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Reduction of Dependence on Energy from Fossil Fuels

Brief presented to the Office de consultation publique de Montréal

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Introduction

The Green Coalition is a non-profit association of individual members and over forty local environmental groups that has been working for over twenty five years to promote the conservation, protection and restoration of the environment in the Montréal region.

A Green Network to provide local recreation and contact with nature

As recognised by the City of Montréal¹ an important contribution to reducing fossil fuel use for transportation could be made by enabling the population to meet more of their needs locally. Among these needs are those for active recreation and contact with the natural world both of which have been shown to have significant health benefits.

The Green Coalition believes that this objective can be met by creating an integrated network of natural areas and other green spaces linked by green corridors, extending over the island of Montréal and the greater Montréal region and meeting or exceeding the requirements of Aichi Biodiversity Targets 11 and 15 which call for the conservation of 17% of terrestrial and inland water and the restoration of 15% of degraded ecosystems.

Creation of a Green Network

On the island of Montréal the existing Nature Parks, Large Parks and Ecoterritories would form the basis for this network but be augmented by protection of additional existing natural areas and re-naturalisation of other sites such as former golf courses, disused quarries and decontaminated industrial sites. This would enable the current rather uneven geographic distribution of large green spaces to be remedied to some extent and thus reduce the need for motorised transport to reach them. Interconnection could largely be achieved by creative use of

existing infrastructure such as Hydro and Rail servitudes that could be re-naturalised and provided with cycle paths which would further reduce the need for motorised transport powered by fossil fuels.

Other Benefits of a Green Network

Conserve Biodiversity

Biodiversity is vital to maintaining the web of interconnected organisms that sustains all life on earth, including us. Every species extinction removes a link in the web and we have no idea how many links can be broken before the system collapses. We do not even accurately know the total number of species in existence. Estimates for the rate of extinction vary widely but some put the current rate of extinction worldwide higher than at any time in the past² including the “great dying” 250 million years ago at the end of the Permian era that resulted in the loss of 90% of all species³.

Both Canada and Québec adhere to the Convention on Biological Diversity and Montreal is home to the secretariat. At the 10th Conference of the Parties at Nagoya, Japan, in October 2010, in the presence of delegates from Quebec, the signatories adopted the Aichi Biodiversity Targets⁴ which include “Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity” and specifically:

Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.”

And

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Mitigate the impact of climate change

As recognised in the Québec Climate Change Action Plan, the impact of climate change is already being felt in Québec. Between 1960 and 2003 the average temperature in southern Québec increased by between 0.75 and 1.25 degrees Celsius⁵. The greenhouse gases already in the atmosphere and additional heat already absorbed by the oceans is enough to continue the changes for centuries even if all emissions were to stop today.

Montreal is not immune to the impacts of these changes which will get worse still if Canada and most of the world maintain their current business as usual policies. Any long term plan must take account of these effects which for Montréal include increases in both temperatures and rainfall.

Maintenance of natural vegetation cover and viable wetlands are essential to mitigate the impacts of climate change, including: higher temperatures average and peak; increased precipitation, both average and peak; and more frequent, more intense weather events. Much of our infrastructure already cannot cope with peak rainfall leading to the overloading of sewers and the flooding of highway interchanges and basements.

Forests and wetlands help to prevent flooding by absorbing excess precipitation and releasing it slowly and provide this buffering action at far less cost than man-made flood prevention measures such as dams and retention basins. Vegetation also reduces both erosion and the heat island effect created by the absorption of heat by concrete and asphalt.

Maintain and enhance ecosystem services and preserve natural capital

A 2014 paper published in the Canadian Geographer estimated the annual value of ecosystem services in the Montréal region to be \$2.2 billion⁶. These ecosystem services include cleaning the air, regulating the climate, supplying us with water and forming soil, but are not valued by conventional economics. Natural areas are essential to providing these services and can be regarded as natural capital which we must husband and use only sparingly and wisely.

Improve health

An increasing number of studies are demonstrating that access to natural areas creates positive health and psychological impacts. A healthier, happier, population provides significant economic benefits including reduced health care costs, reduced absenteeism and improved productivity.

According to the 'biophilia' hypothesis proposed by E. O Wilson of Harvard University, evolution has hard-wired our brains to respond positively to the natural environment so that man-made urban environments, to which we are not attuned, create stress. Studies indicate that even relatively short exposures to a natural environment such as a walk in a park at lunchtime can significantly reduce this stress and make us more productive⁷.

A UK study showed a 5% reduction in mortality due to ill health for people living in the greenest areas compared to the least green⁸. A US study showed that children living in greener areas tend to have a lower Body Mass Index and are thus healthier than their urban counterparts⁹.

In his book Planet Heart¹⁰, Dr. François Reeves documents the link between environment and heart disease. Clearly the benefits of exposure to the natural environment are many and varied.

Conclusion

Maintaining viable natural ecosystems by means of a Green Network is the only rational choice for a sustainable future for Montréal in which the best aspects of the region are made available to the current population without the need to for fossil fuel consuming travel and cherished as a legacy for future generations.

¹ Favouriser un cadre de vie de qualité' p. 18 'Reduction de la dépendance aux énergies fossiles à Montréal' Ville de Montréal

² The Real Biodiversity Crisis Phillip Levin, Donald Levin. American Scientist. January, 2002.

³ The Permian Extinction—When Life Nearly Came to an End. Hillel J. Hoffman. National Geographic.

⁴ Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets. Secretariat of the Convention on Biological Diversity

⁵ Québec Climate Change Action Plan 2006-2012. Government of Québec, 2008

⁶ Economic value of Greater Montreal's non-market ecosystem services in a land use management and planning perspective. J. Dupras, M. Alam, J-P Revéret. The Canadian Geographer, 2014

⁷ The Cognitive Benefits of Interacting With Nature. M. Jonides, and S. Kaplan. Psychological Science Vol. 19, No 12.

⁸ Effect of exposure to natural environment on health inequalities: an observational population study. R. Mitchell, F. Popham. Lancet Volume 372, Issue 9650.

⁹ Neighborhood Greenness and 2-Year Changes in Body Mass Index of Children and Youth. J. Bell, J. Wilson, G. Liu. American Journal of Preventive Medicine, vol 35, p 547.

¹⁰ Planet Heart. François Reeves M.D. Greystone Books 2014.