



Adaptation
approach to
climate change

Report of the citizen consultation



Geneviève Mongeau
Groupe Conseil Carbone
Adaptation approach to climate change

Citizen consultation – City of Beaconsfield Climate change adaptation plan

Event location:

Annex herb Linder
303 Beaconsfield Boulevard,
Beaconsfield , Quebec

On Wednesday, March 20, 2019 to 19:00, were present:

- Mr. Georges Bourelle, Mayor, City of Beaconsfield
- Ms. Karen Messier, Councillor District 2, City of Beaconsfield
- Mr. Patrice Boileau, Director General, City of Beaconsfield
- Mr. André Gervais, Project section Manager, City of Beaconsfield
- Ms. Kate Coulter, Association for the Protection of Angell Woods
- Ms. Ariane Cimon-Fortier, Comité ZIP Jacques Cartier;
- Ms. Janet Rhodes and Ms. Véronique Beniak, Beaconsfield Environmental Advisory Committee
- Mr. Jacques Brisson, PME West-Island
- Ms. Leona Kemp, resident member of the Age Friendly Municipality committee
- Mr. Denis Chabot, Director of Urban Planning and Municipal Patrol
- Mr. Andrew Duffield, Director of Sustainable Development

Were also present:

- Mr. Pascal Geneviève, Project Director, Groupe Conseil Carbone (GCC)
- Ms. Geneviève Mongeau, Coauthorising officer of the project, GCC
- Mr. Christophe Jenkins, environmental consultant, GCC
- Mr. Jeff Tétreault, consultant, GCC

About fifty people were present at the meeting.

The event has been circulated to citizens and stakeholders through the *Contact* bulletin as well as through various targeted email mailings.

CONTEXT

The City of Beaconsfield wants to implement concrete actions to increase the resilience of the city and its community in the face of climate change, the effects of which are increasingly present. The i3P project will allow the City of Beaconsfield and its community to identify model and innovative projects, accelerate the implementation of ecological and sustainable projects, increase knowledge and skills at the regional level, and to build partnerships with local experts to address climate change and reduce greenhouse gas (GHG) emissions.

Under the supervision of the Société d'Innovation en Environnement (SIE), Groupe Conseil Carbone which is developing the *climate change adaptation plan*, is currently conducting the vulnerability analysis of the City of Beaconsfield. This crucial step allows to assess the state of climate and climatic forecasts as well as to analyze the activities of the territory in order to know the real vulnerabilities to the climatic hazards that the city might encounter in the future. In order

to carry out the project for the development of a climate change adaptation plan, a citizen consultation was carried out to involve stakeholders and interested parties in the process.

The objectives of this citizen consultation were :

- To educate stakeholders and citizens on the process of achieving the climate change adaptation plan;
- To present the climatic forecasts as well as the potential risks determined according to the activities of the territory and the climatic hazards;
- To review data on stakeholders and stakeholders perceptions of past climate events and observations made by some external organizations ;
- To meet the participants on their concerns and in connection with the implementation of a climate change adaptation plan;
- To answer the questions and queries of the participants.



CONDUCT OF THE ACTIVITY

1. Welcome of the participants

The welcome is presented by Ms. Karen Messier who thanked the participants for coming in large numbers. It is mentioned the importance for the City of Beaconsfield to implement a concrete approach to adapting to climate change by mentioning climatic events that have caused damage in the past that demonstrate the real need to push the approach further by implementing specific adaptation measures for the territory. Ms. Messier also presents the stakeholders present at the meeting and the municipal actors.

Mr. Andrew Duffield then illustrates the importance of adapting to climate change in particular a few examples of extreme events that took place in the territory such as the sewer backups of spring 2017, the heat wave and the violent winds in 2018. The latter then presents various commitments by the municipality which are precursors to this approach:

- 2006: Partners for climate protection
- 2007: Strategic plan
- 2015: Blue dot Declaration
- 2010 – 2020: Sustainable development plan

Mr. Duffield then introduces the i3P approach that will prioritize local actions to increase community resilience. The importance of a participatory approach is essential for the proper development of an adaptation plan and examples of projects are presented that have been carried out in collaboration with the community as important indicators of success.

The four phases of the i3P project are then presented in greater detail: the greenhouse gas inventory (GHG), the GHG reduction action plan, the community energy plan and the adaptation plan, the subject of this citizen consultation.

Then, Mr. Duffield announced the posting on the website of the City of Beaconsfield of a page dedicated to the project i3P www.Beaconsfield.ca/FR/Projet-I3P, www.Beaconsfield.ca/en/I3P-project. The city invites participants to contact the city via an email address dedicated to communicating with the community : i3P@beaconsfield.ca.

Lastly, the partners for the realization of the i3P project are presented:

- **Federation of Canadian Municipalities (FCM)**
 - Supports the project with a grant of \$125 000
- **Société d'Innovation en Environnement (EIS)**
 - Project Manager for the realization of activities and deliverables
- **YHC Environnement**
 - Action plan to reduce GHG and the Community energy plan
- **Groupe Conseil Carbone (GCC)**
 - Vulnerability analysis and adaptation plan development

2. Presentation of the i3P project, Groupe Conseil Carbone, and the team of consultants

Mr. Pascal Geneviève then presents the project and first of all, informs the audience that photos will be taken during the activity. Participants are asked to raise any objection that photographs of the workshop be disseminated in a public manner. The latter then presents the Société d'Innovation en Environnement as well as CCG activities. Mr. Geneviève presents the team of external consultants dedicated to the realization of the adaptation plan and reiterated the importance of the involvement of local actors and citizens in the process.

3. General presentation on climate change in Quebec and the process of implementing an adaptation plan

Mr. Pascal Geneviève then went on with a presentation of facts and notions concerning climate change in Quebec. The presentation of the increase in average temperatures and projections, the rise in sea level, the significant climatic events that have affected the Québec in recent years (wave of heat, drought and flooding) and the resulting significant impacts (shoreline erosion, increased costs associated with compensation). The presentation concludes by

presenting the Quebec temperature forecasts in 2100 if no mitigation and adaptation measures are implemented.

Ms. Geneviève Mongeau then presented the development of a plan to adapt to climatic changes which generally comprises four steps: initiation of the approach, production of an analysis of vulnerability, an adaptation plan and the implementation and follow-up phase. The adaptation to climate change plan is written in a process of continuity with the climate change adaptation plan of the Montréal agglomeration 2015-2020. The City of Beaconsfield wants to go further in the process and develop an adaptation plan that will integrate the concerns of stakeholders and interested parties and their expectations. Lastly, Ms. Mongeau presents the objectives of this citizen's consultation which are to inform local actors and citizens of the approach, to collect additional data that can be held by organizations and identify concerns related to climate change and to respond to questions from participants. Ms. Mongeau concludes the presentation of the approach by presenting the stakeholders involved in the approach.

4. Presentation of the landscape and climate forecasts

Mr. Christophe Jenkins presents the portrait of the territory as well as the climatic forecasts determined by the consultant team, a work that is part of the process of producing the vulnerability analysis. Mr. Jenkins made a general review of the elements found including: the natural environment, the Saint-Louis lake, infrastructures and recreational tourism activities. A participant asks for additional specifications on what an a sewer diversion episode is and asks where the waters from these infrastructures flow. Mr. Jenkins replied that these infrastructures are "overflows " and allow the network to be alleviated in extreme situations when the network is overloaded by diverting the waste water pluvial sewer network that drains to the Saint-Louis lake. The climate forecasts are then presented and target: temperature, precipitations, Saint-Louis lake destructive storms and high winds, air quality and ultraviolet radiation. Then a list of past extreme climatic events is presented.

5. Workshop on past extreme events

Mr. Jenkins then presents the instructions for the completion of the workshop that will follow. In order to collect information that the participants might hold, six tables in the Hall present large maps of the territory where participants will be invited to work in small groups to determine areas where they could have lived or witnessed the effects of climate change. Participants are invited to indicate directly on the paper maps their observations and concerns in relation to the territory and climate change. Mr. Jenkins presented questions that could guide participants such as: *what roads are at risk of being flooded by rain? Have you noticed places on the territory with a lack of trees, vegetation or shading have you seen places with problems of loss of land on the shoreline?* Participants receive different markers for the workshop and a color chart is presented.

Twenty-five minutes are granted to the participants in order to work in small groups. During this period, the consultants circulate between the tables and answer the questions. Once the time has elapsed, Mr. Jenkins takes over the microphone and addresses the questions at each table so that participants share their comments and concerns with the entire assembly.



The following is a list of participant main comments and concerns about climate change issues in the City of Beaconsfield:

- Decrease in water quality in connection with the costs associated with the distribution of drinking water;
- Risk of increased turbidity of Lake Saint-Louis in relation to a decrease in water quality;
- The citizens have seen major problems of erosion on private land on the banks of the Saint-Louis Lake;
- Issue of significant winds and possibly Microbursts generally found on the Heritage Street, Maple Crescent and Lakeshore Road near the Beaconsfield Yatch Club (between Saint-James Park and Marina) and Hansen;
- In the area of Maple Crescent, a problem of accumulation of ice-forming water occasionally is denoted;
- Erosion of private and public land related to St.-James creek, in the Pointe-Claire Avenue Sector;
- Concern in relation to increased drought episodes for watering land and gardens;
- Flood report of Saint-James Park on the Bank of the Saint-Louis Lake;
- Observation of the increase in the presence of insect pests and the arrival of new species in relation to the State of health of plants and the potential effects on human health (Chinese scarabaeus, emerald ash);
- Violent winds observed in the Montrose and Elizabeth streets area with damage to trees;
- Observation of a higher water level at the Saint-Louis lac and formation of more ice;
- Important concerns about the heat island that highway 20 can represent and why it is not represented on the data presented;
- Concerns for the presence of mature trees on the territory which can cause damage and risk of injury;
- Flood in the Mayfair Street area and in January 2012 on the street area Evergreen drive paired with an electrical outage causing a problem for homes;
- Lack of canopy at the end of Elm Street and between Angell Woods and highway 20;
- Lack of trees at the Saint-Louis Park.

The data collected will be analyzed by the consultants and integrated into the vulnerability analysis according to the climatic hazards present in the territory and the climatic forecasts.

6. Presentation of potential risks based on climatic hazards for the City of Beaconsfield and question period

In the context of the presentation of the landscape, historical data on climate and the presentation of climate forecasts for the City of Beaconsfield and the realization of the participatory workshop, Ms. Mongeau presents the potential risks that have been determined by the consultants. The potential risks were determined based on the exposure of a municipal service, the natural environment, an infrastructure or a population to a climatic hazard. In order to determine the potential risks, it is necessary to ask the following question:

What will be the potential effects and consequences of climatic hazards on: a population, a municipal service, an infrastructure or an environmental condition?

Ms. Mongeau then mentioned that the potential risks were classified according to four broad categories:

1. Health, society and vulnerable population;
2. Built environment and infrastructure;
3. Municipal services;
4. Natural environment.

Participants are then surveyed on their concerns regarding these 4 major categories; they are invited to answer by raising their hand. Next, Ms. Mongeau presents the list of potential risks identified by the consultant's team.

The following is a summary of the concerns identified by the participants and the list of potential risks:

Health, society and vulnerable populations

- Increased morbidity during periods of heat waves in areas with heat islands;
- Increased respiratory and cardiovascular problems in smog episodes;
- Increased number of medical consultations, deaths and hospitalizations due to extreme heat episodes;
- Increased cases of zoonoses such as Lyme disease and West Nile virus;
- Increased risk of food poisoning during periods of heat waves;
- Increased risk of falls and injuries during extreme conditions episodes;
- Increased risk of health problems due to the limitation of vulnerable populations to move in extreme conditions;
- Increase in the prevalence of hay fever associated with the increase in the growing season of ragweed;

- Increased psychological and physical impacts related to increased risk of extreme flooding;
- Increased risk of health problems associated with the development of mold following flooding;
- Risk of decreased water quality for bathing in Lake Saint-Louis.

Positive risks:

- Decrease in thermal shocks, mainly for outdoor workers, resulting from the drop in cold waves;
- The lengthening of the summer period increases the time spent outdoors and promotes physical exercise and the production of vitamin D.

Built environment and infrastructure

- Risk of acceleration of the deterioration of viaducts which may lead to fragments falling;
- Loss of adhesion of repair materials, expansion joints and pavement construction;
- Risk of breakage and damage to road infrastructures, pipelines and buildings;
- Increased water content in roadways and reduced rigidity;
- Increased use of water management infrastructures (pumping station and water mains);
- Clay areas are particularly at risk of soil drying and causing cracks to the foundations of buildings;
- Risk of increased costs associated with damage to private and public buildings resulting from events of storms or floods (roofs, Windows, etc.);
- Increased demand for air conditioning;
- Increased risk of power outages resulting in the risk of freezing water lines;
- Increased shoreline erosion.

Positive risks:

- Lower heating demand.

Other concerns noted by participants:

- Disproportionate size residential constructions that have a greater ecological impact;
- Require LEED constructions and measures to reduce the ecological impact of buildings;
- Increase the use of permeable materials on private residences;
- Increase of community gardens and diversification of plants in municipal facilities (e.g. planting of vegetable crops);
- Shutdown of sump pumps during power outage.

Municipal services

- Increased demand for air-conditioned areas and use of parks, water games, swimming pools, etc.;
- Impacts on drinking water supply (quantity and water quality);
- Increased risk of conditions conducive to the thawing of outdoor rinks;
- Risk of increased costs associated with increased use of abrasives;
- Delays in construction sites such as road repairs, water mains, asphalt, etc.;
- Increase in water demands;
- Risk of storm network congestion during heavy rains;
- Increased volumes of water collected and more frequent peak flows for the wastewater treatment system ;
- Increase in human resources needs for the maintenance of green spaces;
- Increased alternative electricity generation needs to maintain certain essential services during power outages;
- Power outages causing the risk of increased ice management costs in arenas and reduced service to the citizen.

Positive risks:

- Reduced costs and time required for snow removal operations.

Other concerns noted by participants:

- Decrease in the amount of water available;

Natural environment

- Risk of implantation and increase of invasive species;
- Proliferation of aquatic species that may affect fish habitat with impact on fishing;
- Risk of decreased volume of thermal habitats for certain fish;
- Risk of thermal stress for different species of fish by rapid rise in water temperature;
- Risk for eutrophication of Saint-Louis Lake water;
- Risk of arrival of new floristic and faunal species from the South;
- Risk of land loss associated with increased erosion;
- Canopy loss, tree breakage, branches and increased risk of tree mortality;
- Increased vulnerability of plants to insect pests;
- Risk of deterioration of water quality in streams and Lake Saint-Louis by increasing contaminant leaching;
- Increased water stress and reduced management effectiveness of some undesirable species;

- Risks to threatened or vulnerable species;
- Increased risk of fires in wood or woodlands;
- Reduction of the capacity of the trees to store carbon during periods of drought.

Other concerns noted by participants:

- Lack of canopy in some public parks;
- Concerns about the management of ash trees;
- Concerns about mature trees.

7. Conclusion

Ms. Mongeau concluded the meeting presenting the continuation of the approach and the objectives of the next meeting that will focus on the presentation of adaptation measures.

A consultative workshop will be held on 29 may 2019

The objectives will be:

- Present the results of the vulnerability analysis;
- Present preliminary adaptation options and identify expected actions by stakeholders and citizens;
- Discuss adaptation options and integrate participant feedback.

Ms. Mongeau mentioned that a poll would be sent to the participants as well as the report of the citizen consultation. Ms. Mongeau concludes by thanking municipal employees and elected representatives for their involvement in the fight against climate change and invites participants to contact the City of Beaconsfield or Groupe Conseil Carbone for further questions.

The meeting ends around 21:15.

The Groupe Conseil Carbone team and the City of Beaconsfield greatly thank you for your participation,



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