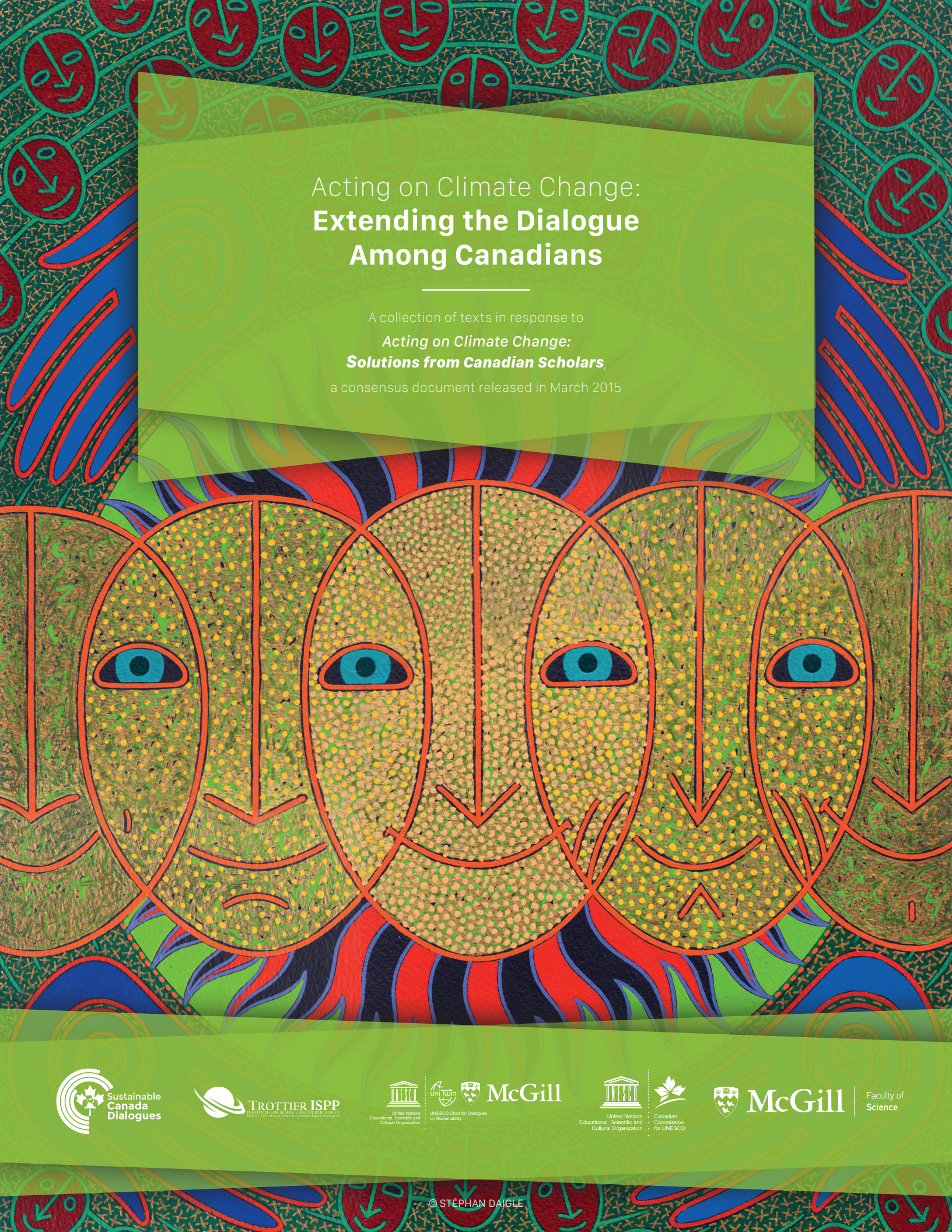

Acting on Climate Change:
Extending the Dialogue Among Canadians

A collection of texts in response to

Acting on Climate Change:
Solutions from Canadian Scholars,

a consensus document released in March 2015

Sustainable Canada Dialogues

TROTTIER ISPP
INSTITUTE FOR SCIENCE AND PUBLIC POLICY

United Nations Educational, Scientific and Cultural Organization · UNESCO Chair for Dialogues on Sustainability · McGill

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Réseau Environnement

ABOUT THE ORGANIZATION

RÉSEAU ENVIRONNEMENT

CAROLINE SANCHEZ VALERO

Réseau Environnement represents over 2700 members including 350 companies and 250 municipalities in five main areas of activity: biodiversity; drinking water and wastewater; soil and groundwater; air and climate change; and solid waste. Its mission is to *promote good practices and innovation in environment*. The association achieves its mission by bringing together professionnals from the public, semi-public, education, business, industrial and municipal sectors in Quebec, to ensure technological and scientific advances, promotion of expertise and support for environmental activities, from a sustainable development perspective.

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SUSTAINABLE DEVELOPMENT THROUGH INNOVATION AND STAKEHOLDER MOBILISATION

Contributed by

RÉSEAU ENVIRONNEMENT

Building On Expertise and Innovation

by Supporting Businesses and Municipalities

Original text in French available at *www.sustainablecanadadialogues.ca/fr/vert/versundialogue*

Today, societies face many environmental problems related to waste management, air and water pollution, biodiversity and ecosystem service loss, unsustainable exploitation of natural resources, and more. These challenges are not systematically related to climate change, but will nevertheless be exacerbated as the climate evolves at a pace that is too fast to allow for adaptation. As individuals, these challenges affect us one way or another every day according to our social, economic and environmental context but, as a society, they will irreversibly change the way we live and grow.

In this context, Réseau Environnement supports Sustainable Canada Dialogues and, in direct association with its mission, wishes to stress the important role of expertise and innovation in the private sector and in municipalities. The role of governments is fundamental to integrate the fight against climate change into policies and regulations that govern societies. The political context serves in particular to establish a supportive and enabling environment towards development of clean technologies and expertise. Thus, key policy orientations # 1, 2, 3, 4 and 5 of *Acting on Climate Change: Solutions from Canadian Scholars* are needed for a transition to a low-carbon economy (where we take "carbon" to include carbon equivalents, thereby including all greenhouse gases [GHGs]). Once the political context is established in a clear and consistent way, it is essential to involve and support businesses and municipalities who are leaders in implementing sustainable development. These on-the-ground actors can ensure concrete implementation of the transition to an economy that favours reduced GHG emissions.

Réseau Environnement regularly publishes position papers based on the expertise of its members. Its recent interventions include a statement on the Quebec Energy Strategy[1] (Mémoire sur la stratégie énergétique du Québec) and a statement on the hydrocarbons sector (Mémoire sur la filière hydrocarbures; to be published in fall 2015). Based

1 Réseau Environnement. (2013). Mémoire sur la Stratégie énergétique du Québec, http://www.reseau-environnement.com/UCtrl/scripts/kcfinder/upload/files/M%C3%A9moire%20RE_Strat%C3%A9gie%20%C3%A9nerg%C3%A9tique%20du%20Qu%C3%A9bec_Version%20finale%281%29.pdf

on the recommendations of these position papers, Réseau Environnement would like to contribute to the discussions launched by Sustainable Canada Dialogues, highlighting the following points.

Valorizing Residual Biomass

Canada is fortunate to have many innovative companies or organizations, whether through the expertise they have developed or the clean technologies they market. This diversity of innovative companies is combined with a wealth of natural resources that favour production of renewable energy, such as residual biomass (which can be forest-based, agricultural or even urban waste). Canada should therefore promote conversion of residual biomass.

Ensuring diversity in Canada's energy supplies should be encouraged by developing renewable energies. Biomass could be called upon to play a more important role given potential resources in Quebec. Two factors predict this:

1. The current regulatory and legislative environment is relatively strong or being developed (e.g. regulation of energy recovery from waste[2]); and

2. Considerable availability of biomass that is forest-based and agricultural and also urban, whether in large urban or surrounding areas.

As for biomethanisation of organic matter, it is clear that the economic context of low energy costs makes it difficult to monetize the production and buying of biogas, despite significant subsidies in infrastructure. However, it is important to remember that, in addition to the benefit of producing renewable energy, biomethanisation also recycles waste. It is therefore essential to continue efforts to convert waste materials through biomethanisation. Some countries that have succeeded in developing this sector have created a favourable context by creating electricity buy-back programs from biogas produced at higher costs, and/or by introducing a requirement to inject a minimum amount of biogas into the gas grid and/or by offering a discount for using biogas heating. These three approaches would enhance the appeal of this highly relevant energy system.

It is equally important to build on the use of residual forest biomass, which offers considerable harvesting potential in some provinces. In Quebec, while the potential annual harvest is estimated at 6.4 million oven dry metric tonnes[3], exploitation across the province is in its infancy. Whether in Quebec or Canada, we must encourage conversion of residual biomass energy (or bioenergy) as an ecological and renewable alternative to energy from fossil fuels. It would therefore be beneficial to invest more in cogeneration technology (simultaneous production of electricity and heat from biomass), as many organizations and institutions such as hospitals, schools or resorts, as well as the manufacturing industry, already use this technology. We must also move forward with the various processes that transform residual biomass into solid, liquid or gas biofuels, given that such methods have high energy efficiency. For example, we should harmonize and accelerate scientific research to encourage technological development that will enable commercialization of advanced biofuels. Increased use of wood-based

2 Réseau Environnement. (2014). Mémoire sur le projet de Règlement sur la valorisation énergétique à partir de matières résiduelles, http://www.reseau-environnement.com/fr/services/publications/memoires/memoire-sur-le-projet-de-reglement-sur-la-valorisation-energetique-a-partir-de-matieres-residuelles

3 Ministère des Forêts, de la Faune et des Parcs (2013). Le nouveau régime forestier : Biomasse forestière. Fiche d'information, http://www.mffp.gouv.qc.ca/publications/forets/comprendre/fiche-biomasse.pdf

biofuels could reduce society's dependence on fossil fuels and, thereby, contribute to reducing GHG emissions and improving Quebec and Canada's energy balance. In addition, it is important to note that the use of residual forest biomass enables creation of new economic activity in the regions.

In light of this important potential, and the fact that use of biomass offers the double benefit of renewable energy production and waste treatment, Réseau Environnement recommends promoting development of this energy sector. Development choices must be made by favouring the highest value added to the biomass used (whether forest-based, agricultural or from waste), including its energy conversion when the regional context is suitable.

Develop Electrification of Transport Nationally

Electrification of transport is a clear way forward for Canada given its hydroelectric potential. Quebec has begun its shift to electric transportation[4]; Canada should do the same and develop a concrete action plan to this end. By taking advantage of existing expertise, particularly in Quebec, more room can be made for countrywide electric transportation. Obviously, a significant charging station deployment program across the country should accompany this conversion.

Moreover, Réseau Environnement believes efforts to make private cars electric should be conditional on an investment first aimed at increasing and diversifying the supply of urban and interurban public transit. Indeed, we must not put aside efforts to counter the mentality of the "single occupant car" – cars that, even if electric, generate environmental impacts. The key objective is an overall reduction in the environmental footprint of the transport sector. To this end, it would be desirable for government to adopt zero-emissions legislation in the transport sector to increase the supply of hybrid and electric vehicles and facilitate their purchase by Canadians. This would help to make low-pollution cars more popular. Finally, regarding the development of electric public transport, it is important to highlight the different pilot projects of electric buses that have already begun[5] and show potential issues for large-scale application (e.g., special permissions are required for buses to run, given the surplus weight of the batteries). It is therefore necessary to continue to promote research and development in this area.

Réseau Environnement suggests that Canada develop a concrete strategy for electrification of transport, focusing primarily on public transport and encouraging research and development. The association recommends aiming for an overall reduction in the transport sector's environmental footprint and adopting a zero-emissions law.

Support Municipalities as Local Experts and Change Agents

Canadian municipalities have front row seats to the impacts of climate change. They not only have the power, but also the duty, to develop mitigation and even adaptation plans to respond effectively to these changes while maintaining a space for an acceptable and sustainable life for their residents. Municipalities, as local governments, are best placed to implement policies developed by subnational and national governments. It is therefore crucial to support them financially on this path.

4 Gouvernement du Québec (2013). Priorité Emploi : Stratégie d'électrification des transports 2013-2017, http://www.ledevoir.com/documents/pdf/strategie_electrification.pdf

5 http://www.stm.info/fr/a-propos/grands-projets/electrification-du-reseau-de-surface

It is necessary for Canadian cities to put climate change at the heart of land planning and urban development. Indeed, as local governments, municipalities have direct or indirect control over many types of emissions, such as those from transport, residential parks, industries, businesses and institutions and landfill sites. It is first necessary that all Canadian municipalities establish an inventory of their GHG emissions and develop action plans to reduce these emissions. The role of municipalities in raising awareness is also crucial, as they have a special relationship with citizens. Municipalities therefore have a great role to play, and it is essential to support them in these efforts.

The *Climat municipalités* program introduced by the Quebec government in 2012[6] is a very useful tool to help municipalities contribute to climate change mitigation. The program objectives were: to ensure that municipal bodies have an inventory of GHG emissions produced on their territory; to establish an action plan to reduce emissions in a sustainable way; and to support municipal agencies in raising the awareness of all stakeholders (for example, citizens, NGOs, public institutions and private enterprises). Similarly, Partners for Climate Protection (PCP)[7], set up by the Federation of Canadian Municipalities with ICLEI – Local Governments for Sustainability, has enabled promotion of more than 800 GHG reduction initiatives in municipalities, saving 1.8 Mt of GHG between 2008 and 2012[8]. It would be beneficial to increase the presence of such programs across Canada and financially support implementation of mitigation and adaptation plans put forward by municipal actors.

Réseau Environnement recommends that Canadian municipalities, as on-the-ground agents of change, be better recognized and supported in their efforts to mitigate climate change.

6 http://www.mddelcc.gouv.qc.ca/programmes/climat-municipalites/

7 http://www.fcm.ca/home/programs/partners-for-climate-protection.htm

8 http://www.fcm.ca/home/programs/partners-for-climate-protection/demonstrating-results.htm

ABOUT THE INITIATIVE

SUSTAINABLE CANADA DIALOGUES

This contribution is part of a collection of texts, *Acting on Climate Change: Extending the Dialogue Among Canadians*, stemming from interactions between Sustainable Canada Dialogues, an initiative of the UNESCO-McGill Chair for Dialogues on Sustainability, and business associations, First Nations, non-governmental organizations, labour groups, institutions, organizations and private citizens.

Sustainable Canada Dialogues is a voluntary initiative that mobilizes over 60 researchers from every province in Canada, representing disciplines across engineering, sciences and social sciences. We are motivated by a shared view that putting options on the table will stimulate action and is long overdue in Canada.

Together, the contributions enrich the scope of possible solutions and show that Canada is brimming with ideas, possibilities and the will to act. The views expressed in *Acting on Climate Change: Extending the Dialogue Among Canadians* are those of the contributors, and are not necessarily endorsed by Sustainable Canada Dialogues.

We thank all contributors for engaging in this dialogue with us to help reach a collective vision of desired pathways to our futures.

FOR MORE INFORMATION, VISIT OUR WEBSITE

sustainablecanadadialogues.ca/en/scd/acting-on-climate-change