Multilevel Governance and Climate Change: Are Municipalities Effective 'Partners' in the Canadian Climate-Change Response [*]

Ajay Sharma

Asharm4@uwo.ca

Ph.D. Candidate
Department of Political Science
University of Western Ontario

For Presentation at:
The Annual Meeting of the Canadian Political Science Association
Carleton University
Ottawa, Ontario, Canada
May 27 – 29th, 2009

[Draft - Comments Welcome]

[*] I would like to thank Drs. Andrew Sancton, Robert Young and Martin Horak for their invaluable guidance, patience and insight. Generous financial support was provided by the Canada Research Chair in Multilevel Governance and the SSHRC MCRI Research Project on Multilevel Governance and Public Policy in Municipalities (www.ppm-ppm.ca). All errors remain mine alone.

Introduction

Urban municipalities in Canada have emerged as key actors in the Canadian climate change policy response. Municipalities such as Toronto, Calgary, and Vancouver have rejected the traditional perspective that national governments have the most important, if not the only role to play, in both funding research and implementing policies that seek to reduce greenhouse gas emissions. A lack of federal leadership in Canada is widely mentioned as a key factor that has allowed for the emergence of this perspective. While Canada has ratified the Kyoto Protocol, it has yet to implement a climate change policy regime. In the absence of federal leadership, municipal governments have voluntarily entered this policy vacuum and have created a municipal-based climate change regime in Canada.

This development presents a unique paradox for established theories of political science. First, theories of collective action, principally the Olsonian paradigm, lead us to believe that voluntary action cannot result in an effective climate change response, especially at the municipal level. This assertion is supported by at least three factors – scale, reciprocity and effectiveness. The logical conclusion of the Olsonian paradigm informs us that municipalities that pursue this course of action are acting irrationally. Second, the work of public choice theorists such as Paul Peterson delineates a specific policy role for municipalities. Peterson (1981) argues that a municipality's primary objective should be economic development. Accordingly, the pursuit of redistributive strategies is an irrational policy decision to undertake. Theoretical concerns and the likelihood of effective voluntary collective action tend to mitigate our expectations of the cumulative municipal impact in this policy field.

Notwithstanding the salience of these concerns, a growing number of municipalities in Canada reject the contention that they are ill-suited to respond to climate change. The two key organizations that have advanced this position in Canada are the 'Federation of Canadian Municipalities' [FCM] and the 'International Council for Local Environmental Initiatives' [ICLEI]. Their efforts can be observed on two notable fronts: the FCM's 'Green Municipal Fund' [GMF] which provides Canadian municipalities with financial support to pursue sustainable development policy initiatives; and the FCM's partnership with ICLEI to deliver the 'Partners for Climate Protection' [PCP] program. The PCP program is a network of Canadian municipal governments who have committed to reducing greenhouse gases and acting on climate change.[1] In addition, leading Canadian cities are key participants in several international municipal organizations – for example, the 'C40 Climate Leadership Group'[2] and ICLEI - that seek to mobilize municipal action on both a domestic and global scale. This brief enumeration of municipal action does, at the very least, demonstrate the extent to which cities believe they ought to be a key actor in a climate change response. Moreover, it illustrates their conviction that cities have a role to play in the development of a national climate change policy framework.

This paper examines the role of municipalities in Canada's climate change response. As previously noted, the increasing level of attention municipalities pay to climate change runs counter to what theories of political science predict. Stated

[1] The Federation of Canadian Municipalities reports that 183 municipal governments from all 10 provinces and three territories have signed on to the PCP Program as of February 2009.
Retrieved on May 12th, 2009, from: http://www.sustainablecommunities.fcm.ca/Partners-for-Climate-Protection/

[2] The C40 Climate Leadership Group is a partnership between the Clinton Climate Initiative and 40 leading world cities. . Canada's sole representative is Toronto.
Retrieved on February 28th, 2009, from: http://www.c40cities.org/cities/

differently, it is difficult to situate these actions within a normative understanding of rationality. Clearly, proactive municipalities do not share this perspective. Nor do they appear to pay much heed to the logic of collective action. These observations allow for the emergence of three interrelated questions that I address in this paper. First, can municipalities be viewed as 'effective' and 'reliable' partners in the development and implementation of a national climate change response? Second, why do municipalities believe they are key actors in a climate change response? Third, what factors allow for the emergence and institutionalization of municipal action on climate change? To address these questions, this paper is organized in the following manner. This paper first considers the municipal impact on global climate and focuses on the key arguments that articulate a role for cities in the global climate change response. It then draws attention to the underlying theoretical arguments that are necessary to consider when examining the phenomenon of municipal-based collective action on climate change. Next, the paper provides an overview of recent federal activity on climate change in Canada that has contributed to the development of a policy vacuum. Situating municipal action within the federal context provides us with an additional lens through which we can gauge the potential of municipalities as 'effective' and 'reliable' partners. The remaining sections of this paper examine the evolution and the institutionalization of municipal-based collective action on climate change in Canada.

The Municipal Impact on Global Climate Change: Relocating the Burden of Responsibility

One of the more intriguing developments in the climate change debate centers on the issue of accountability – who is most responsible for the increasing levels of greenhouse gas emissions? Historically, 'conventional' wisdom has focused our attention towards industries such as manufacturing, steel and mining as the key emitters of greenhouse gases. However, it has now become common to hold cities responsible for generating the majority of global greenhouse gas emissions. For example, the 'C40 Large Cities Climate Leadership Group' claims that cities consume 75 per cent of the world's energy and produce nearly 80 per cent of the world's greenhouse gas emissions (C40, n.d.). The 'Clinton Climate Change Initiative' similarly claims that while cities only take up two per cent of the earth's land mass, they are responsible for approximately 75 per cent of the heat trapping greenhouse gases that are released into the atmosphere (Clinton Foundation, n.d.). The Federation of Canadian Municipalities takes a complementary position and states:

> Municipal governments have an important contribution to make to climate protection. Up to half of Canada's greenhouse gas (GHG) emissions are under the direct or indirect control or influence of municipal governments. By 2012, communities could cut GHG emissions by 20 to 50 Mt from municipal operations and community-wide initiatives with investments in environmental infrastructure and sustainable transportation infrastructure (FCM, n.d.b.).

It appears that Canadian municipalities have assumed, to varying degrees, the burden of political leadership with respect to climate change.

A cursory overview of the early history of municipal action on climate change provides additional support for this perspective. In 1990, seven years before the Kyoto Protocol targets were established, the City of Toronto adopted the "Toronto Target", a

non-binding voluntary agreement to reduce carbon emissions to 20 per cent below 1988 levels by 2005. In taking this step, Toronto became one of the first governments in the world to commit to a greenhouse gas emissions reduction target. Following the establishment of ICLEI's *Urban CO_2 Project*[3] in the early 1990s, municipal attention on climate change increased globally. Participants in the *CO_2 Project* included: Toronto and the Municipality of Metropolitan Toronto; San Jose, California; Helsinki, Finland; Copenhagen, Denmark; and Hannover, Germany. Each participant submitted an action plan to reduce carbon dioxide emissions by 1993 and, in most cases, a commitment to reduce emissions from energy use in its jurisdiction by 10-25 per cent (Lambright et al, 1996: 465). Other Canadian municipalities that followed the lead of Toronto and signed on to the ICLEI program include: Vancouver, 1994; Surrey, 1996; Calgary, 1994; Whitehorse, 1995; Thunder Bay, 1997; Regina, 1994; and Quebec City, 1997 (FCM, n.d). It is important to note that municipalities joined the ICLEI program on a voluntary basis. More substantively, these actions demonstrate two key points. First, municipalities displayed an early recognition that political leadership and action was needed on the issue of climate change. Second, Canadian participation in the ICLEI program spanned the socio-economic, cultural, political and geographic spectrum of Canada. Put differently, municipal action on climate change is not confined to Canada's major municipalities.

Setting aside the virtues of political leadership, there are an increasing number of studies that posit municipalities as key actors in the climate change response. Data from a number of countries show that local authorities control policy measures that directly or

[3] The City of Toronto and the municipality of Metropolitan Toronto were the only Canadian participations in the *Urban CO_2 Project.* Other North American participants included: Dade County (Miami); the City and County of Denver, Colorado; Portland, Oregon; and Minneapolis and St. Paul, Minnesota.

indirectly influence approximately 30-50 per cent of national greenhouse gas emissions (Lindseth, 2004: 325; Robinson and Gore, 2005: 103). These policy measures include, but are not limited to: land-use planning; building codes and regulation; waste management processes; and public transit systems.

The Disjuncture between Theory and Practice

While municipalities have been lauded for their proactive policy decisions, the effectiveness of a municipal-level response to climate change can be challenged on several fronts. First, from a rational choice perspective, it makes little sense for a city to commit limited resources to control its greenhouse gas emissions, as there is no assurance that voluntary action will have a measurable effect on the overall threat of global climate change. Second, it seems to defy economic logic that Canadian municipalities should be actively pursuing a climate change policy agenda, especially when one considers their comparatively minor levels of greenhouse gas emissions. From an economic perspective, this behaviour can be categorized as irrational. Proponents of public choice argue that policies adopted by a municipality will be constrained and shaped by how those policies affect the municipality's overriding objective of promoting economic growth. Peterson (1981), for example, argues that municipal governments should focus on promoting economic growth and development, as opposed to redistributive policies that fall under the competencies of higher levels of government due to scale and cost.

Notwithstanding the salience of economic arguments, the rational choice perspective posits that the logic of collective action presents the most significant and problematic barrier to the realization of an effective municipal climate change response. By implementing climate change policies, municipalities are in essence providing a

public good; that is, attempting to limit the undesired effects of climate change on the public through municipal policy (Ostrom and Ostrom 1971). By their nature, public goods are non-excludable; it is impossible to prevent an individual from partaking of the public good, or of the benefits that the public good provides or produces. Moreover, when it is impossible to capture the benefits of a public good and policy actions have a positive cost, it is rational to not pay any costs and freeride on the provision of others (Kousky and Schneider, 2003: 360).

With the publication of *The Logic of Collective Action* in 1965, Mancur Olson challenged the assertion that groups would tend to form and take collective action whenever members would benefit from the provision of a public good. Instead, Olson argued that:

> [U]nless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests.* In other words, even if all of the individuals in a large group are rational and self-interested, and would gain if, as a group, they acted to achieve their common interest or objective, they will still not voluntarily act to achieve that common or group interest (Olson 1965: 2).

The importance of Olson's argument cannot be overstated; it continues to inform the academic debate on the logic of collective action. A cursory overview of the literature reveals an intuitive, but highly significant, conclusion: if the benefits of a public good can be obtained through non-participation, it is entirely rational to enjoy the public good through the process of free riding. Those who do not purchase or pay for any of the public or collective goods cannot be excluded or kept from sharing in the consumption of that good, as they can where non-collective goods are concerned (Olson 1965: 15). Elinor Ostrom, writing three decades after Olson, arrives at a similar conclusion:

> In a public-good dilemma, for example, all those who would benefit from the provision of a public good – such as pollution control, radio broadcasts, or weather forecasts – find it costly to contribute and would prefer for others to pay for the good instead. If everyone follows this equilibrium strategy, then the good is not provided or underprovided. Yet everyone would be better off if everyone were to contribute (Ostrom 1998:1).

The logic of collective action is by most accounts the primary barrier[4] that continues to undermine the effectiveness of the voluntary climate change regime that is emerging at the municipal level. There is sufficient empirical evidence to suggest that the dynamic of free riding combined with a lack of enforcement or compliance mechanisms will mitigate the possibility of successful collective action.

Hardin (1968) sees the authority of government as the key remedy to the shortcomings of decentralized choice. Hardin's "Tragedy of the Commons" illustrates that in the absence of enforcement mechanisms, individuals have little incentive to reduce the degree of their exploitation of the commons. While exploitation may be an optimal course of action at the individual level, the cumulative impact of this process on society is highly problematic. Because everyone may want the collective good supplied or, as in the "Tragedy of the Commons", protected, an imposed policy may win unanimous support. Olson offers a similar view and argues:

> …common group objectives will not be advanced unless there is coercion to force them to do so, or unless some separate incentive, distinct from the achievement of the common group interest is offered to the members of the group individually on the condition that they help beat the costs of burden involved in the achievement of the group objectives (Olson 1965: 2).

In the Canadian context, this can be taken to suggest that centralized directions from provincial governments, or provincially acceptable federal policy directions, are necessary to achieve effective collection action.

[4] Other barriers include: a lack of municipal finances; human resources; capacity, and; knowledge (Robinson and Gore 2005).

The National Climate Change 'Debate'

Over the course of the past few decades, Canada has positioned itself as a 'global leader' on the issue of climate change. Successive federal governments have played a key role in international negotiations that led to the culmination of the three major international agreements on climate change: The World Commission on Environment and Development [The Brundtland Report], 1987; The United Nations Framework Convention on Climate Change, 1992; and The Kyoto Protocol, 1992; (McKenzie, 2002: 228). Notwithstanding its international reputation, successive federal governments have been unable to implement a national climate change framework.

A key question in the Canadian climate change debate centers on the policy role played by the federal government. Advocates of federal responsibility emphasize: economies of scale in studying environmental problems and developing complex standards; the ability of the federal government to respond to interprovincial spillovers; and the importance of national standards. Proponents of greater sub-national responsibility argue that provincial governments have a more intimate knowledge of local problems and can tailor solutions to local circumstances accordingly - the pursuit of "one solution for all common problems" is argued to be shortsighted and too easily designed, and that optimal solutions will remain elusive at the federal level. Regardless of the approach taken, advocates on either side of the debate tend to converge on one central conclusion – municipalities are ill-equipped to tackle the impact of climate change alone. Currently, the majority of municipalities in Canada that are addressing climate change are doing so in the absence of clearer direction from higher levels of government. Taking

this into consideration, the following section provides a cursory overview of recent federal action on climate change and the consequences of such action for municipalities.

While an examination of the events that surround various failed attempts extends beyond the scope of this paper, there are two key factors that should be briefly considered. It has been argued that constitutional ambiguity and the complex nature of federal-provincial relations are the primary institutional constraints that impede the implementation of an effective national climate change framework (Harrison, 1999; McKenzie, 2002; Bernstein, 2002). Turning first to the issue of constitutional ambiguity, it is contended that the haphazard approach to environmental policy in Canada is the direct by-product of ambiguities in the Canadian Constitution. Not only is the Constitution silent on the issue, but it does not offer a clear guide to environmental protection or sustained management of resources (Hessing and Howlett, 1997: 5). This assertion has been challenged on the ground that uncertain authority has not always prevented the federal government from acting in other areas of uncertain or contested jurisdiction – for example, healthcare and post-secondary education (Harrison, 1999: 4). Critics of federal inaction on climate change often converge towards a general point of view; the excuse of constitutional difficulties is used as a smokescreen to hide a basic unwillingness to act. The intergovernmental dynamic imposes another series of complications that undermine the possibility of a national climate change framework. In Canada, all three levels of government play an interdependent role in the management of environmental issues. However, the federal government has demonstrated a willingness to delegate certain environmental responsibilities on to the provinces. Provincial governments, in turn, have delegated certain responsibilities on to the municipal level.

The result of decentralization and deregulation of authority in the environmental field has been a patchwork quilt of programs and regulations across the country, rather than a comprehensive approach to environmental policy-making (McKenzie, 2002: 105).

When the Liberal government of Prime Minister Jean Chrétien ratified the Kyoto Protocol on December 17, 2002, it entered into a pledge to reduce greenhouse gas emissions by 6 per cent below 1990 levels in a five year period of 2008 to 2012 (Government of Canada, 2002: 5). To meet this commitment the government proposed a three-stage strategy through a combination of incentives, regulations and tax measures. A little more than two years had elapsed when the Kyoto Protocol came into effect on February 16, 2005. Despite the continued support of Kyoto, the federal government had yet to articulate how it expected to achieve its Kyoto commitments. Speaking on the lack of federal activity on Kyoto, a former top advisor to former Prime Minister Jean Chrétien, Eddie Goldenberg admitted that government was not prepared to implement Kyoto at the time of ratification in 2002. Moreover, he stated that Canadians were not ready at the time for the political changes necessary to meet the targets laid out by the protocol, supporting the principles only "in the abstract" (Goldenberg's Confession, 2007). Goldenberg's admission, while detrimental to the climate change movement in Canada, illustrated the difficulty of meeting the standards set by the Kyoto Protocol. By 2004, Canada's emissions were 27 per cent above 1990 levels and 35 per cent above the Kyoto target (Ljunggren, 2007).[5] Environment Canada's 2009 'National Inventory Report' paints a similar picture: in 2007. Canadian GHG emissions were 26.2 per cent above 1990 levels; and 33.8 per cent above the Kyoto Target (Environment Canada, 2009: 4).

[5] In contrast, the United States Environmental Protection Agency reported that total emissions in the United States rose by 15.8 per cent from 1990 to 2004 (Wynn and Doyle, 2006).

These data reveal that Canada's GHG emissions are on a considerable growth trajectory. Taking this into account, it was clear that the Canadian government would not be able to meet its Kyoto commitments within the specified time frame. Perhaps a show of environmental symbolism, the Liberal government remained steadfast in its commitment to Kyoto.

The Canadian general election of January 2006 held far reaching implications for the Kyoto Protocol in Canada. The Liberals had been defeated by the Conservative party which now formed minority government. Most alarmingly for proponents of climate change action, the Conservative party's election platform called for the scrapping of Canada's Kyoto commitments. The Conservative government's objections to Kyoto centre on what it perceives to be the economic consequences of compliance. Instead, the Conservative government has pursued a policy approach similar to that advocated by the former Bush administration in the United States., one that would adopt flexible, domestic goals for emissions reductions (Koval 2008). The Canadian government's preference for this approach was further reflected by joining the 'Asia-Pacific Partnership [APP] on Clean Development and Climate'[6]. The APP, an alternative to the Kyoto Protocol, holds that emission targets should be voluntary and looks at developing technologies that reduce emissions (Canada – Kyoto Timeline, 2007).

To facilitate its alternative approach to Kyoto targets, the Conservative government introduced Bill C-30, *Canada's Clean Air and Climate Change Act,* on October 19, 2006. The three opposition parties successfully overhauled Bill C-30 to include Kyoto-compliant targets for industrial emitters. Antithetical to the Conservative

[6] The other member countries of the seven-nation pact are the United States, Australia, China, Japan, and South Korea (Asia Pacific Partnership on Clean Development and Climate, n.d.).

government's approach to climate change, the revised version of Bill C-30 was abandoned. Additional pressure from opposition parties towards the Conservative government's increasingly hostile position towards Kyoto intensified with the passage of a private member's bill called the 'Kyoto Protocol Implementation Act' [KPIA] which came into force on June 22, 2007 (Government of Canada, 2007:5). Simply put, the Act requires the government to ensure that the emission reductions targets of the Kyoto Protocol are being met through the implementation of a climate change plan. On August 21, 2007, the Conservative government released the 'Climate Change Plan' as required by the Implementation Act (Koval 2008).

The federal government's policy direction following the introduction of the KPIA was brought sharply into focus over the course of 2007 and 2008 in a series of judicial review applications initiated by the environmental organization 'Friends of the Earth' [FOTE]. On September 19, 2007, FOTE filed an application for Judicial Review with the Federal Court of Canada (Koval 2008). In its filing, FOTE were seeking a declaration that the Conservative government had not complied with the KPIA. In addition, FOTE sought a court order directing the Minister of the Environment to prepare an initial Climate Change Plan that fulfilled Canada's Kyoto obligations. On October 20, 2008, the Federal Court of Canada dismissed the applications brought forward by FOTE. The court noted that because the KPIA was introduced as a private member's bill (Bill C-288), it did not authorize the expenditure of public funds to achieve its objectives. Speaking on the Court's jurisdiction to compel the government to act, The Honourable Mr. Justice Barnes stated the following:

> I have concluded that the Court has no role to play reviewing the reasonableness of the government's response to Canada's Kyoto commitments within the four corners of the KPIA. While there may be a limited role for the Court in the enforcement of the clearly mandatory elements of the Act such as those requiring the preparation and publication of Climate Change Plans, statements and reports, those are not matters which are at issue in these applications (*Friends of the Earth v. Canada (Governor in Council),* 2008 FC 1183, at para. 46).

While the decision was certainly a setback for climate change advocates in Canada, the legal proceedings did place the Conservative government under an increased level of public scrutiny. On December 12, 2008, FOTE appealed the ruling.

When we take stock of recent federal developments on climate change in Canada, several key observations are worth noting. First, there have been no meaningful federal legislative initiatives that speak directly or indirectly to the role that municipalities could play in the Canadian climate change response. Second, ratification of the Kyoto Protocol has not led to the establishment of a domestic climate change framework. Third, the current Canadian federal government has aligned itself with the perspective of the previous Bush administration. The objectives of the Kyoto Protocol are set aside in favour of a greater reliance on research and voluntary action. At the very least, these observations suggest that a federally directed climate change program remains distant. More critically, however, the lack of federal attention towards such matters does not appear to bode well for municipalities that have developed or are seeking to develop a climate change response.

The Evolution of Collective Municipal Action on Climate Change

In light of the practical and theoretical considerations that have been discussed to this point, why do municipalities take any action on climate change? Put differently, what

factors allow for the emergence of this action? Engel (2005: 65) draws our attention to three potential explanations:

- Political advantages from leadership on an international issue which the federal government is mostly ignoring;
- Competitive advantages over other regions associated with the early adoption of regulations that may soon become widespread; and
- Concern over the public health and environmental impacts of climate change.

Additional explanations include, but are not limited to:

- The availability of funds from higher levels of government;
- The "Follow the Leader" mentality - A municipality 'takes the lead' in an attempt to induce increased collective action;
- The presence of a strong environmental lobby directs the municipality to adopt a climate change agenda regardless of what neighbouring municipalities do. A lack of collective action does not prevent policy advancement; and
- Altruistic municipalities conclude that they are compelled to 'confront' climate change. Regardless of what other jurisdictions do, the municipality has concluded it has the resources to provide a public good that taxpayers outside of its jurisdiction can enjoy. In this scenario, free-riding is tolerated.

By no means exhaustive, these explanations do give us a snapshot of the variables that influence municipal decision-making on climate change. A wider body of academic work also confirms the presence and varying impact of these and similar explanations (Lambright et al, 1996; Kousky and Schneider, 2003; Bulkeley and Betsill, 2003; Zahran et al, 2008).

With the increasing ambivalence or retrenchment of federal action on the development of national climate change regulation, Canadian municipalities have stepped into this policy vacuum. Of greater significance, however, proactive municipalities tend not to view higher levels of government as the source of leadership. The Mayor of Toronto, David Miller, is one of numerous municipal leaders to espouse this position:

> I feel strongly that since the federal government has abdicated its responsibility on climate change, it's up to cities to lead. If the federal government is not going to act on climate change, it has an obligation at the very least to enable cities to do so (City of Toronto, 2007).

An intriguing aspect of the municipal-based climate change movement is that it is "bottom-up" as opposed to "top-down". Municipalities are, by several accounts, showing how to lead the way on climate change (Bulkeley and Betsill 2003; Kousky and Schneider 2003). Through their actions, municipal officials can pressure national governments by shaping public opinion on internal issues. The passage of local resolutions, while not legally binding, can be an effective means to stimulate local debate (Hobbs 1994; Shuman 1998) that could influence the policy agenda of higher levels of government.

A key aspect of the "bottom-up" approach centres on the notion that municipalities can serve as laboratories for higher levels of government. Kincaid notes:

> …local governments can demonstrate one of the virtues of federalism, namely, the ability to experiment with different solutions to public problems and, at the same time, actually do something constructive and share information with others around the world while also learning from others (1999: 130).

A cursory examination of the climate change plans of three leading Canadian municipalities - Vancouver, Calgary, and Toronto – illustrates the extent to which this perspective has taken hold at the municipal level. The City of Vancouver's plan for reducing its carbon emissions that result from increasing levels of energy consumption focuses on: low-carbon vehicle initiatives for the City's taxi fleet; building retrofit programs; land-fill gas recovery; and sustainable public transportation (City of Vancouver, 2007: 15-16). The City of Calgary's approach follows a similar pattern: purchasing 'green' power; building energy efficiency; and greening the municipal

transportation fleet (City of Calgary, 2006: 14). The City of Toronto, perhaps cognizant of its position as the preeminent advocate of climate change in Canada, takes a broader outlook in its climate change plan and lays out its ambition to be the renewable energy capital of Canada. In addition, its plan seeks to: create a sustainable transportation system; increase public education on climate change; pursue "green" economic development; and adaptation (City of Toronto 2007). At first glance these policy goals may seem overly broad. However, on closer examination, the argument that municipalities can serve as laboratories for higher levels of government becomes clear. To varying degrees, Canadian municipalities are experimenting with: solar roof-top paneling; wind-power; biofuel for municipal transportation systems; methane recapturing from landfills; retrofitting city buildings for increased energy efficiency; and hybrid vehicles. If municipalities are able to capture and demonstrate the perceived benefits of these and other green technologies, it stands to reason that such benefits could be captured on a larger scale. Arguably, experimentation at the municipal level should lower the risks associated with translating small-scale experiments to a larger scale. Ultimately, the municipal laboratory approach provides higher levels of government with a unique vantage point as they will better understand the consequences of adopting certain policies.

Despite increasing levels of municipal action, climate change is still perceived in many quarters as an issue that falls under the jurisdiction of higher levels of government. To overcome this impediment, *localizing* the language of global climate change has been shown to be the most important first step in developing a collective municipal response to global warming. The two key organizations that have fostered this development in

Canada are the Federation of Canadian Municipalities [FCM] and the 'International Council for Local Environmental Initiatives' [ICLEI]. Their efforts can be observed on two notable fronts: the FCM's 'Green Municipal Fund' [GMF] which provides Canadian municipalities with financial support to pursue sustainable development policy initiatives; and the FCM's partnership with ICLEI to deliver the 'Partners for Climate Protection' [PCP] program. The following sections draw attention to the efforts of these two organizations and their relative impact on climate change policy-making at the municipal level in Canada.

Transforming Abstraction into Reality: Localizing Climate Change

The 'International Council for Local Environmental Initiatives' was formed in 1990, and has been cited as playing a pioneering role in helping to transform the rhetoric of global climate change politics into actual policy that can be implemented at the local level (Bulkeley, 2005). ICLEI regards municipal governments as critical players in any attempt to implement national and international policy imperatives to reduce emissions of greenhouse gases – ICLEI reports that it currently has 1072 members that represent over 400 million people globally (ICLEI, n.d.).

Through its 'Cities for Climate Protection' [CCP] program, ICLEI has enlisted over 700 cities globally to adopt and implement measures to achieve quantifiable reductions in local greenhouse gas emissions, improve air quality, and enhance urban livability and sustainability (ICLEI, n.d.). The CCP program is premised on the assumption that the barriers to local action on climate change are primarily due to a lack of information. The network is organized around the production and dissemination of

technical information about local contributions to climate change, measures that can be taken locally to address the problem, and the potential co-benefits. Once signed on to the program, members commit to passing through five milestones (Bulkeley and Betsill 2003: 51):

- Conduct an energy and emissions inventory and forecast;
- Establish an emissions reduction target;
- Develop a local action plan to achieve that target;
- Implement policies and measures; and
- Monitor and verify results.

By adhering to the voluntary CCP framework, members share the normative goal that climate change is a problem and its impacts can be mitigated through action at the local level.

In Canada, ICLEI has partnered with the Federation of Canadian Municipalities to deliver the Canadian version of the CCP program – the 'Partners for Climate Protection' program. There are currently, 183 Canadian participants in the PCP program (FCM, n.d.b.). This alliance is particularly noteworthy as it situates ICLEI's interests within the broader framework of Canada's national municipal association. The FCM also receives financial support from the Green Municipal Fund [GMF] to operate the PCP program. On an annual basis, the GMF allocates up to $750,000 to support the PCP program (FCM, 2006: 9). While limited in scope, this financial support has increased its organizational capacity to distribute information widely about the benefits of the PCP program. More critically, the FCM's national networks have contributed to the relatively rapid diffusion of the PCP program among Canadian municipalities.

The potential of co-benefits increasingly informs the approach municipal policy-makers take when extolling the virtues of climate change policy. As Betsill notes, "officials have localized the *policy* of controlling GHG emissions (which happens to be

the primary response to climate change) rather than the *problem* of climate change" (Betsill, 2001: 3). Preferred policy options, in this case the reduction of greenhouse gas emissions, are presented as solutions to problems the municipality is in the process of addressing. Betsill further notes that ICLEI officials often emphasize the co-benefits of controlling local greenhouse gas emissions and point to climate protection as a secondary consideration (Betsill, 2001: 3). Understandably, citizens of a jurisdiction may not support a climate change policy agenda if tangible short-term benefits cannot be captured. Accordingly, if municipal governments are compelled by electoral pressure to abandon explicit climate change policies, then the future of any collective municipal action would appear bleak. Consequently, municipalities enrolled in the PCP program focus on the fact that controlling greenhouse gas emissions helps them to address other issues already on their agenda. This approach allows municipal policy-makers to:

- Localize climate change issues for residents;
- Justify climate policies to the electorate;
- Justify the expenditure of public funds; and
- Create an environment to address multiple issues simultaneously.

A brief examination of prominent municipal climate change plans in Canada illustrates the extent to which co-benefits are increasingly used to promote climate change policies. The City of Toronto is seeking to: establish an Eco-Roofs Program to make a minimum of 10 per cent of the total industrial, commercial and institutional roof space more environmentally friendly by 2020 through incentive programs; shift all taxis operating in the City to low emission or hybrid technologies by 2015 or earlier; and allocate funds in 2008 to move the entire street sweeper fleet to new technology that collects more than 90 per cent of road dust and improves street level air quality by as much as 20 per cent (City

of Toronto, 2007). In 2001, the City of Calgary's 'Light Rail Transit' system became the first public transit system in North America to be 100 per cent powered by renewable wind energy. Within the next 10-20 years, the City is planning to ensure that 'Green-Built' homes will be 100 per cent reliant on green power (City of Calgary, 2006).

In the absence of a tangible *short-term threat* from climate change, there appear to be few approaches that municipal governments can take to induce a value shift or structural change in human behaviour. Rather than articulating policies in the abstract language of climate change, municipalities appear keen to demonstrate how cost-effective augmentations to existing practices can reduce a particular jurisdiction's impact on total global carbon emissions.

Gauging the Effectiveness of Municipal Collective Action on Climate Change

By several notable accounts, ICLEI's approach has allowed for the evolution and development of an effective network that has removed key knowledge and technical barriers to municipal action on climate change (Betsill, 2001; Bulkeley and Betsill, 2003; Kousky and Schneider, 2003; Vasi, 2007; Zahran et al, 2008). However, this observation should not be taken to suggest that the PCP program has been a success. While an extensive examination of ICLEI's actions in Canada lie beyond the scope of this paper, the relative success of the PCP program can be measured against three discrete metrics that are briefly discussed below: the level of participation; diversity of membership; and reductions in greenhouse gas emissions.

In 1998, the FCM formalized its relationship with ICLEI and introduced the PCP program. Prior to 1998, the FCM and ICLEI administered two separate but

complementary programs that focused on municipal action on climate change: the FCM's '20% Club'; and ICLEI's CCP program. The FCM's '20% Club' was similar to ICLEI's CCP program, but set a more ambitious target of reducing greenhouse gas emissions in Canadian cities by 20 per cent (Vasi 2007; 120). At that point in time, only 53 of the over 4000 Canadian municipalities had registered their efforts with either of these voluntary programs (Robinson and Gore, 2005: 106). Since the merger of these two programs, the number of municipalities participating in the PCP program has increased to 183 (FCM, n.d.b.). The level of participation does appear to cast doubt on the effectiveness of the PCP program over the course of the preceding decade. However, the diversity of the PCP program's participants does suggest that climate change is now less frequently perceived as the stereotypical "Big City Issue". As Table 1 illustrates, PCP participants are drawn from Canada's ten provinces and three territories.

Table 1: Selected PCP Program Participants

Municipality	Population	Joined
Grand Prairie (AB)	35,962	2002
Revelstoke (BC)	8, 704	2006
Brandon (MN)	40,000	2005
Bathurst (NB)	12,924	2001
Gander (NL&L)	9,651	2000
Yellowknife (NWT)	17,863	1998
New Glasgow (NS)	9,432	1998
Iqaluit (NU)	5,236	2002
Thunder Bay (ON)	109,102	1997
Charlottetown (PEI)	32,245	2002
Laval (QC)	343,005	1997
Regina (SK)	192,800	1994
Whitehorse (YK)	21,405	1995

(Source: FCM, n.d.b.)

The increased level of diversity represents a major step in the evolution of collective municipal action on climate change in Canada. Moreover, that the PCP program appears to have succeeded in motivating 'non-traditional' municipalities to become participants, should be considered a success.

With respect to the third metric, reductions in greenhouse gas emissions, the common critique of municipal action on climate change centers on its marginal impact on global emissions. The salience of this critique is heightened as there is little data to assess the impact of CCP participant's actions with respect to reducing emissions. The data that do exist suggests that the impact of the CCP program is limited. For example, ICLEI's 2003 Triennial Report claimed that the actions of 143 US cities and counties represented an avoidance of over US$97 million in energy and fuel costs per year which eliminated more than nine million tonnes of equivalent carbon dioxide per year (ICLEI, 2003: 17). The significance of this figure is placed into greater context when we consider that the City of New York estimates that it is responsible for approximately 58.3 million tonnes of carbon dioxide equivalent per year – roughly one per cent of the total carbon emissions of the United States in 2005 (City of New York, 2007). The 2003 Report also speaks to the achievements of Canadian participants in the PCP program. However, ICLEI offered no data to gauge the impact of the PCP program with respect to reducing greenhouse gas emissions.

The preceding discussion draws a key issue to our attention that speaks to the effectiveness of PCP program, and the potential effectiveness of municipalities as partners in a national climate change policy response. If we take into account the length of time the PCP program has been operating, the presence of the FCM, and the heightened awareness of the role municipalities can play in curbing carbon emissions, it seems reasonable to expect a higher level of participation in the program. In addition, there are no significant financial costs to become a participant – a municipality is simply required to pass a non-binding council resolution. Ultimately, the low level of

participation in the PCP program seems to suggest that climate change may still be perceived as an issue for higher levels of government by the overwhelming majority of Canadian municipalities.

In 2000, the Government of Canada created the 'Green Municipal Funds', the first, and to date the only, institutionalized form of federal funding that specifically assists municipal-based environmental initiatives. The mandate of the GMF is to finance leading municipal sustainable development initiatives across Canada. To accomplish this task, the federal government entrusted the FCM with the delivery of the GMF, at "arm's length to all Canadian municipalities" (FCM, 2001: 5). At the time of its creation, the GMF functioned as two separate programs: the Green Municipal Investment Fund [GMIF] which was endowed with $100 million to provide loans and loan guarentees to carry out energy effieciency measures such as retrofitting-buildings; and the Green Municipal Enabling Fund [GMEF] that was endowed with $25 million that would provide cost-shared grants towards feasibility studies on projects designed to imptrove air quality and capture greenhouse gas emissions through greater energy efficiency (FCM, 2001: 5). The initial endowment of $125 million was doubled in the 2001/02 federal budget to $250 million, and increased again in 2005 by $300 million (FCM, n.d.a.). On March 31, 2005, the GMIF and GMEF were combined with the creation of the 'Green Municipal Fund' (FCM, 2006: 7).

Since 2000, the FCM reports that the GMF has supported 691 initiatives through the provision of $99 million in grants and $274 million in low interest loans (FCM, 2008b: 24). Of greater significance, however, approximately 350 municipal governments across Canada have undertaken GMF-funded studies and projects since the creation of

the fund. In 2007-2008, the FCM reported that GMF-funded studies and projects were distributed as follows: Atlantic Canada, 8.3%; British Columbia (including Yukon), 19.2%; Ontario, 35.9%; Prairies[7], 18.3%; and Quebec, 18.3% (FCM, 2008a: 8) These figures draw two important points to our attention. First, municipalities have demonstrated a willingness to pursue climate change and other environmental policy measures if funding is made available. Second, municipal interest and the allocation of GMF funds are distributed across the country. These two points suggest that if municipalities are offered sufficient incentive structures, there is a greater possibility that climate change policies will be adopted and implemented.

The City of Toronto provides us with a clear example of how incentive structures induce greater levels of municipal action. While the City has been a leading proponent of the role municipalities can play in responding to climate change, its policy agenda has been greatly assisted by the GMF's financial assistance. While the City has utilized GMF funds for a variety of climate change projects, two examples stand out in particular: the Energy and Water Efficiency Retrofit [EWEP] project; and the District Energy and Trigeneration [DET] project at Exhibition Place. While this paper does not offer an expansive review of these two GMF-funded projects, there is one key point that should be noted - the GMF provided the City with significant financial assistance to undertake these two projects. The City was able to procure $8.75 million in low-interest GMF loans to pursue the EWEP project – the total value of the project was $35 million (FCM, 2004: 55). Similarly, the City received $1.075 million in the form of low-interest GMF loans to partially cover the initial cost of the DET project that stood at $4.3 million

[7] The FCM categorizes Alberta, Manitoba, Saskatchewan, Northwest Territories, Nunavut under the label of 'Prairies'.

(FCM, 2005: 47). These two examples demonstrate the extent to which the GMF can assist municipalities in situations where significant capital costs may impede policy action.

While the creation of the GMF has played a key role in expanding the scope of municipal action on climate change in Canada, there are three important caveats to consider. First, there is little evidence to suggest that GMF-funded projects and studies have had their desired effect. For example, the 2006-2007 GMF Annual Report states that "GMF projects are *anticipated* to reduce greenhouse gas emissions by 1.6 megatonnes of CO_2. These reductions are equivalent to removing over 271,000 cars from Canada's roads" (FCM, 2007: 12). Second, the 2007-2008 GMF Annual Report claims that "GMF-supported initiatives have the *potential* to leverage almost $2.2 billion of economic activity in nearly 350 communities across Canada" ((FCM, 2008a: 8) Third, the GMF cannot offer more than $92 million in loans and grants each year to municipalities (FCM, 2008a: 6). This presumably places limitations on the number of projects the GMF is able to fund each year. The reliance on future projections poses an issue for those wishing to evaluate the cumulative impact of GMF-funded projects. However, it would be premature to offer a substantive conclusion on the effectiveness of the program given that it has been in operation for only nine years. At this juncture, it appears that the availability of limited funds is the GMF's greatest challenge at this time.

Budgetary and Fiscal Constraints: The Death Knell for Municipal Action?

While the lack of participation in the PCP program, and the limitations of the GMF program do not auger well for collective action at the municipal level, the key

impediment appears to be the financial burden of policy implementation. It is quite rational to assume that municipal policymakers may avoid adopting climate change measures, especially if significant upfront capital costs are necessary to achieve emissions reductions.[8] While this may not dissuade more affluent municipalities such as Toronto or Calgary from pursuing climate change initiatives, a lack of available funds may deter less affluent municipalities from taking similar policy decisions. In the absence of meaningful financial incentives, can we reasonably expect municipalities with limited resources to pursue climate change policies that may require substantive up-front capital costs?

In many respects, expectations of increased levels of municipal policymaking on climate change are highly problematic. Municipalities do not appear to possess the fiscal capacity to unilaterally adopt and implement a purposeful climate change agenda. While there are several factors that support this assessment, the following are the most salient: limited revenue streams; reduced provincial and federal transfers; overreliance on property taxes; and the provision of provincially mandated and cost-shared programs. As Table 2 illustrates, as Canadian municipalities have become increasingly reliant on the property tax to fund municipal services and operations, provincial and federal transfers have moved in the opposite direction.

[8] This may also explain the low levels of participation in the PCP program. Once a commitment, binding or not, has been made, public expectations may compel a municipality to adopt climate change policy measures.

Table 2: Local Government Revenue in Canada, 1995, 2004 and 2006.
Dollars x 1,000

REVENUE	2004 Revenue	% Change Since 1995	2006 Revenue
Own source revenue			
Real property taxes	23911097	72.13	26692369
Other Taxes, Property Related	5242578	-0.46	5542508
Other Tax Revenue	815615	94.21	880216
Total Tax Revenue	29969290	53.07	33115093
Sales of Goods and Services	12432849	57.63	14218944
Other Income from Own Sources	3594460	15.34	4349208
Transfers, general and specific			
From Province: Specific Purpose	6909121	-19.97	8993031
From Province: General	1657222	22.00	1842702
From Province: Total	8566343	-14.26	10835733
From Federal: Specific	733045	30.90	1363025
Total Transfers	9299388	-11.87	12198758
Total Own Source Revenue	45996599	50.40	51683245
Total Revenue	55295987	34.43	63882003

(Source: Sancton and Young, 2009: Appendix)

Taking these trends into account, it is difficult to rationalize an expanded role for municipal involvement on climate change, especially if municipalities are expected to bear the financial burden of policy implementation.

The provision of provincially mandated and cost-shared programs places an additional set of limitations on a municipality's budgetary discretion. The clearest example of this phenomenon can be drawn from the experiences of the City of Toronto, widely regarded as one of the leading global advocates of municipal action on climate change. Since 1988 the City has strongly advocated the position that municipalities are critical components of any global climate change response. It has positioned itself at the forefront of the municipal climate change arena through its leadership, innovation and involvement with organizations such as the 'C-40 Large Cities Climate Initiative', and the 'International Council for Local Environmental Initiatives' [ICLEI]. Notwithstanding

its long-held commitment to address climate change, the City's efforts have been stifled by the requirement to provide provincially mandated and cost-shared programs[9] following the amalgamation of Metropolitan Toronto in 1998. As illustrated in Table 3, the provision of these programs occupies approximately one third of the city's operating budget. The substantive implications of this arrangement have resulted in the redirection of increased property tax revenues to fund mandated and cost-shared services at the expense of municipal services.

Table 3	2003	2004	2005	2006	2007	2008
Operating Budget (Billions)	$6.4	$6.6	$7.1	$7.6	$7.8	$8.2
Provincial Mandates as a proportion of the budget.	25%	36%	34%	36%	32%	31%
Residential Property Tax Increase.	3%	3%	3%	3%	3.80%	3.75%

(Source: City of Toronto, n.d.)

As the above data show, the requirement to deliver provincially mandated programs severely constrains the City's budgetary discretion. The importance of this observation is further illustrated by the City's reliance on property tax increases to fund the broad range of mandated services and municipal services. It should be noted, however, that the City of Toronto is not in a unique situation. The heavy reliance on property taxes, narrow revenue streams, and broader provincial mandates are ubiquitous features of the municipal landscape in Canada. The cumulative impact of these factors provides an additional obstacle for municipalities seeking to expand their climate change agenda. If we consider the understandable opposition towards property tax increases to fund 'conventional' municipal programs and services, the current budgetary realities

[9] These programs include: the Affordable Housing Office; Children's Services; Court Services; Emergency Medical Services; Homes for the Aged; Shelter Support and Housing Administration; Social Development Finance and Administration; Social Services; and Toronto Public Health

faced by municipalities such as Toronto do not appear to bode well for an expanded climate change policy agenda.

Faced with this scenario, there are three relatively clear options available to municipalities. First, they can choose to suspend or abandon their climate change agenda on the grounds that there are more pressing and critical policy issues that impact the municipality's daily operations. While this course of action may appease those who argue that climate change falls under the jurisdiction of higher levels of government, the public stigma of being labeled as an 'anti-environment" jurisdiction induces an additional set of complications that may be difficult to overcome in the long-term. Not surprisingly, municipalities tend to eschew this policy option. Second, municipal policymakers can approach their climate change agenda by stressing the importance of co-benefits more creatively. This would allow policymakers to integrate climate concerns into other sectors of local policy and ultimately influence daily societal patters. As illustrated in the brief discussion that focused on the climate change plans of Calgary, Toronto and Vancouver, municipalities have emphasized the utility of co-benefits. Third, municipal policymakers can lobby higher levels of government for increased levels of funding for climate change initiatives. This can be taken to suggest that if municipalities are offered significant incentives, then they will be better positioned to incorporate climate change policies into their daily routines. Whether federal and provincial levels of government are prepared to countenance an expanded funding formula for municipal climate change initiatives is highly questionable.

Concluding Thoughts

Municipal-based collective action on climate change constitutes a puzzling development. At its core, this process rejects the established orthodoxy that holds the national level of government as the primary actor in the establishment of a climate change response. However, in the absence of federal leadership, Canadian municipalities have voluntarily occupied this policy vacuum. As this paper has shown, municipalities clearly believe that they are key actors in the climate change debate. This position has been affirmed not only in rhetoric, but in consistent action over the last two decades. Through uncertain and, oftentimes, hostile, policy environments, proactive municipalities have demonstrated a unique level of commitment towards action on climate change. Moreover, there is sufficient evidence to suggest that municipalities can take an expanded policy role if they are provided with sufficient incentives and resources. Accordingly, municipalities can be conceptualized as *de facto* partners in the national climate change response. Whether they will be afforded this designation by the federal and provincial levels of government remains to be seen.

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