



Heating Up: The Legal Implications of Climate Change

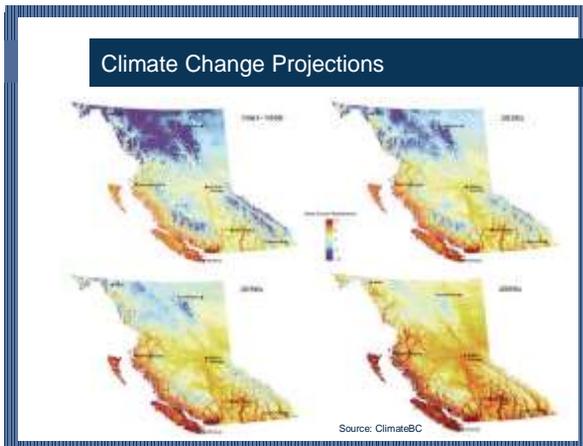
Presented by:
Michael Hargraves and Ryan Bortolin



STEWART MCDANHOLD STUART
Attorneys & Solicitors







Mitigation vs. Adaptation

Mitigation

- Reducing and stabilizing the level of greenhouse gasses
- Enhancing the “sinks” that store these gasses
- Goal is to avoid dangerous human interface with climate system

Adaptation

- Adapting to the climate change that is already inevitable
- Goal is to reduce vulnerability to the harmful effects of climate change

<http://climate.nasa.gov/solutions/adaptation-mitigation>

Climate Change Mitigation

- Planning sustainable communities
- Encouraging green developments
- Encouraging transit-oriented developments
- Implementing innovative infrastructure



Climate Change Adaptation

Overview of the Adaptation Process

1. Identify climate change risks and vulnerabilities
2. Identify and evaluate adaptation options, including:
 - education
 - changes to infrastructure and services
 - land use planning and regulatory tools
 - funding options
 - cooperation with different levels of government
3. Implement chosen options
4. Monitor results
5. Update strategies

Source: West Coast Environmental Law, "Climate Change Adaptation Guide"



Resources for Identifying Climate Change Risks

- BC Climate Action Toolkit - <http://www.toolkit.bc.ca/>
- Pacific Climate Impacts Consortium (PCIC) - <https://pacificclimate.org/analysis-tools/plan2adapt>
- Pacific Institute for Climate Solutions <http://pics.uvic.ca/>



Photo: weatherworks.com

Drought

Potential Impacts

- Less water available during high demand months
- Impact on fire flows, drinking water, and industries reliant on water
- Potential loss of hydro power source
- More competition for scarce resource
- Potential for stronger statutory restrictions on use of water through the Water Sustainability Act

Drought

Land Use Planning Tools

Regional Growth Strategy

- Inclusion of objectives related to water supply

Official Community Plan

- Establish DPAs for water conservation under section 488(1)(i) of the LGA.
- Under section 491(9) can include requirements respecting landscaping, siting, form and exterior design, specific features of development and machinery, equipment
- Under section 491(10) can establish restrictions on the type and placement of trees and other vegetation in proximity to the buildings and other structures in order to provide for water conservation.
- Require drought tolerant vegetation, rainwater capture systems, onsite use of storm water

Drought

Planning Tools (cont.)

- **Zoning**- section 219 covenants requiring rainwater capture, drought resistant landscaping, etc.
- **Development Cost Charge** exemptions for developments designed to result in low environmental impact
- **Subdivision and Servicing Bylaws**
 - requirements to promote rainwater capture

Drought

Regulatory and other Tools

• Regulating Water as a Local Government Service

- Require meters for water use
- Regulate installation and operation of irrigation systems on non-agricultural properties
- Restrict Water Use through Water Conservation Bylaw
 - Confirmed in Hunt v. Westbank Irrigation District, (1994) 90 B.C.L.R. (2d) 395

Drought

Regulatory and other Tools (cont.)

- **Tree Regulation Bylaws**
 - Help cool urban areas
 - Note different powers for municipalities and regional districts
 - Municipalities have wide authority to regulate, prohibit and impose requirements regarding trees (CC s. 8(3)(c)), with some restrictions imposed under s.50 to 53
 - Regional Districts only have the power to regulate and prohibit the cutting of trees in tree cutting permit areas.

Drought

Regulatory and Other Tools (cont.)

- **Long Term Financial Planning**
 - Reservoirs capable of storing more winter precipitation
- **Emergency Program Act**
 - Not really an effective tool to deal with drought



Wildfire

Potential Impacts

- Increased potential for property damage
- Increased potential for injury and death
- Increased strain on fire fighting services
- Longer dry season means longer wildfire season



Wildfire

Planning Tools

- **Regional Growth Strategy** –policies on mitigating risks from wildfire
- **Official Community Plan** – designation of “hazardous condition” development permit areas under section 488(1)(b) of the LGA
 - Can specify areas that are to remain free of development except in accordance with the conditions specified in the permit (s. 491(2)(a))
 - Can include requirements respecting character of development including landscaping, siting, form, exterior design and finish of buildings (s. 491(2)(c))
 - Can establish restrictions on the type and placement of trees and other vegetation in proximity to the development (s. 491(2)(d))
 - Can vary use and density if related to health, safety, protection of property (s.491(3))
 - Can require report assessing risks pre-development (s.491(4))
 - Useful for firebreak requirements

Wildfire

Planning Tools (cont.)

- **Official Community Plan** – designate development approval information area
- **Zoning** – can direct high intensity use to low risk areas and reserve high risk area for low intensity uses.
- **Zoning** – use of section 219 covenants for site specific requirements on at-risk property as part of rezoning application.
 - Include requirements related to combustible materials left on property, maintaining defensive space around building, using fire resistant building materials
 - May also deal with matters of use, types of buildings, to go beyond the authority of the development permit power
- **Subdivision Servicing Requirements** – require sidewalks and boulevards be wide enough to serve as firebreaks

Wildfire

Regulatory and Other Tools

- **Regulation of trees**
 - Different authority for municipalities and regional districts
 - Exemptions in Tree Protection Bylaw for reducing interface wildfire risk
- **Burning Bylaws** – longer no-burning season
- **Fire Chief Powers** - authority to authorize fire chief to take measures to prevent and suppress fires, and require owners to undertake actions to reduce fire hazards
- Powers under the **Emergency Program Act**



Increase in Sea Levels

Potential Impacts

- Coastal erosion
 - Reduced effectiveness of sea walls due to sea level rise
 - Loss of coastal wetlands
- 

Increase in Sea Levels

Planning Tools

Regional Growth Strategy

- Work towards "settlement patterns that minimize the risks associated with natural hazards"

Official Community Plan

- Development Permit Area for protection from hazardous conditions
 - Can specify areas to remain free of development except in accordance with conditions in permit
 - Can require report
- 

Increase in Sea Levels

Planning Tools (cont.)

Flood Plain Designation Bylaws

- Local government must consider guidelines of province regarding flood levels and setbacks
 - Proposed amendment to guidelines has significant impact on coastal areas
 - Amendment contains recommended (anticipated) sea level rise of .5m by 2050, 1.0m by 2100 and 2.0m by 2200
 - Setbacks based on 2100 sea level for flood construction level for Strait of Georgia, as adjusted by several factors such as regional variation and storm events
- 

Increase in Sea Levels

Planning Tools (cont.)

Flood Plain Designation Bylaws (cont.)

- States local governments should consider defining sea level rise planning areas integrating flood protection and flood hazard management tools
- Recommends that approving officers require covenant for redevelopment at end of building lifespan
- Recommends restrictive covenants for development on existing lots if setback guidelines would sterilize use of lot.
- Specific requirements for areas prone to tsunamis

Approving Office powers on subdivision to refuse subdivision if land subject to or reasonably could be expected to be subject to flooding or erosion



Increase in Sea Levels

Planning Tools (cont.)

- **Zoning** – Consider potential effects of sea-level rise on density and uses permitted near coastline and areas subject to flooding



Increase in Sea Levels

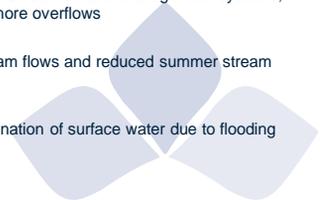
Regulatory and Other Tools

- **Powers related to Dikes** – section 69 of *Community Charter*
A council may, by bylaw, do one or more of the following:
(c) impose requirements on the owners of dikes or persons undertaking the construction of dikes;
- Building Inspector power to require geotechnical report
- *Emergency Program Act*



Erosion and Flash Flooding

- Increased intense storms leads to greater potential for erosion
- Increased demand on storm water management systems, with potential for more overflows
- Earlier spring stream flows and reduced summer stream flows
- Increased contamination of surface water due to flooding



Erosion- Planning Tools

- **Official Community Plan**
 - Designation of hazardous area DP – s. 488(1)(b) of LGA
- Development permit can
 - (a) specify areas of land that must remain free of development, except in accordance with any conditions contained in the permit;
 - (b) require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit
 - (c) require natural water courses to be dedicated;
 - (d) require works to be constructed to preserve, protect, restore or enhance natural water courses or other specified natural features of the environment;
 - (e) require protection measures, including that vegetation or trees be planted or retained in order control drainage, or control erosion or protect banks. (s. 491(1))

Erosion- Planning Tools (cont.)

- Can specify areas to remain free of development except in accordance with conditions in permit
- require, in an area that the permit designates as containing unstable soil or water which is subject to degradation, that no septic tank, drainage and deposit fields or irrigation or water systems be constructed
- Can require a report to determine the conditions to be placed on the permit

Erosion- Regulatory Tools

- **Long term Financial Planning** regarding system capacity
- **Tree Protection Bylaws**
 - Trees protect steep slopes, absorb rainwater and reduce soil erosion
- **Regulate construction of new paved and roofed areas** under section 523 of LGA by requiring increased onsite rainwater capture
- **Soil Deposit and Removal Bylaws**

Legal Liability Related to Failure to Adapt to Climate Change

Potential Effects on Municipal Services

- Potential for claims nuisance or negligence
- **Nuisance:** Owner of land uses land in manner that causes damage or interferes with other's land
- Example: Storm Sewer Overflow from More Frequent and Intense Storms
- Nuisance is actionable if physical damage is caused or if there is a substantial interference with use and enjoyment of property
- Potential Defences of legislative authority or statutory immunity

Legal Liability Related to Failure to Adapt to Climate Change

Potential Effects on Municipal Services (cont.)

- Section 744 of LGA contains defence against malfunction or breakdown of sewer system, water or drainage facility or system or dike or road
 - Found not to apply when system not designed to handle load from new development – *Medomist Farms. Ltd. v. Surrey (District)*
 - Could have implications for design of infrastructure and climate change

Legal Liability Related to Failure to Adapt to Climate Change

Potential Effect on Municipality as Service Provider

Negligence

- Negligence for failure to adapt services to effects of climate change
- Example: Dam bursts due to increased intense storms. Property owner argues negligent design.

Legal Liability Related to Failure to Adapt to Climate Change

Potential Effect on Municipality as Service Provider

Elements of Negligence

- Duty of Care:
 - if it is reasonably foreseeable that actions might cause damage to others
 - If there is a sufficiently close relationship between the person who caused damage and person suffering damage
 - Policy v. Operational Decision – to be a policy decision must be bona fide exercise of discretion
- Standard of Care
 - Person who owes duty committed act that breaches “reasonableness” standard
- Act or omission causes harm
- The type of loss is reasonably foreseeable

Legal Liability Related to Failure to Adapt to Climate Change

Liability as Property Owner

- **Scenario:** Increased erosion along municipally owned coastal property affecting inland property
- Traditionally no duty to protect neighbour from naturally occurring hazards, but law is evolving
- English law has evolved to require protection from erosion due to ocean in some circumstances – *Holbeck Hall Hotel v. Scarborough*
- Has not been applied in Canada, but potential is there
- Common law has evolved, and continues to evolve, in response to changing circumstances