York Region Climate Change Workshop
April 25, 2008
Earth Rangers Centre
Break-out Session Feedback

The following is a summary as well as the detailed break out of the issues and ideas discussed in the break-out sessions carried out at the York Region Climate Change Workshop at the Earth Rangers Centre on April 25, 2008.

The purpose of the workshop was to bring together a broad cross section of staff from departments across the Region, our partner area municipalities, Conservation Authorities, as well as our local utilities, to explore Climate Change issues, implications for York Region, and action we can take to better adapt.

The Workshop explored potential impacts of and adaptation responses to Climate Change on our:

- Water and Wastewater Systems
- Transportation Systems
- Energy Systems
- Health Care Systems
- Emergency Response Capabilities.

Summary of Breakout Group Top Climate Change Issues

Environmental Impacts

- Water quality, quantity, recharge, flooding and drought, reduction in available municipal and environmental water.
- Movement of species, invasive species
- Ecological zone shifts

Human Health Impact

- Air quality, Health – greenhouse gasses increasing along with pollutants = respiratory issues
- Vector borne diseases
- Emergency management, social services, response capabilities, increasing magnitude of events, resilience to climate change, vulnerable populations

Infrastructure and Communities Impacts

- Impacts on critical infrastructure ,deterioration of infrastructure, weather impacts on infrastructure, pipe size
- Development patterns, revisit linking settlements and climate change events
- Recreation opportunities
- Energy stressors, demand and supply, heat days = increased air conditioning pressures
- Agriculture – drought, wind and hail, disruption of food supplies, i.e. Holland Marsh
- Severe weather – rainfall, flooding, ice/winter events, wind, temperature- heat, humidity, freeze/thaw
- Property damage – public and private
- Quality of life –levels of service, need to think about how we can change these expectations, need a different way of thinking, lifestyle, and priorities.
- Identify real uses of water, priorities, public education, - reflect the true costs of water.
- Impact on engineering, planning, etc., policies and standards.
- Multi stakeholder/group education – politicians, industry, etc. needed
- Surveillance, monitoring, maintenance, operations to make sure system is working as it should.
- Need hazard identification risk assessment (HIRA) drought
- Population increase + drought = increased water consumption

Economic Impacts

- Clean up cost – i.e. snow and debris
- Big $ to spend on upgrading standards and facilities.
- Change in our staffing procedures – big administrative and labour relations $.
- Taxes need to be increased to address needs, energy costs, utility costs.
- Energy costs for water servicing.
- Housing costs will go up.
- No regrets approach is a good all around – still conserves water, energy, reduces air pollution, and saves $, multiple benefits approach to projects.

Summary of Breakout Group Top Adaptation Responses

Multi-Stakeholder Education and Awareness

- Need multi stakeholder/group education – politicians, industry, etc.
- Education, staff/public on what can be done, all elements.
- Practice what we preach – leadership
- Need to think differently about lifestyle expectations

New Community Design, Infrastructure and Engineering Standards

- Need new community development, engineering and infrastructure standards at a community relevant level.
- Continue to looks at innovative community standards – livable, walkable, transit supportive, built in to communities before the subdivision process.

Improved Monitoring and Maintenance of Infrastructure

- Surveillance, monitoring, maintenance, operations to make sure system is working as it should.
- Need to have this system accounted for up front in the process.
- Improvement in monitoring and maintenance of infrastructure storm water management ponds.

High Level or Regional Energy Plans

- District or Regional level energy plans for more efficient and sustainable supply, ensure uninterrupted supply

Increased and Innovative Water Conservation in Communities

- Invest in rainwater harvesting, storm water is a resource, manage at source.
- Development standard design and runoff, post development runoff should be less than pre-development runoff.

Undertake Vulnerability and Risk Assessments

- Assessment, determine current vulnerabilities, invest in data, and assess business practices/programs.
- Include drought/heat alert as hazard identification risk assessment (HIRA) in emergency management.
- Preparedness for extreme events

Establish Partnerships

- Establish and encourage partnerships to identify and fund adaptation opportunities

Other:

- Agricultural practice adaptation
- Full cost accounting for infrastructure and service delivery
- Sustainability tax

Break-out Session Feedback
Group 1

Impacts:

- Flooding
- Drought
- Water quality
- Pipe size
- Overland flow
- Development patterns
- Air quality – transportation
- Deterioration of infrastructure
- In/out travel pattern – commuting distance
- Heat related illness
- Respiratory illness
- Vector borne diseases
- Vulnerable population segments
- Recreation opportunities
- Movement of species
- Emergency management, social services, response capabilities, increasing magnitude of events, etc.
- Revisit linking settlements and climate change events
- Energy stressors = demand and supply
- Heat days = increased air conditioning pressures
- Agriculture and food supply
- Weather impacts on infrastructure
- Social wellbeing and resilience to climate change
- Political framework

Adaptation Responses:

Impacts on Built Environment:

- Transit – construction and maintenance
- Pedestrian and bike emphasis
- Live/work relationships
- Incentives to work in York Region
- Eliminate focus on car based subdivisions, used European model
- Vulnerability/risk assessments
- Construction and planning of infrastructure maintenance

Impacts on Human Environment:

- Disease surveillance of new/other diseases
- Identify vulnerable populations
- Preparedness for extreme events

- Re-evaluate priorities

Impacts on Natural Heritage:
- Protect/restore beyond York Region Natural Heritage System
- Improve legislation around land use
- Protect against development pressure – add value
- Support buying local food with incentives, protect lands, review science

Impacts on Fiscal Resources:
- Transit $$
- Positive for growth with development charges
- Model for energy supply
- Provincial/federal funding
- Focus on prevention
- Full cost accounting
- Sustainability tax

Top 5 Responses:
- Vulnerability/risk assessments
- Construction and planning of infrastructure maintenance
- Preparedness for extreme events
- Full cost accounting
- Sustainability tax

Group 1 facilitated by Dawn Seetaram

Break-out Session Feedback
Group 2

Impacts:

- Groundwater recharge decrease
- Severe weather – rainfall, flooding, ice/winter events, wind, temperature- heat, humidity, freeze/thaw
- Health – greenhouse gasses increasing along with pollutants = respiratory issues
- Invasive species
- $ Economy
- Ecological zone shifts
- Natural environment – drinking water, wells impact, nutrient concentration, i.e. dissolved oxygen
- Agriculture – drought, wind and hail, disruption of food supplies, i.e. Holland Marsh
- Energy demands – air conditioning on hot days
- Waste water collection infiltration
- Property damage – public and private
- Critical infrastructure, transportation
- Clean up cost – i.e. snow and debris

Adaptation Responses:

- Transportation strategy, roundabouts, transit
- Robust risk assessment
- Back up systems and redundancy
- Public awareness – individual actions, political awareness, business
- A different way of living expectations
- Household programs – public awareness, rain barrels, water conservation, energy audits
- Develop partnerships, i.e. Area municipalities on infiltration, land use density and storm water
- Federal/provincial partnerships
- Fleet fuel use, personnel
- Building codes – engineering standards, planning guidelines, MOE, a higher standard
- Practice what we preach – leadership
- Business and work processes – work from home
- Response and recovery capabilities

Top 5 Responses:

- Transportation strategy
- Public awareness
- Higher engineering standards
- Practice what we preach – leadership

Group 2 facilitated by John Waller

Break-out Session Feedback
Group 3

Impacts:

- Reduction in available municipal and environmental water.
- Big $ to spend on upgrading standards and facilities.
- Erosion in stream and impacts on infrastructure.
- Change in our staffing procedures – big administrative and labour relations $.
- Public health and safety, need more staff.
- Air quality and water quality.
- Quality of life – we are used to a certain norm, levels of service, need to think about how we can change these expectations.
- Need a different way of thinking, lifestyle, and priorities.
- Taxes need to be increased to address needs, energy costs, utility costs.
- Impact on resources.
- Energy costs for water servicing.
- Impact on engineering, planning, etc., policies and standards.
- Housing costs will go up.
- Food security, consumptive cycle.
- Asphalt melting with higher temperatures.
- People don't want to change, so don't use the "change" word, use a positive message, point out what their contributions can be and what they help accomplish.
- No regrets approach is a good all around – still conserves water, energy, reduces air pollution, and saves $.
- Multiple benefits approach to projects.
- Multi stakeholder/group education – politicians, industry, etc.
- Surveillance, monitoring, maintenance, operations to make sure system is working as it should. Need to have this system accounted for up front in the process.
- Water: changing habits, identify real uses of water, priorities, public education, - reflect the true costs of water.

Adaptation Responses:

- Change in water use habits, identify the real uses of water priorities, public education, reflect true costs of water. This is a public education and a funding issue.
- Potential for greater algae growth with warmer temps, which in turn requires expanded and more expensive treatment of water.
- New pipe sizing needed? It may be better to raise foundation levels of new homes and buildings above the hydraulic grade line.
- Need to research surface areas needed for drainage – overland flow study by drainage basin and more study on flooding potential in old areas.
- Need new community development and infrastructure standards at a community relevant level.
- Public needs to adapt to new standards.
- Look at more rapid responses to events, know issues better.

- Need overall energy plans for communities, need a big overall strategic plan for the Region, both to mitigate climate change, reduce energy uses, but be adaptive in terms of security of energy supplies.
- Look for alternative municipal energy opportunities.
- Continue to looks at innovative community standards – livable, walkable, transit supportive, built in to communities before the subdivision process.
- Need senior champions for these plans
- Need public education on new standards needed, implication of climate change, cost to municipal services, costs to individuals.
- Give people specific solutions –"this is what it means, this is what you can do".

Top 5 Responses:

- Need a different way of thinking, lifestyle, and priorities.
- Multi stakeholder/group education – politicians, industry, etc.
- Surveillance, monitoring, maintenance, operations to make sure system is working as it should. Need to have this system accounted for up front in the process.
- Need new community development and infrastructure standards at a community relevant level.
- Continue to looks at innovative community standards – livable, walkable, transit supportive, built in to communities before the subdivision process.

Group 3 facilitated by Laura Atkins-Paul

Break-out Session Feedback
Group 4

Impacts:

- Potential changing qroundwater quantity and quality
- Increases in energy use = health implications
- Species/natural heritage erosion
- Public/municipal education
- Impacts on critical infrastructure
- Changes in hydrology – natural, drainage, infrastructure
- Increased urban flooding
- Increasing and decreasing lake levels and phosphorus loading
- Impact on watercourses and potable supply (drought)
- Need hazard identification risk assessment (HIRA) drought
- Population increase + drought = increased water consumption
- Health impacts of airborne vectors, H20 quality, infrastructure, roads

Adaptation Responses:

Health

- Assessment of current vulnerabilities and opportunities for risk based analysis
- Population at risk – chronically ill, elderly, young, poor

Infrastructure

- Design standards/materials/new technologies, e.g. permeable pavement, maintenance, upgrades
- Reassignment of/designation of storm, intensity, duration
- Decreased inflow and increased capacity
- Rainwater harvesting above and below ground cisterns
- Establish priorities for Region, not just departments
- Standards and regulations from upper level (who goes 1st, what level of government)
- Agriculture – normal farm practices adaptation
- Forestry Management etc., reassessed based on future
- Data gaps unresolved, risk assessment
- Partnerships +++

Top 5 Responses:

- Assessment, determine current vulnerabilities, invest in data, and assess business practices/programs.
- Establish and encourage partnerships to identify adaptation opportunities
- Education, staff/public on what can be done, all elements.
- Invest in rainwater harvesting, storm water is a resource, manage at source.
- Development standard design and runoff, post development runoff should be less than pre-development runoff.
- Agricultural Practice adaptation.
- Include drought/heat alert as hazard identification risk assessment (HIRA) in emergency management.

- Improvement in monitoring and maintenance of infrastructure storm water management ponds.

Group 4 facilitated by Barbara Jeffrey