From Rhetoric to Action: Can Municipalities Fulfill their Pledge on Climate Change Action?

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> While climate change is a worldwide issue, 75% of all greenhouse gas emissions are generated in the world's urban areas. Reducing energy use and emissions in cities is therefore fundamental in any effort to reverse the trajectory of global warming. No one city can do it alone. But the collective actions of cities across the world can make a difference (City of Chicago, 2008).

1.0. Introduction

Against the backdrop of international climate change negotiations that have been traditionally dominated by national governments, cities have emerged as key actors in the global response to climate change. In contrast to the political gridlock that has dominated international negotiations since the adoption of the Kyoto Protocol in 1997, like-minded cities have collectively organized to create a municipal-based climate change response. In most instances, urban leadership on climate change predates any meaningful policy attention from national governments. In 1990, the City of Toronto adopted the "Toronto Target", a non-binding voluntary agreement to reduce carbon emissions to 20% 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 [GHG] reduction target. In 1993, Portland, Oregon, became the first city in the United States to develop a carbon reduction plan. Similar voluntary action was taken throughout the 1990s by a broad range of cities in North America, Western Europe and Asia.

An intriguing aspect of the municipal-based climate change movement is the voluntary "bottom-up" process that has collectively organized municipal action. From a North American perspective, the absence of clear and purposeful federal leadership in Canada and the United States has created a policy vacuum that urban municipalities have willingly occupied. In 2005, the U.S. Conference of Mayors established the Mayors 'Climate Protection Agreement'. As of October 2009, 1000 municipal governments had signed this agreement in which they commit to meet the goals of the Kyoto Protocol and to urge higher levels of government to take a more progressive approach to climate change policy-making (USCM, 2009a). In Canada, the Federation of Canadian Municipalities, in partnership with the International Council for Local Environmental Initiatives [ICLEI], established the 'Partners for Climate Protection' [PCP] program. The PCP program is a network of Canadian municipalities committed to reducing greenhouse gases and acting on climate change. As of May 2010, 205 municipalities have signed on to the PCP program (FCM, n.d.).

Municipal action on climate change provides us with a unique puzzle for analysis for several reasons. First, national governments appear to be better suited to provide a domestic response to climate change because of economies of scale in studying environmental problems, the ability of the federal government to respond to interstate/interprovincial spillovers, the importance of national standards, and legal authority. The importance of national governments is further elevated during international climate change negotiations – a critical forum from which municipalities are excluded. Second, municipal action on climate change is based on voluntary collective action. While the actions of ICLEI, the USCM and the FCM are laudable, scholarly analyses suggest that the effectiveness of voluntary collective action may be chimerical. The work of Olson (1965), Hardin (1968), and Ostrom (1998) informs us that the effectiveness of voluntary action is undermined by free-riding, large group size, and the absence of enforcement mechanisms.[1] Third, a reduction of GHG emissions within a municipality's jurisdiction may have no positive local effect. More problematically, however, any local reductions may

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

be offset by the actions of other jurisdictions. Nevertheless, advocates of increased municipal action, while mindful of these barriers, maintain the position that municipalities have a key role to play.

This paper argues that municipalities have a key role to play in the formation of any climate change response. Despite the lack of assistance from higher levels of government, municipalities have, to varying degrees of success, incorporated climate change concerns into their policy agendas. As such, they have developed their own unique strategies that have shown initial signs of success. Municipalities have demonstrated an ability to reduce GHG emissions and, in the process, reduce their operating costs through the use of co-benefits. Ultimately, however, assistance from higher levels of government is required to sustain the emerging success of municipal action on climate change. To support this position, , the paper examines three questions. First, how has federal leadership informed municipal action on climate change in Canada and the United States? Second, how have urban leaders framed the issue of climate change within the context of municipal policy agendas? Third, can municipal governments be viewed as effective and reliable actors in the development of a climate change response.

2.0. Municipal Action on Climate Change: A Reasoned Position?

Urban leaders have taken the position that municipalities are key actors in the global response to climate change. There are several key examples that serve to illustrate this point. From a global perspective, signatories to the *World Mayors and Local Governments Climate Protection Agreement* [WMLGCPA] advocate the position that "Mayors and local governments accept the challenge and responsibility to lead and take action to combat the rapid and dangerous rate of warming of the planet" (WMLGCPA, n.d.)[2]. This position has been advanced globally, most noticeably by the 'C40 Large Cities Climate Leadership Group' and the 'Clinton Climate Change Initiative'. The C40 claims that cities consume 75% of the world's energy and produce nearly 80% of the world's GHG emissions (C40, n.d.). The 'Clinton Climate Change Initiative' similarly claims that while cities only take up 2% of the earth's land mass, they are responsible for approximately 75% of the heat trapping GHGs that are released into the atmosphere (Clinton Foundation, n.d.). Complementary positions have also been taken by the USCM and FCM, the peak municipal organizations in the U.S.A. and Canada respectively. The USCM takes the following position:

> Mayors believe that they have a moral and inherent obligation to take local action to reduce carbon emissions by changing human behavior in cities, **especially in the absence of federal support** [*emphasis mine*]. Therefore, hundreds of mayors have endorsed the U.S. Mayors Climate Protection Agreement, which seeks to reduce greenhouse gas emissions by 7% from 1990 levels by 2012 (USCM, 2007a).

In Canada, the FCM advocates a similar perspective:

> Municipalities can play a key role in helping Canada meet commitments for both significant and long-term greenhouse gas [GHG] emissions. **Municipal leadership in this area is already contributing substantial and cost-effective GHG emission reductions in every region of the country** [*emphasis mine]*. (FCM, 2009b).

[2] This agreement was first presented at the United Nations Climate Change Conference by ICLEI-Local Governments for Sustainability, the World Mayors Council on Climate Change (WMCCC), United Cities and Local Government and the C40 Climate Leadership Group in Bali, Indonesia, 12 December 2007.

If these statements are taken to their logical conclusion, it appears that municipalities in the United States and Canada have assumed, to varying degrees, the burden of moral and political leadership on climate change. Setting aside these factors, these actions raise a critical question – What is it that the federal governments of Canada and the United States have [or have not] done to compel urban leaders to act on climate change?

2.1. Sources of Municipal Action on Climate Change

Implementing a coherent policy response to climate change poses a unique set of circumstances for all levels of government. First, climate change policy should be viewed as an important example of multilevel policy-making. Areas of concern that fall under the umbrella of climate change policy – for example, fuel efficiency standards for motor vehicles and alternative energy - cut across the functional domain of all levels of government. From a multilevel governance perspective, a successful policy outcome – a reduction in GHG emissions – would be contingent on effective policy coordination between federal, provincial/state and municipal levels of government. Second, governments at all levels are confronted by a broad range of stakeholders that bring differing agendas to the policy process. These groups include, but are not limited to, environmentalists, home builder associations, the automotive industry, and the energy industry. Owing to the diversity of stakeholders, it appears unlikely that public policy can balance competing interests. These observations lead us to an indisputable axiom of federalism: policy success requires national governments to demonstrate effective leadership and coordination in policy areas that demonstrate the dynamics of multilevel governance.

A key concern of municipalities in Canada and the United States centers on the belief that their respective federal governments cannot be regarded as sources of leadership on climate change. The Mayor of Toronto, David Miller, is one of several municipal leaders in Canada 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** [*emphasis mine*]. 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).

Michael Bloomberg, the Mayor of New York City, offers a similar assessment of federal leadership in the U.S.A.:

> **We can't wait for the Federal Government to take action when it comes to our environment…** [*emphasis* mine]Cities are leading the way and making a real difference in cutting greenhouse gas emissions and addressing climate change and I'm looking forward to meeting with my colleagues and sharing ideas and info as we work together to bring about real change (United States Conference of Mayors, 2007b).

The respective positions of Mayors Miller and Bloomberg reflect the emerging consensus at the municipal level in both countries. From an American perspective, evidence to support this point can be found in the USCM's 'Metropolitan Infrastructure Sustainability Study' that was released in June 2009.[3]

[3] The study surveyed 140 Mayors from 40 states. Cities with populations up to 100,000 comprised the largest group (80 cities or 57%) in the survey. Cities with populations over 100,000 made up the balance (60 cities), including 20 cities with a population greater than 400,000.

The study reports that 79% of the Mayors that were surveyed believe that "current federal and state practices must be reformed to give their city greater decision-making power over infrastructure investments" (USCM, 2009b: 5). Complementary data can be found in the FCM's 2008 study, 'Benchmark: A Report on the Key Issues and Challenges Facing Canadian Municipalities' (FCM, 2008).[4] The study reports that "84% of Canadians believe the federal government should provide financial assistance to municipal governments to deal with smog and greenhouse gas emissions" (FCM, 2008: 88). These surveys stand as an emphatic indictment on federal [in]action. They reinforce the longstanding position of urban leaders in North America – municipalities cannot rely on their federal governments for leadership on climate change.

2.2. Patterns of Federal Engagement on Climate Change: The United States

In March 2001, President George W. Bush officially withdrew the United States from the Kyoto Protocol. Opposition to Kyoto was based on the Administration's contention that the Protocol did not take into account emissions from developing countries that were on pace to match the emissions levels of the U.S.A. According to the Bush Administration, it was necessary to withdraw from the Protocol because it exempted 80% of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the U.S. economy (Dernbach and Kakade, 2008: 12). The federal government was not prepared to accept an international treaty that would undermine the global economic strength of the United States.

During the Bush presidency [2001-2009], the federal government pursued a relatively laissez-faire approach to climate change regulation. Unlike conventional air or water pollution, hazardous waste, or toxic contamination, there is no national or federally directed regulatory program for climate change. Instead, "the federal government has eschewed regulation in favor of mostly voluntary actions together with stepped up research" (Engel, 2006: 8; Selin and VanDeveer, 2007: 1). The federal government's approach was brought sharply into focus with the Environmental Protection Agency's [EPA] interpretation of the *Clean Air Act*. The EPA had argued that carbon dioxide and other greenhouse gases are not pollutants and the federal government would not have to regulate carbon dioxide under the *Clean Air Act* (Wollack, 2007).

In April 2007, in a 5-4 decision, the United States Supreme Court provided a markedly different assessment of the federal government's role with respect to climate change. In *Massachusetts v. EPA* the majority of the Supreme Court provided:

> The Clean Air Act authorizes the EPA to regulate greenhouse gas emissions from new motor vehicles in the event that it forms a "judgment" that such emissions contribute to climate change. We have little trouble concluding that it does (*Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007), at pg. 25).

Continuing its admonishment of the EPA, the majority opinion held that:

> In short, EPA has offered no reasoned explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change. Its action was therefore "arbitrary, capricious . . . or otherwise not in accordance with law" (*Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007), at pg. 32).

[4] Unlike the USCM study, the FCM study surveyed 2000 Canadians on a variety of issues of concern to municipal government in Canada.

Despite the Supreme Court's ruling, the Bush Administration continued to stress the utility of voluntary action and research over increased levels of government regulation. In contrast, the United States House of Representatives would adopt a more activist approach to federal climate change refulation.

In May 2007, the 'Energy and Environment Block Grant Act' of 2007 [H.R. 2447] was introduced to the House of Representatives. The Act called for the establishment of the 'Energy Efficiency Block Grant' program [EEBG] at the U.S. Department of Energy (USCM, 2007a). The creation of the new block grant program would offer financial support for local community-based energy efficiency and conservation efforts. The proposed legislation addressed the role that states and local governments could play in the reduction of domestic greenhouse gas emissions. Regarding local government, the Bill stated:

> Local governments are particularly well suited to develop, implement, and promote energy and efficiency and greenhouse gas reduction strategies at the community level, as part of a comprehensive national strategy to address global warming…. (H.R. 2247, 2007).

The Bill authorized a total of $24 billion for the fiscal years 2008-2012 and was passed on June 28, 2007 by the House of Representatives' Energy and Commerce Committee (H.R. 2247, 2007). The establishment of the EEBG would, for the first time, create a direct partnership between the federal government and municipalities. By any standard, this level of federal recognition and proposed funding was a high watermark for organizations, such as the United States Conference of Mayors [USCM] and the National League of Cities [NLC], which had long called for increased federal action and partnership with the nation's municipalities on climate change.

In contrast, the U.S. Senate took a more conservative approach to expanded government regulation on climate change. In October 2007, The 'Lieberman-Warner Climate Security Act' of 2007 [S.2191], was introduced in the U.S. Senate. The legislation provided for the funding of the Energy Efficiency and Conservation Block Grant (EECBG) program. The level of funding, however, would rest in the hands of the Senate Appropriations Committee. The Committee set aside $50 million for a one-time competitive grant program for renewable energy demonstration projects (Berndt, 2008). The disappointment of urban leaders was exacerbated by the fact that House appropriators had included an initial commitment of $295 million for the startup of the EECBG program (Berndt, 2008). However, given the conservative nature of the Senate, it came as little surprise that the Committee chose not to follow the lead of the House.

With the election of Barack Obama to President of the United States in November 2008, urban leaders were presented with an unprecedented opportunity to forward their agenda to a more receptive Administration (Living Cities, 2009: 4; Neal, 2010). The initial actions of the new Administration addressed a key issue for groups such as the USCM and the NLC – funding for the EECBG program. The 'American Recovery and Reinvestment Act' [ARRA] of 2009 appropriated $2.8 billion for the block grant program for the 2010 fiscal year. An additional $400 million was provided to establish a competitive grants program to support the efforts of EECBG recipients for projects that improved energy efficiency and reduced GHG emissions (USCM, 2009).

In addition to federal budgetary measures, the municipal climate change movement has received additional support, most recently in the legal arena. In May 2007, New York Mayor Michael Bloomberg set fuel standards designed to convert all of the city's approximately 13,000 taxis to hybrids by 2012 (Neal, 2010). The City also introduced an incentive program to encourage taxicab owners to

switch to hybrid technology. In response, the Metropolitan Taxicab Board of Trade [MTBT] argued that only the federal government has the power to regulate emissions and fuel efficiency under the federal Clean Air Act. In September 2008, the MTBT responded by filing a lawsuit with the U.S. District Court, Southern District of New York, in which it asked a federal judge to strike down the city's requirements (Neumeister, 2008). Following a series of rulings against the City of New York, litigation has now proceeded to the U.S. Court of Appeals. At this stage, the Obama Administration entered the fray with a "friend of the court" brief vigorously defending the right of New York, and by extension other municipalities, to set rules for its own taxicab fleets (Neal, 2010). Similarly, current policy discussions in the U.S. House of Representatives parallel the approach taken by the Obama Administration in this case. If passed, the '*Green Taxis Act*' of 2009 [H.R. 3711] would provide municipalities across the United States with the legislative power to set fuel economy standards for their respective taxicab fleets.

While these developments represent a key victory for municipal action on climate change, urban leaders remain guarded in their optimism. Municipal organizations are currently lobbying federal authorities to extend funding for the EECBG program. While President Obama supported the EECBG funding as part of the 'American Recovery and Reinvestment Act' 2009, the Administration's budget request for 2011 did not include funding for the program, which is authorized through the 2012 financial year (DeHaney-Howard and McCarty, 2010). At present, the seven pieces of climate change legislation in the U.S. Congress do not allocate any funding towards the EECBG program. To date, the Obama Presidency has provided tangible benefits for municipalities seeking to further their climate change agenda. However, it remains to be seen if political will can overcome the legislative hurdles that are commonplace in the U.S. Congress.

2.3. Patterns of Federal Engagement on Climate Change: Canada

In December 2002, the Liberal federal government, led by Prime Minister Jean Chrétien, ratified the Kyoto Protocol. In taking this step, Canada had entered a pledge to reduce greenhouse gas emissions by 6% below 1990 levels in a five year period of 2008 to 2012 (Government of Canada, 2002: 5). The following discussion draws attention to key developments that reveal the federal government's position on climate change.

The federal government's approach to meet its Kyoto obligations was based on a three-stage approach that combined incentives, regulations and tax measures. Despite its outwardly public support for the Protocol, the federal government had not articulated how it expected to meet its treaty obligations. Speaking on this issue in 2007, Eddie Goldenberg, a former key advisor to Chrétien, admitted that the federal government was not in a position to implement Kyoto in 2002 (Goldenberg's Confession, 2007). While Goldenberg's admission did not deliver a fatal blow to the climate change movement, it alluded to the key challenges that lay ahead for the federal government. While the political message remained consistent, it soon became clear that considerable hurdles would prevent Canada from meeting its Kyoto obligations. By 2004, Canada's GHG emissions stood 27% above 1990 levels and 35% above the Kyoto target (Ljunggren, 2007). Environment Canada's 2009 'National Inventory Report' revealed an equally depressing outlook for the federal government. By 2007, Canadian GHG emissions were 26.2% above 1990 levels and 33.8% above the Kyoto Target (Environment Canada, 2009: 4). Taking these observations into account, it became clear that the federal government could not meet its Kyoto commitments by 2012.

In 2000, the Chrétien government established the 'Green Municipal Funds' [GMF]. The GMF is 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 meet this objective, the federal government entrusted the FCM with the delivery of the GMF, at "arm's length to all Canadian municipalities" (FCM, 2001: 5). The GMF was originally composed of two programs: the Green Municipal Investment Fund [GMIF]; and the Green Municipal Enabling Fund [GMEF]. The GMIF, which was initially endowed with $100 million, provided municipalities with loans and loan guarantees to implement energy efficiency measures. The GMEF was endowed with $25 million and provided municipalities with cost-shared grants to conduct feasibility studies on projects designed to improve 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. In March 2005, the GMIF and GMEF were combined with the creation of the 'Green Municipal Fund' (FCM, 2006: 7).

Since its inception in 2000, the FCM reports that the GMF has committed more than $400 million to support over 730 sustainable community plans, feasibility studies, field tests and capital projects (FCM, 2009: 3). In addition, the FCM states that the GMF-supported initiatives have the potential to leverage over $2.6 billion of economic activity in more than 350 communities across Canada (FCM, 2009:3). 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[5], 18.3%; and Quebec, 18.3% (FCM, 2008b: 8). Notwithstanding the potential long-term benefits of the GMF, it can only provide up to a maximum of $92 million in loans and grants each year to municipalities (FCM, 2008b: 6). Because of this, we can quite reasonably forecast how a lack of available funding may dissuade Canadian municipalities from pursing climate change policies. While the federal government is in a position to alter the GMF's regulations, the Chrétien, Martin and Harper governments have chosen to retain the current parameters – a development that demonstrates the federal government's lack of attention towards municipal climate change action.

The 2006 Canadian general election produced a result that held grave implications for advocates of climate change and the Kyoto Protocol. Under the leadership of Stephen Harper, the Conservative party was elected to government. Notwithstanding its minority status in House of Commons, the Conservative party's platform was quite unambiguous on climate change: Canada's Kyoto commitments would be replaced with a "made-in-Canada" plan (CPC, 2006: 37). The Conservative government's position regarding the Kyoto Protocol seems to be informed by a logic that influenced the former Bush Administration in the U.S.A. The government reasoned that compliance with the Kyoto Protocol would lead to unacceptable economic consequences. It came as no surprise that the Conservatives would emulate the Bush approach and "adopt flexible, domestic goals for emissions reductions" (Koval 2008).

In October 2006, the Conservative government unveiled Bill C-30, *Canada's Clean Air and Climate Change Act*. The response from Canada's three opposition parties was quite clear – in its current form, Bill C-30 was unacceptable. The Liberals, NDP and BQ successfully overhauled the proposed legislation and included Kyoto-compliant targets for industrial emitters. This condition was equally unacceptable to the Conservative government who accordingly shelved the proposed legislation. Opposition pressure towards the government's position intensified with the passage of a private member's bill called the 'Kyoto Protocol Implementation Act' [KPIA]. KPIA, which came into force in June 2007 (Government of Canada, 2007:5), requires the federal government to ensure that Canada's Kyoto targets are being met through the implementation of a climate change plan. In accordance with KPIA, the Conservative government released the 'Climate Change Plan' in August 2007 (Koval 2008). In May

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

2010, opposition MPs delivered another rebuke to the Conservative government's position on climate change. A majority of opposition MPs ensured that Bill C-311, 'The Climate Change Accountability Act', passed third reading in the House of Commons. If passed in to law, Bill C-311 would require the federal government to adopt annual climate change plans and regulations to reach science-based emissions targets (Pembina Institute, 2010a). The political maneuverings that surrounded the passage of Bills C-30 and C-311 into law provided a key lesson for the government. Because of its minority status, the Conservative's are not in a position to fully implement its position on climate change. More significantly, it became clear that the opposition would can and will use their numerical advantage in the House of Commons to obstruct and redirect the government's policy agenda on climate change.

2.4. Comparing Climate Change Policy in Canada and the U.S.A.

From the perspective of urban leaders, the preceding discussion leads to a problematic conclusion - Canadian and American municipalities should not rely on their respective federal governments for assistance. While the Obama administration and Congress has taken a more activist position on climate change, there has been little legislative benefit for municipalities. The story in Canada is quite similar. Historically, Canada has tried to position itself as a 'global leader' on climate change. At the global level, successive federal governments have played a role in the development of international treaties on climate change.[6] However, the federal government has been unable to translate these successes within a domestic context. In comparison to the United States, reports indicate that Canada has ceded considerable ground on climate change. Per capita investments in renewable energy, energy efficiency and public transit combined in the United States are on pace to surpass Canada's federal investment by a factor of 8:1 (Pembina Institute, 2010a). These observations do not appear to bode well for municipalities that are seeking greater levels of federal assistance to expand the scope of their climate change initiatives.

3.0. Urban Leadership on Climate Change: A Collective Response

In reaction to developments at the federal level, urban leaders in Canada and the United States have sought to forward their position on climate change through collective action. At the municipal level, collective action has been informed by the initiatives taken by ICLEI-USA and the USCM in the United States, and the FCM through its partnership with ICLEI that delivers the PCP program in Canada. A key difference between the climate change movements in Canada and the United States is the degree to which collective action has allowed municipalities to successfully advance their policy requests to higher levels of government. To date, the actions of municipal organizations such as the USCM and NLC have resulted in increasing, but sporadic, levels of federal support[7]. The same conclusion, however, cannot be applied to events that have transpired in Canada. Despite the lobbying efforts of the FCM and the 'Big City Mayors Caucus', municipalities have not benefited from significant levels of funding from the federal government (FCM, 2010). When we examine the extent to which urban leaders are able to exert influence at the federal level, effective collective action and mobilization of interests at the municipal level appear to be key factors.

In addition to the efforts of ICLEI-US, the USCM has played a key role in mobilizing municipal action in the United States. In February 2oo5, the Mayor of Seattle, Greg Nickels, launched the US

[6] 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).
[7] For example, the EECBG and the ARRA, 2009.

Mayors Climate Protection Agreement which seeks to advance the goals of the Kyoto Protocol. Under the agreement, participating cities commit to taking the following actions:

- Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns;
- Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol – 7% reduction from 1990 levels by 2012; and
- Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system (USCM Climate Protection Agreement, 2005).

The agreement was endorsed at the 73rd annual USCM meeting in Chicago. At that time, 141 Mayors signed on to the agreement. Currently, the USCM reports that there are 1026 Mayors that have signed on to the agreement (USCM 2008).

In February, 2007, the USCM launched the 'Mayors Climate Protection Center'. From the perspective of the USCM:

> The establishment of the Mayors Climate Protection Center takes us a giant step beyond advocacy of a stronger federal role in reducing emissions. It acknowledges that while mayors recognize the need for a federal partner in this effort, they cannot and will not wait to act until Washington is ready to move on this problem (USCM, n.d.).

The raison d'être of the Center reflects the predominant view that municipalities cannot rely on the federal government to be an effective partner to address climate change. This perspective was reinforced at the USCM's 'Climate Protection Summit' in November 2007 when the USCM announced a key partnership with the Clinton Climate Initiative [CCI]. The partnership provides participating U.S. cities with access to volume discounts on energy efficient and clean energy products and technologies through the CCI's purchasing consortium. Products and technologies include building products, indoor lighting, clean vehicles, traffic and street lighting, and advanced waste management technologies. More substantively, these and additional products are offered at prices that have been discounted by as much as 70% (USCM, 2007b). At the very least, such actions suggest that urban leaders in the United States are unwilling to wait for the federal government to act. Instead, there is sufficient political willpower to look at alternative mechanisms that will allow municipalities to move towards their climate change goals. Of greater significance, however, these actions serve to enhance the reputation of urban leaders as key actors in the response to climate change in the United States.

Collective action in Canada is primarily channeled through the FCM within the parameters of the PCP program. This development can be comfortably described as both rational and expected as the work of the FCM and ICLEI has been most pivotal in assisting municipalities on climate change and other environment related matters. Prior to the establishment of the PCP program in 1998, the FCM and ICLEI provided their own programs that focused on climate change initiatives at the municipal level. They were the FCM's '20% Club'and ICLEI's CCP program (Vasi 2007; 120). At that 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 205 (FCM, n.d.). The FCM also administers the 'Green

Municipal Fund' [GMF] which contributes $750,000 per year to its 'Capacity Building Program' that provides support for the PCP program.

Owing to the central position of the FCM, the GMF and PCP initiatives can be categorized as reinforcing variables that should lead to an increase in collective action at the municipal level. The utility of this proposition is, however, undermined by at least two critical factors. First, the GMF operates by strict funding guidelines – it can only provide up to a maximum of $92 million in loans and grants each year to municipalities (FCM, 2008b: 6). While the lack of available funds may not dissuade large municipalities from adopting climate change measures, it may reduce the likelihood of smaller municipalities taking comparable actions. Moreover, if we take into account municipal budgetary pressures, it seems entirely reasonable to conclude that a lack of available resources is a major impediment to municipal action in this policy area. Second, the rate at which municipalities have joined the PCP program leaves much to be desired. If we consider the fact that membership in the PCP network entails no membership fees, or the adoption of mandatory reduction targets for GHG emissions, the low participation rate leads to a problematic conclusion – a sizeable proportion of municipal governments in Canada perceive climate change as an issue that falls into the jurisdictional sphere of higher levels of government.[8] While this paper does not offer a thorough examination of these factors, we can assume that they have had an undermining effect on the evolution of municipal collective action in Canada.

4.0. Framing Climate Change in a Municipal Context

When we consider the unquestionable global dynamic of climate change, municipal action on this issue provides us with a unique set of circumstances. As previously noted, urban leaders in North America have taken the position that municipalities have a critical role to play in combating climate change. In many respects, it is difficult to reconcile this position within a rational context. Successful municipal action on climate change, as outlined by the ICLEI, USCM and PCP programs requires voluntary collective action. The very logic of collective action (Olson, 1965; Ostrom, 1998) leads us to the conclusion that municipalities will fall short of their intended goals. The nature of municipal climate change initiatives presents a collective action problem – in the absence of a centrally binding plan or structure of authority, municipalities would be better off free-riding on the efforts of other jurisdictions, rather than acting on climate change itself (Hardin, 1968; Engel and Orbach, 2008). In light of these considerations, how can we account for the increasing number of Canadian and American municipalities that have adopted an activist position on climate change?[9]

There is a broad body of research that has examined why municipalities tend to adopt a climate change agenda. Engel, for example proposes four possible 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

[8] This conclusion is supported by the work of Robinson and Gore (2005). Their research examined the attitudes of 392 municipalities towards climate change. Their study found that 34% of the municipalities that had taken no action believed that climate change "is not a local government issue" (112).

[9] Created in 2005, the UCSM's 'Mayors' Climate Protection Agreement' is the key vehicle for the advancement of municipal action on climate change. As of October 2009, 1000 American municipalities had signed on to the USCM's 'Mayors Climate Protection Agreement.

In Canada, municipalities are collectively organized through the 'Partner for Climate Protection' [PCP] program. The program, a joint endeavor between the FCM and ICLEI, was created in 1998 with an initial membership of 53 *(Robinson and Gore, 2005: 106). As of May 2010, 205 municipalities have joined the PCP program (*FCM, n.d.).

regulations that may soon become widespread; concern over the public health and environmental impacts of climate change; and, prior success in influencing national environmental policy (2005: 65). Other explanations include the availability of funds from higher levels of government, environmental altruism, and local environmental lobbying (Lambright et al, 1996; Kousky and Schneider, 2003; Bulkeley and Betsill, 2003; Zahran et al, 2008). As illustrated in Table 1, motivating factors for municipal action can be organized into three general categories.

Table 1 – Sources of Municipal Action on Climate Change

Economic Considerations	Quality of Life	Political Considerations
Cost Savings	Air Quality	External Pressers from Higher Levels of Government
Green Economic Development and Investment	Traffic Congestion	Internal Pressures
	Urban Warming	National and International Reputation
		Agenda Setting

For many cities, cost savings[10] are a primary motivation for municipal climate change policies. For example, energy efficiency initiatives have been shown to reduce operating and maintenance costs. An examination of leading municipal climate change plans in Canada and the United States reveals that cities are now stressing energy efficiency as the primary means to reduce both GHG emissions and expenditures (City of Calgary, 2006; City of Chicago, 2008; City of New York, 2007; City of Portland, 2009; City of Toronto, 2007; City of Vancouver, 2009; FCM 2009b). Betsill (2001: 401) argues that cost-effectiveness is the ultimate criterion on which municipal councils make budget decisions. A similar conclusion was also reached by Kousky and Schneider (2003). The following section draws attention to how municipalities have incorporated climate change concerns into their policy agendas.

4.1. The Impact of Co-Benefits: Expanding Municipal Action on Climate Change

In the absence of a tangible short-term threat from climate change, there appear to be few approaches that governments can take to induce a value shift or structural change in human behaviour. To overcome this issue, municipal policy-makers have localized the policy of controlling GHG emissions (Betsill, 2001: 3). Policies that reduce GHG emissions are presented as solutions to ongoing municipal issues.

ICLEI has played a key role in advancing the utility of co-benefits at the municipal level. 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).Through its 'Cities for Climate Protection' [CCP] program, ICLEI has enlisted over 1000 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, 2010: 2). The network is organized around the production and dissemination of technical information about local contributions to climate change, measures that can

[10] For a more detailed report of how cost savings have been delivered through the implementation of climate change policies in Canada, please see the following FCM report: Federation of Canadian Municipalities. (2009b). *Act Locally: The Municipal Role in Fighting Climate Change.*

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:

- 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 (Bulkeley and Betsill 2003: 51).

The implementation of the CCP program in Canada and the United States has taken different trajectories. ICLEI-USA was established in 2005 and currently reports a membership of over 600 municipal governments (ICLEI-USA, n.d.). In Canada, ICLEI has partnered with the FCM to deliver the Canadian version of the CCP program – the 'Partners for Climate Protection' [PCP] program. As of May 2010, 205 municipalities have signed on to the PCP program (FCM, n.d.). Municipalities enrolled in these programs focus on the fact that controlling GHG emissions helps them address other issues already on their agenda. The following examination of municipal climate change action in Canada and the United States reveals the extent to which co-benefits drive climate change policy.

The City of Calgary, by several accounts (Pembina Institute, 2010b; ICLEI, n.d.), has become a global leader in municipal action on climate change. The City's climate change plan has set a target to reduce The City's (corporate) GHG emissions to 50% below 1990 levels by 2012 (City of Calgary, 2006: 5). To meet its objective, the city has committed itself to purchase 'green' power, increase energy efficiency and green the municipal transportation fleet (City of Calgary, 2006: 14). Calgary was the first City in North America to install energy efficient flat lens streetlight fixtures. By retrofitting over 37,000 streetlights, the City saved approximately $1.7 million a year from reduced energy consumption including, a 25,000 tonne reduction in GHG emissions. Electricity saved from the project is enough to power 3,000 homes every year (ICLEI, n.d.). In 2001, Calgary's 'Light Rail Transit' system became the first public Light Rail Transit system in North America to be 100% powered by renewable wind energy (City of Calgary, n.d.). The City has successfully reduced GHG emissions city operations by 35% compared to 1990 levels and is on track to achieve a 60% reduction by 2012 (ICLEI. n.d.).

The City of New York released its climate change plan, *PLANYC: A Greener, Greater New York,* in April 2007. The 127 initiative plan was designed to help New York City meet the challenges of adding nearly one million people to the City's population between now and 2030, while at the same time reducing the City's greenhouse gas emissions by 30% by 2030 (City of New York, 2007). An example of the City's actions includes the introduction of regulations to make the City's taxicabs and black car fleets fuel efficient. The taxicab initiative alone provides air quality improvements equal to removing 32,000 private cars from the City streets. In addition, the City invested $80 million in 2009 on 132 projects to reduce City government greenhouse gas emissions and launched a campaign to plant one-million trees, with 30,800 trees planted since its October 2007 launch (USCM, 2008: 11-12). The City's first GHG inventory revealed a 2.5% reduction in city-wide GHG emissions (City of New York, 2009: 3).

The City of Portland, which became the first American city to develop a climate change plan (Osofsky and Levit, 2008: 409), has taken an aggressive stance on GHG emissions. The City and adjacent Multnomah County have set a target goal of reducing carbon emissions by 40% below 1990 levels by 2030, and 80% below 1990 levels by 2050. To meet these goals, the City and County have identified eight broad policy areas for action: buildings and energy; urban form and mobility; consumption and solid waste; urban forestry and natural systems; food and agriculture; community engagement; climate

change preparation; and local government operations (City of Portland, 2009: 10-11). In the policy area of buildings and energy, the City and County have established the following objectives that must be met by 2030: reduce the total energy use of all buildings built before 2010 by 25%; achieve zero net greenhouse gas emissions in all new buildings and homes; and produce 10% of the total energy used within Multnomah County from on-site renewable sources and clean district energy systems (City of Portland, 2009: 34-35). By any standard, the City and County have established a series of highly ambitious goals with respect to carbon emission levels. While there may be a tendency to describe such targets as political symbolism, the City has demonstrated success in the past. In 2008, the City's initiatives had reduced local carbon emissions to 1% below 1990 levels. Over the same period, emissions in the United States increased 13% (City of Portland, 2009: 7).

The City of Toronto has been long regarded as a municipal leader on climate change. Toronto became one of the first governments in the world to commit to a greenhouse gas emissions reduction target. In July 2007, the City released its latest climate change plan in which highly aggressive reduction targets were laid out - a 6% reduction by 2012 (the "Kyoto Target") to 80% by 2050 (City of Toronto 2007: 1). To meet these targets the City outlined 27 potential actions it could take to reduce GHG emission. They include: retrofitting 50% of single family homes and small businesses by 2020; converting all street lighting to LED technology by 2020[11]; meeting 25% of energy demand in the Toronto urban area from renewable sources by 2020; imposing mandatory green building standards for new buildings, including businesses and residences, by no later than 2012; and shift all taxis and limousines operating in the City to low emission or hybrid technologies by 2015 or earlier (City of Toronto, 2007: 7-8). Since 2007, the City reports that its climate change initiatives have resulted in annual cost savings of approximately $19 million per year, and associated annual GHG reduction of 692,000 tonnes (FCM, 2009: 13). While these reductions represent an initial success for the City, they are brought into sharp contrast when compared to the City's annual corporate emission of 1.6 megatonnes. Due to the lack of available data, we are at this time unable to ascertain the extent to which the City can meet its stated objectives[12].

The various actions of Calgary, New York, Portland and Toronto draw important lessons to our attention. First, municipalities have demonstrated the ability to address climate change concerns through a wide variety of initiatives. They are willing to finance initiatives that hold the potential to reduce GHG emissions and produce operational cost savings. Second, as shown by the examples of Portland and Toronto, municipalities have taken a long-term approach to climate change. Notwithstanding the demonstrated benefits of action taken by urban leaders, scholars have raised several issues that question the effectiveness of municipal action. They are: the reliance on co-benefits as a means to address climate change; the overall impact of municipal GHG reduction strategies; and the financial ability of municipalities to finance their climate change initiatives.

4.2. Municipal Action on Climate Change: A Critique

While co-benefits can expand a municipality's action on climate change, several scholarly analyses criticize ICLEI's focus on co-benefits. Lindseth, for example, argues "we are no longer talking

[11] The City of Portland has taken similar action. In 2001 the City finished replacing incandescent traffic signals with LED bulbs, saving 3% of total City CO2 emissions and cutting the City's electricity bill by $265,000 per year. For more information, please visit: http://www.portlandonline.com/bps/index.cfm?c=49993&

[12] The City of Toronto has been criticized for the lack of data and user friendly reports that detail its climate change actions. The Toronto Environmental Alliance [TEA], for example, has frequently criticized the City for its lack of public accountability and failure to effectively communicate its climate change initiatives (TEA, 2008).

about climate change policy per se, but about integrating climate concerns in other sectors of local policy" (2004: 332). Similarly, Slocum argues that the emphasis on local benefits "amounts to a neoliberal buffet of options that do not address values nor necessarily lend themselves to structural change" (2004: 772). These arguments do not, however, speak to the central issue at play – if not through the use of co-benefits, how can municipalities influence daily societal patterns and induce a structural change in societal actions? Judging by the actions taken by municipalities, it appears that co-benefits may provide them with the most pragmatic means to implement a climate change policy agenda.

A more common critique of municipal action on climate change centers on its marginal impact on global emissions. Engel and Orbach (2008: 121) argue that local actions to mitigate climate change generate, if anything, small positive externalities. In addition, the jurisdictions that bear the costs of such actions cannot begin to fully capture their environmental benefits. ICLEI's 2003 Triennial Report claimed that the ongoing climate change policies of 143 US cities and counties had eliminated approximately 9 million tonnes of carbon dioxide. In doing so, these jurisdictions were able to reduce their respective energy and fuel costs by US$97 million (ICLEI, 2003: 17). The overall significance of these figures is placed into context when we consider that the City of New York estimates that it is responsible for approximately 58.3 million tonnes of carbon dioxide per year. This figure translates to approximately1% of the total carbon emissions of the United States in 2005 (City of New York, 2007). The same ICLEI report also cited the achievements of the PCP program in Canada but provided no quantifiable data to assess the impact of the program. ICLEI's 2008-2009 annual report also fails to reveal data that may allow us to assess the overall impact of municipal action.

The lack of data does complicate our ability to evaluate the effectiveness of municipal action. Municipalities that are participants in ICLEI's PCP program are required to conduct a GHG emissions inventory. The four cities surveyed in the previous section have all completed this obligation. However, due to the different approach taken by each municipality, a direct comparison between cities is difficult to conduct. Despite the efforts of ICLEI, there is no international framework that requires standardized measurements of city emissions or provides detailed methodological guidance for conducting an urban emissions inventory. However, in recent years urban authorities around the world have begun to commission inventories of this type as a means of measuring the overall carbon footprint of city activities, promoting awareness of the need for climate change mitigation, and providing a benchmark against which reductions in emissions can be measured (Dodman, 2009: 186).

Notwithstanding the position of scholars such as Slocum, Lindseth and Dodman, the ability to financially sustain climate policy initiatives poses the greatest challenge to municipal policymakers. Although federal authorities can point to the establishment of the EECBG program and GMF in the United States and Canada respectively, it is difficult for municipalities to adopt more aggressive initiatives that require higher levels of funding. While not seeking to marginalize the fiscal issues faced by American municipalities[13], the position of Canadian municipalities is quite precarious. Canadian municipalities have become increasingly reliant on the property tax to fund basic municipal services and operations, while provincial and federal

[13] For a broad description of the budgetary pressures faced by American municipalities, please see Fahim, 2005.

transfers have moved in the opposite direction[14] [15]. Consequently, The City of Toronto has been especially vocal of the issues confronting Canadian municipalities to meet basic service responsibilities[16]. The City frequently argues that its narrow revenue streams constrain its ability to expand its climate change agenda. As illustrated in Table 2, the city appears to have a credible case, especially when compared to the 35 largest cities in the United States.

Table 2 – A Comparison of Revenue Streams in Canada and the United States in 2007.

Revenue Stream	City of Toronto	35 Largest American Cities
Property Tax	**42%**	**18%**
Federal/Provincial Grants	**24%**	***
Federal/State Subsidies	***	**33%**
User Fees	**15%**	**16%**
Sales and Income Taxes	***	**24%**
Other Sources	**13%**	**9%**

(City of Toronto, 2008: 37)

Taking these trends into account, it is difficult to envision an expanded role for municipal action on climate change. Faced with this scenario municipalities can rationally 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. Urban leaders in Canada and the United States are keenly aware of this prognosis, as are federal politicians in both jurisdictions. However, despite the intense lobbying efforts of organizations such as the FCM and the USCM, municipalities need to rely on their own devices and resources should they wish to adopt a climate change policy agenda.

5.0 Concluding Thoughts

This paper has argued that municipalities should be viewed as effective and reliable actors in the development of a climate change response. Despite the lack of purposeful assistance from their respective federal governments, proactive municipalities in Canada and the United States have incorporated climate change concerns into their policy agendas. As the notable examples of Calgary, New York City, Portland and Toronto demonstrate, cities have achieved GHG reductions and fiscal savings by pursuing co-benefits. Owing to their limited fiscal resources, the importance of cost savings at

[14] Between 1995 and 2004, property taxes as a source of municipal revenue in Canada increased by 72.13%. During this period, the combination of federal and provincial transfers declined by 11.87% (Sancton and Young, 2009: Appendix).

[15] A similar trend has emerged in the United States over the last decade. For a detailed explanation, please see MuniNet Guide, 2008

[16] To meet its basic services and operations, the City of Toronto has relied on property tax increases. Between 2003 and 2008, the City has increased residential property taxes by approximately 3% (City of Toronto, n.d.).

the municipal level cannot be overstated. Whilst modest from the perspective of global emissions, these actions demonstrate that municipalities are able to reduce their own GHG emissions.

Not surprisingly, municipalities are continually seeking to expand their initiatives on climate change. To sustain their actions, it has become clear that they require greater financial resources. With this in mind, municipal organizations such as the FCM and USCM have lobbied their respective federal governments for increased levels of financial funding. To varying degrees, federal authorities in Canada and the United States have responded to municipal requests – most notably through the creation of the GMF and EECBG programs. However, the limited scope of these programs has prompted urban leaders to seek greater levels of federal funding. As this paper has shown, federal policy-makers have shown a reluctance to expand the levels of funding they provide for municipal action on climate change.

Because of the limited sources of municipal funds, there may be a tendency to conclude that municipal action on climate change will recede in the future. However, the history of climate change policy initiatives at the municipal level suggests the opposite. Through the pursuit of co-benefits, municipalities have shown a tremendous level of policy innovation and entrepreneurship on the issue of climate change. Whether we are discussing the City of New York's initiative to plant 30,000 trees, or the City of Calgary's decision to retrofit 37,000 street lights, the tremendous variance in action suggests urban leaders will continue to expand the influence of climate change measures on municipal operations.

The manner in which collective action has emerged in Canada and the United States provides us with additional observations on the quality of municipal action on climate change. This paper has drawn attention to how ICLEI-US, the USCM and the FCM have mobilized collective action in their respective countries. The discussion reveals that municipal action in Canada and the United States appears to be moving in the opposite direction to the established positions of the Canadian and American federal governments. In the United States, municipal action on climate change noticeably increased during the Presidency of George W. Bush – an era in which the federal government took a patently anti-Kyoto position (Woods, 2007). With the exception of the current Harper government, Canada has tended to take a more outwardly positive position on Kyoto. Taking this into account, we should logically expect a higher level of collective action in Canada through initiatives such as the PCP program. However, what we observe is the opposite – the vast majority of Canadian municipalities have chosen not to partake in the collective effort. The low rate of participation in the PCP program poses a challenge for collective action in Canada. With so many municipalities choosing not to participate, can proactive municipalities sustain collective action in Canada? The answer may lie at the federal level.

After demonstrating the positive effects of individual and collective municipal action on climate change, it stands to reason that the federal governments of Canada and the United States should take greater interest at what is taking place at the municipal level. Urban leaders have taken considerable political and economic risks in pursuing a climate change agenda. Despite these barriers, municipalities have established a pattern of policy success and innovation that should be rewarded. These rewards do not have to be purely fiscal in nature. Owing to the knowledge they possess, the time seems right to "bring municipalities into the fold", or, in the words of many urban leaders, "have a seat at the table." At the very least, continued municipal success will provide urban leaders with the political capital to make this case. Whether the Canadian and American governments will oblige is a different matter altogether.

Bibliography

Bulkeley, Harriet., & Betsill, Michelle M. (2003). *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

Berndt, Carolyn. (2008, July 14). Senate appropriators fail to fund energy Block Grant program, *Nation's Cities Weekly.* 31(28),
Retrieved on March 17, 2010, from Factiva Database.

Betsill, Michele M. (2001). "Mitigating Climate Change in US Cities: Opportunities and Obstacles. *Local Environment* 6(4), 393-406.

C40 Cities Climate Leadership Group. (n.d.). C40 goals for UNFCCC.
Retrieved on March 2, 20010, from
http://www.c40cities.org/about/goals.jsp

City of Calgary. (n.d.). Ride the Wind.
Retrieved on May 5, 2010, from
http://www.calgarytransit.com/environment/ride_the_wind.html

City of Calgary. (2006). *Calgary Climate Change Action Plan: Target ↓50.*
Retrieved on May 5, 2009, from
http://www.calgary.ca/docgallery/bu/environmental_management/climate_change_program/target_50_climate_change_action_plan.pdf

City of Chicago. (2008), *Chicago Climate Action Plan: Our City, Our Future.*
Retrieved on May 5, 2010, from
http://www.chicagoclimateaction.org/filebin/pdf/finalreport/CCAPREPORTFINAL.pdf

City of New York. (2007), *PLANYC: A Greener, Greater New York.*
Retrieved on March 28, from
http://www.nyc.gov/html/planyc2030/html/downloads/the-plan.shtml

City of New York. (2009). *PLANYC: Progress Report.*
Retrieved on March 28, 2010, form
http://www.nyc.gov/html/planyc2030/html/downloads/the-progress.shtml

City of Portland. (2009), *Climate Action Plan 2009.*
Retrieved on May 5, 2010, from
http://www.portlandonline.com/bps/index.cfm?c=49989&a=268612

City of Toronto. (n.d.). *Previous City Budgets*.
Retrieved on May 17, 2010, from
http://www.toronto.ca/city_budget/previous_budgets.htm

City of Toronto. (2007). *Change is in the Air: Toronto's Commitment to an Environmentally Sustainable Future: Moving from a Framework to Action - The Climate Change and Clean Air Action Plan. Phase I Staff Background Report.*

Retrieved on March 28, 2010, from
http://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-4986.pdf

City of Toronto. (2008). *Blueprint for Fiscal Stability and Economic Prosperity – A Call to Action. Final Report: Mayor's Fiscal Review Panel*.
Retrieved on March 28, 2010, from
http://www.toronto.ca/mayor_miller/pdf/blueprint_report_20080217.pdf

City of Vancouver. (2009). *Vancouver's Climate Leadership*.
Retrieved on May 5, 2010, from
http://vancouver.ca/sustainability/documents/ClimateLdshipBrochure_final.pdf

Clinton Foundation. (n.d.). Cities
Retrieved on March 3, 2010, from
http://clintonfoundation.org/what-we-do/clinton-climate-initiative/our-approach/cities

Conservative Party of Canada (CPC) (2006). "Stand Up for Canada," *Conservative Party of Canada: Federal Election Platform, 2006.*
Retrieved on, May 2, 2010, from
http://www.cbc.ca/canadavotes2006/leadersparties/pdf/conservative_platform20060113.pdf

DeHaney, Debra., and Kevin McCarty. (2010, April 5). "Senators Menendez, Sanders, Lugar Lead Senate Effort to Fund Energy Block," *U.S. Mayor Newspaper,* 77:6.
Retrieved on April 19, 2010, from
http://usmayors.org/usmayornewspaper/documents/04_05_10/

Dernbach, John C., and Seema Kakada. (2008). "Climate Change Law: An Introduction." *Energy law Journal*, 29:1, 1-31.

Dodman, David. (2009). "Blaming Cities for Climate Change? An Analysis of Urban Greenhouse Gas Emissions Inventories." *Environment and Urbanization,* 21:1, 185-201.

Engel, Kirsten H. (2005). Mitigating Global Climate Change in the United States: A Regional Approach, *New York University Environmental Law Journal.* 14, 54-85.

Engel, Kirsten H. (2006). "State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say about Federalism and Environmental Law?" Arizona Legal Studies, Discussion Paper No. 06-36.
Retrieved on February 18, 2010, from
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=933712

Engel, Kirsten H. and Barak Y. Orbach. (2008). "Micro-Motives and State and Local Climate Initiatives," *Harvard Law and Policy Review*, 2:1, 119-137.

Environment Canada. (2009). *National Inventory Report: Greenhouse Gas Sources and Sinks in Canada 1990-2007.* Submission to the United Nations Framework Convention on Climate Change.
Retrieved on May 07, 2010, from
http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/4771.php

Fahim, Mayraj. (2005, May, 4). “Additional Revenue Sources as Hard to Find as US Cities face increased responsibilities,” *City Mayors Finance.*
Retrieved on May 6, 2010, from
http://www.citymayors.com/finance/finance_uscities.html

Federation of Canadian Municipalities (FCM), (n.d.).
Retrieved on May 10, 2010, from
http://www.sustainablecommunities.fcm.ca/Partners-for-Climate-Protection/Milestone_Status.asp

Federation of Canadian Municipalities. [FCM] (2001). *Green Municipal Fund: Annual Report 2001.*
Retrieved on March 34, 2010, from
http://www.sustainablecommunities.fcm.ca/files/About_us/Annual_Reports/GMF_Annual_Report_2000_Eng.pdf

Federation of Canadian Municipalities. [FCM] (2006). *Green Municipal Fund: Annual Report 2005-2006.*
Retrieved on March 4, 2010, from
http://www.sustainablecommunities.fcm.ca/files/About_us/Annual_Reports/GMF_Annual_Report_2005_EN.pdf

Federation of Canadian Municipalities (FCM), (2008, June). *Benchmark: A Report on the Key Issues and Challenges Facing Canadian Municipalities*, *2008.*
Retrieved on April 3, 2010, from
http://www.fcm.ca//CMFiles/april1520081PBU-4172008-9553.pdf

Federation of Canadian Municipalities. [FCM] (2009a, April). *Annual Report 2008-2009.*
Retrieved on April 3, 2010, from
http://www.sustainablecommunities.fcm.ca/files/About_us/Annual_Reports/annual-reports08-09-EN.pdf

Federation of Canadian Municipalities (FCM), (2009b, December), *Act Locally: The Municipal Role in Fighting Climate Change.*
Retrieved on March 13, 2010, from
http://www.fcm.ca//CMFiles/FCM_Climate_En_Final1RSG-1272009-2598.pdf

Federation of Canadian Municipalities (FCM). (2010, January 21). Federal Partnership with Cities Must Continue, say Canada´s Big City Mayors**.**
Retrieved on, March 13, 2010, from
http://www.fcm.ca/english/View.asp?mp=1241&x=1249

Goldenberg's Confession: The Chretien advisor's surprising admission about Kyoto. (2007, February 23). Macleans.ca
Retrieved on February 26, 2010, from
http://www.macleans.ca/canada/national/article.jsp?content=20070223_100209_4440

Government of Canada. (2002, May). *Canada’s National Climate Change Business Plan 2002*
Retrieved on March 5, 2010, from
http://www.scics.gc.ca/pdf/830749020_e.pdf

Government of Canada. (2007). *A Climate Change Plan for the Purposes of the Kyoto Protocol Implementation Act – 2007.* Ottawa: Environment Canada.
Retrieved on February 26, 2010, from
http://www.ec.gc.ca/doc/ed-es/p_123/CC_Plan_2007_e.pdf

Hardin, Garret. (1968). "The Tragedy of the Commons." *Science,* 16(2), 1243-1248.

H.R. 2447--110th Congress: Energy and Environment Block Grant Act of 2007. (2007).
In *GovTrack.us (database of federal legislation).*
Retrieved on May 10, 2010, from
http://www.govtrack.us/congress/bill.xpd?bill=h110-2447

H.R. 3711--111th Congress: Green Taxis Act of 2009. (2009).
In *GovTrack.us (database of federal legislation).*
Retrieved on May 20, 2010, from
http://www.govtrack.us/congress/bill.xpd?bill=h111-3711

ICLEI. (n.d.). Local Government Climate Road Map.
Retrieved on April 13, 2010,from
http://www.iclei.org/index.php?id=10767

ICLEI. (n.d.b.). The City Climate Catalogue.
Retrieved on, April 13, 2010, from
http://www.climate-catalogue.org/

ICLEI. (2003). Local Governments Implementing Sustainable Development: 2003 Triennial Report. International Council for Local Environment Initiatives.
Retrieved on February 12, 2010, from
http://www.iclei.org/documents/iclei_tiennial_00_03.pdf

ICLEI. (2010). *Rapid Action, Radical Solutions.* ICLEI World Congress and Annual Report 2008-2009.
Retrieved on February 12, 2010, from
http://www.iclei.org/index.php?id=611

ICLEI-USA. (n.d.). Membership, Experience, Leadership, Solutions.
Retrieved on May 10, 2010, from
http://www.icleiusa.org/about-iclei/members

Koval, Patricia. (2008, June 26). Global Warming: Canada's Changing Regulatory Climate. *Mondaq Business Briefing.*
Retrieved on February 26, 2010, from Factiva database.

Kousky, Carolyn., & H. Schneider., Stephen H. (2003). Global Climate Policy: Will Cities lead the Way? *Climate Policy,* 3, 359-372.

Lambright, W. Henry., Stanley A. Changnon, & Harvey, L.D. (1996). Urban Reactions to the Global Warming Issue: Agenda Setting in Toronto and Chicago. *Climatic Change,* 34(3-4), 463-478.

Lindseth, Gard. (2004)"The Cities for Climate Protection Program (CCPC) and the Framing of Local Climate Policy." *Local Environment.* 9(4), 325-336.

Living Cities. (2009, May). *Green Cities: How Urban Sustainability Efforts can and Must Drive America's Climate Change Policies.*
Retrieved on January 13, 2010, from
http://www.livingcities.org/leadership/trends/green/

Ljunggren, David. (2007, April 18). Canada Mulls Diluting Emissions Targets: Document. Thomson Reuters.
Retrieved on February 16, 2010, from
http://www.reuters.com/article/environmentNews/idUSN1830263220070418?pageNumber=2&virtualBrandChannel=0&sp=true

MuniNet Guide. (2009, August 20). "Recession Puts the Squeeze on State and Local Government Finances."
Retrieved on May 7, from
http://www.muninetguide.com/articles/recession-puts-squeeze-state-local-government-331.php

Neal, Peirce. (2010, March 8). "Hybrid Taxi Fleets: Why Not - Now? *Nation's Cities Weekly,* 33:8.
Retrieved on April 3, 2010, from Factiva.

Neumeister, Larry. (2008, September 9). "Lawsuit: Hybrid taxis couldn't handle NYC streets," *USA Today.*
Retrieved on February 12th, 2010, from
http://www.usatoday.com/news/nation/2008-09-09-1482138991_x.htm

McKenzie, Judith L. (2002). *Environmental Politics in Canada: Managing the Commons into the Twenty-First Century.* Don Mills, ON: Oxford University Press.

Massachusetts v. Environmental Protection Agency, 549 U.S. 497 (2007)

Olson, Mancur. (1965). *The Logic of Collective Action: Public Goods and the Theory of Groups.* Cambridge, Massachusetts: Harvard University Press.

Osofsky, Hari M., and Janet Koven Levit. (2008). "The Scale of Networks?: Local Climate Change Coalitions." *Chicago Journal of International Law,* 8:1, 409-436.

Ostrom, Elinor."A (1998, March) .Behavioral Approach to the Rational Choice Theory of Collective Action: Presidential Address." American Political Science Association, 1997. *The American Political Science Review,* 92:1, 1-22.

Pembina Institute. (2010a, March 11). New Analysis Compares U.S. and Canadian Investments in Sustainable Energy in 2010. [Media Release]
Retrieved on, March 14, 2010, from
http://www.pembina.org/media-release/1983

Pembina Institute. (2010b, May 26). Canada's Coolest Cities: Technical Report.
Retrieved on, May 27, 2010, from
http://www.pembina.org/pub/2021

Robinson, Pamela J., and Christopher D. Gore. (2005). Barriers to Canadian Municipal Responses to Climate Change. *Canadian Journal of Urban Research* 14(1), 102-120.

Sancton, Andrew., and Robert Young (Eds.) (2009). *Foundations of Governance: Municipal Governance in Canada's Provinces.* Toronto: University of Toronto Press.

Selin, Henrik., & Stacy VanDeveer. (2007). Political Science and Prediction: What's next for U.S. Climate Change Policy? *Review of Policy Research,* 24(1), 1-27.

Slocum, Rachel. (2004) Consumer citizens and the Cities for Climate Protection Campaign. *Environment and Planning A*. 36(5), 763-782.

Toronto Environmental Alliance [TEA]. (2008). Toronto 'The Green': Mid-term Environmental Report Card 2008.
Retrieved on March 25, 2010, from
http://www.torontoenvironment.org/reportcard08/bestpractices

United States Conference of Mayors (USCM). (n.d.). About the Mayors Climate Protection Center.
Retrieved on March 15, 2010, from
http://www.usmayors.org/climateprotection/about.htm

United States Conference of Mayors (USCM). (2007a, April 2). Statement of the United States Conference of Mayors: Executive Director Tom Cochran on Supreme Court Decision on EPA Control over Emissions, [Press Release],
Retrieved on February March 13, 2010,
fromhttp://usmayors.org/climateprotection/supremecourtEPA_040207.pdf

United States Conference of Mayors (USCM). (2007b, September 19). New York Mayor Michael Bloomberg to give keynote speech at Mayors' Climate Summit in Seattle, [Press Release].
Retrieved on March 17, 2010, from
http://usmayors.org/climateprotection/documents/2007-09-19press-bloomberg.pdf

United States Conference of Mayors (USCM). (2007c, November 1). The U.S. Conference of Mayors Partners with the Clinton Foundation to Accelerate the Greening of Cities. [Press Release], Retrieved on February 16th, 2009, from
http://usmayors.org/climateprotection/climatesummit_clinton_110107.pdf

United States Conference of Mayors (USCM) (2008). *Climate Protection.*
Retrieved on March 15, 2010, from
http://usmayors.org/climateprotection/bestpractices.htm

United States Conference of Mayors (USCM) Climate Protection Center. (2009a).
Retrieved on March 15, 2010, from
http://www.usmayors.org/pressreleases/uploads/1000signatory.pdf

United States Conference of Mayors (USCM) (2009b, June). *Metropolitan Infrastructure Sustainability Study*.
Retrieved on March 12, 2010, from
www.siemens.com/sustainablecities.

United States Conference of Mayors (USCM) (2009c). EECBG Program: Conference-led Energy Block Program Launched, [Press Release].
Retrieved on April 12, 2010, from
http://www.usmayors.org/usmayornewspaper/documents/04_06_09/pg1_EECBG.asp

United States Conference of Mayors (USCM) (2009d, October 27). Philadelphia Mayor Michael Nutter to Travel to Washington, [Press Release].
Retrieved on March 12, 2010, from
http://www.usmayors.org/pressreleases/uploads/ADVISORYNUTTERBEFORESENATEEPWCOMMITTEE.pdf

Vasi, Ion Bogdan. (2007). Thinking Globally, Planning Nationally and Acting Locally: Nested Organizational Fields and the Adoption of Environmental Practices. *Social Forces.* 86(1), 113-136.

Wollack, Leslie. (2007, April 9). Supreme Court ruling: EPA must regulate greenhouse gas emissions, *Nation's Cities Weekly.* 30:14.
Retrieved on February 3, 2010, from Factiva.

World Mayors and Local Governments Climate Protection Agreement (WMLGCPA), (n.d).
Retrieved on February 15, 2010, from
http://www.globalclimateagreement.org/index.php?id=10395

Woods, Allan. (2007, September 25). "Canada in 'anti-Kyoto' Club." *The Toronto Star.*
Retrieved on May 3, 2010, from
http://www.thestar.com/news/article/260166

Zahran, Sammy., Grover, Himanshu., Brody, Samuel D., & Vedlitz, Arnold. (2008). "Risk, Stress, and Capacity. Explaining Metropolitan Commitment to Climate Protection." *Urban Affairs Review.* 43(4), 447-474.