

10TH REPORT OF THE
ADVISORY COMMITTEE ON THE ENVIRONMENT

Meeting held on October 5, 2016, commencing at 12:19 PM, in Committee Room #4, Second Floor, London City Hall.

PRESENT: M. Bloxam (Chair), K. Birchall, S. Brooks, S. Hall, M. Hodge, J. Howell, L. Langdon, S. Ratz, G. Sass, N. St. Amour, T. Stoiber, D. Szoller and A. Tipping and H. Lysynski (Acting Secretary).

ABSENT: R. Harvey.

ALSO PRESENT: T. Arnos, E. Kuisma and C. Warring.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

II. SCHEDULED ITEMS

2. Implementing Sustainability Plans

That the Civic Administration BE REQUESTED to provide the Advisory Committee on the Environment (ACE) with responses to the following, with respect to municipal sustainability plans:

- a) an outline on the expenditure of gas tax funding; and,
- b) the monitoring that is being undertaken for the utilization of gas tax funding;

it being noted that the ACE received the attached presentation from Dr. B. Vogel, Response Coordinator, Post-Doctoral Research Fellow, Marine Environmental Observation Prediction and Response Network, and Dr. G. McBean, FRSC and Professor, Cross Appointment with Political Science, with respect to this matter.

III. CONSENT ITEMS

3. 9th Report of the Advisory Committee on the Environment

That it BE NOTED that the 9th Report of the Advisory Committee on the Environment from its meeting held on September 7, 2016, was received.

4. 8th Report of the Transportation Advisory Committee

That it BE NOTED that the 8th Report of the Transportation Advisory Committee from its meeting held on September 6, 2016, was received.

5. 10th Report of the Environmental and Ecological Planning Advisory Committee

That it BE NOTED that the 10th Report of the Environmental and Ecological Planning Advisory Committee from its meeting held on September 15, 2016, was received.

6. 5th Report of the Agricultural Advisory Committee

That it BE NOTED that the 5th Report of the Agricultural Advisory Committee from its meeting held on September 21, 2016, was received.

7. Municipal Council Resolution - 8th Report of the Trees and Forests Advisory Committee

That it BE NOTED that the Municipal Council resolution adopted at its meeting held on September 13, 2016, with respect to the 8th Report of the Trees and Forests Advisory Committee, was received.

IV. SUB-COMMITTEES & WORKING GROUPS

8. Joint Education and Outreach

That it BE NOTED that the Advisory Committee on the Environment heard a verbal presentation and reviewed and received a communication from S. Ratz, with respect to the joint discussion of the Advisory Committees held on September 21, 2016.

V. ITEMS FOR DISCUSSION

9. Urban Agriculture Conference Update

That it BE NOTED that the Advisory Committee on the Environment (ACE) heard a verbal presentation from G. Sass with respect to the upcoming Urban Agriculture Conference, including a proposed Conference Budget; it being also noted that the ACE expressed its appreciation to the London Public Library for their assistance thus far.

10. Urban Agriculture Strategy

That the Civic Administration BE REQUESTED to:

- a) actively involve the Advisory Committee on the Environment (ACE) in the process for the preparation of the draft Terms of Reference for the development of an Urban Agriculture Study; and,
- b) continue to provide staff reports relating to this matter to the ACE;

it being noted that the ACE reviewed and received the following with respect to this matter:

- a Municipal Council resolution from its session held on September 13, 2016;
- the Urban Agriculture Strategy - Draft Terms of Reference; and,
- a communication dated September 1, 2016, from M. Temme, 66 Palmer Street.

11. ACE Representative on the Middlesex-London Food Policy Council

That the Middlesex-London Food Policy Council BE REQUESTED to amend their Terms of Reference to accommodate a member of the Advisory Committee on the Environment to be appointed to the Middlesex-London Food Policy Council, as a Voting Representative.

12. ACE Work Plan

That it BE NOTED that a general discussion was held with respect to the 2016 Advisory Committee on the Environment (ACE) Work Plan.

13. Sub-Committee Membership

That it BE NOTED that the Sub-Committee Membership List was amended to include Celeste L. as a representative on the "Food – new food policy council" sub-committee.

14. Budget

That the following actions be taken with respect to the 2016 Advisory Committee on the Environment (ACE) Budget:

- a) a \$75.00 honorarium for her presentation at the September 7, 2016 ACE meeting BE PROVIDED to J. Brady, Consultant, with respect to the Trans Pacific Partnership;
- b) up to \$500.00 BE PROVIDED for expenditures relating to the Urban Agriculture Conference; and,
- c) a potential request for funding for future Conferences BE POSTPONED until after the Urban Agriculture Conference has been concluded; it being noted that a review of the Urban Agriculture Conference will be completed at the conclusion of the Conference.

VI. DEFERRED MATTERS/ADDITIONAL BUSINESS

15. (ADDED) Municipal Council Resolution - 9th Report of the Advisory Committee on the Environment

That it BE NOTED that a Municipal Council resolution adopted at its meeting held on September 27, 2016, with respect to the 9th Report of the Advisory Committee on the Environment, was received.

VII. CONFIDENTIAL

(Confidential Appendix enclosed for Members only.)

The Advisory Committee on the Environment convened in camera from 2:47 PM to 2:50 PM after having passed a motion to do so, with respect to the following matter:

- C-.1 A matter pertaining to personal matters about identifiable individuals including municipal or local board employees, relating to the 2017 Mayor's New Year's Honour List

VIII. ADJOURNMENT

The meeting adjourned at 2:55 PM.

NEXT MEETING DATE: November 2, 2016

City of London
Advisory Committee on the Environment
Wednesday, October 5, 2016

**Implementation
of Sustainability and
Climate Change Planning
in Atlantic Canada**

Dr. Brennan Vogel, PhD
Response Coordinator
Post-Doctoral Research Fellow
Marine Environmental Observation Prediction and Response Network







Municipal Sustainability and Climate Change Actions

- 400ppm and the 1.5°C – 2°C degree challenge for 2050
- Complexity and uncertainty: long range development pathways and climate inertia
- Local GHG impacts: transportation, buildings, lighting, energy, sustainability initiatives (e.g. local food systems)
- Local climate impacts: flooding, extreme weather events (e.g. drought, heat waves, wildfire, storms, hurricanes)
- The “Big Picture” imperative to sustainably adapt: ‘Moderate Harm and Take Advantage of Opportunities’

Majority support for national carbon price

Nanos Research: September 24-27, 2016 (n=1000)

Considered accurate within plus or minus 3.1 percentage points, 19 times out of 20.

77 percent of respondents supported or somewhat supported creating a national plan in order to achieve the carbon cuts Canada agreed to under the Paris accord.

59 per cent supported or somewhat supported pricing emissions, with 62 per cent saying they'd support a minimum carbon price that applies across the country.

Statistics Canada: Survey of Employment, Payroll and Hours (SEPH): December 2014 until April 2016 - 33,049 jobs directly or indirectly lost in association with the downturn in oil prices



Adapting to climate change in Alberta

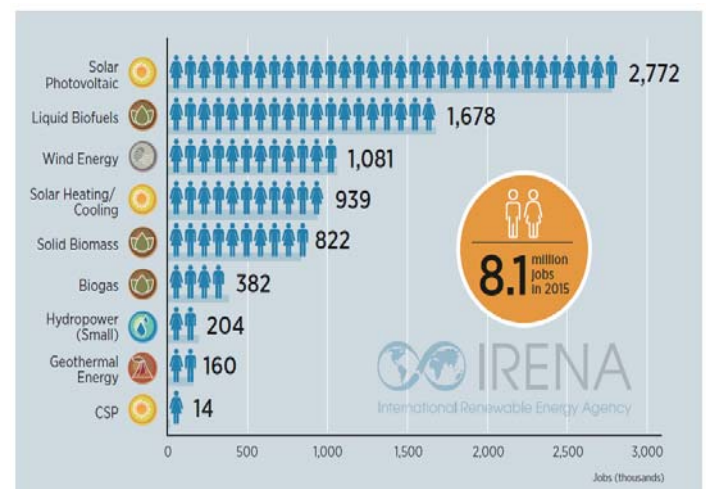
Fort MacMurray, 2016
80,000 evacuated

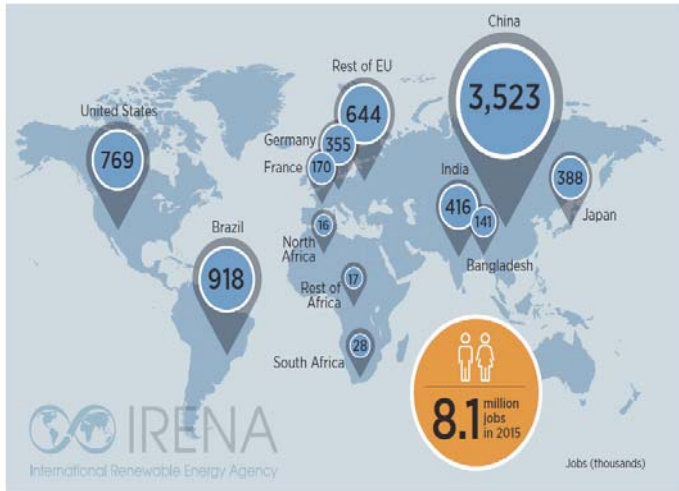
IBC estimates 3.58 billion in damages
2400 buildings destroyed by fire



Calgary, 2013
100,000 evacuated

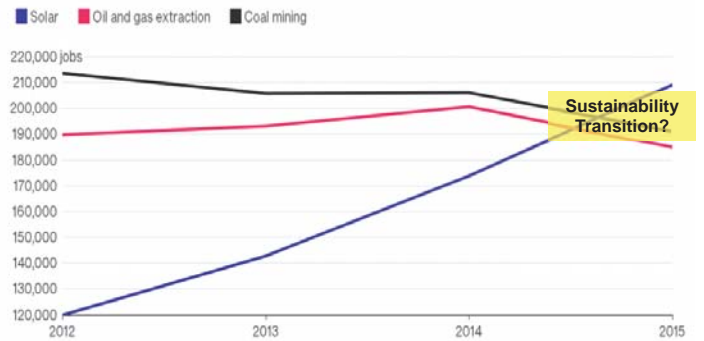
Alberta Government estimates
6 billion in damages





There Are More Jobs in Solar than Oil and Gas, Coal Extraction in the U.S.

Employment grew 6 percent in solar and slumped 18 percent in upstream oil and gas and support services



Sources: International Renewable Energy Agency, U.S. Bureau of Statistics

Bloomberg

NMAP
National Municipal Adaptation Project

NMAP– Hanna et al., 2013

Why do some communities plan for adaptation?

5 key characteristics

1. Leadership (especially planners and other civic staff)
2. Internal planning and policy capacity
3. Knowledge and awareness of adaptation
4. Provincial policies to encourage (require) and support (fund) [E.g. Nova Scotia MCCAP]
5. Bad experiences, weather events, and making connections to a climate change future. Bad weather is an unfortunate wake-up call. [E.g. Hurricane Juan; Post Tropical Storm Arthur]

481 responses
95% confidence level, 4.16 confidence interval



Schauffler, March 2014

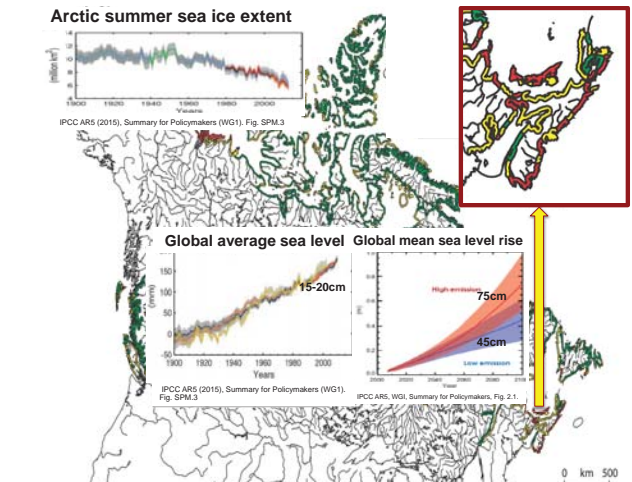
Findings based on a sample of 33 municipalities from around the Bay of Fundy

Areas of municipal function deemed most vulnerable to climate impacts:

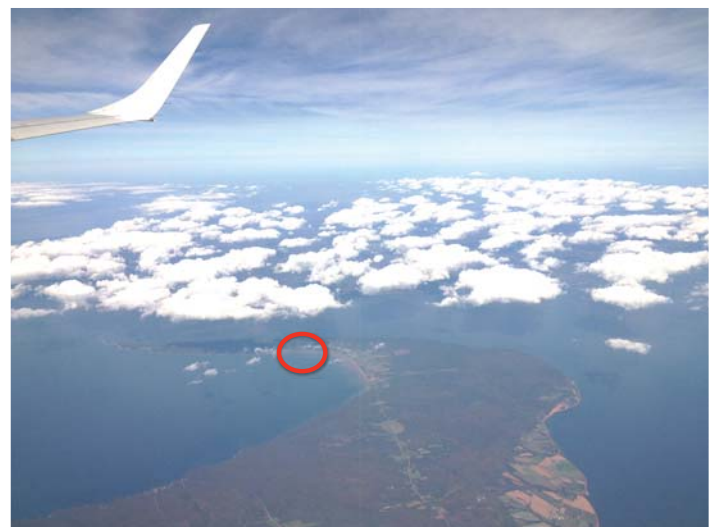
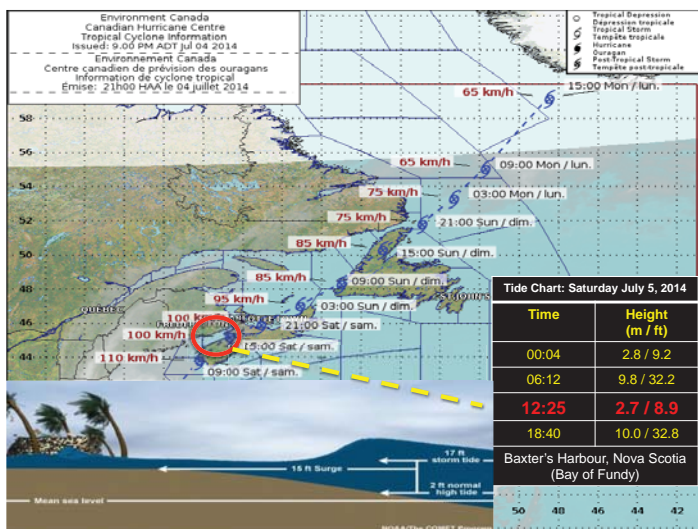
1. transportation infrastructure and accessibility;
2. Storm-water management;
3. wastewater infrastructure;
4. emergency management

Numerous constraints on climate preparedness that fall beyond the scope of local jurisdiction, expertise and/or funding capacity.

- Lack of resources
- Lack of broader concern and political will
- Desire for local efforts to be supported by stronger leadership at provincial, federal and international levels on climate change issues in order help accelerate the pace of local climate adaptation



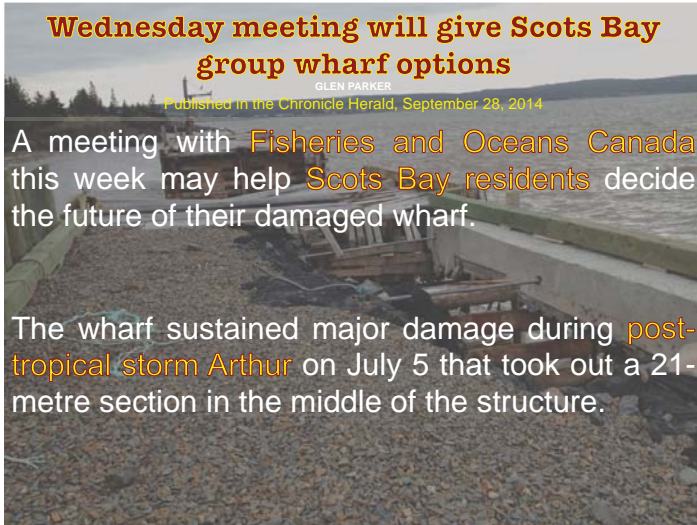
Shaw, J., Taylor, R.B., Forbes, D.L., Ruz, M.H. and Solomon, S. (1998a): Sensitivity of the coasts of Canada to sea-level rise, Geological Survey of Canada, Bulletin 505, p. 1-79. In Lemmen, D., and Warren, E. (2004) Climate Change Impacts and Adaptation: A Canadian Perspective, Natural Resources Canada, p.116.



Wednesday meeting will give Scots Bay group wharf options
GLEN PARKER
 Published in the Chronicle Herald, September 28, 2014

A meeting with Fisheries and Oceans Canada this week may help Scots Bay residents decide the future of their damaged wharf.


The wharf sustained major damage during post-tropical storm Arthur on July 5 that took out a 21-metre section in the middle of the structure.



Adaptation: Adjustments in human and natural systems in response to actual and/or expected climatic stimuli and/or effects in order to moderate harm or exploit beneficial opportunities

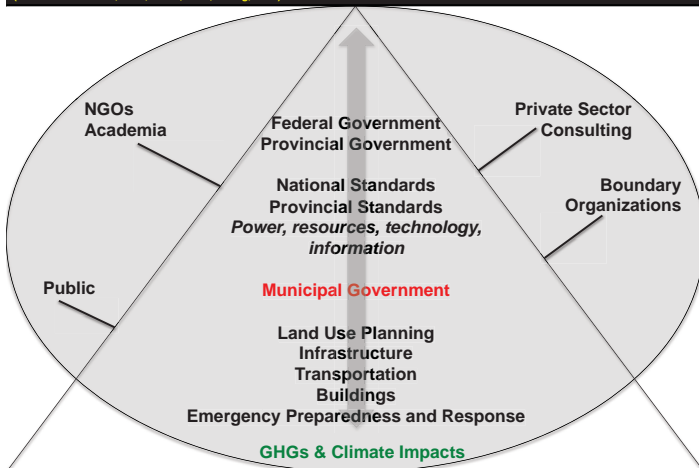
IPCC, 2001

Adaptive capacity of human systems is a function of:

- economic resources
- access to technology
- access to information on climate variability and change and skills to make use of the information
- institutions  Rules, rights and decision-making procedures relevant to stabilizing societal activities in more/less predictable and desirable ways (Ekstrom and Moser, 2013; North, 1990; Young, 1999)
- equitable distribution of resources

Smit and Wandel, 2006

Institutional adaptive capacity building: The process of adapting rules, rights and decision-making procedures in ways relevant to stabilizing societal activities in more/less predictable and desirable ways (Ekstrom and Moser, 2013; North, 1990; Young, 1999)



SUSTAINABILITY POLICY

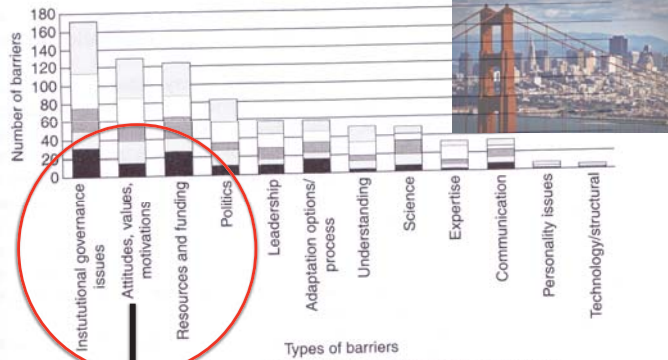
Adaptation policy:

"The process leading to the production of outputs in forms of activities and decisions taken by purposeful **public and private** actors at different administrative levels and in different sectors, which **deals intentionally** with **climate change impacts**, and whose outcomes attempt to substantially impact **actor groups, sectors, or geographical areas** that are vulnerable to climate change"

'...to promote resiliency, without compromising the abilities of future generations to meet their own needs...'

Dupuis and Biesbroek, 2011;
 Global Environmental Change
 Comparing apples and oranges: The dependent variable problem in comparing and evaluating climate change adaptation policies

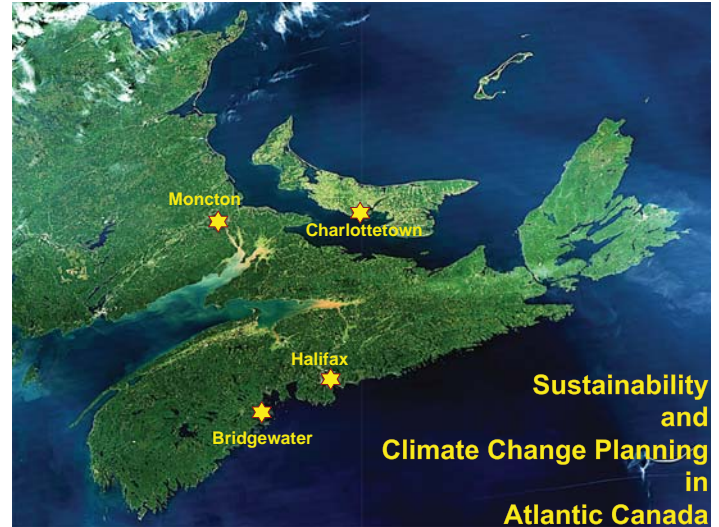
BARRIERS TO LOCAL ADAPTATION



Lack of interest, status quo mindset, inability to accept change, narrow self interest

Figure 6.3 Frequency of different types of barriers encountered.

Source: Ekstrom, J & Moser, S. (2013). Ch. 6: Institutions as a key element to successful climate adaptation processes. In: Successful Adaptation to Climate Change. Routledge.



Charlottetown, Prince Edward Island
<http://www.city.charlottetown.pe.ca/sustainablecity.php>

ICSP to Municipal Office of Sustainability...
 Energy Auditor
 Communications
 Sustainability Officer

MITIGATION
 Renewable Energy

Transit, cycling, energy efficiency, energy planning, stormwater, urban forestry, plan update, 'Smart' city, PCP-FCM, inter-governmental collaboration, partnerships, 'green' funding

ADAPTATION
 Coastal Defence / Protection

Convention Centre
 CHARLOTTETOWN
 Great things happen here
 Atlantic Ocean

Sustainability Officer – Ramona Doyle
rdoyle@charlottetown.ca

https://www.moncton.ca/Residents/Environment/Green_City.htm?PageMode=Print

2016 CAMA Environmental Award

Recognizes the commitment of a municipality to **environmentally sustainable governance, to protecting the environment and to combating climate change**. Awards are granted to programs, projects or services that have made a significant and positive impact on the environment.

Petitcodiac River

Moncton, New Brunswick

Part of the **implementation plan** identified in the City of Moncton **Climate Change Adaptation and Flood Management Strategy (2013)** included the need to establish best practices, guidelines and standards for naturalized approaches to stormwater management.

The strategy establishes practices, guidelines and standards for naturalized approaches to stormwater management, utilizing a multidisciplinary approach from a broad range of fields. These standards have been adapted to reflect Moncton's context, in regards to existing standards, local soil types, climate and environmental characteristics.

These guidelines, for new communities and developments, strive to:

- Minimize the threat of flooding by **simulating pre-development responses** to storms as outlined in the City of Moncton Design Criteria Manual for Municipal Services;
- **Protect receiving water bodies and surrounding wetlands** from deterioration in water quality, and prevent erosion or sedimentation of natural wetlands or rivers;
- Develop **sustainable integrated stormwater** systems; and
- Enhance and **beautify public spaces**.

HALIFAX Energy & Environment Office

The municipality established the **Energy & Environment Office** to serve as the corporate lead for sustainability and environmental policy, strategy, reporting, and performance monitoring. The office takes an integrated systems approach to the environment, focusing on **clean energy, air, water and land**. The group also coordinates **internal and external education and awareness programs**.

Solar City
A pilot program that offers homeowners an innovative water heating option that can be financed through a new solar collector account with HRM. Check out the five easy steps to getting your solar water system then register for the program.

Clean Energy
Includes Geothermal Energy (Alderney Five Project), Solar Hot Water, air and Solar City, Wind Energy Master Plan.

Clean Water
Includes Water Quality Monitoring Program, Wastewater/ Stormwater Strategy. Learn how to protect our watersheds.

Clean Land
Regional Plan includes water quality, open space, affordable housing, public transit, orientation. Our Solid Waste Management system has achieved high and climbing waste diversion rates over the past several years.

Clean Air/Transportation
Includes Lighting Projects, Corporate Energy Benchmarking, & Natural Gas Projects.

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Halifax Regional Council has adopted a target to reduce corporate greenhouse gas emissions to 30% below 2008 levels by 2020. <http://www.halifax.ca/energy-environment/>

the NATURAL STEP Leon DeVreede
Sustainability Planner
(902)541-4390
ldevreede@bridgewater.ca

town of BRIDGEWATER

A "sustainable" community: one that can support an attractive economy, serving a healthy and equitable population, all living within the Earth's means.

<https://youtu.be/bmi-FerFHkM>

Sustainability Programs	Sustainability Definition
<ul style="list-style-type: none"> Energize Bridgewater Growing Green Festival Sustainable Bridgewater Energy Food Transportation Economy Infrastructure Education Sustainability Plan (ICSP) Climate Change Plan (MCCAP) Accomplishments Sustainability Network What is "Sustainability"? 	<p>Sustainability is a goal, a future where our community is living within the Earth's means, while continuing to grow and thrive, and provide people with their basic needs.</p> <p>Creating that desired future is not that simple because of a number of global and local problems that are undermining our abilities.</p> <p>environmental concerns such as climate change, the destruction of wildlife habitat, and the pollution of air and water</p> <p>social concerns such as access to basic services such as health care, food, shelter, and education</p> <p>cultural concerns such as a maintaining community bonds, fostering a sense of community identity, celebrating culture & diversity, and protecting our heritage</p> <p>economic concerns such as ensuring decent living standards for all, high levels of good employment, and encouraging learning and innovation</p>

The Multi-Level Governance of Municipal Climate Change Adaptation in Nova Scotia

Available online: <http://ir.lib.uwo.ca/etd/3674/>

What are the social factors that impacted municipal climate change adaptation policy and planning processes in the multi-level governance context of Nova Scotia's MCCAP?

What are the social factors that impacted municipal climate change adaptation policy and planning processes in the multi-level governance context of Nova Scotia's MCCAP?

Adaptation initiation:

Agenda-setting and problem framing

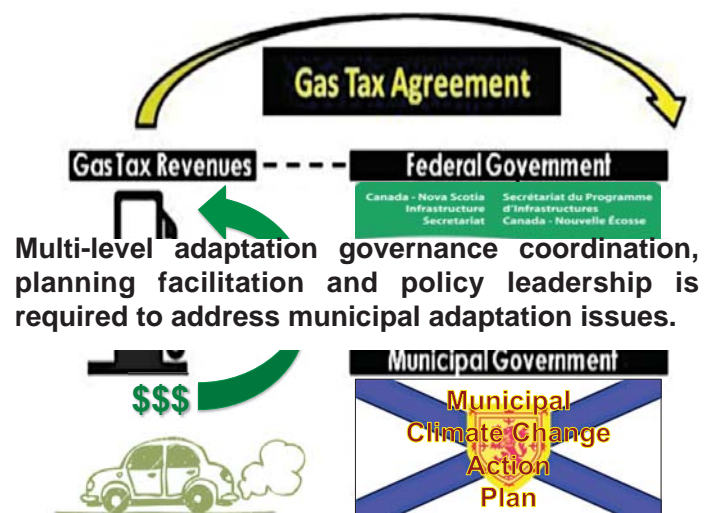
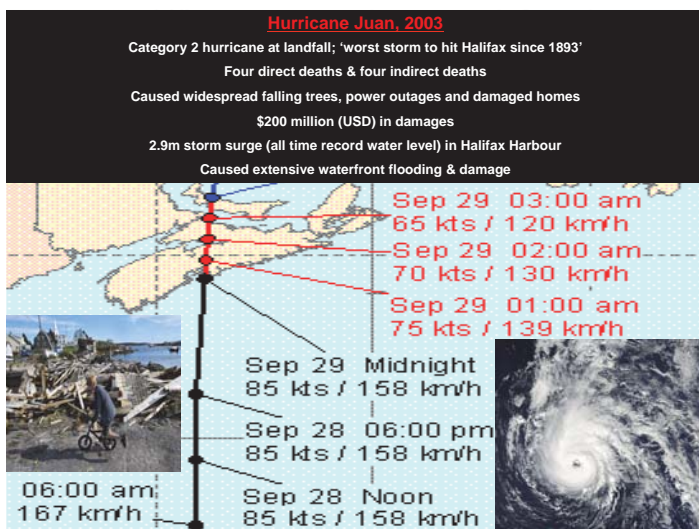
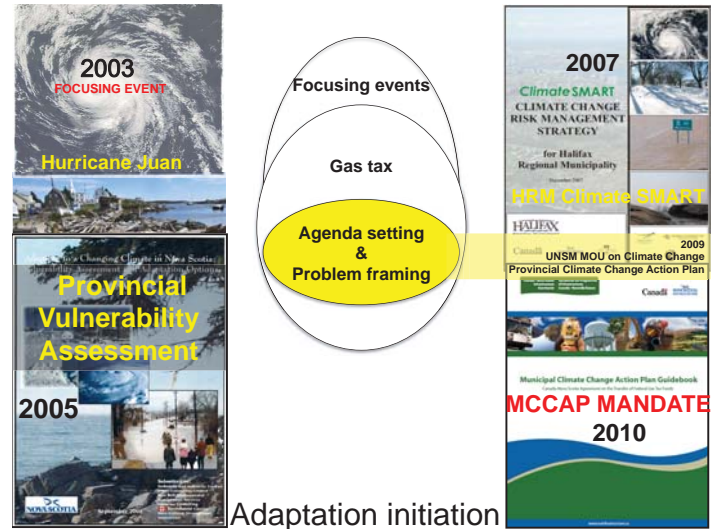
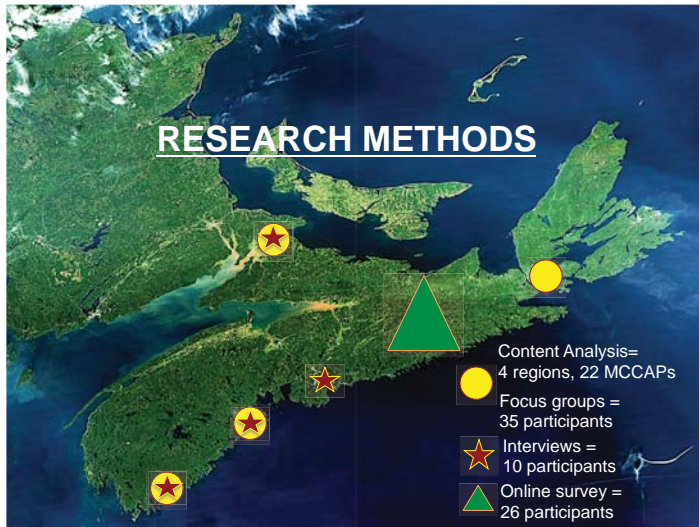
Adaptation capacity-building:

Formulating options and risk prioritization processes

Adaptation integration:

Stakeholder and public engagement
Political support

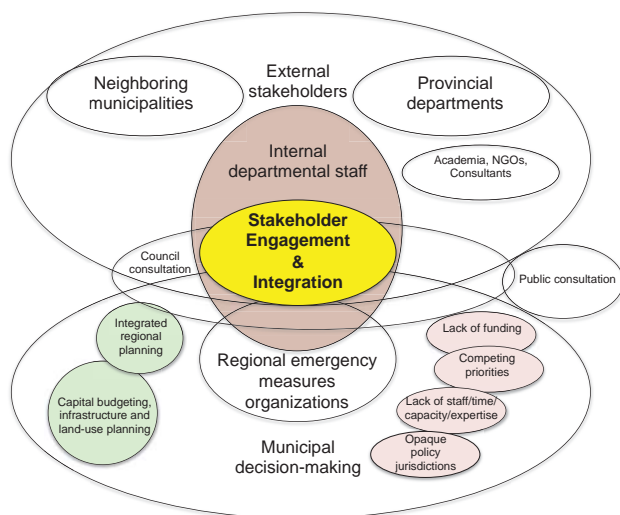
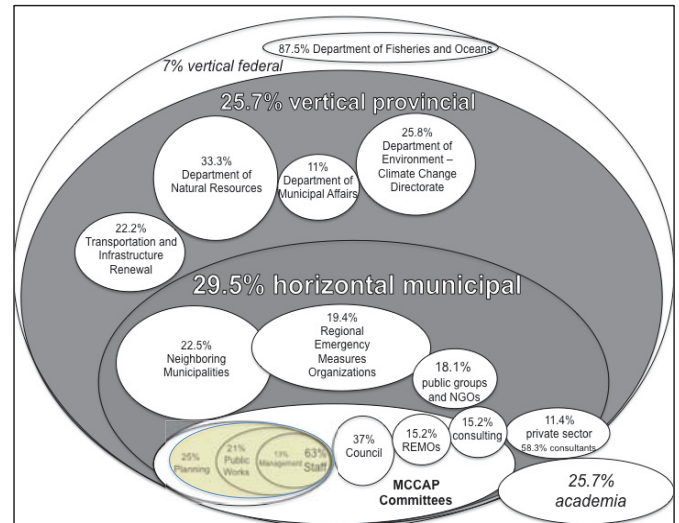
Based on: Corfee-Morlot et al., (2009), Horak (2012) and Vogel and Henstra (2015).



External collaborations with consultants, academics and the Provincial government enabled municipal capacity-building for adaptation planning.

Regional collaboration enables municipal capacity-building, with important facilitation roles for emergency measures organizations.

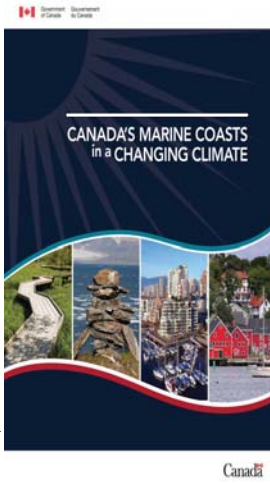
Internal staff capacity supports and enables institutional adaptive capacity building for sustainability and climate change planning and policy at the municipal scale.



Adaptation policy failure may be associated with problems of inter-governmental collaboration, opaque policy jurisdictions, limited access to information, poor access to funding, barriers to horizontal emergency planning collaboration and a lack of coordinated coastal land use planning reform to address climate risks at regional scales.

There are considerable opportunities in the East Coast region to **increase the capacity** for adapting to climate change and **implementing effective adaptation measures** to address coastal risks. Basic steps include **increasing awareness, engaging and empowering stakeholders, reviewing and adjusting legislation and codes of practice where appropriate, enhancing inter-jurisdictional collaboration, and addressing regional and local differences in adaptive capacity.**

Adaptation is fundamentally **a social process** that leads to modification of long-standing habits.



Lemmen, D.S. and Warren, F.J. (2016): Synthesis; in Canada's Marine Coasts in a Changing Climate, (ed.) D.S. Lemmen, F.J. Warren, T.S. James and C.S.L. Mercer Clarke; Government of Canada, Ottawa, ON, p. 17-26.

Adaptive capacity of human systems is a function of:

- economic resources
- access to technology
- access to information on climate variability and change and skills to make use of the information
- institutions
- equitable distribution of resources

'Adaptation is a human resources problem.'
Stewart Cohen – Environment and Climate Change Canada

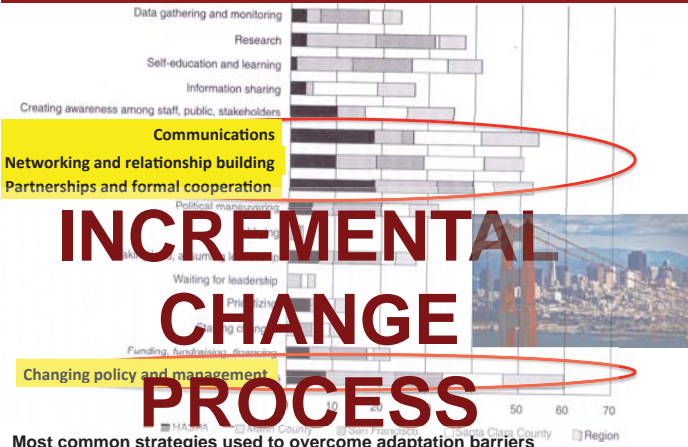


increasing awareness
engaging stakeholders
reviewing and adjusting legislation and codes of practice
enhancing inter-jurisdictional collaboration



HALIFAX

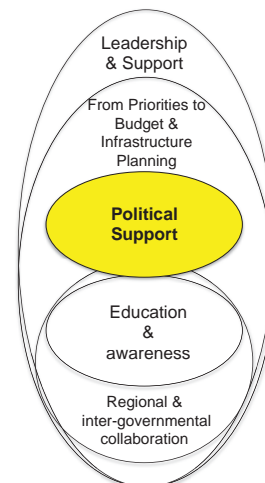
OPPORTUNITIES FOR LOCAL ADAPTATION



INCREMENTAL CHANGE PROCESS

Most common strategies used to overcome adaptation barriers

Ekström, J & Möller, S. (2013). Ch. 6. Institutions as a key element to successful climate adaptation processes. In: Successful Adaptation to Climate Change. Routledge.

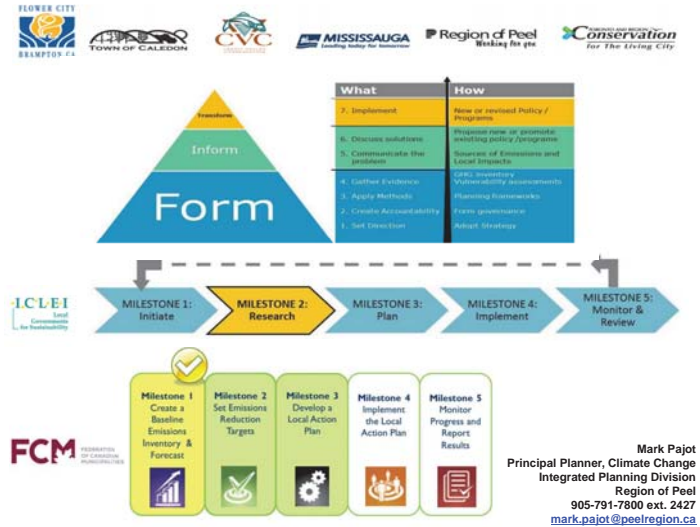


London, Ontario: Council Strategic Plan 2015-19

BUILDING A SUSTAINABLE CITY



- Robust infrastructure
- Convenient and connected mobility choices
- Strong and healthy environment
- Beautiful places and spaces
- Responsible growth
- Heritage conservation



There remains substantial institutional and governance barriers within and between all partner agencies that prevents appropriate collaborative high impact actions from being **implemented** on the ground where it matters.

Region of Peel
Working for you

To: [Redacted] Date: March 28, 2016
From: Mark Pajot Subject: Results from rapid climate change capacity assessment.

CC: [Redacted] Our File:

Enabling conditions for implementing climate change actions

1. **leadership**,
2. a transparent inclusive structured and **integrated planning** process,
3. central **management and coordination by planning staff**,
4. in-depth **research and analysis** (information and data) involving extensive coordination and collaboration,
5. subject matter **advice to mobilize** knowledge and social learning,
6. an **openness for innovation** and,
7. evidence **informed policy-making**, a plan, budget and
8. comprehensive public **outreach process** to educate the **general public** about climate change and generate policy support.

Region of Peel
Working for you
Corporate Services

To: [REDACTED] Date: March 28, 2016
From: Mark Pajot Subject: Results from rapid climate change capacity assessment.
Cc: [REDACTED] Our File:

Two key constraints were identified:

1. Gaps in strategic communications planning to overcome internal and external misperceptions of climate change risk and competing values.
2. Gaps in project planning to better align strategic planning efforts with partnership based work plans.

Region of Peel
Working for you
Corporate Services

To: [REDACTED] Date: March 28, 2016
From: Mark Pajot Subject: Results from rapid climate change capacity assessment.
Cc: [REDACTED] Our File:

Recommendations

Direct request for staff support from Corporate Project Management Office and Communications

Services to work more closely to align corporate plans and strategic communications with existing Partnership based activities and work plans.

Develop corporate wide and community climate change engagement and outreach plan using evidence from Partnership work as an immediate corporate priority.

What do you see as future directions for the monitoring and evaluation of implementing MCCAP priorities? Can academia support this process?

MCCAP Focus Group M&E Suggestions

Monitoring the integration and enforcement of MCCAP: Gauging effectiveness and implementation progress through: Capital Investment Planning, staff reporting on MCCAP priorities and/or MCCAP 'Report Cards' / annual review processes

Identifying, initiating, supporting and/or communicating opportunities for multi-level governance co-operation and leadership on climate change adaptation

Providing MCCAP synthesis to support with developing provincial adaptation priorities, strategies and policy instruments (best practices and research information) - GAS TAX CAPACITY BUILDING FUNDING FOR STAFF (85% survey agreement, 36% representative of NS municipalities)

Providing monitoring, data collection and feedback for municipal adaptation decision-making and prioritization (ex. coastal erosion and climate impacts)

Focus group results based on 19 responses

NS: Gas tax capacity-building

The gas tax agreement details how municipalities may use gas tax capacity-building funds for developing and implementing: *'studies, strategies, or systems related to asset management, which may include software acquisition and implementation [and] training directly related to asset management planning and, long term infrastructure planning'* in order to *'strengthen the ability of municipalities to improve local and regional planning, including capital investment plans, integrated community sustainability plans, life-cycle cost assessments, and asset management plans'*

However, ineligible expenditures *are 'salaries and other employment benefits of any employees of the Ultimate Recipient [municipality], its direct or indirect operating or administrative costs of the Ultimate Recipient [municipality], and more specifically its costs related to planning, engineering, architecture, supervision, management and other activities normally carried out by its staff, except in accordance with eligible categories'* (NS-Canada Gas Tax Agreement 2014-2024: Schedule B, Item 18 & Schedule C, Items 1b & 2c)



Thank you.

Dr. Brennan Vogel, PhD
Response Coordinator
Post-Doctoral Research Fellow
Marine Environmental Observation Prediction and Response Network

brennan@sustainabilitysolutions.ca

