

# Getting Ready for Climate Change: What Should We Do?



CLIMATE CHANGE  
ADAPTATION PROJECT

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Sudbury, Ontario

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# Agenda

1. Overview of the Climate Change Adaptation Project (Canada)
2. The costs to Canada if we ignore climate change
3. How individual home owners can adapt to climate change

# Purpose of the Climate Change (“CC”) Adaptation Project: Canada

## The purpose of this project is to:

- ❖ Identify 5 key areas and courses of action that Canada must engage to limit current and future impacts to industry/disciplines that would otherwise result due to climate change (“CC”)
- ❖ Identify 3 key areas and courses of action to limit property & casualty insurance impacts that would otherwise result due to CC
- ❖ Translate recommendations resulting from above into action

# Five Steps of the Climate Change Adaptation Project: Canada

1. Climate Change Projections for Canada
  - ✓ ❖ In reference to Temperature/Precipitation, 2020/2050, Winter/Spring/Summer/Fall - thanks to the **Canadian Climate Change Scenarios Network**
2. Primary Subject Matter Experts (24 in total) identified key climate change challenges, and adaptation actions to be taken to address those challenges
  - ✓

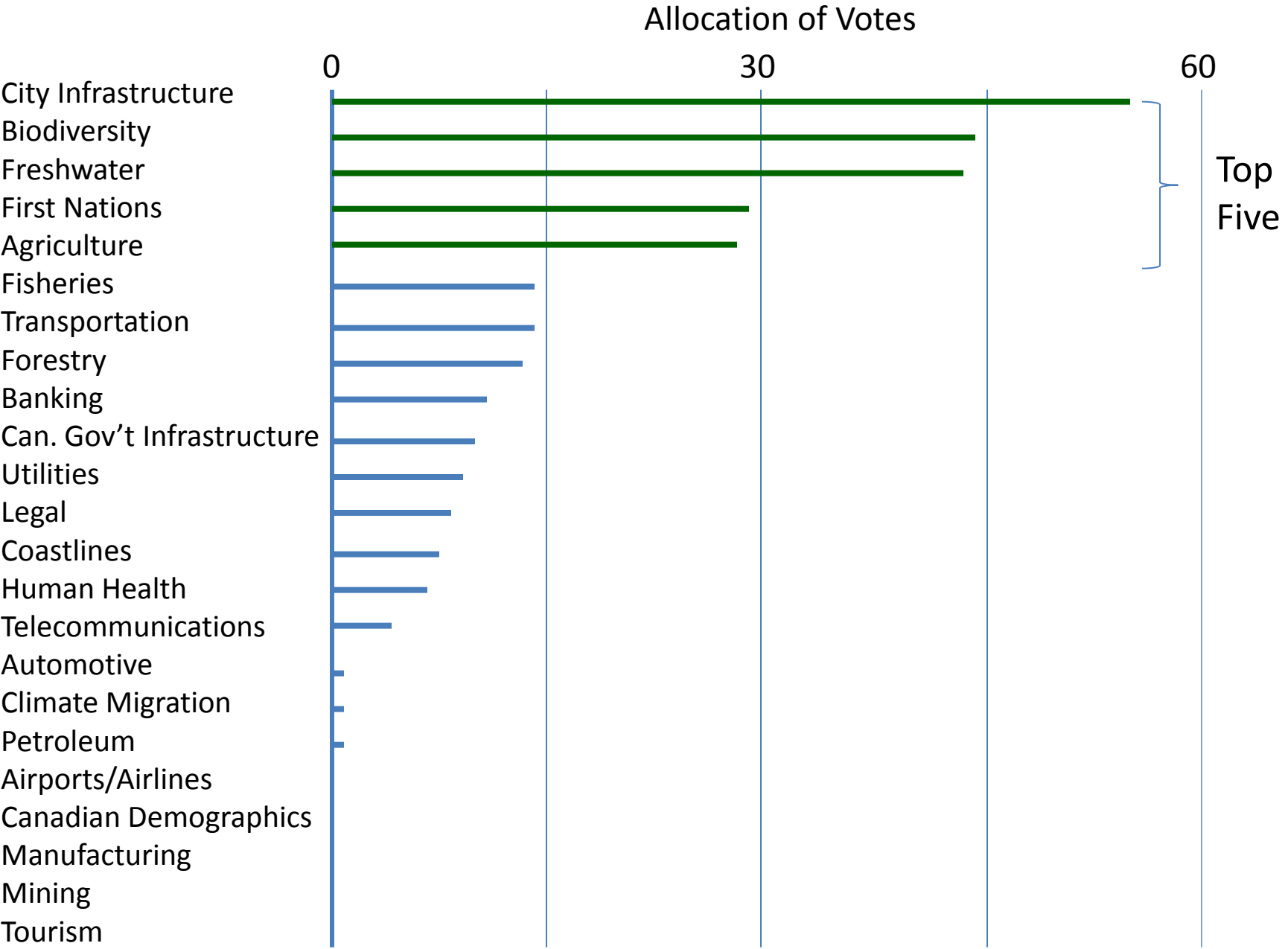


3. Adaptation Advisory Committee (75 in total – Canada wide – leaders of industry, government, First Nations, NGOs, consultancies, academe) identified 5 key courses of action to limit industry/discipline impacts, and 3 key courses of action to limit property and casualty insurance impacts, that would otherwise result due to climate change
  - ✓

4. Secondary Subject Matter Experts were engaged, January 2011, to provide detailed courses of action to be taken in reference to 8 topics identified in Step 3. Expert's will submit their reports June 2011, which will be circulated to AAC for review July 2011
  
5. Final Report (original date for completion December 2011 – more likely October) and implementation of findings with key audiences throughout 2012



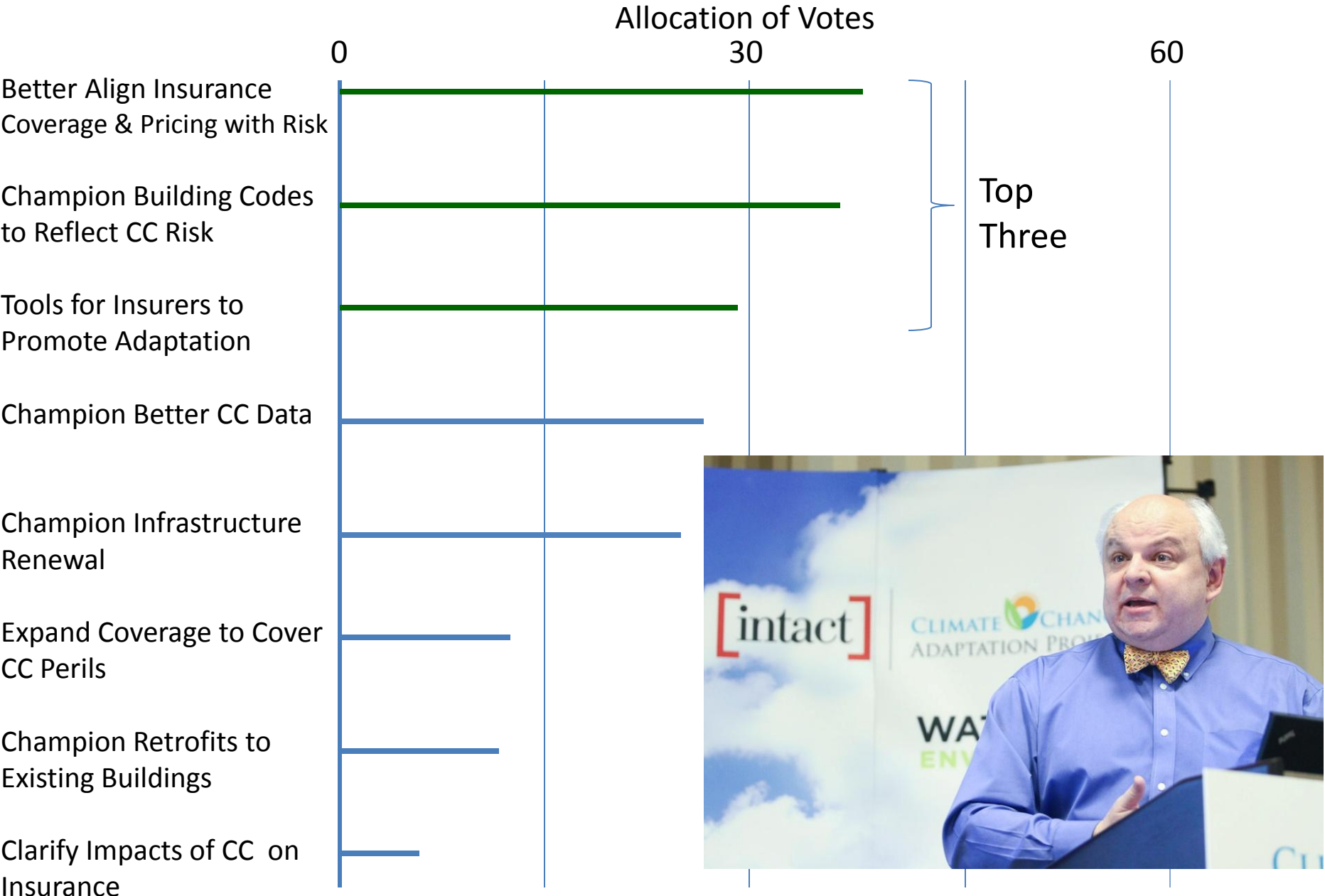
**Figure 1:** Prioritization of Climate Change Adaptation Concerns for Canada (determined by the Adaptation Advisory Committee of the Climate Change Adaptation Project)



# Summary of Key Adaptation Actions for Industry/Disciplines

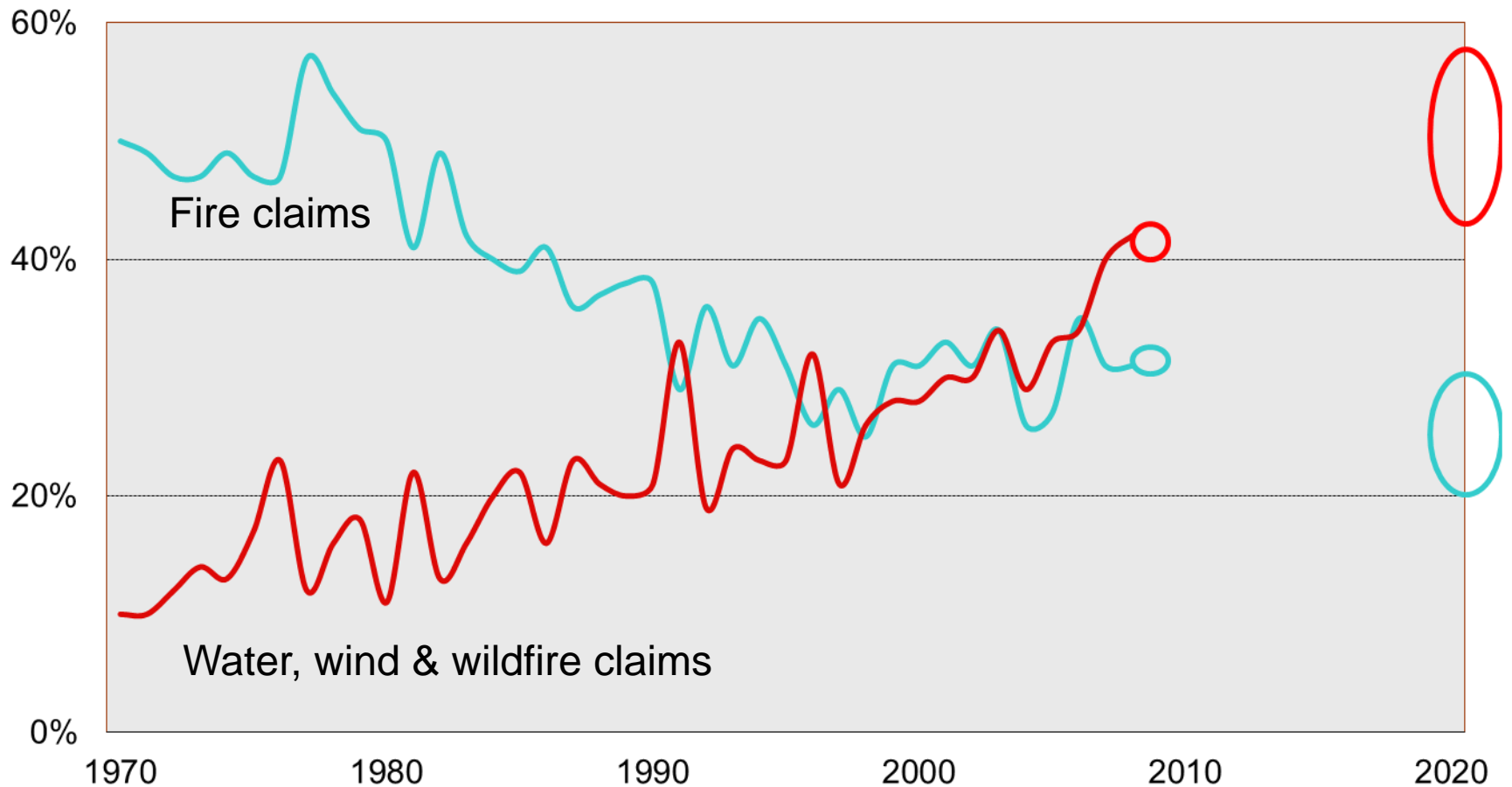
Industry/ Discipline	Climate Change (CC) Challenge	Actions to be Taken
<b>Freshwater Resources</b>	<ul style="list-style-type: none"> <li>a. Flash flooding with more frequent and intense rainfalls</li> <li>b. Restoration and preservation of wetlands</li> <li>c. Overflow of storm sewer systems to sanitary sewage (thus, untreated water flows to water bodies)</li> <li>d. Red-Assiniboine River basin will experience increasing rainfalls</li> <li>e. Building in water-scarce areas</li> </ul>	<ul style="list-style-type: none"> <li>a. Identify areas vulnerable to flooding and avoid building developments in such areas. Developments must be built with permeable surfaces to permit water infiltration. <u>Home owners should install backwater valves to prevent sewer back-up.</u> In highly vulnerable areas, municipalities should consider subsidizing backwater valves</li> <li>b. Key areas of wetland preservation/restoration should be identified (Note – in southern Ontario, 70% of wetlands have been removed)</li> <li>c. Need to (a) increase storm sewer capacity, and (b) separate storm and sanitary sewer systems</li> <li>d. Red-Assiniboine will require flood plan mapping and better “flood proofing” of homes/infrastructure</li> <li>e. Support industries that do not have large water demands. Induce new population and industrial growth in areas with plentiful water. Price water such that price increases with use</li> </ul>

**Figure 2:** Prioritization of Climate Change Property & Casualty Concerns for Canada (as determined by the Adaptation Advisory Committee of the Climate Change Adaptation Project)



# Transforming property insurance

Share of claims incurred, net of reinsurance recoveries, Canada



# Property & Casualty Insurance – Three Key CC Challenges

## 1. Better Align Insurance Coverage and Pricing with Risk

- ❖ how can we address the insurance sector's exposure to changing climate/weather perils -- i.e., how do these factors translate into risk?
- ❖ regarding the increasing costs of flooding/water related residential damage, we need to “tease apart” what proportion of this increased cost is due to climate change, finished basements, aging infrastructure, building in flood prone areas, etc.
- ❖ How much should insurance companies pay for reinsurance? Are some risks uninsurable without adaptation? Should deductibles play a larger role to promote adaptation?

## 2. Champion Changes in Building Codes to Better Reflect CC Risk

- ❖ how can we improve the resiliency of new infrastructure?
- ❖ focus on Climate Change Adaptation as a theme for the 2015 building code renewal initiative

## 3. Tools for Insurers to Promote Adaptation by Policy Holders

- ❖ how can we improve the resiliency of existing infrastructure through retrofits?
- ❖ provide incentives for infrastructure retrofits
- ❖ encourage homeowners to be aware of their exposure to climate change challenges

# Subject Matter Experts... (the Alpha Team)

## **City Infrastructure – Darrel Danayluk**

- Chair, World Federation of Engineering Organizations Committee on Engineering and Environment

## **Biodiversity – Steve Hounsell**

- Member of the Board of Trustees of Trees Ontario, the Ontario Biodiversity Council, the Biodiversity Education and Awareness Network and the Canadian Business and Biodiversity Council

## **Freshwater Resources – Dr. David Schindler and Dr. Jim Bruce**

- Schindler – Killam Memorial Chair and Professor of Ecology at the University of Alberta
- Bruce – Former Director of Canada Centre for Inland Waters, and Assistant Deputy Minister of Environmental Management, Environment Canada

## **First Nations – Chris Henderson and Dr. Judith Sayers**

- Chris – President of Lumos Energy, Chair of The Delphi Group, and National Coordinator, Aboriginal Clean Energy (ACE) Network
- Judith – Chief, Hupacasath First Nation, BC, 1995–2009, and she is the Chief Negotiator for the Hupacasath First Nation

## **Agriculture – Dr. Barry Smit**

- Professor and Canada Research Chair in Global Environmental Change, University of Guelph

## **Property & Casualty Insurance – Paul Kovacs, Institute for Catastrophic Loss Reduction (IC:LR)**

- ICLR is a world-class centre for multi-disciplinary disaster prevention research and communications, established by Canada's P&C insurance industry as an independent institute.

# Key Meetings/Presentations To Date

## Examples of Meetings/Presentations

- ❖ National Round Table on the Environment and the Economy
- ❖ Pentagon, Senator John Warner, Senator Gary Hart – Washington DC
- ❖ NASA
- ❖ US Army Corp of Engineers
- ❖ UN Deputy Secretary, RIO+20 Earth Summit
- ❖ Ministry of Environment, Ontario
- ❖ Canadian Electricity Association
- ❖ University of Toronto, Wilfrid Laurier University, Simon Fraser University
- ❖ Insurance Bureau of Canada
- ❖ Corporate Knights
- ❖ Leslie Iwerks Productions

## Intact “Lunch & Learns”

- ❖ by mid-July, 24 presentations/Lunch & Learns presented to Intact in 10 cities

# Final Report

## Forward for Report

- ❖ Written by Dr. James Lovelock  
(world's foremost planetary scientist/futurist)
- ❖ Adaptation Advisory Council members will be signatories to report/brochure



James Lovelock

*"The Vanishing Face of Gaia"*

## Full Report

- ❖ 20 page "core" report (plus 70 page Appendix)
- ❖ Audience – PMO, Premiere's Offices, MPs, MPPs, Regulators, Deputy Ministers, First Nations, Association of Mayors, Insurance Bureau of Canada, Professional Associations, etc.

## Brochure

- ❖ 4-6 page brochure of 8 key recommendations

# **“Paying the Price” ... National Round Table on the Environment and the Economy**

- Climate change costs for Canada could escalate from roughly \$5 billion per year in 2020 to between \$21 billion and \$43 billion per year by 2050 (timber, forests, human health)
- There is a 5 per cent chance that economic costs could reach up to \$91 billion in 2050 in a future of rapid Canadian population and economic growth and high global climate change.
- Climate change presents a growing, long-term economic burden for Canada. We can expect average costs to be equivalent to roughly 0.8% to 1% of GDP by 2050.

# How Home Owners Can Adapt to Climate Change... Install a “Backwater Valve”

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# Climate Change Adaptation Project

- ✓ Focus is on practical, action-ready outcome
- ✓ Will serve the greater good and competitively advantage Canada
- ✓ Advisory Committee and Subject Matter Experts
  - highly interdisciplinary
  - comprised of influential leaders
- ✓ Ability to connect to, and influence, decision makers

*“In the insurance industry we tend to look at the past instead of the future, and when you have a dynamic change taking place, looking at the past doesn’t work so well.”*

Tim Wagner, Director Nebraska Dept. of Insurance  
Co-Chair Climate Change Task Force