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Governance, business models and restructuring water supply utilities: recent developments in Ontario, Canada

Karen Bakker* and David Cameron[a]

[a]*Department of Political Science, University of Toronto, 100 St. George Street, Toronto, Ontario, M5A 3G3, Canada*

**Corresponding author. Department of Geography, University of British Columbia, Room 217, 1984 West Mal, Vancouver, B.C. Canada V6T 1Z2. Tel/Fax: +1 604 822 5870/6150. E-mail: bakker@geog.ubc.ca and Oxford Centre for Water Research, University of Oxford*

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Abstract

Many municipal governments are currently confronted with the need to restructure water supply systems. This paper examines how municipalities are restructuring water supply utility management in the province of Ontario (Canada), which has recently experienced significant and rapid legislative and regulatory reform in the water sector. The paper analyses restructuring in six different municipalities (Hamilton, Kingston, Peel, Peterborough, Toronto and York). It identifies six distinct business models adopted as an outcome of the restructuring process (delegated management to a private operator, corporatization of services provision, delegated management to a public operator, a municipal commission, a municipal 'business unit' and a municipal department) and examines the different approaches to governance adopted during the restructuring process. The case study is conceptualized through a discussion of the governance and restructuring challenges faced by municipalities. As municipalities are often confronted with a bewildering array of business models, governance frameworks and contract types when engaging in a review of restructuring options, the paper situates the analysis of the Ontario case within a general survey of business models for networked water supply. The paper concludes with a discussion of "lessons learnt" relevant to municipalities and higher orders of government when engaging in restructuring of networked water supply provision.

Keywords: Business models; Canada; Governance; Municipal utility; Ontario; Restructuring; Water supply

1. Introduction

Municipal water supply systems fulfil many, sometimes competing functions: protecting public health, meeting industrial, commercial and residential demand and maintaining environmental quality are some of the goals which water supply managers must balance on a daily basis. In recent years, awareness has grown of the importance of water supply for sustainable community development. This

concern stems from the growing realization that management of water supply services has not always been sustainable in the past. Over the past decade, many municipal governments have been confronted with the need to reform water supply systems, to achieve greater sustainability (Figure 1).

In some cases, municipal governments decide that restructuring the management of the water supply utility is necessary. When engaging in a review of restructuring options, municipalities are sometimes confronted with a bewildering array of business models, governance frameworks and contract types (Bakker and Cameron, 2002). In some cases, conceptual confusion arises concerning definitions of "governance", its relationship to business models and the interrelationship of governance reform with restructuring of water supply utilities. Accordingly, the second section of this paper examines governance in the context of restructuring, emphasising the diversity of the governance models and business models that exist. It is important to stress that a range of business models may be used by different communities, particularly when water is managed at the municipal level. Indeed, the diversity of business models is receiving increasing attention within the water management and policy communities, as the Executive Director of the International Water Association emphasized in his keynote speech to the Public–Private Partnerships Panel at the 2003 World Water Forum (Reiters, 2003). Accordingly, the third and fourth sections of the paper present a case study of the province of Ontario, Canada, which has experienced significant water sector reform and experimentation in water utility restructuring over the past decade.[1] The third section of the paper summarizes water sector reforms in Ontario. The fourth section of this paper examines how municipalities in Ontario are restructuring water supply utility management. The paper identifies six distinct business models chosen by six different municipalities in Ontario, which exhibited significantly different approaches to water governance during the restructuring process. Understanding governance as a process in which stakeholders have input is a useful conceptual framework for explaining why such variation occurs, even within the parameters of near-identical legislative and regulatory frameworks. The final section of the paper builds on the analysis of these different municipalities to suggest some "best practice" recommendations for restructuring, which should be of relevance to debates on water sector reform.

2. Municipal water supply governance and restructuring

Restructuring refers to changes in "soft" management systems, or to the organizational and institutional dimensions of management systems. In simple terms, restructuring results in changes in "who does what". Restructuring usually involves changes in both organizational and operational aspects of utilities, including: ownership; organizational structure; operational management procedures; scale of operation; allocation of decision-making responsibility; involvement of stakeholders; accountability and oversight mechanisms; and regulation.

To simplify the "menu" of options and variables, discussions of restructuring often focus on business models and governance models. A business model is a description of the ownership and organizational

[1] This material is drawn in part from research conducted on behalf of the Program on Water Issues at the University of Toronto's Munk Centre for International Studies and on behalf of the Federation of Canadian Municipalities and published in a working paper with the Program on Water Issues (Bakker with Cameron, 2002). Twenty-nine interviews were conducted with municipal politicians, union representatives, representatives of environmental and community groups and employees of municipal water supply departments and utilities. In addition, the author also participated (as an observer) in meetings of utility managers and politicians in selected municipalities.

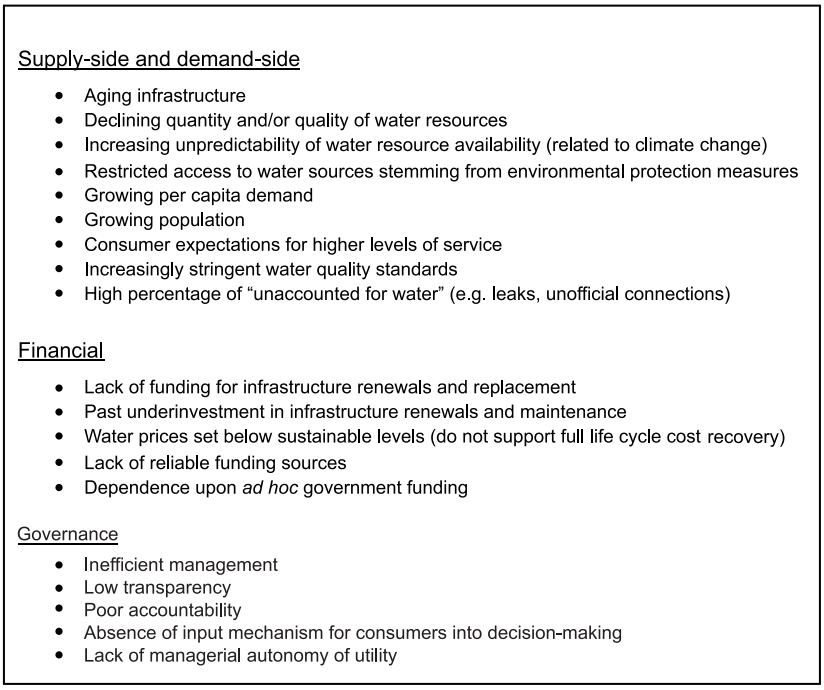

Fig. 1. Obstacles to sustainable water supply management.

structure, and allocation of responsibilities and risks for operational management and/or infrastructure maintenance and improvement of a business. In the case of water supply, for example, ownership and management of assets may be allocated to the government or private sectors; different business models allocate ownership to different actors (Table 1).

Introducing a new business model entails both organisational and institutional change—necessarily requiring changes in governance. Often, in addition to a new business model, a restructured utility will seek to improve governance. Water governance may be defined as the range of political, organizational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are taken and implemented and decision-makers are held accountable for the development and management of water resources and delivery of water services (adapted from Rogers & Hall, 2003). Good governance is important for the effective performance of organizations, underpinning important functions such as: enforcing rules and adapting rules as required; mediating conflict; building trust and legitimacy; and ensuring accountability (Table 2) (GWP, 2002, Narain, 2000). This, in turn, reduces risk. Improving governance can lead to more efficient and cost-effective service provision, service levels more attuned to users' preferences and increase responsiveness to changing conditions and public needs.

2.1. Why restructure?

Municipal governments will have different reasons for restructuring, but three main goals are frequently cited: improving performance; sourcing finance; and meeting new legislative requirements.

Table 1. Business models for water supply infrastructure in Canada.

Business model	Who owns infrastructure?	Who operates infrastructure?	Legal status of operator	Legal framework	Who owns the shares?	Canadian example
Government utility —direct management	Municipal or regional government	Municipal or regional administration	Government department	Public	n/a	Most Canadian municipalities
Municipal board or commission	Municipal government	Commission or board	Public agency	Public	n/a	Peterborough, Ontario
Co-operative	Users/cooperative society	Users or delegated authority	Cooperative society or corporation	Varies	n/a (or users)	Rural Alberta, Quebec, and Manitoba
Crown corporation	Government or utility	Utility	Usually defined by special law	Public or Corporate	Government	Saskatchewan (SaskWater)
Corporate utility	Government or private company	PLC as permanent concessionaire	Corporation	Corporate	Government	Edmonton, Alberta
Government utility —delegated management	Government or private company	Government and/or temporary private concessionaires	Corporation	Corporate	Private share-holders	Hamilton, Ontario
Direct private utility	Private company	Private company	Corporation	Corporate	Share-holders or investor-owned	White Rock, British Columbia

Table 2. Applying good governance principles to water supply management.

Principle	Example of application
Accountability	Demonstrating adherence to capital plans for water and sewage infrastructure through publicly available audited financial statements
Responsiveness	Developing a long-term plan to ensure water and sewage system capacity to accommodate future growth
Effectiveness and efficiency	Scheduling water main repairs at the same time as road repairs
Transparency	Making results of raw and treated water quality testing publicly available
Participation	Soliciting public comments about restructuring options
Financial sustainability	Full life-cycle investment needs are the basis for program spending
Respect for the rule of law	Ensuring that minimum chlorine residuals are maintained in the water distribution system

Adapted from Joe *et al.* (2002) and Federation of Canadian Municipalities (2002b)

Restructuring to improve performance. Many municipal governments have reached the conclusion that significant changes to utility governance and structure are necessary to ensure the quality of service desired by users. Changes in incentive structures, management norms and the relationship between the utility and the government are thought to be required. Accordingly, reforms in governance structures have been undertaken, usually in conjunction with a more wide-ranging restructuring of water and wastewater services. When restructuring, particularly when creating stand-alone agencies and involving private companies, municipal governments must balance different aspects of good governance. For example, increasing managerial autonomy raises the question of how to maintain high levels of accountability and transparency.

Restructuring in order to source finance. Water and sewerage systems are capital-intensive. In some cases, systems have significant needs for maintenance and upgrading following years of deferred investment. Investment may also be required for major water resources developments or water treatment facilities. In cases where governments are unwilling or unable to borrow to meet investment needs, restructuring may provide a means of sourcing finance. Often, when finance is the key restructuring goal, private finance is a possible option and municipal governments consider creating a stand-alone utility, or delegating water supply to an independent operator who provides project financing. From the perspective of governments, this strategy sometimes has the advantage of reducing apparent pressures on government budgets. The reduction in the government's borrowing requirement does not, however, necessarily imply lower bills for consumers (Bakker, 2004). It is also important to note that the cost of capital will vary between municipal governments and projects. A recent review of water supply governance in Ontario for a provincial government commission found that "in general, the financial capability of a municipal government and its ability to incur debt at favourable rates means that the cost of capital often tips in favour of public-sector-based financing for water and sewerage projects" (Joe *et al.*, 2002). The best option for any municipality will vary from one case to the next and factors such as the cost of capital, impact on customer's bills, efficiency and cost effectiveness need to be carefully evaluated. The distinction between value (or economic efficiency) and least cost (or cost effectiveness) should be kept in mind when evaluating different options, as good value options may not always be the lowest cost option, particularly when dealing with capital-intensive infrastructure.

Restructuring to meet new legislative requirements. New legislative requirements may enable or even require restructuring of utility services. In many instances, legislation creates new options for restructuring; in some cases, restructuring is required by legislation. In many jurisdictions, legislation has recently been introduced which imposes new operational management requirements. This has been the case in some Canadian provinces over the past decade and also internationally. For example, the European Union's Water Framework Directive (European Commission, 2000) requires member states to implement a wide-ranging set of reforms to achieve sustainable water management, including the creation of watershed management plans and full-cost pricing. In some instances, other restructuring processes (such as municipal amalgamation) may impose new legislative frameworks, which drive utility restructuring.

New roles, new models. In many jurisdictions, governance frameworks have evolved significantly over the past two decades; increasingly, formal state authority is supplemented or supplanted by increasing reliance on informal authority, particularly in the form of negotiated patterns of public–private–community cooperation. Roles previously allocated to governments are now increasingly and controversially categorised as more generic social activities which can be carried out by political institutions, but may also be carried out–and perhaps more appropriately–by other actors (Pierre, 1995, Kooiman, 2000). Some observers characterize this trend as a unidirectional shift towards "distributed governance" (Rogers & Hall, 2003), in which formerly state functions are increasingly devolved to market (and in some cases community) actors. In contrast, this paper begins from the assumption that changing governance frameworks imply a period of experimentation and learning, in which a diversity of business and governance models may be observed.

The following section presents a case study of the province of Ontario, Canada, where a rapidly changing legislative framework, financial drivers and concern with poor performance are driving restructuring in the water supply industry. In response, a period of experimentation is ongoing in the water sector, as municipalities are choosing a variety of business models for their water supply systems and employing in some cases significantly different governance frameworks.

3. The case of Ontario, Canada

Canadians are the second highest per capita water consumers in the world—consuming on average 340 litres per person per day.[2] More than 24 million Canadians receive municipal drinking water and 22 million use municipal sewer systems. Canada has about 4,000 municipal water treatment facilities and 3,000 municipal wastewater treatment facilities, most serving 1,000 people or less. Many of these are in need of expansion, upgrade or repair (Federation of Canadian Municipalities, 2002a, 2002b).

In the Canadian context, provinces bear constitutional responsibility for fresh water management.[3] Ownership of water is vested in provincial and territorial governments, on behalf of the public. Legal frameworks vary, but in most cases, governments have created licensing regimes under which water use licences are issued to individuals and corporations. The basis upon which these permits are issued varies

[2] Source: Environment Canada "The Management of Water: Municipal Use" Freshwater website. http://www.ec.gc.ca/water/. Accessed 5 June 2003.

[3] Under the terms of Canada's Constitution Act (1867), water is mainly an area of provincial jurisdiction. However, there are three potential exceptions to this rule, because the federal government has jurisdiction over fisheries, navigation and boundary waters (Boyd, 2003).

across Canada. In eastern Canada, rights to use water are based on property ownership ("riparian rights"). In western Canada, water rights are allocated on a first come, first served basis ("prior appropriation rights"). In the northern territories, the allocation of water rights is based on a hierarchy of public purposes established by statute (Boyd, 2003). As with water rights, laws governing municipal water supply—including the range of business and governance models that is legally permitted—vary from one province to the next, but provinces generally delegate responsibility to local governments.

Thus, in the majority of Canadian towns and cities, water supply networks are publicly owned and locally operated.[4] Nonetheless, given managerial devolution and significant differences in hydrological regimes and governance between provinces, it is unsurprising that municipal approaches to water management in Canada vary from province to province. Indeed, although the vast majority of systems are municipally owned, Canada displays a wide variety of business models for water supply management (Table 1). Not all provinces are undergoing restructuring, or all at the same rate. In recent years, changes in the water supply sector have been most accelerated and pronounced in Canada's most populous province, Ontario (Figure 2).

3.1. Restructuring municipal governance in Ontario[5]

Ontario is Canada's most populous province, with a population of approximately 11.4 million in 2001 (approximately 38% of Canada's population) (StatsCan, 2001). It is the economic powerhouse of Canada, producing approximately 42% of Canada's GDP in 2001 and accounting for 53% of total manufacturing shipments in the country. The province has witnessed significant changes in governance over the past decade, particularly through the "Common Sense Revolution" implemented by the government of the Progressive Conservative Party, in power from 1995 to 2003 (Cameron and White, 2000). As political scientist David Cameron noted in a recent paper on drinking water safety written for a provincial government commission, there has been a significant and generalised trend towards "importing market logic into government and the public sector" (Cameron, 2002: 17). This has included, for example, performance measures, cost-benefit analysis, market-based incentive structures, quasi- or simulated markets and the greater involvement of private sector actors in public services provision through contracting out of services. Increasing emphasis has been placed upon consumer choice and upon treating consumers of services as customers (and rate-payers) rather than voters (and tax-payers).

These changes at the provincial level have been mirrored at the municipal level; a significant degree of the municipal restructuring has taken place in Ontario in recent years. Important changes include:

- A reduction in the number of municipalities and municipal politicians through amalgamations from 815 municipalities in 1996 to 445 municipalities by 2004 (with most of the restructuring taking place by 2002);[6]
- Substantial revisions to the valuation system for the property tax assessment base;

[4] In rural areas, private wells remain an important source of drinking water.

[5] The research for this paper was completed in the summer of 2003. The rapid pace of change in Ontario's water sector may render some aspects of this analysis out-of-date.

[6] On-line source. Ontario Ministry of Municipal Affairs and Housing (accessed May 2005): http://www.mah.gov.on.ca/userfiles/HTML/nts_1_3429_1.html

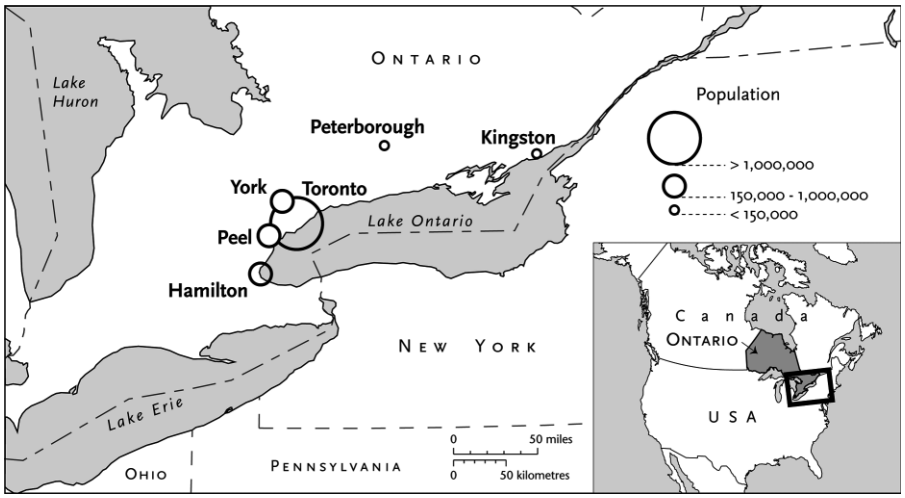

Fig. 2. Case study municipalities (Ontario, Canada).

- Changes to municipal discretion over property tax rates;
- The introduction of new financing arrangement for municipalities, including:
  - The elimination of provincial grants and the introduction of a Community Investment Fund
  - The introduction of new financing arrangements pertaining to long-term financing of capital infrastructure under the provisions of and regulations made under the Municipal Act (2001).

All of these developments have had an impact on the ways in which municipalities govern, oversee and finance their activities (AMO, 2001; OMMAH 2002). Where municipalities have amalgamated, this has also been an impetus for restructuring of local utilities. Of perhaps equally significant impact on municipalities has been a systematic policy of devolution of service provision at the provincial level. In practice, this has translated into moves towards greater municipal control over service provision, based on a governance principle that services should be managed at the lowest possible level, or managed at level at which users pay for service, under the provincial Local Services Realignment Initiative, 1997. As a result, there has been a significant expansion in the number and range of functions that municipalities are required to deliver and finance; in some cases, parallel financing capacity has not been put in place, resulting in financial constraints for municipal governments traditionally prohibited from running deficits and with strict limitations on external financing.

3.2. Restructuring the water and wastewater sector in Ontario

Restructuring of the water and wastewater sector in Ontario has been affected by three interrelated developments over the past decade: a devolution of service provision from the provincial to the municipal level; deregulation of the electricity sector and break-up of Public Utility Commissions; and the creation of new legislation and regulations for water supply.

Devolution of service provision. In line with the general trend towards devolution of service provision, the regulatory authority for smaller, on-lot septic systems has been passed to municipalities (under the provisions of the Services Improvement Act, 1997). More significantly, ownership of all provincially owned water and sewage facilities has been passed to the municipalities they serve (under the provisions of the Water and Sewage Services Improvement Act, 1997 (Bill 107) and the Municipal Water and Sewage Transfer Act, 1997). Previously, municipalities owned approximately 75% of water and sewage facilities in Ontario, with 25% being held by the province through its Ontario Clean Water Agency (OCWA).[7] In the late 1990s, all of these systems were transferred to municipal owners (under the provisions of Bill 107, May 1997).

Deregulation of the electricity sector. The restructuring of the electricity sector followed the introduction of the Electricity Competition Act in 1998. Until the late 1990s, Public Utility Commissions (PUCs) commonly provided both electricity and water services, in addition to other services, to local ratepayers. The new Act was created to enable the deregulation of the Ontario electricity market and required municipal Councils to establish new, stand-alone electricity companies under the Ontario Business Corporations Act to own and operate local electrical assets. Councils were empowered to dissolve PUCs (previously prohibited, except by plebiscite). Municipalities had to decide whether or not to retain ownership of the electric utility (i.e. whether or not to sell the assets, as many have done). Those municipalities who retained the ownership of the electric utility in turn had to decide whether the utility would be a not-for-profit or for-profit company. With the removal of the electricity function from PUCs, which were much reduced in size, many municipalities questioned the usefulness of the model (Freeman, 1997). Most PUCs have been dissolved since 1998; municipalities have contracted water operations to OCWA or transferred water services to an internal municipal department.[8] PUCs are now involved in the provision of water services for only seven municipalities in Ontario, from a high of 254 PUCs and 25 Water Commissions in the 1950s (SuperBuild, 2002b).

New legislation and regulations for water supply. The new regulatory framework for water supply utilities stems in part from changes arising from municipal and electricity restructuring in general and in part from new legislation and regulations enacted following a serious water supply contamination incident in the province. In May 2000, the municipal drinking water system in the town of Walkerton, Ontario (population 4,800) became contaminated with bacteria (*Escherichia coli* O157:H7 and *Campylobacter jejuni*); as a result, seven people died and 2,300 people became seriously ill.

The resulting government inquiry, led by Justice O'Connor and known as the Walkerton Inquiry, conducted a comprehensive review of water supply policy in the province and made extensive recommendations for regulatory and legislative reform in Ontario (O'Connor 2002a, 2002b).[9]

[7] The Ontario Clean Water Agency (OCWA) is a provincial government agency, created in 1993 under the Capital Investment Plan Act, originally mandated with the ownership and/or operation and financing of water and sewerage services in some (typically smaller) Ontario municipalities. At the time of writing, OCWA was operating 228 water treatment plants and 239 wastewater treatment plants for over 200 municipalities and private sector companies in Ontario (OCWA, personal communication, 13 June 2003); its ownership and financing roles have been phased out.

[8] The remaining PUCs are (as at July 2001 according to SuperBuild 2002b): Brockville, Cochrane, Collingwood, Johnson, Peterborough, Sault Ste Marie and Windsor.

[9] The full text of the O'Connor reports can be found at: http://www.attorneygeneral.jus.gov.on.ca/english/about/pubs/walkerton/.

Table 3. Selected changes to water quality legislation and governance, Ontario, 2000–2003.

2003	Drinking-Water Quality Standards and Systems Regulations updated. Under the provisions of the *Safe Drinking Water Act*, the regulations set out new standards for treatment and testing requirements for water supply systems, and update detailed maximum allowable concentrations of microbiological, chemical and radiological contaminants.
2002 (December)	Safe Drinking Water Act passed by legislature. The purpose of the Safe Drinking Water Act is to gather in one place all legislation and regulations relating to the treatment and distribution of drinking water, as recommended by Commissioner O'Connor in Part II of the Walkerton Inquiry. The act also provides legislative authority to implement 50 of the 93 recommendations made in Commissioner O'Connor's Report (Part II).
2002 (June)	Nutrient Management Act passed by legislature. It addresses land-applied materials containing nutrients. This includes provisions for the development of strong new standards for all land-applied materials containing nutrients, a proposal to ban the land application of untreated sewage over a five-year period, and proposed strong new requirements such as: the review and approval of nutrient management plans, certification of land applicators and a new registry system for all land applications.
2002	Parts I (January) and II (May) of the Report of the Walkerton Commission of Inquiry released.
2001 (January)	Revised Ontario Drinking Water Standards released.
2000 (August)	Operation Clean Water action plan announced by Harris government; revised Drinking Water Protection Regulation for larger waterworks released. This regulation introduced the first legislation requiring waterworks to undertake regular and frequent sampling and testing by accredited laboratories, and requiring stringent treatment for all drinking water. It also requires quarterly public quality reports, public access to records, and person-to-person communication of water quality abnormalities to the Minister of Environment, the Medical Officer of Health and the waterworks owner.
2000 (June)	Water Treatment Facilities Inspection Blitz. Immediately following the Walkerton tragedy, the Ministry of Environment embarked on a blitz inspection of all water treatment facilities in Ontario, to ensure that they met quality standards and had qualified operators.
2000 (May)	Water contamination incident in Walkerton, Ontario results in seven deaths; 2,300 people become seriously ill.

In response to the Commission's criticism of regulatory lacunae, legislative incoherence and funding shortcomings on the part of the provincial government, the government has embarked on a comprehensive set of initiatives and reforms to the province's water quality surveillance systems and management framework (Table 3), entailing greater government oversight and funding of the water sector, in contrast to the trend throughout much of the 1990s.[10] This set of initiatives overlapped with structural reforms to the water supply industry initiated in the mid-1990s, characterized by a trend towards devolution, de-integration and active provincial support for commercialization of the sector (including full-cost recovery pricing, contracting out and forms of private sector participation) (see, for example, SuperBuild, 2002a, 2002b, 2002c, 2002d) (Table 4). This legislation opens up the possibility of new business models (including corporatized public utilities) and financing options previously unavailable to municipal governments.

[10] The annual reports of the Environmental Commissioner of Ontario (1994, 1995, 1996, 1997, 1998, 1999) are instructive in this regard, criticizing the effects of downsizing and warning of the possible negative effects of poor and declining performance in environmental monitoring (including water quality, a responsibility of the provincial Ministry of the Environment) and a "deterioration of the province's environmental protection standards is widespread" (Environmental Commission of Ontario 1998) over the latter half of the 1990s.

Table 4. Selected key changes to water governance framework, Ontario, 1993–2002.

2002	Sustainable Water and Sewage Systems Act passed by legislature. The Act makes it mandatory for municipalities to assess and cost-recover the full amount of water and sewer services, and also provides legislative authority to implement further recommendations from Part II of the Walkerton Inquiry.
2002	Municipalities are prohibited from subsizing the tax base through water rates by Ontario Regulation 244/02 (under the provisions of the Municipal Act 2001); the regulation prohibits revenues collected from exceeding the cost of the service.
2001	Municipal Act permits municipalities to establish corporations for the provision of municipal services.
1998	Electricity Competition Act (Bill 35): The new Act was created to enable the deregulation of the Ontario electricity market, and required municipal councils to establish new, stand-alone electricity companies under the Ontario Business Corporations Act to own and operate local electrical assets. Municipalities must "disentangle" water and electricity services, which were jointly run in many communities.
1998	Grants for Water System Upgrades for 38 Municipalities announced by government. Canadian $104,650,527 from the Provincial Water Protection Fund to be allocated to the improvement of water and/or sewage facilities.
1998	Review of Provincial Government's role in operation of water and sewage treatment systems announced. Rob Sampson, Minister without Portfolio with Responsibility for Privatization and Norm Sterling, Minister of Environment, announced the referral of the Ontario Clean Water Agency (OCWA) to the Office of Privatization (now SuperBuild) to review the provincial government's role in operating municipally owned water and sewage treatment systems.
1997	Provincial Water Protection Fund created, allotting Canadian $200 million to improvement of water and sewage facilities in Ontario.
1997	Water and Sewerage Services Improvement Act. Under Bill 107, ownership of water and sewerage passes to municipalities from OCWA (affecting approximately 25% of water supply systems in Ontario).
1997	OCWA no longer permitted to own water and sewage systems. OCWA continues to operate as a services provider for municipal water supply systems. OCWA's financing role is also abolished.
1993	Ontario Clean Water Agency created under the Capital Investment Plan Act. OCWA has the ability to own, operate and finance water and sewage services to some municipalities.

4. Restructuring municipal water supply: examples from Ontario

Municipalities in Ontario have responded in a variety of ways to the pressures and reforms described in Section 3. A majority of municipalities have restructured water supply management, with a diversity of business models and governance models being adopted at the municipal level (Table 5). In this section, a brief survey is presented of restructuring in six municipalities across Ontario. The municipalities chosen range in size from the largest metropolitan area (Toronto), to large suburban municipalities close to Toronto (Peel, York, Hamilton), to much smaller and more isolated communities (Peterborough and Kingston). The total population of the sample cities represents approximately 64% of Ontario's population, although a slightly smaller proportion will actually be connected to a water supply network within these jurisdictions.

4.1. Restructuring in Toronto: a "business unit"

The current City of Toronto was created from the amalgamation of seven municipalities in 1998, resulting in the most populous municipality in Canada, with a population of approximately 4.7 million.

Table 5. Restructuring of water and wastewater services in Ontario (selected examples).

Municipality	Population[a]	Options considered	Option selected
Toronto	4,682,897	• Municipal department • Municipal Services Board • Subsidiary of Toronto Hydro (municipally owned electricity corporation) • Corporatized utility	Municipal department managed through special committee
Kingston	146,838	• Municipal department • Municipally owned corporation • Corporatization of services provision (operations and management)	Corporatized utility for services provision; asset ownership remains with municipality
Hamilton	662,401	• Delegated management	Delegated management to private operator
Peel	988,948	• Delegated management to public operator • Delegated management to private operator	Delegated management to public operator
Peterborough	102,423	• Municipal department • Corporatization • Commission	Hybrid: Corporatized services utility and municipal commission
York	729,254	• Private sector partnership options (including joint venture or Build-Operate-Train-Transfer) • Municipal direct management	Municipal direct management

[a]Data source: Census Metropolitan Areas or Census Agglomerations, 2001 Census (Statistics Canada).

Currently, the city's water and wastewater services are provided by a division of the city's Works and Emergency Services (WES) department, which is responsible for selling potable water at wholesale rates to "community areas" (former municipalities) who in turn sell it to their residential, commercial and industrial customers at the retail rate.

In late 2000, the city decided to review its governance options for water and wastewater services. This initiative did not arise from a specific concern with management capacity or with water quality (which are consistently very good), but rather with future capital expenditure requirements for replacement and rehabilitation, given ageing infrastructure (the "infrastructure deficit") (City of Toronto, 2002b). The city articulated four main objectives in its review of restructuring options: accountability and public transparency; quality assurance and environmental responsibility; efficient and effective operations; and capacity for innovation and flexibility (City of Toronto, 2002a).

Decision-making process. The planning process began in October 2000, when a proposal was put forward for developing a feasibility plan for the creation of a publicly owned water and wastewater utility. Council approved the terms of reference for a study of water governance options in water and wastewater services in November 2001. The study work plan was extensive and included: research into the practices of other jurisdictions; a review of existing and new provincial legislation; as well as

consideration of four business models: a municipal services board, continued direct management by the municipality, a corporatized subsidiary of Toronto Hydro and a corporatized utility. The study team, led by the city's Chief Administrative Officer, was conducted by staff from several departments and was reported back to the Policy & Finance and Works Committees in May 2002; the municipal services board was the recommended option.

During this study period, a high-profile public debate took place over the decision-making process and governance options. In response, a study website was launched by the city, where reports and information about the study were posted.[11] A dedicated e-mail address and phone, fax and TTY lines were established and members of the public were encouraged to submit comments. Open houses were hosted. Public pressure resulted in additional participatory mechanisms being implemented, such as public forums and a "water advocate" with a mandate to act as the principal liaison between the Council and external stakeholders on water issues, to act as the lead representative in the Council with respect to long-range water and wastewater planning and to act as a public "champion" for water issues.

Observers agree that public pressure was an important reason for the Council's rejection of the study team's recommendations; in December 2002, the Council decided to retain direct control of water and wastewater services through a subsidiary standing committee, while designating the Water and Wastewater Services Division as a separate "business unit" within the Works and Emergency Services Department.

Comments on the rejected business model. The Municipal Services Board was not implemented in Toronto, but deserves mention in the context of this analysis as it would have constituted a unique business model for water governance in the province. Under the board model, the city would have remained the employer of the water and wastewater workforce. Board members would have been appointed by the Council and would have included citizen members as well as councillors, the former hired by "profiles" requiring expertise relevant to water and wastewater management. Authority to approve the operating and capital budgets would have remained with the Council, as well as the setting of rates and charges. Board meetings were to have been held in public. The two main advantages of a municipal service board were that it was perceived to enable focused, informed governance and decision making and that it was anticipated to provide new opportunities to deal with long-term capital and operating budget requirements (City of Toronto, 2002a, 2002c). The perceived disadvantages included a loss of accountability and direct municipal control. Public fears that the business model would facilitate private sector participation or outright privatization (whether accurate or not) played a role in influencing politicians' perceptions, particularly in the context of the electricity deregulation debacle occurring in the province over the decision-making time period.

The "business unit" business model. Under the previous business model, the water and wastewater services division reported to the City Council through the Works Committee, receiving technical and support services from other divisions but maintaining a separate budget, through which annual operating and capital fund requirements were met entirely through revenues derived from fees and charges (primarily water and wastewater rates) without reliance on the property tax base. The new business unit will retain a separate budget and recover all intra- and inter-departmental charges (e.g. for services provided by other municipal departments), in accordance with new provincial legislation requiring full

[11] At the time of writing, this site continues to be maintained (http://www.city.toronto.on.ca/involved/utilitystudy/).

cost accounting and reporting (see Table 4 for details). The business unit will continue to report through the works committee, but will operate with a greater degree of delegated financial and operational authority, allowing for streamlining of the procurement process. In addition, the business unit will have negotiated service level agreements for all services provided by the city, enabling increased control over support service levels and costs. For some aspects of the operation, special administrative policies and procedures will be developed; for example, a separate business plan for the unit will be reported directly to Council (allowing for greater attention to long-term infrastructure management) and special performance measurement indicators will be imposed on the unit. The Council has articulated the position that this new governance model for the city allows for public ownership, accessibility and accountability to be maintained while addressing some key business issues (City of Toronto, 2002a, 2003).

4.2. Restructuring in York: direct municipal management

The Regional Municipality of York, with a population of approximately 600,000, includes the municipalities of Aurora, East Gwillimbury, Georgina, Markham, Richmond Hill, Richmond-Stouffville and Vaughan.[12] The region has been experiencing rapid population growth. Meeting the water demands of a growing population is a concern for the municipality, as is water supply availability, as the municipality is land locked and buys a substantial portion of its water supply from the City of Toronto. Through its Water and Wastewater Branch, the municipality supplies services directly to municipalities: the operations (61 full-time employees) section is responsible for maintaining water and wastewater treatment facilities and the engineering section (16 full-time employees) is responsible for infrastructure planning, approvals, design and construction.

Decision-making process. York decided to develop a long-term water project intended to meet the region's needs until 2031. The original cost was estimated at Cdn $850 million, a figure believed to be beyond the region's financing capacity. Given the potential cost, York decided to explore possibilities for private sector partnerships and studied three options: outsourcing, joint venture and a "Build-Operate-Train-Transfer" contract. Through a competitive process, Consumer's Utilities emerged as the preferred candidate for operator. Consumer's Utilities undertook to work in a technical advisory role with the municipality to explore long-term water supply options; York agreed to compensate the company for costs if the company was not chosen to be the contract operator.

The region set out key evaluative criteria for the project: secure water supply in support of future growth; rate stability and cost minimization; the capacity to finance future infrastructure (i.e. preserve credit rating); participation in decision making; environmental protection. Other criteria emerged through public consultation: independence (i.e. maximizing the proportion of water obtained from member municipalities); reliability of supply; source of supply (Lake Ontario was a less-favoured option); and economic benefits to the region. After using the evaluation criteria to examine cost options and cost implications of the rate and development charges, York realized that it had the capacity to finance a long-term solution. York decided that according to its criteria, municipal direct management

[12] The discussion of York is drawn from Cameron's commissioned paper on drinking water safety for the Walkerton Inquiry (Cameron, 2002).

was preferable. In addition to having the required financial capacity, several other factors were important. Involving a private operator would be likely to be more expensive than a municipal model for two reasons: the region had a good credit rating and could borrow money cheaply and contracting out operations would require repayment of provincial grants for water and wastewater received from the province in the 1970s. Moreover, the collection of development charges was restricted to municipalities and there were public concerns over the desirability of private sector operators.

York's long-term water management plan focuses heavily on demand-side management, with incentives and rebates for consumers who reduce their water usage. Programs in water auditing, retrofitting, public education in water conservation and leakage reduction have been implemented. The region has adopted the following good governance principles in its water and wastewater program:

- ensuring the safety of water supply
- maintaining confidence in the system
- investing in infrastructure at a sustainable cost
- promoting a constructive workplace environment
- public participation and communication
- transparency

4.3. Restructuring in Hamilton: delegated management to a private sector operator

The current City of Hamilton was created in 2001 from the amalgamation of the former municipalities of Ancaster, Dundas, Flamborough, Glanbrook, Stoney Creek and the former City of Hamilton. Unlike many other municipalities in southern Ontario, population growth is not a significant factor in driving investment in Hamilton's water and wastewater systems. Statistics Canada reports that the population of the City of Hamilton's census metropolitan area grew relatively slowly from 624,360 in 1996 to 662,401 in 2001.[13] Although the population base is relatively stable, the challenge for Hamilton is to maintain its current infrastructure and to address the accumulated deficit in infrastructure renewals; approximately 50–60% of water and wastewater systems are 50–100 years old.[14] The infrastructure deficit arises not only from past underinvestment in maintenance and rehabilitation, but also from past underinvestment in wastewater treatment capacity, which has had implications for environmental water quality in the region, particularly in Hamilton Harbour.

The City of Hamilton's water and wastewater treatment facilities were operated by a private company under a 10-year delegated management contract, which ended in 2004. In January 1995, the former Regional Municipality of Hamilton-Wentworth entered into a ten-year contractual agreement with Philip Utilities Management Corporation (PUMC), a subsidiary of Philip Environmental (later Philip Services Corporation) and delegated to it the management of the operation and maintenance of the city's water and wastewater treatment facilities, pumping stations and reservoirs. The contract value was assessed at approximately Cdn $187 million and when signed was one of the largest delegated management contracts for water services in North America.

[13] Information obtained from Statistics Canada website (http://www.statcan.ca/), accessed 10 November 2002.
[14] City of Hamilton (2001) 100 Year Report – Infrastructure Asset Management Strategy. TOE1014, p. 3.

Decision-making process. In 1994, Philip Environmental (a company headquartered in Hamilton) approached Hamilton-Wentworth to explore the possibility of entering into a contractual agreement to deliver the region's water and wastewater program. Philip promised to increase employment in the region and guaranteed program savings. The regional Council directed staff to come to an agreement with Philip, thereby choosing to sole source the contract, with no competitive bidding or pre-tendering process. Contract negotiations were concluded in December 1994; a newly-created Philip Environmental subsidiary, PUMC, was charged with primary responsibility for operations and maintenance of the facilities. No public participation mechanisms were initiated by the city, nor was public participation facilitated in the subsequent renegotiation of the contract with new operators (see below). Unlike other municipalities in Canada which have delegated management contracts to private sector operators that make their contracts public (e.g. Moncton (New Brunswick), Goderich (Ontario)), the city has chosen not to publish the contract or related documents.

The contract. Under the terms of the delegated management contract, the city retains asset ownership, responsibility for tariff collection (which has been contracted out to a municipal corporation, Hamilton Utilities Corporation) and responsibility for setting rates; it also provides capital investment. The city also supervises the contract; staff time dedicated to monitoring and oversight has increased since the initial contract was signed. The external operator is responsible for day-to-day operations and management at plants, staffing levels and some aspects of equipment maintenance.

The contract guaranteed the Region of Hamilton-Wentworth a Cdn $700,000 rebate per year; after the rebate, the contractor would retain the first $1 million in savings, with savings in excess of $1 million to be shared on a 60/40 basis between the contractor and the city respectively. As of 2001, the savings level had not exceeded the million-dollar threshold triggering the sharing mechanism, but the city reported that savings are nearing this point.

Four different operators have managed the water supply system since the initial contract was signed in 1994. PUMC operated under the terms of the contract for four years. The eventual bankruptcy of PUMC's parent corporation, Philip Environmental, was a leading Canadian business story through 1998 and 1999. PUMC was sold in the spring of 1999 to Azurix Corporation, a newly created subsidiary of Enron, which was aggressively seeking business opportunities in what it perceived to be a rapidly expanding market in water and wastewater services. Azurix took over PUMC's contract with the Region in May 1999. Subsequently, Enron sold Azurix to a US-based water services company, American Water. Shortly after completion of the sale, American Water announced that it would be taken over by a German multi-utility, RWE, which had become one of the largest water services corporations in the world with its purchase of UK-based Thames Water in late 2000.

The turnover in operators has been a source of debate in Hamilton. Questions were raised regarding the lack of competitive bidding for the original contract, whether the contract remained legally binding and the possible financial implications for the city if it were to cancel the contract. Concerns have also been raised about water quality incidents, labour relations and water and wastewater tariffs, which rose above the rate of inflation during 1990s, but there has been no systematic public review to date of the city's experience of its delegated management contract.

In 2001, the City Council created an "Alternative Service Delivery" (ASD) policy, which articulates 11 principles to guide decision making about restructuring of service delivery (Table 6). The policy report emphasizes the importance of efficiency, effectiveness, equity and accountability in service delivery. Characteristics of successful ASD initiatives and key obstacles to ASD faced by municipal

organization are identified. The report also outlines suggestions for the principles of ASD, process for review of ASD options and criteria for reviewing ASD options.[15] This policy was not applied retroactively to the water supply contract or to the successive renegotiations. However, having decided to continue with a delegated management model, the city reopened the contract up for tender in 2004, receiving seven submissions to its Request for Pre-Qualifications—in distinct contrast to its prior approach.[16] After much public debate, the City decided not to re-tender a contract to the private sector, and has resumed direct management of the city's water supply system.

4.4. Restructuring in Kingston: a corporatized services utility

In Kingston, a corporatized water and wastewater utility was created to operate water and wastewater assets owned by the newly amalgamated City of Kingston. Prior to amalgamation on 1 January 1998 the utility services were provided by several groups, water and sewer by both the former townships, sewer services by the old city and water, natural gas and electricity services in the old city by the former Public Utilities Commission (PUC). As a result of the amalgamation process all these services were brought together under one department that became known as Utilities Kingston.

The Energy Competition Act 1998 created a challenge for Utilities Kingston, which as a municipal department, operated five utility systems. On one hand, municipalities were not permitted to distribute electricity except through a corporation and on the other hand the corporation formed to distribute electricity can only distribute electricity. The city decided to search for a solution that allowed them to continue to capitalize the competitive advantage of utility convergence ("one call, one crew, one bill") while permitting advantage to be taken of continued savings from the centralized services (i.e. finance, customer service) of the city of Kingston.

Decision-making process. The City considered a wide range of options: a municipally owned corporation and corporatization of services provision (operations and management). The City of Kingston had been a long time supporter of publicly owned and operated utilities. This had been demonstrated in the ongoing ownership of its natural gas utility and in challenging Union Gas and Hydro One for the right to own and operate the utilities within its municipal boundaries. The fact that the old city had continued to own and operate its natural gas utility and had not sold it to a private operator, as was in the case with all but one other municipality within the province of Ontario, presented the municipality with an opportunity to maximize utility integration or convergence. Having the four and soon to be five utilities together under one department presented opportunities for cost savings and customer service. In a study of business models conducted by staff, the conclusion reached was that it was possible for the municipality to achieve equal returns versus the sale of the assets over time, while maintaining control over the assets, and this helped in finalizing the decision. The decision made by the municipality was to maintain ownership of its electricity distribution company and to work towards achieving the maximum return. However, achieving the maximum return was not to be at the cost of deteriorating service or infrastructure.

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[15] City of Hamilton Report 01-037. 19 November 2001. Council adopted the report at its meeting on 27 November 2001.
[16] City of Hamilton. 'Hamilton short-lists proponents in search of an operations and maintenance contractor for water and wastewater facilities'. News release. 30 April, 2004.

Table 6. The municipality of Hamilton's principles for alternative service delivery (ASD).

1. ASD initiatives will seek to provide the same or better services at least cost
2. Council must always retain accountability for protecting the public interest
3. Council must be assured that the best interests of the community are being considered and that residents' concerns are dealt with
4. ASD initiatives must ensure service continuity
5. ASD initiatives must ensure equity in access to services
6. ASD initiatives must meet all collective bargaining obligations and treat all affected employees in a fair and equitable manner
7. ASD initiatives must ensure an equitable distribution of risks and revenues with the service provider
8. To protect the best interests of the public, the corporation and employees, clear conflict of interest guidelines relating to ASD must be developed and applied to all ASD proposals.
9. The evaluation of proposals will proceed in accordance with a Council-approved process that guarantees openness and transparency throughout the process
10. All ASD initiatives will include clearly enunciated deliverables and reporting processes sufficient for council to assess the measurement of actual benefits against expected outcomes
11. Assets shall remain in control or revert back to the City of Hamilton

Source: City of Hamilton (2001)

Comments on the business model. Two corporations were created: Kingston Electricity Distribution Limited (KEDL), which holds the assets of the former Hydro Electric Utility Commission and an affiliate corporation, Utilities Kingston, which is home to all the employees of the former municipal department and holds the assets of the Fibre Optic utility along with some vehicles and tools. Through this corporation Utilities Kingston manages, operates and maintains the assets of the City of Kingston's five utilities. "Utilities Kingston" employs approximately 150 full time employees and has yearly capital and operating budgets in the order of Cdn $65 million dollars. The mandate of Utilities Kingston is to manage the utility assets of both the City of Kingston and KEDL and to maximize the returns for the municipality as a whole.

Under the Kingston business model, the electricity distribution company (KEDL) owns the electricity assets. The City of Kingston owns the gas, water and sewer assets. Utilities Kingston is in essence a contracting company, providing services to manage, operate and maintain utility services for the City of Kingston for gas, water and sewer systems and to KEDL for the electricity system. Formal agreements exist for this. During the set-up of this structure, the city was insistent that efficiencies achieved during the amalgamating process by the sharing of central services should not be lost. To achieve this, Utilities Kingston purchases these services from the municipality, including items such as call centre support, financial support, legal support, information systems technology, communications and fleet services. Service agreements exist for these services.

Some of the advantages of the Kingston model were identified by utility staff as cost savings, convenience for customers (one bill for all utility services, one call-centre for utility queries and complaints) and a combination of commercial discipline with public service ethos. Some of the disadvantages identified were a lack of understanding of the set-up on the part of the city (staff to a greater degree than councillors) and the fact that the Kingston model is unique and does not always "fit" easily into the current policy framework being evolved at the provincial level.

4.5. Restructuring in Peel: Delegated management to a public operator

The Regional Municipality of Peel is made up of the cities of Mississauga, Brampton and Caledon.[17] Like the York region, Peel is forecast to experience substantial population growth. The municipality's population grew from 853,000 in 1996 to 988,948 in 2001 (StatsCan, 2001). Peel estimates that its population will grow to 1,206,900 in 2011 and 1,327,900 in 2021 (Regional Municipality of Peel, 1999). This population growth will place substantial demands on the water supply system. Fortunately for the municipality, the local distribution system, which operated directly by the Region of Peel through the Public Works Department, is relatively recent; 60–70% is less than 20 years old and will require relatively little replacement over the short term. This is one contributing factor to Peel's low water rates (the lowest in the greater Toronto region), debt-free status and healthy reserves.

The decision-making process. Until 1997, the Ontario Clean Water Agency (OCWA) owned and ran part of the water supply system. Following passage of the Water and Sewerage Services Improvement Act (Bill 107), ownership of the water supply system was devolved to the Regional Municipality. In early discussions with OCWA, the region determined that it did not wish to hire OCWA employees directly and that considerable training would be required for Peel staff to acquire the skills necessary to run the system. Accordingly, the region decided to consider a delegated management contract for its facilities.

To facilitate the tendering process, the region contracted competitively with KMK Engineering. Similar to York's experience with Consumers' Utilities, KMK Engineering was able to sub-contract as needed and eventually brought in Price Waterhouse and legal advisers on board during the process. Peel issued a request for qualifications (a pre-tendering stage widely used in delegated management tendering procedures) and received seven applications.

The region then issued a request for proposals that required respondents to compete in terms of technical qualifications and price. An important aspect of the evaluation of the proposals was the focus on technical criteria. The steering committee of regional councillors determined that the technical component should amount to 65–70% of the weighted judgement of the evaluation bid. Price was a smaller component of the evaluation, as the region did not want the winner simply to "buy the bid". Eventually, OCWA was judged to have the best proposal. The region reported that the United Water and OCWA bids were very close, although the OCWA bid was less expensive. Peel decided that, although OCWA's position as an incumbent gave the agency an advantage, the region was prepared to take advantage of the agency's familiarity with the region's systems and operating procedures. Accordingly, in late 1997, Peel signed a 10-year contract with OCWA to continue operating its two water and two wastewater treatment facilities at a projected cost saving to the region of about Cdn $67 million.

Despite retaining the same operator, the relationship between the municipality and OCWA has changed. Peel faces increased "due diligence" obligations as the infrastructure owner. Under the new contract, the municipality has a much more significant monitoring role, scrutinising OCWA's performance. The extensive proposal process to which OCWA was submitted and the increased surveillance on the part of municipalities such as Peel have resulted in the introduction of greater transparency mechanisms by OCWA; for example, a web-based service where clients have direct on-line

[17] The discussion of York is drawn from Cameron's commissioned paper on drinking water safety for the Walkerton Inquiry (Cameron, 2002).

access to finances, operating performance and asset maintenance. Moreover, Peel has adopted a very aggressive approach towards quality management, imposing stricter drinking water quality criteria than the province and becoming the first municipal water supply system in North America to receive ISO 140001 certification for environmental management. Thus, despite retaining the same operator, increased transparency and performance requirements have resulted from the new contractual arrangements in Peel.

4.6. Restructuring in Peterborough: A joint commission and corporatized services utility

The Peterborough Utilities Commission was created in 1914 and a municipal water commission has existed in Peterborough since 1902 (PUC, 2002). The provision of water and electricity services is highly integrated in Peterborough. Electricity is generated from a hydropower installation in the Otonobee River, which is also the town's drinking water source. The generating station was maintained by the water utility. In addition, other non-utility functions, such as the Riverview Park and Zoo (one of the best-known tourist attractions in the Kawarthas), were operated by the commission.

The decision-making process. In 2000, Peterborough's PUC went through significant restructuring in response to the restructuring of Ontario's energy sector. The city considered separating electricity and water utilities, but this was difficult given the integration of generation and operational management. Corporatization was also considered, as was direct municipal management. After a restructuring review, including a public consultation process, the city decided to retain the PUC model, because of its perceived advantages—most importantly, financial independence and a combination of business autonomy with municipal oversight to ensure protection of the public interest. Also of importance was the perceived lack of cost savings from merging water and wastewater operations under municipal management owing to labour issues. The conclusion of the city's study was that existing economies of scale could be maintained under the corporatization/commission model by requiring corporatized subsidiaries to purchase services from the municipality.

The new legislative requirement prohibited ownership of electricity assets by the PUC and required corporatization of the electricity utility. In addition to corporatizing the electricity distribution and generation functions, the decision was made was to incorporate the water services of the PUC under the provisions of the Ontario Business Corporations Act as a for-profit corporation, owned solely by the City of Peterborough. The PUC remained in operation as an owner of the water assets; operations and maintenance are conducted by a corporatized services utility, under the terms of a service agreement. The major change to commission governance involved the replacement of elected commissioners with appointed commissioners, a step which municipalities were newly empowered to take.

Comments on the business model. The Peterborough business model for utility services is complex. The City of Peterborough's holding company (City of Peterborough Holdings Inc.), a for-profit company incorporated under the Ontario Business Corporations Act, is the single point of contact for the shareholder. There are two major subsidiaries of the holding company:

- Peterborough Utilities Services Inc. (PUSI) provides administrative, accounting, IT, maintenance, customer services and engineering services to support the other affiliates within the Peterborough Utilities Group, as well as other utilities, governments and private sector companies. PUSI's wholly

owned subsidiary, the Peterborough Call Centre Inc., provides customer information and billing services for other companies.

- Peterborough Utilities Inc. is the other primary subsidiary of the City of Peterborough Holdings Inc. Peterborough Utilities generates and sells electricity (partly through a wholly owned subsidiary); other business activities include, wholesale internet, rental hot water tanks, rental lights and plenum heaters. Three separate distribution companies, responsible for the distribution of electricity in Norwood, Lakefield and Peterborough, make up the Peterborough Utilities Group.

The Peterborough Utilities Commission (PUC) remains a separate not-for-profit organization and owns the water supply assets; the commission, governed by five commissioners appointed by City Council, contracts operation and maintenance to Peterborough Utilities Services. Additional business activities for the PUC include the Riverview Park and Zoo and the Civic Data Centre, a cooperative jointly owned by the commission and the city, which provides data processing services for the joint owners and other organizations in the Peterborough area.

The two corporations are overseen by a board of directors, which has one member from the Council (a councillor or the Mayor), the remaining directors being independent. Managers of the water utility interviewed for this report articulated three primary perceived benefits of the model: competent oversight by the board of directors, dedicated revenues and enhanced borrowing capacity without the need for private sector involvement.

5. Concluding remarks

The findings of this article reaffirm findings in the water management literature regarding principles, which, if adhered to, increase the likelihood of a successful restructuring process. One common point in the variety of restructuring options pursued by the different municipalities surveyed (with one exception, Hamilton) was a strategic planning process, initiated by the Council and overseen by staff, in which the various business models were evaluated and compared through a set of standardized indicators, guided by a clear set of objectives or principles. The outcome of the restructuring process was not always predictable. In the case of York, for example, the municipality had expected at the outset that a delegated managed contract would be the result of the restructuring process. Instead, their analysis demonstrated that their objectives could be better achieved by remaining with a direct municipal management model. A simple principle to guide restructuring emerges from the above analysis: compare different options (including the improved *status quo*), identifying and quantifying the synergies that will be lost as well as gained and do not presume the outcome before the review of restructuring options has been completed.

Moreover, the findings emphasize that restructuring should be an independent, disciplined policy process, professionally managed. Where it is not, restructuring is likely to prove politically contentious and to fail to meet desired goals. This finding coincides with the recommendations of the Walkerton Report, the most comprehensive review of Ontario's water policy in recent decades. Specifically, Part Two of the Walkerton Inquiry recommended that municipalities review the operating and management structure of their water systems (O'Connor 2002b) and listed three options that municipalities should consider when reviewing their systems: a municipal department, a municipal agency similar to a public utility commission (or board) and a municipal corporation.

Another key point of note about the restructuring process was an emphasis on professionalism and avoidance of conflicts of interest. Where the private sector was used to assist with the restructuring process (as in the case of York and Peel), a clear mandate was provided by city staff to private sector entities, which had an arms-length relationship to the restructuring process. The intelligent, informed professionalism of public and private sector staff was critical in making good decisions. Good contracts and strict supervision of the private sector, where applicable, were crucial in this regard.

Finally, the municipalities surveyed exhibited diversity not only in their choices of business models, but also in their choices of approaches to governance of the restructuring process. At one extreme, extensive public participation played an important role in changing the municipal Council's decision regarding the preferred business model (Toronto); at the other extreme (Hamilton), no meaningful public participation occurred and the municipality made an in-house decision to go ahead with one business model without a review process. In the latter case, the lack of stakeholder input has proved to be problematic for two reasons: the perceived political legitimacy of the business model selected is low and lack of public scrutiny and careful comparison of potential business models is likely to have contributed to the weak contract.

The diversity of business models chosen and approaches to governance taken in the municipal restructuring process in Ontario to date is illustrative of the period of experimentation and learning ongoing in the water supply sector that has followed legislative and regulatory reform, in the wake of a severe water quality incident which dramatically raised public awareness of water quality issues in the province. In drawing attention to the divergent approaches to governance taken by municipalities, the case studies point to the need for careful attention to issues of governance, as well as the more technical aspects of restructuring processes. Those municipalities which had "smooth" restructuring processes typically began with a set of clear objectives, sometimes phrased explicitly as a set of good governance principles, which usually entailed a relatively inclusive decision-making process; this echoes internationally recognized best practice (Seppälä, 2002).

Internationally, the question of the appropriate roles of citizens, governments and private corporations in water supply management is frequently debated. A wide range of business models involving these stakeholders is acknowledged in these debates. The debate in Canada has not tended to be as wide ranging. In many studies, typologies of business models are usually structured along a continuum between "government" (often called "public") and "private" control. For example, the Ontario government's agency responsible for public–private partnerships in infrastructure delivery recently published a series of documents analysing the water supply industry.[18] Its analysis of business models "suggests there are six basic types of business models used in the utility industry" (SuperBuild, 2002d: 13): municipal public; operations and maintenance; build-operate transfer; *affermage*; concession; investor-owned utility. Five out of these six models entail the involvement of the private sector as operator and/or owner of water supply infrastructure. Corporatized utilities, the focus of the Hamilton study, are not explicitly mentioned. Nor are municipal services boards mentioned, nor the relative advantages and disadvantages of "improved *status quo*" options, such as the "business unit" option eventually selected by Toronto.

[18] The Ontario SuperBuild Corporation, an agency of the Ministry of Finance, was created in 1999 and assumed the responsibilities of the former Office of Privatization. A central part of its mandate is to "identify opportunities for private sector involvement in the delivery of government programs and services" in water and other utility sectors (SuperBuild, 2002a, 2002b, 2002c, 2002d). With the election of the Liberal Party to power in 2003, SuperBuild was replaced by the Ministry for Public Infrastructure Renewal.

In contrast, the findings in this article indicate that there exists a much greater range of business models open to communities. In the case of Ontario, six municipalities selected six different business models, despite operating under an identical legal and regulatory environment and despite significant political momentum at the provincial level in favour of private sector participation and corporatization. The relevance of this finding for higher order levels of government is a simple reminder: there is no "one size fits all" business model for water supply management.

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