater
aslater@globalriskinstitute.org