

# Insights from Surveys of Canadian Decision-makers

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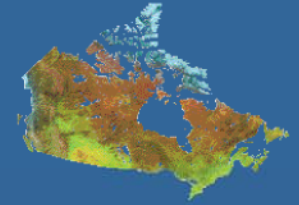


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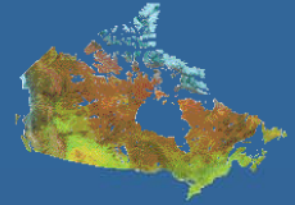
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# Overview



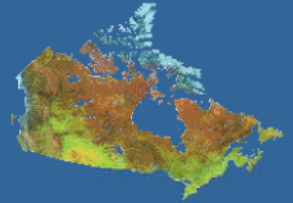
# National Climate Change Adaptation Benchmark Survey



- To establish a benchmark in at the start of new programming direction - moving from research to action
- Focus on decision-makers: municipal, provincial, private sector
- Issues addressed:
  - awareness and understanding of impacts
  - understanding of adaptation as a response to climate change
  - state of implementation of adaptation
  - barriers/information sources



# Target Population



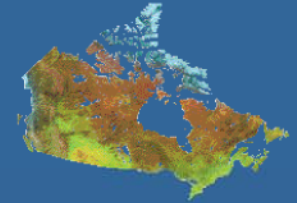
## Target: Decision-Makers

- Municipal – Chief Administrative Officers, Director of Planning, Town Managers etc.
- Provincial – ADMs or DGs
- Business – owner/operator, senior executive responsible for planning

The business sample focused on businesses with known sensitivities to climate (forestry, transportation, etc.)



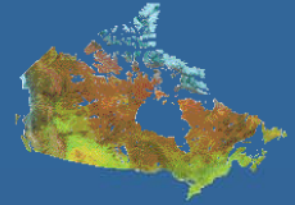
# Methodology



- Qualitative Phase
  - to test the questions
  - interviews conducted May 5 to July 22, 2009
  - 24 interviews (7 municipal, 15 P/T, 9 business, 2 other)
  - changed questions in response to interviews
- Quantitative Phase
  - to generate quantifiable data
  - interviews conducted Oct 7 to Nov 13, 2009
  - 503 interviews (174 municipal, 27 P/T, 302 business)
  - all provinces and territories sampled
  - many businesses and half municipalities were “small” which reflects size distribution in Canada



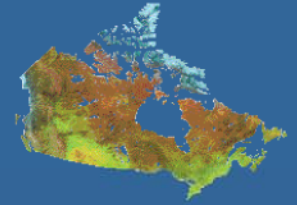
# Awareness & Understanding of Climate Change



- There is a high level of awareness and understanding of climate change:
  - majority of respondents demonstrated awareness of the issue and could identify potential impacts in the next 20 years
- Strong majority – over 8 in 10 – say climate change is happening now
- Among those who say climate change is or will be a reality, 7 in 10 business respondents say climate change will have an impact on their own organization. Opinion is divided on whether is it being felt now or will be felt in the future



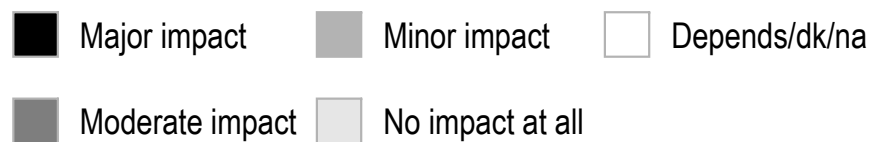
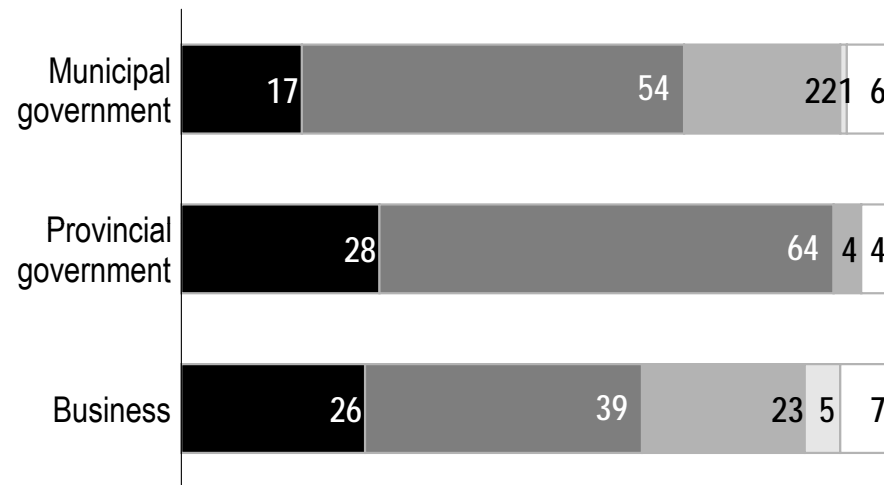
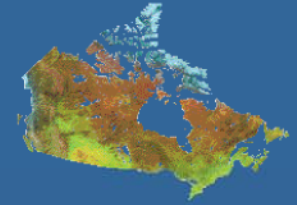
# Importance and nature of impacts



- Majority of municipalities and businesses perceive that climate change is a significant but not the most serious challenge facing their organization.
- 3/5 of businesses say climate change will have mainly negative impacts
- 1/5 businesses anticipated mainly positive impacts (e.g. longer operating season, lower energy costs)

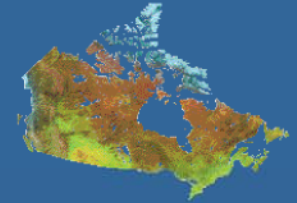


# Extent of Impact in Next 20 years by organization





# Negative Climate Change Impacts



## Negative climate change impacts/risks for organization

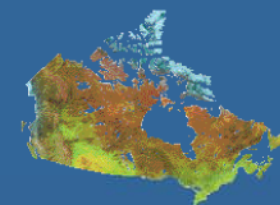
By organization type 2009	Municipal government (n=165) %	Provincial government (n=25 <sup>a</sup> ) %	Business (n=265) %
→ Changing water levels/water supply/floods	32	20	11
→ Impacts on health/well-being/chance of emergencies/disasters	25	20	8
→ Extreme/unpredictable/worse weather	23	20	16
→ Infrastructure impacts/costs (e.g., roads, buildings, sewers)	22	16	6
Negative impact on agriculture/drought	22	12	6
Wildlife/habitat disruption/invasive species	17	16	13
Increased costs for energy/production/operating costs	13	16	15
Cost of mitigation efforts (e.g., recycling, retrofitting)	12	16	6
Change in recreation/tourism patterns	12	16	17
Reduced business opportunities/income/customers	9	24	21
Reduced economic base/tax base/people will leave	8	12	3
New policies/regulations/legislation/higher taxes	6	8	3
Shorter operating season	5	4	5
Air quality/pollution/smog	3	4	2
Change in transportation patterns	2	8	4
Other	1	4	3
None/nothing	5	–	14
dk/na	13	8	8

<sup>a</sup> Very small base (<50) – extreme caution is advised in interpreting results

Subsample: Those who think climate change is happening or will happen in the future, excluding those who think a changing climate will have a neutral or no impact on their organization



# Positive Impacts Next 20 Years



## Positive climate change impacts/opportunities for organizations

By organization type 2009	Municipal government (n=165) %	Provincial government (n=25 <sup>a</sup> ) %	Business (n=265) %
Warmer weather/winters/means lower energy costs/improved transportation	28	16	18
Earlier/longer operating season	18	4	15
Plant diversity/increased agricultural yields	13	16	3
More green technology/fuel use/alternatives	11	24	12
Increased recreation/tourism-related activities/business	10	4	13
Increased business opportunities/revenue (including mitigation or adaptation services/consultation)	7	16	12
Increased awareness of the issue/more planning/buy-in	6	20	2
Opportunity to change/diversity/collaborate/innovate/access new tech.	4	16	3
More research available/statistics/information/training	3	4	3
Government funding for mitigation/adaptation	3	12	2
Animal diversity/variation/better conditions for livestock/wildlife	2	4	*
Other	1	–	1
None/nothing	21	16	25
dk/na	21	–	16

\* Less than one percent / <sup>a</sup> Very small base (<50) – extreme caution is advised in interpreting results

Subsample: Those who think climate change is happening or will happen in the future, excluding those who think a changing climate will have a neutral or no impact on their organization

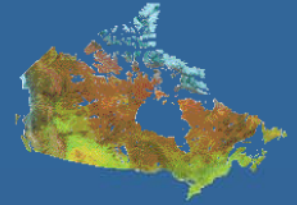


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# Understanding “Adaptation”

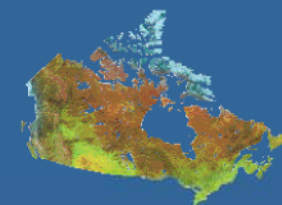


Understanding of the term “climate change adaptation” centres around the idea that it is a responsive action and there is a need to accept change and to learn to work successfully in a new climate.

When asked to identify adaptation actions, majority identified both “mitigation” and adaptation activities.



# Adaptation Actions



## Organization activities cited as “adaptation”

By organization type	Municipal gov. (n=85) %	Provincial gov. (n=21 <sup>a</sup> ) %	Business (n=118) %
<b>NET: ADAPTATION</b>	28	57	18
Reducing water use/water conservation	9	10	7
Environmental/storm water/habitat protection	8	38	2
Emergency response/disaster planning	8	19	–
Adapting specific activities due to changing weather (e.g., mowing, snow removal)	5	5	4
Planning/researching (adaptation-related)	5	24	–
Creating/extending recreation/tourism programs	1	5	6
<b>NET: MITIGATION</b>	68	38	73
Reducing energy use/efficiency/conservation	35	5	25
Researching/convertng to/using alternative energy sources (e.g., wind, natural gas, nuclear)	22	14	14
Planning/researching (mitigation-related)	19	19	11
Reducing driving/reducing fuel use/public transportation	13	10	14
Conduct eco-audits/emissions audits/emissions reduction	12	14	4
Converting to eco-friendly products/processes/technologies	11	10	16
Recycling/reducing waste of materials	8	–	14
Raising awareness (employees/client/public) re energy use/resource conservation/green living	–	5	2
Planning/research (general)	12	33	3
Education/training (general)	6	5	3
Other	1	5	4
None/dk	1	5	7



# Adaptation in Decision-Making



Most provincial governments, but fewer municipal governments and businesses say their organization takes a changing climate into consideration. This has happened primarily in the last 5 years.

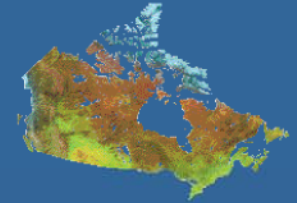
Among those who do, they most often considered it in planning and policy decisions; less often in risk management.

Barriers to addressing adaptation in decision-making include:

- cost
- competing organizational priorities
- lack of climate change expertise



# Barriers to Adaptation in Governments

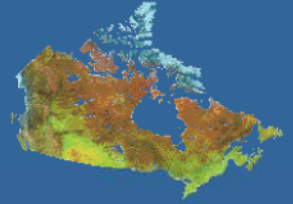


## Barriers to taking climate change into account in decision-making

Significant barrier – By type of government	Municipal government (n=174) %	Provincial government (n=27 <sup>a</sup> ) %
Cost of adapting to impacts of climate change	60	74
Competing organizational priorities	56	67
Lack of expertise to address impacts of climate change	43	30
Complexity of policy change processes	39	41
Not knowing benefits of adapting to climate change	31	22
Need to have other departments/organizations act first	28	30
Lack of information about climate change and its impacts	26	19



# Sources of Climate Change Information

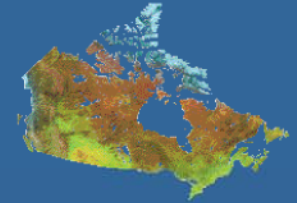


Municipal and provincial governments primarily get climate change information from government and other scientific sources (64%). Municipalities cite media more often than provincial governments (38 vs 4%)

Businesses are most likely to mention getting their information from the media (60%) followed by scientific journals and magazines (21%)



# Informational barriers to adaptation



## Informational barriers to taking climate change into account in decision-making/planning

By organization type 2009

	Municipal government (n=46 <sup>a</sup> ) %	Business (n=80) %
More reliable information	30	26
Information on impacts specific to region	30	19
Best practices information	28	4
Projections of future impacts/forecasts	20	15
Relevant case studies/examples of what other organizations like ours are doing	13	6
General/unbiased information	11	5
Technical information	9	1
Benefits/cost benefits of adaptation	7	6
Where to locate/access information	4	3
Resource sharing/co-ordination	4	–
Training information	2	1
Financial/costs/risk management/funding	2	10
Other	4	4
None	–	4
dk/na	7	21





# In Conclusion



Assistance in finding information is important.

Awareness of impacts is high and information demands to support adaptation are likely to become more region and sector-specific and detailed as understanding of adaptation responses develops.

The 2010 National Climate Change Adaptation Benchmark Survey is available at the Library and Archives Canada - PORR website [www.porr-rrop.gc.ca](http://www.porr-rrop.gc.ca)



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