

Investor Needs for Regional Climate Services

Exploring Regional Climate Services

University of Victoria

21-23 November 2011

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Agenda

Investor needs for regional climate services

- **Climate services**
- Institutional investors, capital markets and asset classes
- Awareness of climate change
- Information needs

Climate Services — *Data & Applications*

- ***Climate as a Natural Resource***. Landsberg, 1946.
 - Unchangeable, inexhaustible, exploitable.
- ***State Climatology Program*** (US, 1954-1973)
- ***National/Regional Climate Centres***
 - NCDC (1951)
 - Canadian Institute for Climate Studies (CICS, 1993)
 - US Regional Climate Centers (RCCs, 1978) - ***Meeting the challenge of Climate Service***. Hecht, 1984
- ***NOAA Climate Services Plan****. Changnon, et al., 1990.
- ***A Climate Services Vision*****—First steps... US-NRC, 2001.

*...the acquisition, archiving,...evaluation and dissemination of climate data and information, (and) the impact of climate and climatic change on society for decision makers at all levels of the economic and political system.

**...timely production and delivery of useful climate data, information and knowledge to decision makers.³

Climate Services – *Global climate change*

- ***Are We on the Brink....?*** Broecker, 1975.
- **World Climate Conference (1979)**
 - ***Climate at the Millennium.*** White, RM, 1979
 - ***Climate Variation and Variability.*** F. Kenneth Hare
 - World Climate Program: ***Climate Applications and Services*** (1/3)
- ***Climatology – The future.*** Landsberg, 1983.
 - Climate variability (or?) climate change.
- ***Earth Summit/Rio – UN Conf. on Environ. & Develmt.*** (1992)
 - IPCC (1988), ***Impacts and Adaptation, WG2*** (1/3)
 - ***The Climate Agenda*** (WMO & UNEP, 1993):
 - Climate Services for Sustainable Development*** (1/4)
- **Third WCC (2009): *Global Framework for Climate Services***

Climate Services –

from research → scenarios → to climate prediction

- **A Climate Services Vision—First steps...** US-NRC, 2001.
- **International Centres/Programs (1990s)**
 - IRI for Climate and Society, Columbia U., 1995?
 - **Climate Information and Prediction Services (CLIPS)**, 1995
- **National Centres**
 - [CCC for modelling and analysis, UVic, 1993]
 - Adaptation and Research (AIRD), EnvCan, 1990s.
- **Regional Centres**
 - Ouranos, Montreal, 2001.
 - RISA Centers, US, 1995+
 - **PCIC**, UVic, 2005; **PARC**, U.Regina, 2001
 - **CLISAP**, Hamburg, 2009?
 - Climate Service Centre, Hamburg, 2010

Climate Services – *The Financial Services Sector*

- ***Changing Course.*** Business Council for Sustainable Development (1995)
- ***Opportunities and Priorities- A New Era for Weather and Climate Services.*** Dutton, 2002.
- ***Managing the Unavoidable*** – Investment implications. Beloe,2009.
- ***Advancing Adaptation*** through ***climate information services.*** SBI (Hamburg) and UNEP-FI, 2011.
 - *Global Investor Statement on Climate Change.*
- ***Investment Grade Climate Change Policy.*** Joint report, 2011.
- ***Climate Change Scenarios*** – Implications for Strategic Asset Allocation. Mercer Report, 2011.

Climate Services

- ***Climate*** is the expectation of future weather.
- ***Global climate change*** is perceived as a trend, but *climate impacts* are experienced as (regional) climate variability and weather extremes.
- ***Regional Climate Services**** deliver climate applications and impacts, including climate monitoring and estimates of future conditions, to support social/economic welfare ...that is, the ***financial services sector***:
 - *Insurance*
 - *Credit*
 - *Financial Management*

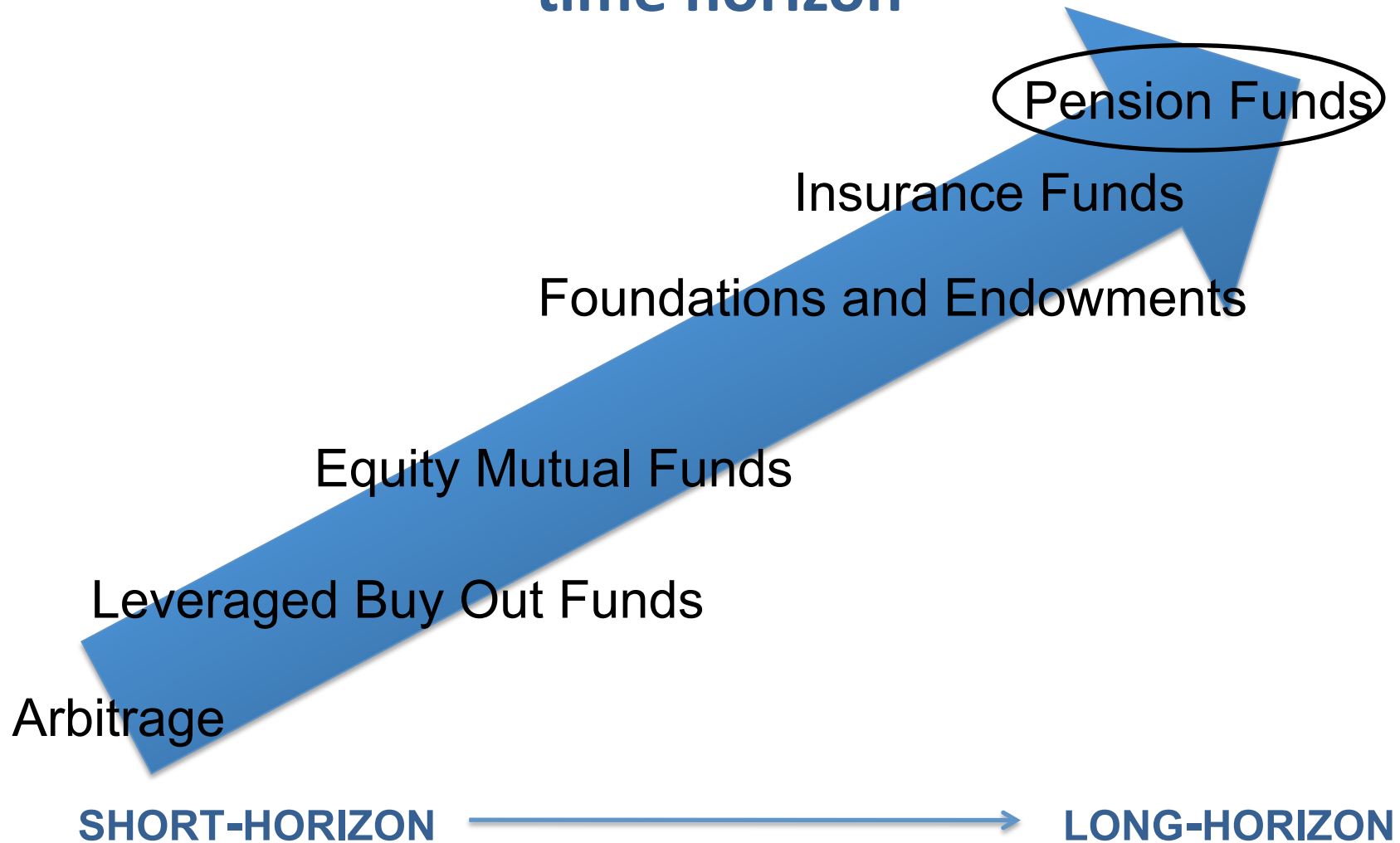
* - Changnon et al.(1990); NRC(2001); Von Storch, et al. (2010); NOAA (2011)

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- Climate services
- **Institutional investors, capital markets and asset classes**
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Climate information needs will vary by investor time horizon



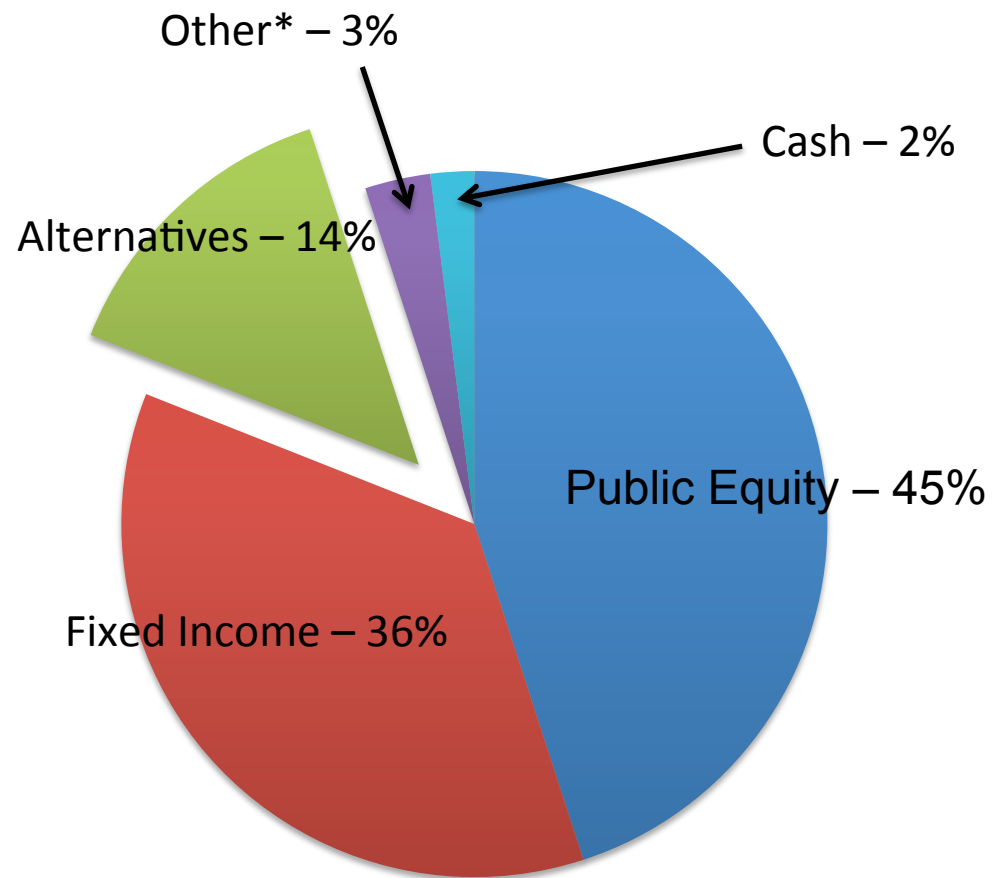
Institutional investors, capital markets and asset classes

- \$26 Trillion in funded pension assets globally
- Trusteed pension plans in Canada: \$1 trillion
- Second largest source of investment capital in Canada
- Significant owners of publicly-traded companies

Pension asset classes

Alternatives:

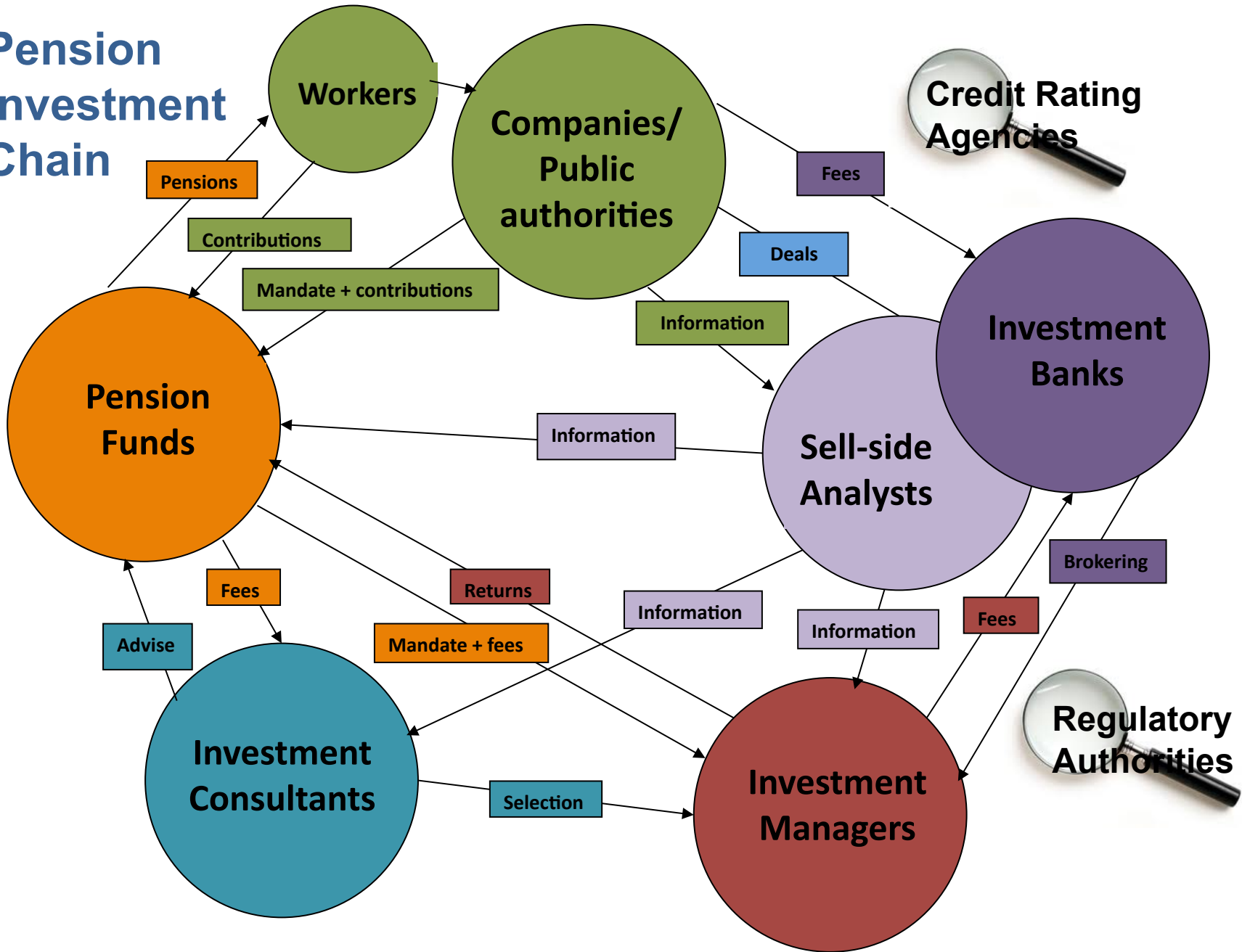
- Private Equity 22%
- Hedge Funds 32%
- Real Estate 32%
- Infrastructure 2%
- Commodities 5%
- Other 7%



Note: The category “Other” includes timberland and agricultural land.

Source: Russell Investments, 2011

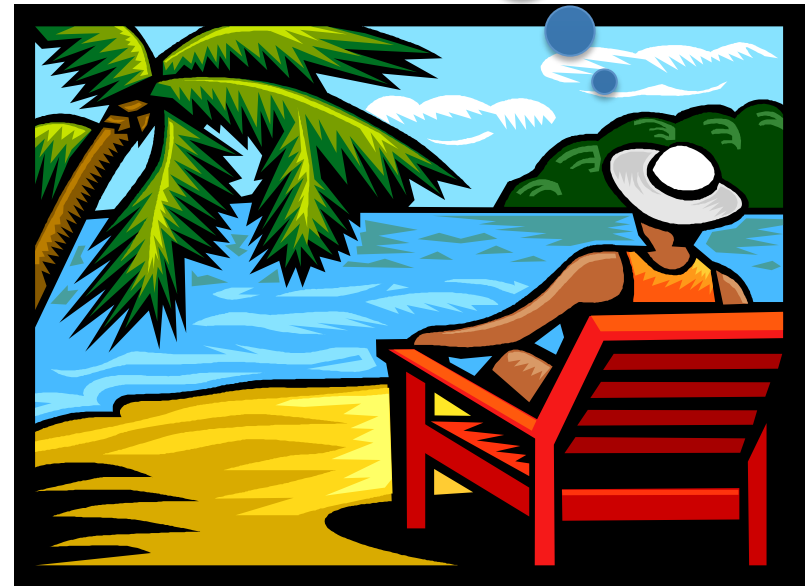
Pension Investment Chain



5 more years 'til
retirement...5 more
years 'til
retirement... oh, my
hands are freezing



I sure miss those
wonderful days
in the field...



The ultimate end user of climate change information by pension funds ...you!

Institutional investors, capital markets and asset classes

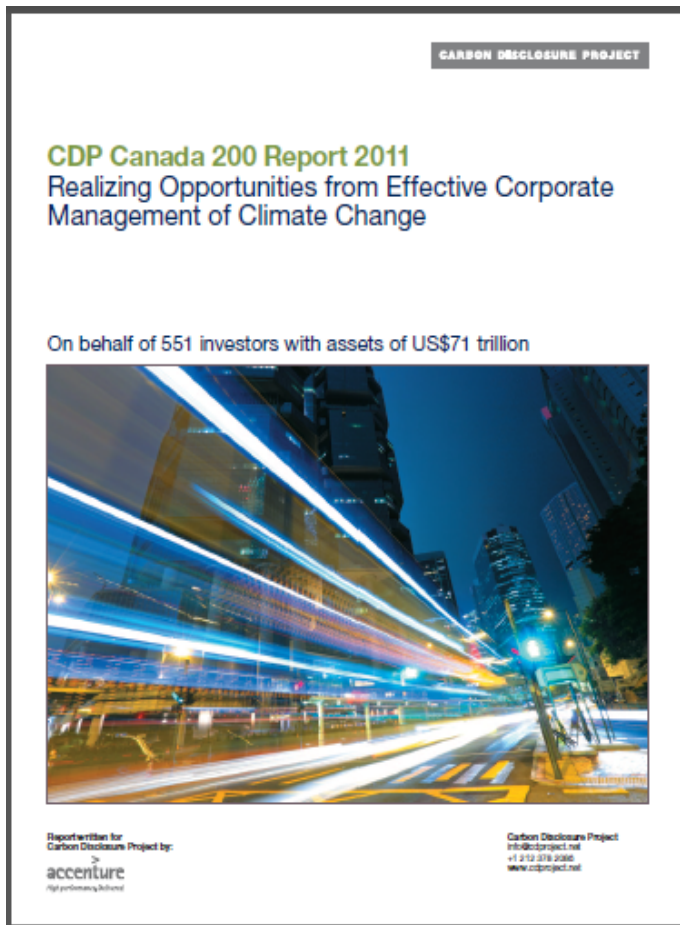
- Pension funds are uniquely long-horizon investors
- Pension assets are invested in diverse asset classes with specific climate change risks
- Many alternative assets have greater regional climate risk exposure
- Climate change information needs are different for different parts of the investment “chain”
- Retired climate scientists – the real end user

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The Carbon Disclosure Project – 10th anniversary

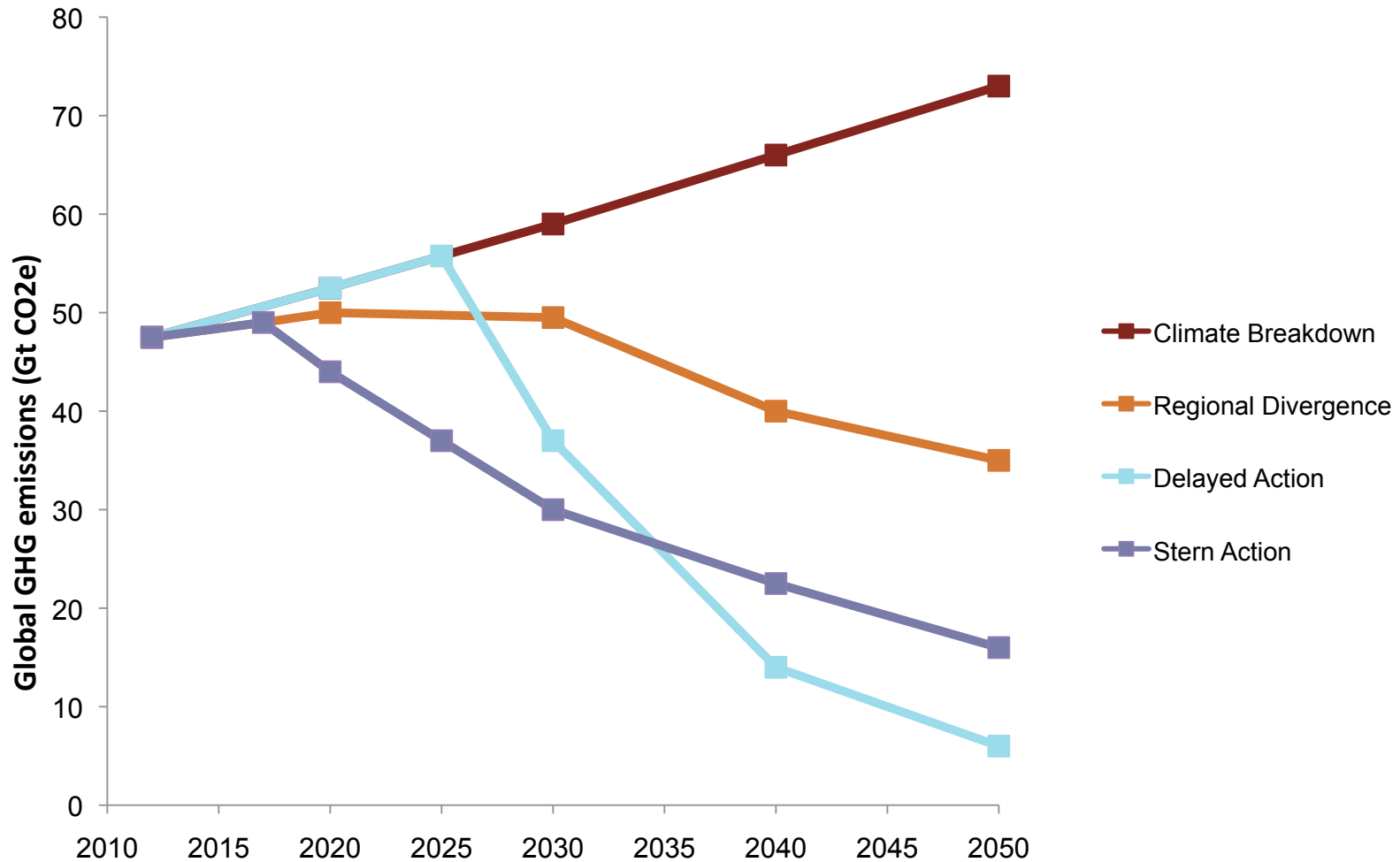


- The 200 largest companies in Canada based on market capitalization
- Globally, 551 investor CDP signatories with assets of US\$71 trillion
- 54% Canadian response rate the highest on record
- Benchmark: Global 500 (81%) and S&P500 (68%)
- Risk
 - Carbon policy and emissions regulation uncertainty cited as largest risk
- Opportunity
 - 54% driving revenue by providing products/ services to aid third parties in reducing their GHG emissions

Mercer asset allocation report participants



Four carbon emission scenarios compared



Sources: Vivid Economics and Grantham Research Institute, based on Bowen and Ranger (2009), IEA (2007; 2009) and Enkvist, Naucler et al. 2007

Growing asset classes more sensitive

For the mitigation scenarios, we concluded that infrastructure, private equity, real estate, timberland, agriculture land and “sustainability” themed assets are more sensitive to climate change, both in terms of the risk and opportunities.

Climate Change Scenarios – Implications for Strategic Asset Allocation, Mercer LLC, 2011

2011 Global Investor Statement on Climate Change

- 285 Institutional investor signatories
- More than \$20 Trillion in assets under management
- Issued in advance of the United Nations Framework Convention on Climate change 17th Conference (COP-17) in Durban, South Africa
- Stresses urgent need for public policy that simulates private sector investment to:
 - Address climate change solutions
 - Create employment



Awareness growing, policy and disclosure focus, but impacts not expected soon

The trajectory of investor interest in climate data and climate change is upward but credit and asset management investors...“are less familiar with climate change because the physical effects of climate change have not yet systematically turned into financially relevant consequences.”

*von Flotow, Cleeman, Hummel, Ludolph,
& Clements-Hunt, 2011, p. 6*

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Current investor use of climate information

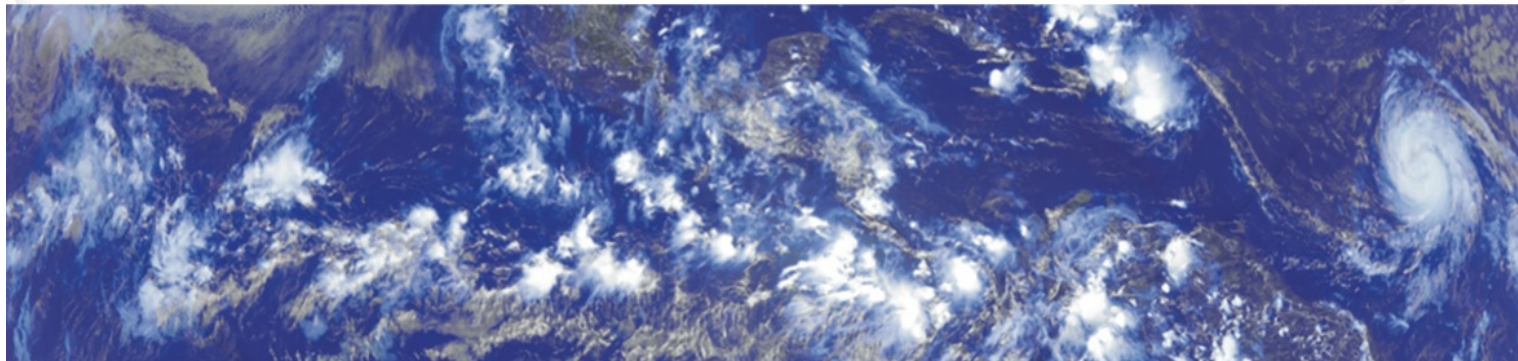
“We ask out external managers ... it’s difficult to get a straight answer.”

“If it is a financial asset like equities or credit, then investors invariably assume that any regional effects are taken into account as part of the due diligence process, but no one would check.”

“Understanding how climate change forecasts are developed and how views are formed is as important, if not more so, than the actual forecasts themselves. There is a great need for educating investors.”

Advancing adaptation through climate information services

Results of a global survey on the information requirements of the financial sector



Paul Clements-Hunt (UNEP FI)
Paschen von Flotow (SBI)
Frankfurt / Main, 12 January 2011



Increasing risk management by pension funds will help

Eighty-four percent of respondents have made or plan to make changes in their risk management approach, and nearly two-thirds are increasing the sophistication of their internal decision-making and governance process. ... 21% are increasing the frequency and depth of risk reporting.

*Russell Investments, "2010 Global Survey on
Alternative Investing" (2011)*

Current use of weather information services



Conclusions

- The financial services sector is an important and diverse potential user of climate services.
- Awareness that climate services are relevant is growing; so to is investment in asset classes exposed to regional climate risk.
- Many investors think policy risks related to government action, e.g. putting a price on carbon, are a greater near-term concern than direct impacts.
- **Improved engagement between climate scientists and investment decision-makers all along the “investment chain” will help define user needs for regional climate information services.**
- **A joint pilot project with the financial services sector should be identified to advance this engagement preferably related to an asset class with strong regional risk characteristics.**