Mitigation is not Enough

A Short Path Towards Adaption

island health

From BC Health Communities Report - 2013

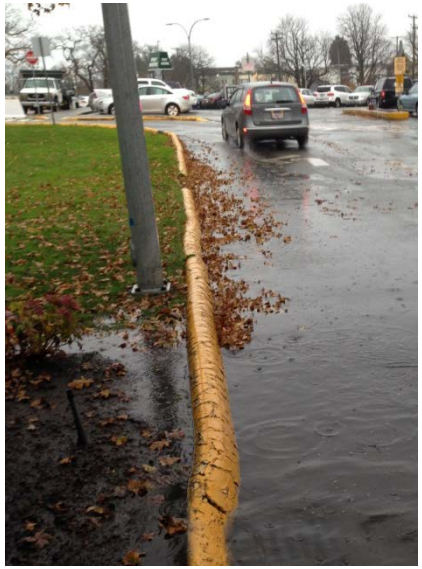
Does your Health Authority have a climate change adaptation strategy or action plan in place?

Response	Chart	Percentage	Count
Yes		1%	1
No		19%	16
Don't know		80%	68
	Total Responses		85

Table 5. Level of awareness – health authority climate change adaptation/action plans

Adaption is not Emergency Preparedness

Weather Related Incidences



During a heavy rain event, the water table rose above some underground conduits that connected services. As the conduits were not water tight and the basement is lower the conduit directed water into the basement.

Keith

Climate Change Impacts on Health

- Extreme weather events
- Food-and water-borne diseases
- Air quality
- Vector-borne diseases

COMMUNITY IMPACTS

HEALTH CARE FACILITY VULNERABILITY

Health Care Facility Impacts

- Physical structures
- Patient services
- Health, safety and security of patients, staff and visitors

$$$

Health Care Facility Adaptation Options

- Emergency management
- Facilities management
- Health services management

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from CCGHC Resiliency Toolkit Facilitators Presentation

Risks of Inaction

- Payouts by insurance companies for damages caused by natural disasters including those related to weather and water have doubled every five years since 1983.
- Last year payments in Canada were over $3.5 billion.

How to Adapt?

Assess existing policies, procedures, infrastructure

- Health Care Facility Climate Change Resiliency Toolkit (Canadian Coalition for Green Healthcare)
- Public infrastructure Engineering Vulnerability Committee Risk Assessment Protocol (Engineers Canada)

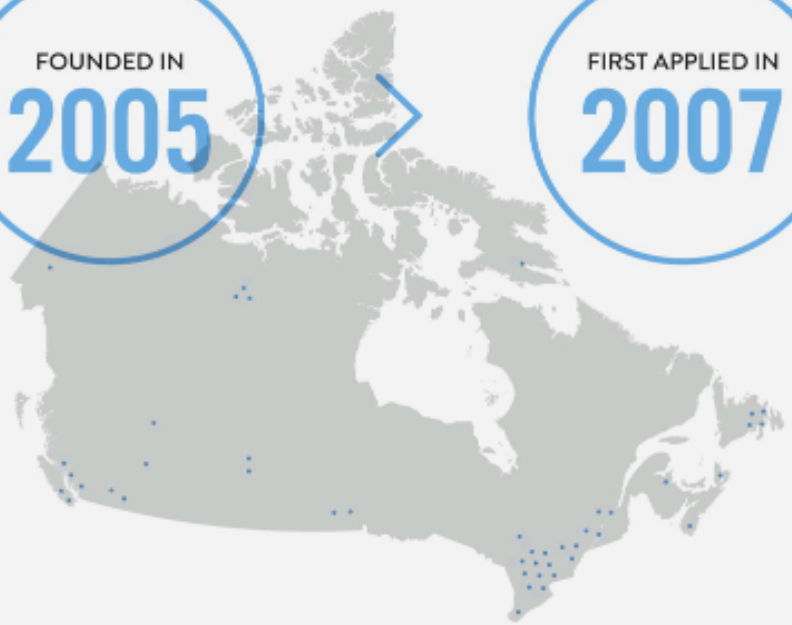
PIEVC

PUBLIC • INFRASTRUCTURE • ENGINEERING • VULNERABILITY • COMMITTEE

The PIEVC created a protocol to assess the vulnerabilities of infrastructure to extreme weather events and future changes in climate. This enables better planning and design of safe and climate-resilient infrastructure.

FOUNDED IN
2005

FIRST APPLIED IN
2007



The PIEVC has been applied over:

45 TIMES ACROSS CANADA

2 TIMES INTERNATIONALLY

PIEVC Protocol – Step 1 Project Definition

Step 1 - Simplified Interactions Matrix

Yes/No Screening Analysis

	Dryer summer	Heat wave	Heavy rain, flash flood	Strong winds, storms	Warmer, shorter winter	Air pollution, forest fires
Building Envelope	N	N	Y	Y	N	Y
Storm Water System	N	N	Y	Y	N	N
Potable Water	Y	N	Y	Y	Y	N
Site Access	N	N	Y	Y	N	Y
Electrical Distribution	N	Y	Y	Y	N	N
HVAC Systems	Y	Y	N	N	N	Y
Cooling Plant	N	Y	N	N	Y	N
Communications	N	N	N	Y	N	N

Next Steps are:

Step 2: Data Gathering

- drawings,
- site specific climate analysis,
- engineering

Step 3 Risk Assessment

Risk Assessment Matrix								
Consequence	7	7	14	21	28	35	42	49
	6	6	12	18	24	30	36	42
	5	5	10	15	20	25	30	35
	4	4	8	12	16	20	24	28
	3	3	6	9	12	15	18	21
	2	2	4	6	8	10	12	14
	1	1	2	3	4	5	6	7
		1	2	3	4	5	6	7
		Probability of Occurrence						

Final Steps

- Step 4: Engineering Analysis
- Step 5: Recommendations & Conclusions
- Step 6: Implementation