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Integrated strategy for climate change adaptation

Valerie Chort, Partner
Corporate Responsibility & Sustainability

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Overview

- Drivers of climate change action

- Business and governments at risk

- Current responses to climate change

- A risk-based approach to climate change

- Challenges and opportunities ahead

- Key success factors for addressing climate change

Sustainability is now a mainstream topic

Public concern about the impact of human activities on the environment – and the roles that businesses and communities play in that impact – is now a mainstream topic.



There are many different drivers for climate change action

Scientists – New evidence is driving action



General Public – Public perceptions are starting to change



Investors – Investors are demanding disclosure and action



Legislators – Regulations are starting to be enacted



Businesses – Executives more aware and concerned



Business and governments at risk



Business at risk

Three sectors with potentially significant climate change risks:

1. Sectors with considerable long-term planning and capital investment horizons;
 - Examples: energy and construction
2. Sectors currently affected by weather conditions and natural resources;
 - Examples: agriculture and insurance
3. Global companies dependent on extensive infrastructure and international supply chains.
 - Examples: electricity and transportation logistics

Identified climate change impacts by sector

Sector	Climate change risks
Electricity	<ul style="list-style-type: none">• Disruptions from storm events• Damage to power plants, transmission and distributions systems, and operation centres due to increased frequency and intensity of storm systems• Increased insurance costs
Agriculture	<ul style="list-style-type: none">• Crop damage due to increased intensity storms and altered weather patterns• Altered production patterns and consumer demands for certain crop types• Water quality and quantity constraints• Increased invasive species and insect infestations
Tourism	<ul style="list-style-type: none">• Weather related losses in coastal regions due to sea level rise and extreme weather• Winter destinations affected due to loss of snow pack and increased winter rain fall
Insurance	<ul style="list-style-type: none">• Weather related losses impacting financial viability• Liability from third-party litigation
Construction & Real Estate	<ul style="list-style-type: none">• Increasing regulations and enforcement for building envelope efficiency• Inability to insure high risk locations; increasing costs for insurance
Oil & Gas	<ul style="list-style-type: none">• Off-shore infrastructure impacts due to sea level rise and extreme weather events• Business interruptions due to infrastructure impacts (e.g. ice roads and permafrost)

Governments at risk

- Direct climate change impacts in regions that are within the public sector's mandate (e.g. infrastructure)
- Indirect climate change impacts affecting regions not directly within the public sector's mandate (e.g. water, glaciers)
- Institutional and budgetary implications (e.g. natural disasters)

Pests



Drought



Floods



Images: Elements Online Environmental Magazine, 2007; NOAA Global Climate, 2008; B.C. Environment Canada, 2002

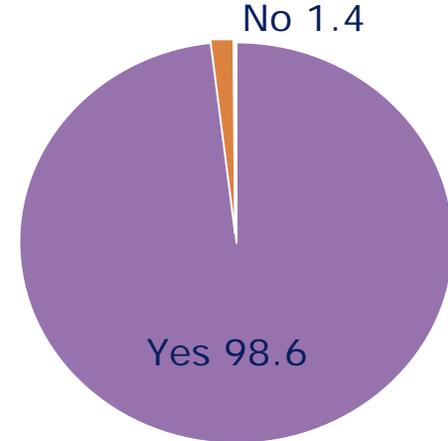
Current responses to climate change



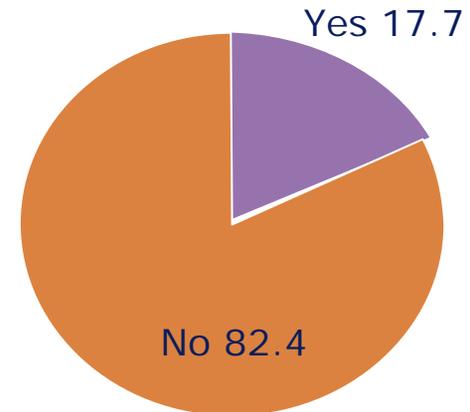
Business responses

- Disconnect between awareness and action
- Evidence climate change is already causing business disruptions
- Preparation includes emergency management and business continuity plans in the event of extreme weather
- Little evidence of proactive approach
- Government policy is viewed as critical to promote and facilitate climate change adaptive capacity improvement (e.g. qualitative data and identification of tools)
- Complexity and interdependence of the issues requires cooperation across organizations and an enterprise-wide risk management approach

Will climate change effect your organization?



Formal climate change action plan in place?



Source: Conference Board of Canada. Draft 2008. Leaders Roundtable on Climate Change Adaptation. To be released in spring 2008

The Conference Board of Canada
Insights You Can Count On



Sample Government policy responses

Jurisdiction	Climate change issues	Response
Federal	Greenhouse gas emissions mitigation	<ul style="list-style-type: none"> • Regulatory framework • Grants, incentives
Federal	Research and data requirements	<ul style="list-style-type: none"> • Funding for research projects • Publicly available online data
Provincial	Environmental protection	<ul style="list-style-type: none"> • Conservation easements, parks and protected areas • Regulatory framework for cumulative effects management • Risk management
Provincial	Public education and awareness	<ul style="list-style-type: none"> • Outreach campaigns • Incentives and grants
Municipal	Public health issues such as pandemics, heat waves, water shortages, etc	<ul style="list-style-type: none"> • Public advisories and emergency planning • Green roofs, urban green spaces, natural areas
Municipal	Floods and sea level rise	<ul style="list-style-type: none"> • Infrastructure risk assessments and management • Emergency planning • Flood and storm water management

Strategic approach to climate change



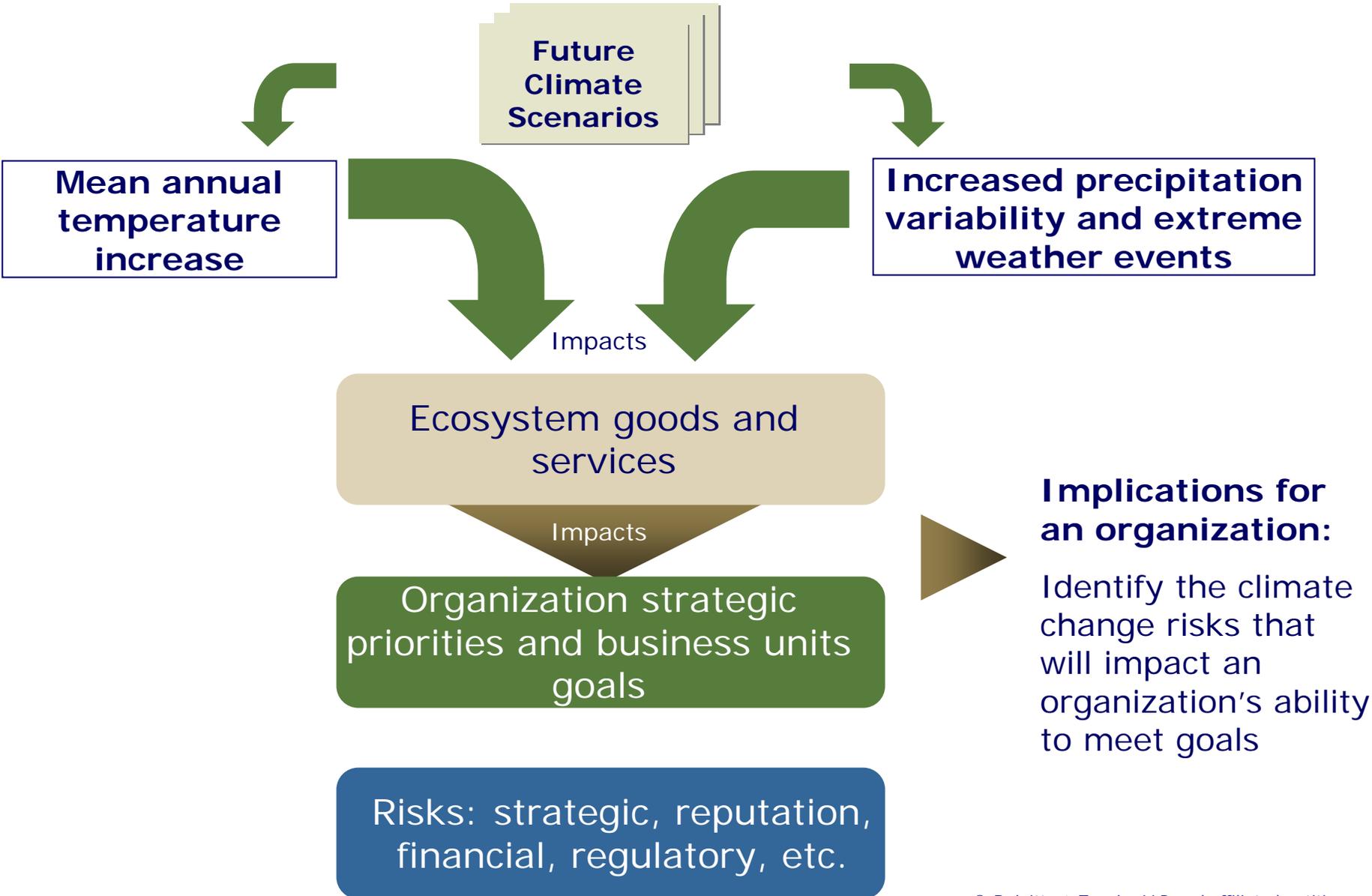
Generic model to understand your organization and start asking "In what ways will climate change impact the organization?"



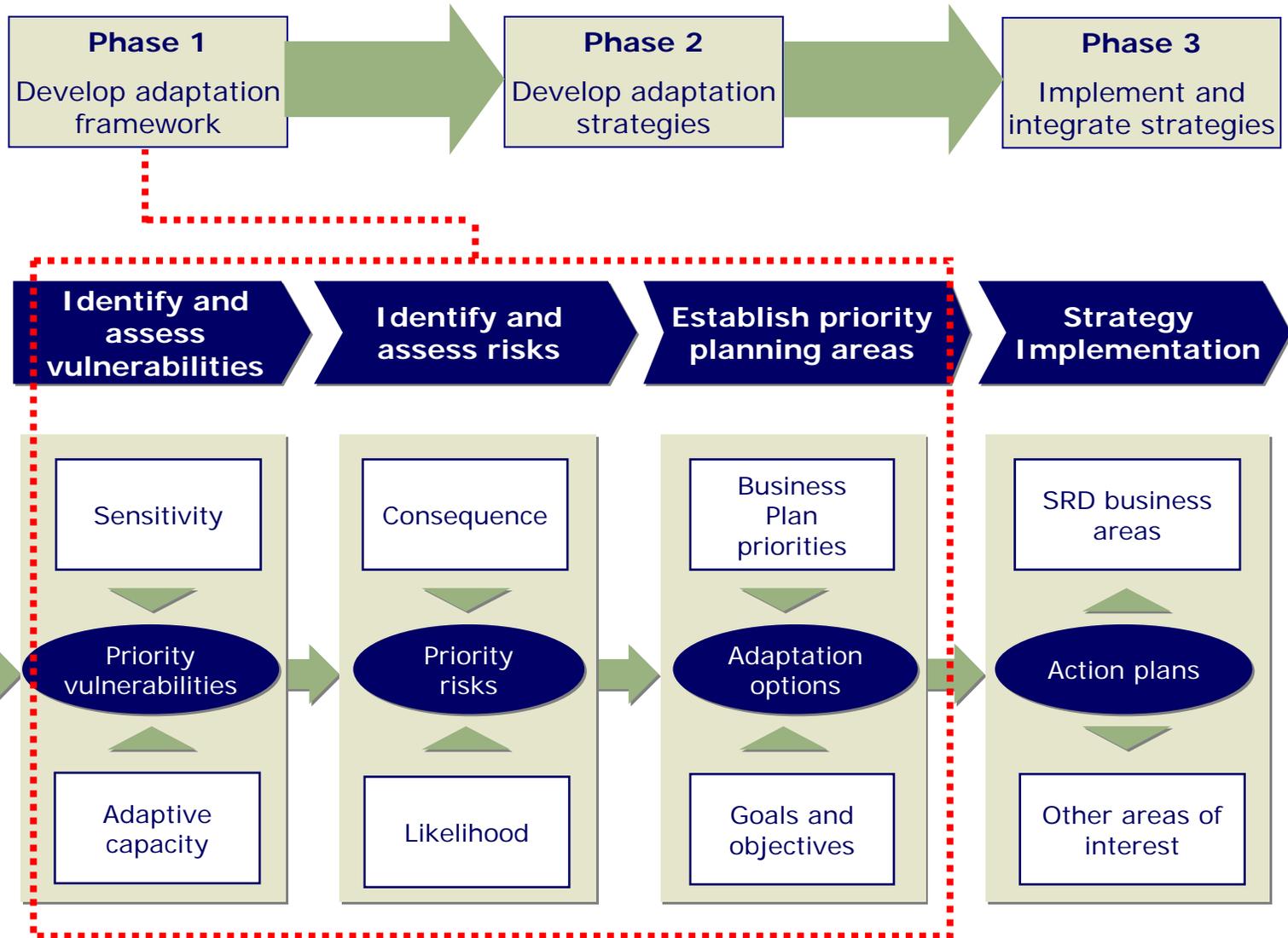
Consider the following...

- What if access to water is restricted, regulated or expensive?
- What is the response to 100-year floods occurring every 5 years?
- What if oil supply is constrained and price rises and stays well above \$100/ barrel?
- What is your response to heat waves, drought, extreme weather events?
- What measures are in place to adapt if your supply chain is impacted due to extreme weather events?

Case study: Alberta Sustainable Resource Development



Use of future climate scenarios to identify priority risks



Plan for adaptation within a broader climate change strategy

Phase 1: Establish the context	Phase 2: Define scenarios	Phase 3: Develop & test strategies	Phase 4: Prepare & execute action plan
Step 1.1: Current Activities & Positioning	Step 2.1: Identify Risks, Opportunities & Drivers	Step 3.1: Develop Strategies	Step 4.1: Project Implementation Plan
Step 1.2: Current External Landscape	Step 2.2: Define External Scenarios	Step 3.2: Identify core & contingent elements	Step 4.2: Performance management & reporting

Consider:

- mitigation
- adaptation
- new opportunities

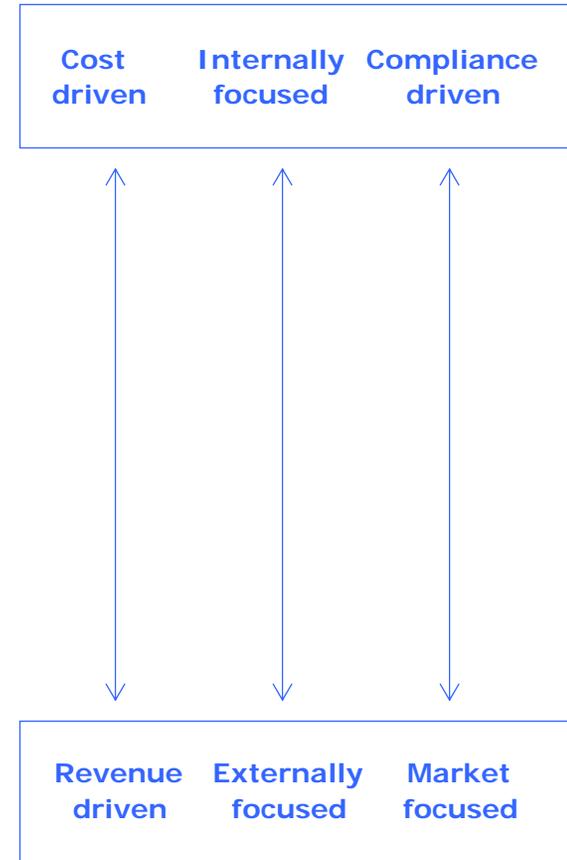
Integrated response to climate change

Responses

Definitions

Drivers

Mitigation	Reduction of emissions (regulated, non-regulated)
Adaptation	Adaptation of operations to climate related changes in market conditions
	Adaptation of infrastructure to changing climate
New Opportunities	Exploration of new business opportunities



Key success factors for addressing climate change

- **Be proactive**
 - Act before you are acted upon; build required capacity
- **Strategize**
 - Assess current organizational strategy with climate change risks in mind; develop appropriate adaptive strategies
- **Apply an integrated risk management approach**
 - Build upon existing internal Enterprise Risk Management processes
- **Capitalize on existing upgrades opportunities**
 - Identify areas where upgrades to infrastructure or programs are already planned
- **Use flexible platforms**
 - Ensure adaptation options are cost-effective and capable of further development. For example, use technology applications that have wider use beyond one business unit
- **Collaborate**
 - Identify partners (public, private, non-profit) with similar goals to reduce costs and build networks to prevent redundancies

Contact info

Valerie Chort

**Partner and National
Leader**

**Corporate Responsibility &
Sustainability Services**

Tel: 416 601 6147

vchort@deloitte.ca



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