Natural Selection

Financial Services Forum

21-22 May 2018 • Hilton Sydney

Actuaries Institute

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Climate change investment risks, opportunities and impacts

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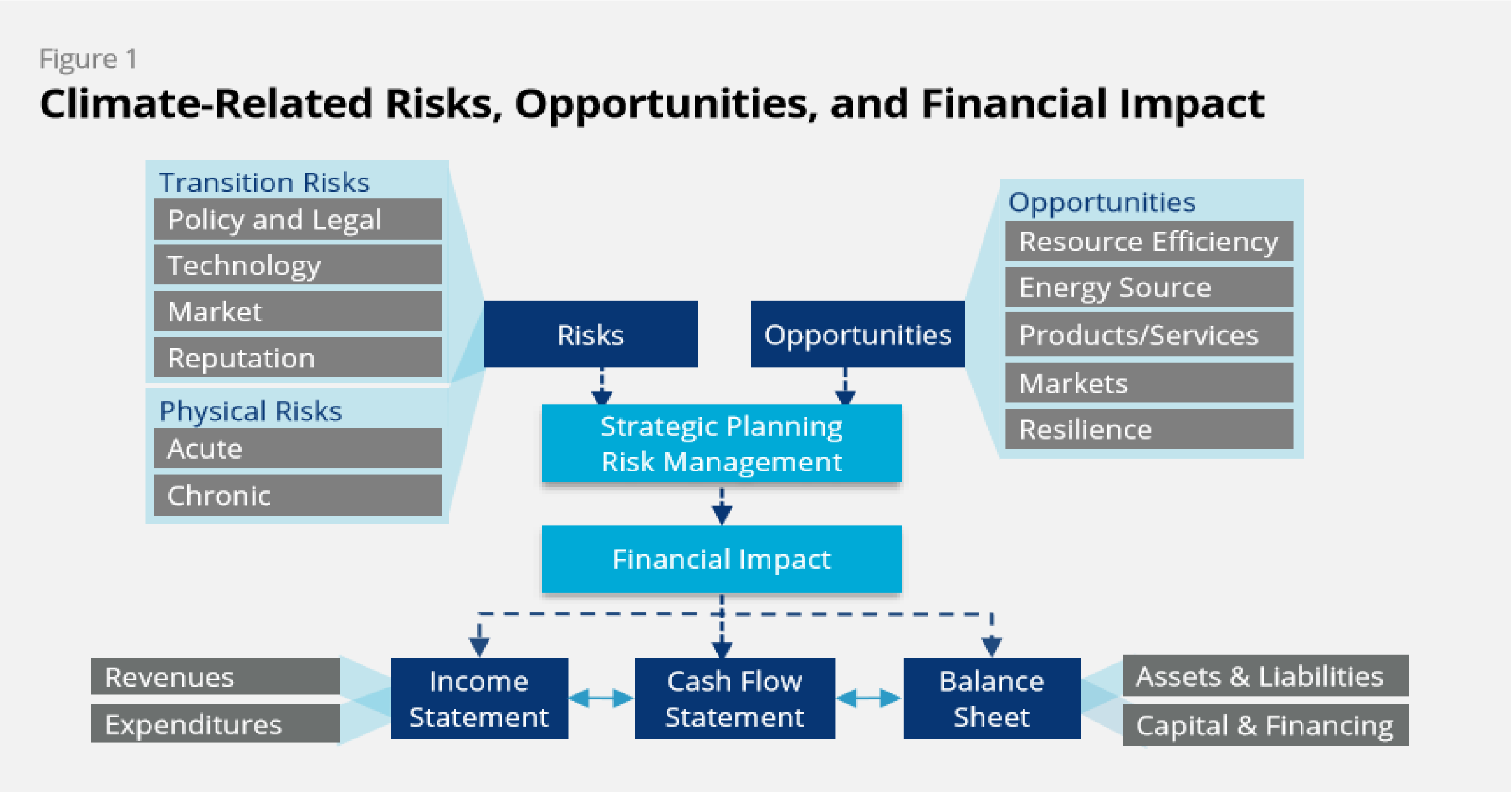
- **Financially-material** risks and opportunities for investors. Scenario dependent. Market pricing?
- Central to **governance, fiduciary and stewardship** duties >> fundamental shift in strategy, risk management, disclosure
- Increasingly driven by **stakeholder expectations** – a fundamental **societal values shift** re the role + responsibilities of business/investors – accountability, 'radical transparency'

- Tip of the iceberg…a model for investor response to **broader sustainability challenges….**Signalling the **next evolution of ESG/RI**?

RISKS, OPPORTUNITIES & IMPACTS

Impacts ON investments – asset specific risk



Impacts ON investments - systemic risk

Speech by Mr Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board, at Lloyd's of London (London, 2015)

"Climate change is the ***tragedy of the horizon****. We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors – imposing a cost on future generations that the current generation has no direct incentive to fix.*

"The horizon for monetary policy extends out to two to three years. For financial stability it is a bit longer, but typically only to the outer boundaries of the credit cycle – about a decade. In other words, once climate change becomes a defining issue for financial stability, it may already be too late."

"Unhedgeable risk: How climate change sentiment impacts investment", The University of Cambridge Institute for Sustainability Leadership (2015)

Short-term shifts in market sentiment induced by awareness of future, as yet unrealised, climate risks could lead to economic shocks, causing substantial losses in financial portfolio value within timescales that are relevant to all investors.

Factors, including climate change policy, technological change, asset stranding, weather events and longer-term physical impacts may lead to financial tipping points for which investors are not presently prepared.

This research shows that changing asset allocations among various asset classes and regions, combined with investing in sectors exhibiting low climate risk, can offset only half of the negative impacts on financial portfolios brought about by climate change. Climate change thus entails "unhedgeable risk" for investment portfolios.

While the response to action aimed at limiting warming below 2°C is shown to be negative in its short-term economic and financial impacts, the benefits of early action lead to significantly higher economic growth rates and returns over the long run, especially when compared to a worst-case scenario of inaction. The present study shows that certain types of portfolio benefit more than others.

Even in the short run, the perception of climate change represents an aggregate risk driver that must be taken into consideration when assessing the performance of asset portfolios. Our analysis provides investors with a general guide to minimising their exposure to climate sentiment risk and has the potential to stimulate a constructive dialogue between investors, governments and regulators to examine the conditions necessary to build more resilient financial markets under unprecedented environmental change.

Impact OF investments

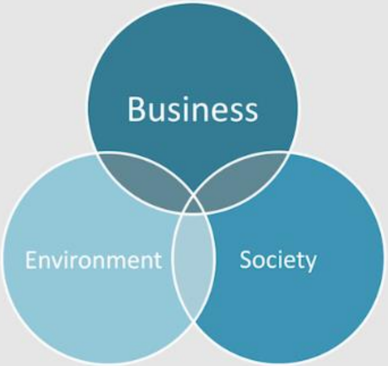
- **Compatibility with global climate goals:** limiting temperature increase to under 2 degrees Celsius ('2DC'); achieving net-zero emissions by 2100; ensuring an 'orderly and just transition'?
- **Should concern mainstream (not only ethical/impact) investors b/c:**
  1) **Financially material** (asset and system risk exposure)
     - *Transition risk exposure is a function of assets' climate compatibility*
     - *Mitigating physical impact risk to assets owned*
     - *Shared $ interest in containing risk to financial and E&S system stability*
     - *Stakeholder preferences and expectations*
     - *Emerging investment best practice and regulatory trends*
  2) Future: **positive E&S returns have a recognised value in own right** (irrespective of any $ value ascribed to them)?

Shareholder Value

Business is all that matters: companies privatize gains while socializing losses

Shared Value

Business comes first: negative impacts are justified by ‘doing good’ elsewhere



System Value

Business in no way hinders and ideally accelerates the transition to a prosperous future for all

GAME CHANGERS & ACCELERATORS

International and local developments

- Paris Climate Agreement
- Private sector leadership (now a strategic priority for Boards)
- Stakeholder scrutiny of companies AND investors/FIs – shareholder activism, portfolio ratings, legal actions
- Capital market reforms
  - Macro-level: sustainable $ system design
  - Governance/fiduciary duties and disclosure
  - Enabling products and tools
  - Australia: APRA, QC opinion, Senate Inquiry, stewardship code

Taskforce on Climate-related Financial Disclosures (TCFD)

Figure 4

Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

French Energy Transition Law 2015

- Requires institutional investors to report on:
  - **Integration of climate change-related risks:** assessment of physical and transition risks AND contribution to meeting Paris climate goals and the objectives of the French Low Carbon Strategy (includes sector-specific targets and carbon budgets).
  - **Alignment of voluntary decarbonisation targets** with national and international goals, and actions to achieve these targets
- Encourages institutional investors to set **quantitative sector targets** in line with national and international targets.

2° Investing Initiative (2ii) think tank

- **Complements + builds upon TCFD**: deep dive specifically into <2DC scenario analysis and the 'climate impact' lens
- **Research, engagement and tools** to promote:
  - *Alignment of mainstream investment processes with 2DC scenario*
  - *Measurement of climate performance – i.e. contribution to and/or [mis]alignment with financing 2DC pathway*
  - *Barrier busting: financial sector policy and regulation reforms enabling the necessary reallocation of capital*
- '**2°C scenario analysis framework**': voluntary pilot in collaboration with EU, Swiss govt, others - listed equity and corporate bond portfolios; extension to corporate lending

MEASURING & MANAGING

Measuring portfolio/asset risk exposure

- **Sensitivity (negative or positive)** of assets to physical and transition impacts, (ideally) under a range of climate change and low-carbon transition scenarios. (Base-case and stress test)

- **Top-down** approaches - e.g. Mercer scenario analysis modelling at equity sector, regional and asset class level

- **Asset-level fundamental analysis** – open source/proprietary (e.g. CDP)
  1) **Exposure to**:
     - Material risks and opportunities for the business over S/M/L term
     - Actual and potential impacts on future cash-flows, assets + liabilities
     - Implications for business strategy and financial planning
  2) **AND management of:** capacity to adapt/transform, confidence in the governance response (assessing and managing across the value chain)

  >> Implications for investor returns, reputation and legal position.

CASE STUDY: Transitional risk – Australia thermal coal

Supply Chain	Risk Description	Risk
Coal-fired power generators	Transition from coal generators to gas and renewables	HIGH RISK
Black coal mine exclusive for power generators	Impact from downstream activities Alternative option: switch supply to international markets	HIGH RISK
Black coal mine for exports	Export demand remains key market	LOW RISK
Brown coal mine	No alternate demand for mine output; no international trade	HIGH RISK
Rail from black coal mine	Export demand remains key driver	LOW RISK
Ports	Export demand remains key driver	LOW RISK

Source: IGCC, *Coal, Carbon and the Community: Investing in a just transition* (October 2017)

INVESTORS' RESPONSE

LEVER	EXAMPLES OF INVESTOR ACTION
Portfolio construction *1st order qu = beliefs on market pricing*	**Ethical strategies:** divestment of fossil fuels - e.g. Nordic Fund, Australian ethical
	Risk-based strategies: divestment or down-weighting of carbon intensive/fossil fuel stocks E.g. Swedish AP4 (hedging), NZ Super (strategic tilt – quant) – listed equity portfolios
	Value-adding strategies: allocation to climate positive assets (via thematic index products/funds, green bonds, private markets etc)
Voting & Engagement	**Shareholder resolutions** re fossil fuel multinationals – e.g. Aiming for A campaign Collaborative **corporate engagement** – e.g. Climate Action 100+ *Re: governance + disclosure of climate risks, mitigation/adaptation, public policy activities*
Policy Advocacy	E.g. Global Investor Statement on Climate Change in the lead up to Paris Agreement E.g. IGCC submissions on Australian energy policy developments; EY coal report (Aust)
Collaboration	E.g. Investor Agenda: Accelerating action for a low-carbon world
Disclosure	Responding to TCFD recommendations – own reporting, seeking from companies

CLOSING REFLECTIONS

1) **Economic transformation requires financial system transformation**:
   - Integration into governance, strategy, operations, culture (public/private Fis)
   - Capital market reforms to enable climate positive investment
   - Up-skilling the financial services sector
   - Stakeholder collaboration on enabling products and tools
   - New forms of public-private-partnerships on green financing
2) **Resilience vs. Alignment** – navigating pathway uncertainty vs. aligning with <2DC goal? Current constraints; empowering/enabling investors…
3) **‘Value and values’** – moving to a more holistic investment model?