



Good Governance in Restructuring Water Supply: A Handbook

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Jointly commissioned by the
Federation of Canadian Municipalities (FCM)
and the Program on Water Issues (POWI)
at the University of Toronto's Munk Centre
for International Studies.

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Introduction: Overview of the Handbook

Background

A sustainable water supply is a cornerstone of sustainable communities. After years of relative neglect, Canadian communities and governments are beginning to focus on the challenges of sustainable water supply. Improving water supply management often requires reforms in governance and changes to utility structure. Relatively little information is available for non-specialists on this topic. This handbook attempts to fill that gap, focusing on good governance in the context of restructuring water supply services, i.e. changes to “soft” management systems, or to the organizational and administrative aspects of management systems.

The handbook synthesizes results drawn from a more extensive report on good governance of water supply prepared for the Program on Water Issues, at the Munk Centre for International Studies, University of Toronto. That report was written by Dr. Karen Bakker of the University of British Columbia, to which Professor David Cameron of the University of Toronto provided editorial and authorial input, in part drawing on his research for a commissioned paper for the Walkerton Inquiry (Bakker with Cameron 2002; Cameron 2002). In order to make these results accessible, the Federation of Canadian Municipalities (FCM) Centre for Sustainable Community Development (kn.fcm.ca/ev.php) and the Program on Water Issues at the University of Toronto's Munk Centre for International Studies (<http://www.powi.ca/>) jointly commissioned the handbook.

Purpose of this Handbook

To provide:

- information on water supply restructuring
- information on principles of water supply governance, and water supply governance debates in Canada and abroad
- a summary of accessible, useful resources relevant to restructuring water supply management

Scope

The handbook is a non-technical report designed for non-specialists. Detailed operational and procedural information has not been included. Experts and operational staff who require more in-depth information should refer to the bibliography and list of additional resources at the end of the report.

Intended audience

Municipal politicians and managers, policy makers, citizens and media.

Summary of handbook contents

Chapter 1 outlines the sustainable water supply management challenge, defines restructuring, and gives examples of why and how municipal governments would want to engage in restructuring. The remainder of the handbook provides information intended to assist municipal governments and communities that are considering restructuring their water supply systems:

- Types of business models (*Chapter 2*)
- Good governance principles (*Chapter 3*)
- Examples of restructuring (*Chapter 4*)
- Recommendations (*Chapter 5*)

The handbook does not provide detailed facts and figures on water supply issues in each province, nor does it discuss technical issues such as asset management. The focus is on good governance in restructuring by municipal government, not on provincial and federal orders of government. Given the variation in legislative frameworks between provinces, no “one-size-fits all” model can be proposed for water supply across Canada. Rather, the information is intended to support community efforts to acknowledge and improve governance of water supply as a critical factor in sustainable water supply management.

Glossary

Business model: A description of the ownership and organizational structure, and allocation of responsibilities and risks for operational management and/or infrastructure maintenance and improvement of a business.

Delegated management: Municipal government delegation of responsibility for management of aspects of its water supply utility to an external operator (which may be public or private).

Demand-side management: Implementation of policies or measures that serve to control or influence (usually to reduce) demand.

Divestiture: Disposition or sale of an asset.

Governance: The process by which stakeholders articulate their interests, their input is absorbed, decisions are taken and implemented, and decision-makers are held accountable.¹

Governance model: A description of the principles of good governance, and of the allocation of responsibilities and relationships between stakeholders for tasks and practices required for good governance.

Public/private partnership: private-sector involvement in designing, building, operating or managing aspects of a public water supply system.

Restructuring: 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.

Source protection: Preventing the pollution of groundwater and surfacewater (lakes, rivers, and streams) that serve as sources of drinking water.

Watershed: A river basin; the total area from which a single river collects surface runoff.

Water governance: The range of political, organizational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision makers are held accountable in the development and management of water resources and delivery of water services.

Chapter 1 – Introduction: Restructuring municipal water supply services

1.1 The Challenge of Managing Water Supply Systems—Serving several masters

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 that 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. According to the Federation of Canadian Municipalities (FCM) guide to sustainable asset management (FCM 2002b), sustainable community development within the municipal sector requires consideration of:

- social well-being of the community, including public health and safety
- environmental integrity, including protection of natural resource values and functions
- financial/economic viability of the community

This concern with sustainability stems from the growing realization that our 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 and wastewater supply systems, to achieve greater sustainability. Specific issues of concern vary, but some issues are common to many water supply systems (Box 1).

The Challenge

Resolving these issues often poses significant challenges for municipal governments. Some of the solutions may be undertaken without significant restructuring of the utility. Improved leakage control methods may, for example, reduce demand and ease the burden on the water supply system, particularly in regions where water is relatively scarce. Better operations management can, for example, result in greater cost efficiencies that can, in turn, result in lower prices. Poor water quality can be remedied or corrected by innovations and investment (often costly) in water treatment technology and changes in land use practices. Many of these improvements can be made without restructuring the water utility.

In some cases, however, municipal governments decide that it is necessary to restructure the management of the water supply utility. The remainder of this chapter, together with chapters 2 and 3, will cover basic definitions of and reasons for restructuring, and will review “best practice” recommendations for municipal governments engaging in restructuring processes.

¹ This definition is adapted from that of the Institute on Governance, a non-profit organization founded in 1990 to promote effective governance. For more information, see <http://www.iog.ca/>.

Box 1: Obstacles to Sustainable Water Supply Management

Supply-side and demand-side

- aging infrastructure
- declining quantity and/or quality of water resources
- increasing unpredictability of water resource availability (related to climate change)
- restricted access to water sources stemming from environmental protection measures
- growing per capita demand
- growing population
- consumer expectations for higher levels of service
- increasingly stringent water quality standards
- high percentage of ‘unaccounted for water’ (primarily leaks)

Financial

- lack of funding for infrastructure renewals and replacement
- past under-investment in infrastructure renewals and maintenance
- water prices set below sustainable levels (do not support full lifecycle cost recovery)
- lack of reliable funding sources
- dependence upon ad hoc government funding

Governance

- inefficient management
- low transparency
- poor accountability
- absence of input mechanism for consumers into decision-making
- lack of managerial autonomy of utility

1.2 What is restructuring?

In this handbook, 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 the organizational and operational aspects of utilities, including:

- ownership
- organizational structure (e.g. integration or separation of water and wastewater services)
- operational management procedures
- scale of operation (e.g. decentralization or regionalization/consolidation)
- allocation of decision-making responsibility
- involvement of stakeholders (e.g. community involvement in decision making)
- regulation
- accountability and oversight mechanisms

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 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 of assets and management of assets may be allocated to government or private actors; different business models allocate ownership to different actors. Details of business models for water supply are discussed in Chapter 2.

Introducing a new business model entails both organisational and institutional change – which necessarily requires changes in governance. Often, in addition to a new business models, a restructured utility will have a new governance model.

Water governance refers to the range of political, organizational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision makers are held accountable in the development and management of water resources and delivery of water services (adapted from Rogers and Hall 2003).

A **governance model** is a description of the principles of good governance, and of the allocation of responsibilities and relationships between stakeholders for tasks and practices required for good governance. Governance models will vary between different business models, and even between two communities using the same business model. In the case of water supply, for example, methods

of ensuring accountability to the consumer will vary—do consumers (as voters and taxpayers) seek indirect accountability through elected politicians, or do consumers (as customers) interact directly with the water supply utility? Different governance models structure accountability in different ways. Aspects of good governance are discussed in Chapter 3.

1.3 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. Should a municipal government decide to create or delegate to an arms-length entity to run its water and wastewater supply services, it must not lose sight of the fact that it remains responsible for performance, as long as it retains ownership of the infrastructure.

a. 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.

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. 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 increased responsiveness to changing conditions and public needs. 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.

b. Restructuring to source financing

Water and sewerage systems are capital-intensive. In some cases, systems have a significant need for maintenance and upgrading following years of deferred investment. Investment may also be required for major water resource developments or water treatment facilities. In cases where

governments are unwilling or unable to borrow to meet investment needs, restructuring may provide a way to source financing.

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. A reduction in the government's borrowing requirement does not, however, necessarily imply lower bills for consumers. It is also important to note that the cost of capital will vary between municipal governments and projects. In the review of water supply governance in Ontario for the Walkerton Inquiry it was 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, O'Brien 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 customers' 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.

c. 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 been introduced recently that imposes new operational management requirements. This has been the case in some Canadian provinces, and also internationally, over the past decade. In Ontario, for example, the new Sustainable Water and Sewerage Systems Act (2002) will require water supply operators to assess the full cost of providing services, and to implement full cost recovery plans. Internationally, 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 that drive utility restructuring.

1.4. Restructuring: reviewing the options

When considering whether or not to restructure water supply services, different options (including the status quo, or an improved status quo) should be compared.

The Walkerton Report, for example, lists three options that municipal governments should consider when reviewing their systems: a municipal department; a municipal agency similar to a public utility commission (or board); and a municipal corporation (O'Connor 2002). In addition, the report mentions other options that municipal governments may wish to consider (Table 1).

The recommendations of the Walkerton Inquiry regarding restructuring emphasize the importance of competent, informed public oversight, and careful consideration of the options open to municipal governments (O'Connor 2002a; 2002b).

A restructuring process is complex and time-consuming. Given the importance of water and wastewater services for public and environmental health, this is time well spent, as it minimizes the risk of bad choices and permits careful design of restructured business models and regulatory frameworks, thereby increasing the effectiveness of water supply and wastewater management.

This chapter has summarized the definition and reasons for restructuring water supply services, in response to the sustainable water supply management challenge. Chapter 2 presents summaries of the different business models that municipal governments may wish to consider, and Chapter 3 discusses good governance principles and processes in restructuring. It is important to emphasize that there is no “one-size-fits-all” solution; different municipal governments will create different business and governance models. Accordingly, Canadian and international examples of restructuring are given in Chapter 4. Chapter 5 concludes with recommendations for municipal governments considering restructuring water supply services.

Table 1: Restructuring options for municipal water supply systems

Type of Operating Agency	Restructuring Options
Municipal operating agency	Municipal department Public Utilities Commission (analogous to Municipal Services Board) Municipally owned corporation
Regional water provider	Regional governments Intermunicipal agreements
External operating agency	Another municipal government External operating agency (public or private)

Source: Adapted from Table 10.1, O'Connor (2002b)

Chapter 2 – Restructuring water supply: business models

2.1 A typology of business models

As discussed in Chapter 1, a **business model** is a description of the ownership and organizational structure, and allocation of responsibilities and risks for operational management and/or infrastructure maintenance and improvement of a business.

Table 2 demonstrates that a range of business models—and of management autonomy—exists for systems involving public and/or private companies.

In the case of government-owned and -operated systems, the water utility may be a municipal department, board, commission or corporatized utility (which has a corporate structure; see Section 2.6). The degree of autonomy varies considerably. At one extreme is a municipal utility that operates as an autonomous financial entity, with complete autonomy over day-to-day management and strategic

Table 2: Business models for water supply infrastructure examined in this chapter

Business model	Who owns infrastructure?	Who operates infrastructure?	Legal status of operator	Legal framework	Who owns the shares?	Example
Government utility – direct management	Municipal or regional government	Municipal or regional administration	Government department	Public	n/a	Vancouver
Municipal board or commission	Municipal government	Commission or board	Public agency	Public	n/a	Peterborough
Cooperative	Users/ cooperative society	Users or delegated authority	Cooperative society or corporation	Varies	n/a (or users)	Rural Alberta Quebec Manitoba
Crown corporation	Government or utility	Utility	Usually defined by special law	Public or Corporate	Government	Saskatchewan (SaskWater)
Corporatized utility	Government or private company	PLC as permanent concessionaire	Corporation	Corporate	Local/ provincial government	Edmonton
Government utility – delegated management	Government or private company	Government and/or temporary private concessionaires	Corporation	Corporate	Private shareholders	Hamilton
Direct private utility	Private company	Private company	Corporation	Corporate	Shareholders or investor-owned	England (none in Canada for residential supply)

planning. At the other extreme is the water department that lacks a separate financial budget (e.g. under public works budget) and is under direct control of the mayor's office. In practice, most government-owned and -operated systems fall in between these two extremes.

Where private-sector actors are involved, the degree of autonomy again varies considerably. At one extreme is a private company to which a specific task has been outsourced for a limited period of time by the municipal government. At the other extreme is a fully privatized utility, owned and operated by a for-profit private corporation. There are no examples of the latter in Canada.

The following sections present brief descriptions of each business model, list some advantages and disadvantages associated with each, and provide examples of how each business model has been applied in Canada and elsewhere.

2.2 Municipal utility – direct management

Definition

The utility is owned and operated by a municipal government, or a group of municipal governments.

Features of the model include:

- Responsibility for operations and maintenance, as well as for capital expenditure on new infrastructure, remains the responsibility of the municipal government.
- Services are usually organized as a municipal government department.
- Revenues may be generated through property taxes or through user fees (rates).
- Rates, ideally set so that the utility is self-supporting, are set by the municipal government, often upon recommendation of the utility or by a regional or national regulatory agency.

Advantages

- Clear and direct accountability exists through municipal council.
- Traditional, not-for-profit business model is politically acceptable.
- Results in coordination with other municipal activities (e.g. road repair) and policies.
- Political oversight limits abuse of monopoly power and ensures protection of vulnerable consumers (particularly with respect to pricing and disconnections).

- Creates opportunities for economies of scale and scope if municipal government operates other utility services.

Disadvantages

- Small municipal governments may not have the resources and expertise required.
- In the absence of a regulator, rates may be set above or below full-cost recovery. The utility may receive subsidies from other orders of government, or may provide (often hidden) subsidies to municipal government, particularly through deferment of investment, which may lead to deterioration of assets.
- In the absence of a regulator and/or community accountability and oversight mechanisms, municipal governments may not have incentives to operate systems efficiently and effectively.
- Opportunity for economies of scale and scope are lost if municipal governments do not operate other utility services.
- Financial requirements for major infrastructure expansion or renewal may be difficult for some municipal governments to support.

Examples in Canada

The directly managed municipal utility is the most widespread business model for water and wastewater services in Canada. In large urban areas, a region of several municipal governments may manage the services. In the Greater Vancouver Regional District (GVRD), for example, 21 municipal governments are served by a collectively managed water and wastewater supply system. The water supply system is owned by the regional district, and is run by a board with members drawn from constituent municipal governments of the GVRD. Municipal governments purchase their bulk water at cost from the GVRD².

Examples elsewhere

The majority of water supply systems in Europe and the United States are operated directly as municipal utilities (see Appendix A). This model is predominant in most industrialized countries, and in urban areas of developing countries.

² The Greater Vancouver Regional District is a “partnership of 21 municipal governments and one electoral area in southwest British Columbia”; GVRD provides directly run (e.g. water and wastewater) and contracted services (e.g. incinerator operations). The “regional district” concept was established by the BC provincial government in 1985; there are now 29 regional districts in BC covering virtually the entire province. See the GVRD Web site: <http://www.gvrd.bc.ca/consult/index.html>.

2.3 Municipal board or commission

Definition

Public Utility Commissions and Municipal Boards are separate legal entities created for the purposes of operating a specific utility service or services.

Some features of the model include:

- Commissioners or board members are either elected or appointed by Council.
- Community is the employer and owns the assets.
- Council approves the operating budget and rates.
- Operational decision making is delegated to a board.
- “Ring-fenced” budget – utility is stand-alone financially.
- Commissions or boards may run a wide variety of services (e.g. gas, water, wastewater, parks).
- Revenue is from user fees (rates) rather than via property taxes.

Advantages

- Reserves are dedicated.
- There is greater financial accountability.
- Full cost recovery over asset lifecycle is easier to implement.
- There is easier access to finance, in some cases.
- Business is not necessarily restricted to municipal boundaries.
- Administration costs may be spread over a wider range of businesses.

Disadvantages

- Public accountability may be weakened.
- Coordination is required with municipal government on economic development issues, as well as on water and sewage main repair.
- Labour costs are higher (in some cases).

Examples in Canada

Boards are widespread in municipal governments in Canada, and are usually dedicated to specific services, such as public health. Different provinces have slightly different models; in Ontario, for example, until restructuring of the utility sector in the mid-1990s, Public Utilities Commissions were widespread, delivering a range of utility services (including electricity, water and sewerage) (Freeman 1997). Some commissions or boards are limited to one municipal

government or restricted geographical area. The city of Peterborough, Ontario continues to have a Public Utilities Commission, which owns water supply assets, which are in turn operated by a corporatized municipal utility section. Other boards are more extensive; in the Yukon, one Water Board is mandated with managing and protecting surface and sub-surface water resources in the territory.

Examples elsewhere

Water boards are widespread in the United States for water supply, water resources and irrigation. In France, regional water agencies play a role analogous to water boards, regulating water resources and in some cases supplying bulk water to municipal governments.

2.4 Community cooperative

Definition

A cooperative is an enterprise owned and managed by the users of the goods and services provided. Users can be consumers, employees or producers of products and services. In OECD countries, this model is most widely used in rural areas; in developing countries, the model is widespread. Cooperatives have a long history in the agricultural and banking sectors.

Advantages

- Direct accountability exists.
- There is a high degree of user involvement.
- System is responsive to users’ needs.
- Administrative costs may be lower.
- There is flexibility in design and technology.

Disadvantages

- Scale: smaller utilities may find it difficult to source finance.
- In the absence of a regulator, incentives for efficient operation may be lacking.
- Management expertise may be substandard; poor maintenance and/or deterioration of infrastructure may occur.
- Legislative framework and political governance culture may prevent this option.

Examples in Canada

The cooperative model has been used to deliver public services for over a century in Canada, in social housing, child care, health services and school boards. More than 400 cooperatives for the provision of utility services exist in Canada, serving 150,000 households (Cooperatives

Secretariat 1998). Services include electricity and gas distribution, telephone services, waterworks and sewage, and fire fighting. Water supply cooperatives tend to be small and located in rural areas; 178 water supply cooperatives, mainly in Alberta, Quebec and Manitoba, responded to the most recent survey of cooperative activity by the federal government's Cooperatives Secretariat (Cooperatives Secretariat 2000).

Examples elsewhere

Water cooperatives are widespread in Denmark, where cooperatives are common in rural areas in the form of financial services, consumer, producer, and worker co-ops (particularly in the agricultural sector), as well as housing, local transportation, and water and power utilities (van Bekkum and van Dijk 1997). Water cooperatives are also widespread in Finland, where there is a long-standing tradition of private participation in water services, through not-for-profit and self-sufficient "water associations" and cooperatives owned and managed by the consumers, especially in rural and sparsely populated areas (Katko, 2000).

In developing countries, even relatively large cities may have cooperatively run water supply systems. The city of Santa Cruz, Bolivia, has run its water supply system as a consumer cooperative since the 1970s; it is regarded as having one of the best-run water supply systems in Latin America. Santa Cruz has achieved 94% water supply coverage of its population of 700,000—a rate significantly higher than that of most other Latin American cities. Improvement in performance of the Santa Cruz water supply system over the 1990s was significantly better than that of Bolivia's two other major cities, in which water supply systems were run by the municipal government (Cochabamba) and by a private-sector operator (La Paz) (World Bank 2002).

2.5 Crown Corporation

Definition

A Crown corporation is a stand-alone agency or corporation that is specially created for the purposes of running a utility service or services at a regional or national level. They are public agencies, publicly owned and overseen and subject to public law. Crown corporations are created under a special law or act drawn up specifically for the utility; the utilities are not usually constituted as stockholding entities, and may be exempt from (certain) taxes.

Other features of the model include:

- Corporate structure; tasks, responsibilities and powers are defined in a special act.

- Government is the sole shareholder.
- Boards usually have representation from senior government officials.
- Autonomy in day-to-day operational management.
- Operates at provincial/state or national level.
- Particularly suited for network industries that operate at a large scale (e.g. electricity).
- Vertically and horizontally integrated.
- Often externally audited rather than by a government auditor.

Advantages

- Provides economies of scale and scope.
- Required management expertise can be obtained.
- Management is autonomous .
- Finance may be accessed at favourable rates.

Disadvantages

- Requires rationalization and consolidation of industry, which may be politically unacceptable.
- Ineffective regulation may lead to abuse of monopoly power and inefficient management.
- The lack of effective regulation/oversight results in a lack of incentives for innovation.
- There is reduced transparency, accountability and user input into decision making, in many cases.

Examples in Canada

In Canada, Crown corporations are distinct legal entities that are wholly owned by the government, and that usually have a well-defined service mandate. Their use by government to deliver important public programs dates back to Confederation; they operate in many sectors of the Canadian economy, including transportation, energy and resources, agriculture and fisheries, financial services, culture, and government services. Crown corporations vary widely in size and in the level of financial support they receive from the government; they may operate commercially, or require a debt or operating subsidy from the government. At the provincial level, many provinces created Crown corporations to run hydro-electricity utilities (such as Ontario Hydro, Hydro-Québec and BC Hydro).

In Saskatchewan, SaskWater is a wholly owned subsidiary of the provincial government's Crown Investments Corporation. The corporation manages, administers,

develops and protects the water and related land resources in Saskatchewan. It has three main areas of business activity: water management and protection, water supply and wastewater treatment services, and water-based economic development.

Examples elsewhere

The Crown corporation business model is prevalent in Africa, Asia and Latin America where large numbers of public utilities were converted into “parastatals” in the 1970s and 1980s.

2.6 Corporatized public utility

Definition

A corporatized utility is a publicly owned corporation that operates like a private business, under the direction of a board of management and with the government acting as the shareholder. It is subject to corporate law (rather than public law). In cases where the municipal government owns the infrastructure and the corporatized publicly owned utility operates the infrastructure, the model shares similarities with delegated management (see Section 2.7). Corporatization is often a precursor to full privatization (see Section 2.8), and is sometimes recommended as an intermediate step prior to privatization by international lending agencies such as the World Bank. Corporatization does not, however, necessarily imply full privatization.

Some features of the model include:

- A utility corporation may be profit or not-for-profit.
- A utility corporation may own assets and operate infrastructure, or may operate infrastructure on behalf of an owner (e.g. a municipal government).
- A utility corporation has complete autonomy in day-to-day management.
- Council owns shares and appoints directors.
- Council may retain authority over key issues such as rates policy, diversification and acquisitions.
- Board may or may not have direct political representation from Council.

Advantages

- Provides easier access to finance.
- Offers management independence.
- Financing is autonomous.
- Features commercial discipline.

Disadvantages

- Capital costs are potentially higher.³
- Accountability to users is weakened.
- Commercial confidentiality limits access to information by consumers and politicians.
- May not be compatible with some public-service mandates.

Examples in Canada

The *Ontario Energy Competition Act* (1998) required all municipal electric utilities in Ontario to incorporate by November 2000 in the run-up to anticipated deregulation of the province’s electricity sector. The provisions of the *Municipal Act* (2001) permit the corporatization of water and wastewater services.⁴ The cities of Kingston and Peterborough have corporatized water supply services (see Chapter 4). Some cities (including Edmonton, Hamilton and Kingston) have created municipal multi-utilities (Table 3).

Examples elsewhere

The corporatized public utility business model is found in Western Europe (including Germany, the Netherlands, Italy and Belgium). This model does not tend to be “self-exporting” because company bylaws often forbid operators from expanding activities beyond their service area or beyond the core business of water and sanitation services. Stockholding local bodies, representing the interests of local customer constituencies, are often unenthusiastic about and frequently prohibit perceived high-risk non-core or non-local business ventures.

2.7 Delegated management

Definition

Under delegated management, an owner of water supply and/or wastewater infrastructure contracts out various aspects of water utility management to another entity, which may be either privately or publicly owned. To some

³ The cost of capital will vary between municipal governments and projects. In their review of water supply governance in Ontario for the Walkerton Inquiry, it was found that “in general, the financial capability of a municipality 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, O’Brien et al 2002). In reality, it is impossible to generalize about the cost of capital; analysis in specific contexts is required.

⁴ Section 108.3.1 of the *Municipal Act* (2001) specifies that municipal governments may “apply under the *Corporations Act* to create a corporation...having such objects and powers as may be approved by the Minister.”

Table 3: Examples of corporatized municipal multi-utilities in Canada

	EPCOR	Utilities Kingston
Business areas	Electricity generation, distribution and transmission; water services; natural gas; and related products and services	Water, sewer, electricity distribution, natural gas and fibre optics
Company owner	Wholly owned by the City of Edmonton	Wholly owned by the City of Kingston
Corporate structure	Seven subsidiaries of the holding company provide distinct services: <ul style="list-style-type: none"> • Energy generation • Distribution and transmission • Retail energy (residential) • Wholesale energy to large customers • Water services • Power development • Residential cooling and heating systems 	Two corporations, <ol style="list-style-type: none"> (1) Kingston Electricity Distribution Limited (2) Affiliate corporation Utilities Kingston holds the assets of the fibre optic utility, employs former municipal department staff, operates and maintains assets of all five utilities.
Asset ownership	EPCOR owns water supply assets; municipal government retains ownership of sewer assets. EPCOR owns electricity generation and distribution assets.	Municipal government owns the water and sewer assets throughout the City of Kingston and the majority of gas and electric assets. Utilities Kingston owns fibre optic assets and electricity distribution assets.

degree, all utilities delegate: they may outsource various tasks to consultants or manufacturers of physical plants, for example. In the water sector, “delegated private utility” is understood to refer to outsourcing of core activities such as construction, operations and maintenance, and customer services. This model is also referred to as “private-sector participation” by international financial institutions such as the World Bank, or in Canada as “public private partnerships,” PPPs, or P3s.

Features of delegated management contracts include:

- The participation of the private company does not extend to ownership of assets.
- Contracts are time-limited (between 1 and 30 years, typically).

- There are a wide variety of risk and responsibility-sharing options (see Table 4).

Advantages

- Outsourcing of required expertise takes place.
- Potential access to finance is available.
- There is increased flexibility.
- Potential cost reductions arise from efficiency gains and increased innovation.

Disadvantages

- This requires skilful contract administration.
- Cost of capital may be higher.

- The private sector may not have incentives to maintain assets; serviceability of assets may be an issue.
- Some delegated management contracts require extensive (and potentially costly) regulation.
- These are politically controversial, in part because of a perceived lack of transparency when a contract is signed with private company.
- Transparency and accountability to consumers is reduced, particularly in the case of long-term contracts.

Examples in Canada

In Canada, several municipal governments—including Goderich, Halifax, Hamilton-Wentworth, and Moncton—have initiated delegated management contracts (such as management contracts or outsourcing of treatment plants) to external operators. In most cases, these operators are privately owned. The operators may also be publicly owned. In Ontario, for example, some municipal governments have chosen to delegate the management of water and wastewater services to OCWA (the Ontario Clean Water Agency). In Alberta, EPCOR, a corporatized utility wholly owned by

the city of Edmonton, has signed a management contract with the Town of Canmore under which EPCOR will run the city’s water treatment facilities. The city of Hamilton signed a 10-year plant operations and outstations operation agreement in 1994 (originally with Philip Services), under which its water treatment plant and wastewater treatment facilities have been managed by a private operator. For an extensive discussion of delegated management business models, including advantages and disadvantages, see SuperBuild (2002b).

Examples elsewhere

Perhaps the best-known example of delegated management is in France, where delegated management models have been well established for more than a century (Lorrain 1997). In France, municipal governments use concession and affermage contracts for a range of public services. Approximately 75% of the population is served by delegated private management systems. French municipal governments are prohibited by law from selling water supply and wastewater assets.

Table 4: Contract types and allocation of responsibilities for delegated water supply management

Task	Service contract	Management contract	Lease	BOO/BOT	Concession
Asset ownership	Public	Public	Public	Public/private	Public
Capital investment	Public	Public	Public	Private	Private
Commercial risk	Public	Public	Shared	Private	Private
Operations/maintenance	Public/Private	Private	Private	Private	Private
Tariff collection	Public	Public/private	Private	Public	Private
Duration (years)	1-2	3-5	8-15	20-30	25-30
Selected examples	Mexico City	Gaza City	Guinea	Sydney	Buenos Aires

Source: Adapted from Haarmeyer (1997) and World Bank (1997).

Table 5: Examples of delegated management contracts in water supply in Canada

	Type of contract	Operator	Start date	Duration (years)
Goderich (ON)	Management contract: water treatment	United States Filter Corporation	2000	5
Moncton (NB)	BOT: water treatment facility	United States Filter Corporation	1998	20
Canmore (AB)	Management contract: water treatment	EPCOR	2000	10
Hamilton (ON)	Management contract: wastewater treatment	Philips Environmental, then Azurix, then American Water Services	1994	10
Halifax (NS)	BOT and management contract: wastewater treatment	Consortium (including United Water, Ondeo)	2002	30 (O&M contract)

2.8 Privatization (or Divestiture)

Definition

In the case of fully privatized utilities, private-sector corporations own and operate the water supply infrastructure. Relatively few examples of fully privatized water utilities exist. Where they do exist, they have usually been created through the sale of a public utility to the private sector, either through a public flotation or through direct sale to investors. In some jurisdictions, this model has been adapted to allow the municipal government to participate as a part shareholder.

Some features of the model include:

- The utility owns and may operate assets.
- Private companies usually operate as monopoly suppliers on a licensed basis.
- Government's central task is policy setting and regulation.
- Multidimensional regulation is in place: economic (capping prices or rates of return), environmental, water quality.

Advantages

- Access to finance is available.
- If regulation is effective, efficiency gains may occur.
- Innovation is likely, if regulation is effective.

Disadvantages

- Private companies may not take a long-term view; serviceability of assets may be a concern.
- Regulation is likely to be complicated and costly.
- Model is very difficult to reverse (relative to other business models).
- Regulation is information-intensive; works better with a larger number of comparators.
- Cost of capital may be higher, relative to perceived risk (including regulatory risk).
- With ineffective regulation, abuse of monopoly power is possible; efficiency gains may be limited.

- Prices may rise due to the higher cost of capital (which is not entirely offset by efficiency gains); in England and Wales, for example, water and sewerage bills rose steadily above inflation for the first decade following privatization in 1989 (Bakker 2001).

Examples in Canada

There are no examples in Canada of municipal governments having divested or sold their assets to a private, for-profit utility corporation. Some private water companies do exist; most of these were created to supply industrial consumers. In Part II of the Walkerton Inquiry, Justice O'Connor considered the issue of privatization and private-sector participation and concluded that full privatization of municipal water supply systems was not desirable (O'Connor 2002b, s. 10.4.3). Justice O'Connor noted:

In not recommending the sale of municipal water systems to the private sector, my conclusion is based on several considerations: the essentially local character of water services; the natural-monopoly characteristics of the water industry; the importance of maintaining accountability to local residents; and the historical role of municipal governments in this field...I see no reason, as a practical matter, why municipal ownership should not be continued. (O'Connor 2002b, 323).

Examples from elsewhere

There are few international examples of fully privatized water utilities. In most jurisdictions, delegated management options have been preferred. The city of Santiago (Chile) privatized its water supply system in 1999; the utility was sold to the French conglomerate Suez-Lyonnaise des Eaux. The divestiture followed a successful restructuring and reform under public ownership (Shirley, Xu and Zuluaga 2000). Divestiture occurred in England and Wales in 1989, when the regional water authorities, owned by the central government, were privatized by flotation on the stock exchange in 1989 (Bakker 2001). Private water companies are not always for-profit; in 2000, Glas Cymru (the Wales water supplier, with more than 1 million customers) restructured into a not-for-profit company, owned by its members and bond-financed, resulting in a lower cost of capital and lower consumer bills (Bakker 2003).

Chapter 3 – Good governance in water supply restructuring

3.1 What is governance?

The term “governance” refers, in general, to the relationship (economic, social and political) between a society and its government, or between an organization and its governing entity. Governance is often referred to as the “art of steering societies and organizations.” Specific definitions of governance vary depending on context, and the term can be used in different ways.

The definition used in this report is that used by Ottawa’s Institute on Governance:⁵

“Governance is the process by which stakeholders articulate their interests, their input is absorbed, decisions are taken and implemented, and decision makers are held accountable.”

Governance, according to this definition, includes (but is broader than) formal structures of government. This definition is similar to that used in the background paper on governance prepared for Part II of the Walkerton Inquiry (Joe, O'Brien et al 2002).⁶

The consequences of poor governance

As the Walkerton tragedy reminded Canadians, the consequences of poor governance in water supply can be life threatening. In the Walkerton case, poor governance (inadequate and insufficiently enforced water quality protection guidelines and monitoring protocols) was a contributing factor to the water quality problems in the drinking water system. As outlined in Chapter 1, communities and their elected representatives are now realizing the magnitude of problems facing the water sector. Some of the issues are clearly technical, but some of the most intractable problems arise from poor governance. The “three lows” cycle (Box 2), which characterizes some municipal water supply systems, is an example of the problems created by poor governance.

⁵ The Institute on Governance, based in Ottawa, is a non-profit organization founded in 1990 to promote effective governance. For more information, see <http://www.iog.ca/>.

⁶ The definition given in the Walkerton background paper entitled *Governance and Methods of Service Delivery for Water and Sewage Systems* was: the “process of decision making and the process by which decisions are implemented (or not implemented)” (Joe, O'Brien et al 2002).

Box 2: The “three lows”: a vicious cycle in water supply management

Some water utilities have become trapped in a cycle of “three lows”: low investment; low quality of service; and low revenue (and/or cost recovery) levels. Water companies that receive low levels of revenue relative to costs typically under-invest; the resulting low quality of service makes it politically difficult, in many cases, to justify raising water rates. This is particularly acute when water companies do not set water rates to recover all of their costs over the full lifecycle of infrastructure (in other words, for long-term capital expenditure on renewals, rehabilitation and replacement as well as for short-term operations and maintenance of the water supply system).

This “under-pricing” of and under-investment in water supply arises, in part, because water supply and sewerage services rely on “sunk” infrastructure, which is invisible to most consumers. The British adage “no votes in sewage” sums up the political reality: because investments in water supply and wastewater infrastructure rarely result in tangible, visible benefits, public priorities are often placed elsewhere, particularly when budgets are limited. In addition, political cycles are often shorter than infrastructure lifetimes; it may take 10 years to plan, design and build water and wastewater infrastructure, and even longer to measure the impacts of water abstraction or effluent release on the environment and on water quality. Short-term political cycles may sometimes work against the long-term planning and development strategies necessary for well-run water systems.

Water governance at the provincial level

The focus of this discussion is on the operational level, or the level at which water supply and wastewater operations are managed; in Canada, the municipal level. Higher order levels of governance—or the level at which the “rules of the game”, including legislative and regulatory frameworks are decided—are beyond the scope of this report. Nonetheless, it is important to note briefly that, in the Canadian context, provinces bear constitutional responsibility for water supply. 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 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. As with water rights, laws governing municipal water supply—including the range of business and governance models that are legally permitted—vary from one province to the next (Boyd 2003).

Given these differences, municipal business and governance models in Canada vary from province to province. Accordingly, the following sections of this chapter provide general information that should be helpful to any municipal government considering restructuring: an outline of good governance *principles* and *processes* as well as good governance *models* for restructuring water supply systems.

3.2 Governance models

Organizations wishing to improve governance are often asked to consider adopting a governance model.

A governance model is a functional description of the principles of good governance, and of the allocation of responsibilities and relationships between stakeholders for tasks and practices required for good governance.

A governance model usually describes a set of structures, functions and practices that define who does what, and how they do it. In organizations, these attributes typically relate to the role and relationships of stakeholders, including the board of directors, the senior staff member of an organization (CEO or executive director), and users. In the case of municipal water supply, for example, a governance model would specify the distribution of decision-making authority between the community and operational managers on matters such as water rates.

Many governance models exist, for both the profit and not-for-profit sectors, and can apply to internal governance of organizations as well as the provision of business services. The Ontario Securities Commission, for example, is developing a “Fair Dealing Model” that regulates the relationship between the financial services industry and investors. Another example is the Carver Model, one of the most widely used models for non-profit organizations in North America, which characterizes boards as “servant-leaders.”⁷

⁷ For a discussion of the model by its inventor, John Carver, see www.carvergovernance.com/. For a comparison of different board governance models, see <http://www.boarddevelopment.org/>. For a well-balanced critique of the Carver model, see the Institute on Governance www.iog.ca/boardgovernance/html/mod_the.html.

Although information on best practices in governance has increased over the past decade, it is generally acknowledged that there is no “one size fits all” model. This is inevitably the case in Canada, where legal frameworks vary between provinces; governance models may differ significantly, specifying, for example, different requirements for the planning process (e.g. types of environmental assessment), obtaining approval for water and sewerage works (infrastructure); intermunicipal agreements, and performance monitoring.

Generic governance models for water supply

Governance models and business models are closely interrelated. Preferred models of good governance will guide and, in some cases, constrain choices about business models, and vice versa. Together, governance and business models determine the distribution of risks and responsibility for all aspects of water supply management.

The debate over water supply governance and how control should be shared among citizens, the state and the private sector centres around three idealized models of resource management: the planning model, the market model, and the community model (Table 6). These three stakeholder governance models also apply to public services more generally. In practice, of course, many public services have elements of more than one model. In describing three generic (or idealized) models, Table 6 simplifies what is usually a more complex picture.

In practice, there is a great deal of variation in the stakeholder governance models associated with different business models. There are also hybrid models: municipal services boards or commissions, delegated management contracts, and corporatized utilities adopt elements of both the planning and market models. A municipal services board, for example, might have a hybrid model of governance, falling somewhere between the market and planning model. A corporatized utility, if publicly owned, might adopt only selected aspects of the market governance model. In all cases, the interests of the public sector, the private sector, and consumers will need to be balanced.

In France, for example, private-sector management of municipally owned water supply infrastructure via long-term management contracts is widespread. Municipal governments are, however, forbidden by law to sell their infrastructure, and in many cases, they retain control over long-term strategic planning, which is characterized by features of the planning approach.

In England, where the water supply and wastewater industry were fully privatized in 1989, the market model has been chosen. However, like most jurisdictions that employ the market model, England has created extensive regulatory frameworks and regulatory agencies for the water sector, to protect consumers and public health. Companies are forbidden from disconnecting domestic consumers (even for non-payment of bills), and are required to create special, low tariffs for vulnerable consumers. Companies are also required to submit strategic financial plans as well as resource development and water supply management plans to an economic regulator and an environmental regulator for review. Despite having been privatized, the water industry in England has been re-regulated rather than de-regulated, and many high-level decisions are characterized by planning governance attributes (Bakker 2003).

There are importance differences between the planning, market, and community governance models. Consumers are represented differently: as citizen-voters, customer-ratepayers, or as users and community members. Accountability is structured differently in each model. The goals under each model are different, and will lead to distinct policy and management outcomes. Different models also imply that different weight will be given to the goals of stakeholders.

When making a transition from one model to another or in attempting to create a hybrid between two models, governments must carefully consider the implications of changes in incentives, sanctions, goals, accountability structures, and the role of consumers. This is particularly important when considering a hybrid model, as problems are likely to arise when the aspects of a governance model are incoherent. For example, a disjuncture between (shorter) political time cycles and (longer) infrastructure lifecycles can compromise the sustainability of financing.

Table 6: Example of governance models for locally provided public utility services

	Planning	Market	Community
Asset owner	Government	Private corporation	Users
Asset manager	Government	Private corporation	Users
Consumer role	Citizens	Customers	Community members
Organizational structure	Civil service	Corporation	Association/network
Accountability mechanism	Hierarchy	Contract	Community norms
Primary decision makers	Administrators, experts, public officials	Individual households, experts, companies	Leaders and members of community organizations
Primary goals of decision makers	Minimize risk Meet legal/policy requirements	Maximize profit Efficient performance	Serve community interest Effective performance
Key incentives for good performance	Expert/managerial feedback in public policy process Voter/ratepayer opinion	Price signals (share movements or bond ratings) Customer opinion	Community norms and shared goals Community opinion/sanctions
Key sanctions for failure to maintain services	State authority backed by coercion Political process via elections Litigation	Financial loss Takeover Litigation	Livelihood needs Social pressure Litigation (in some cases)
Participation of consumers	Collective, top-down	Individualistic	Collective, bottom-up
Associated business model	Municipally owned utility	Private corporate utility	Community cooperative

Adapted from: McGranahan et al (2001).

3.3 Building a governance model

Good governance is about achieving desired results, and about achieving them in the right way. Organizations usually craft in-house governance models. The importance of good governance is widely accepted, yet the question of the usefulness of governance models is hotly debated.

Whether or not a formal governance model is adopted, organizations will find it useful to define principles of good governance, and to articulate responsibilities of and relationships between stakeholders. This is particularly important during periods of rapid and significant change, when expectations may be unclear.

Despite widespread acknowledgment of the importance of governance, definitions and models of good governance vary considerably. In this section, general criteria for good governance are discussed. The fine-grained structure of a governance model will, however, vary from one organization to the next.

3.3.1 Choosing principles of good governance

Good governance is characterized by a set of ranked principles that guide decision-making processes and management practices. For example, in making recommendations on the role of municipal governments in water supply management as part of the Walkerton Inquiry, Justice O'Connor argued that public safety was paramount, and considered four principles (O'Connor 2002, 277):

- public accountability for decisions relating to the water system
- effective exercise of owners' oversight responsibilities
- competence and effectiveness in the management and operation of the system
- full transparency in decision making

Principles of good governance and the prioritization accorded to each principle vary between organizations and jurisdictions. This variation is due in part to the fact that governance is embedded in broader frameworks of political governance. Regulation in Britain is, for example, relatively non-legalistic and discretionary when compared to North American governance models.

Also implicit in different definitions of good governance are assumptions about the legitimacy of different stakeholders and decision makers, about robust decision-making structures, and about accepted processes of decision making.

Good governance is thus to some degree dependent upon how a society interprets the practice of deliberative democracy. There is, accordingly, no one menu of good governance options; Tables 7 and 8 list several examples of governance principles for water supply management.

3.3.2 Good governance process

a. Good governance is articulated as a set of principles, or expressed a vision.

As noted above, it is important that governance principles be “home-grown”, or developed through meaningful participation by stakeholders. Some of the organizations surveyed included only some of these principles. Some chose to rank the principles in order of priority, while others chose to balance them. As part of a good governance process, each organization develops its own governance principles. Some of the most frequently occurring good governance principles in water management include (in no particular order):

- protection of public health and safety
- environmental protection
- accountability for stewardship and performance
- transparency
- user participation
- balancing equity, efficiency and effectiveness in performance
- financial sustainability

b. The governance principles are coherent and are prioritized

Coherence implies a high degree of internal consistency between the different principles. In many cases, governance principles will fall into one of the three generic governance models described in Section 2.1; this does not necessarily ensure coherence. With hybrid models (such as corporatization), it is important to ensure coherence between different aspects of the governance model. In operational management situations, policies and objectives that flow from governance principles may at times conflict. For this reason, it is important to prioritize governance principles.

For example, Justice O'Connor noted in the Walkerton Inquiry that, in his view, the first principle in choosing any management or operational structure for water and wastewater should always be safety (i.e. public health) (O'Connor 2002b, 11).

Table 7: Selected examples of governance principles for water management

Source	Principles
<p>Walkerton Inquiry issue paper on water governance</p> <p><i>Source: Joe, J., O'Brien, J., McIntyre, E., Fortin, M., and Loudon, M. 2002. Governance and methods of service delivery for water and sewage systems. Commissioned Paper 17, The Walkerton Inquiry. Toronto: Queen's Printer for Ontario.</i></p>	<ul style="list-style-type: none"> • Accountability • Responsiveness • Effectiveness • Efficiency • Transparency • Participation • Respect for the rule of law
<p>Dublin Principles</p> <p><i>The 1992 International Conference on Water and the Environment in Dublin set out a statement on Water and Sustainable Development, which became known as the "Dublin Principles.". The Dublin Principles have been adopted by numerous international, multilateral and bilateral agencies, including the World Bank.</i></p>	<ul style="list-style-type: none"> • Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. • Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels. • Women play a central part in the provision, management and safeguarding of water. • Water has an economic value in all its competing uses, and should be recognized as an economic good.
<p>Agenda 21 (s. 18.9.c)</p> <p><i>Agenda 21 is a plan of action adopted by more than 178 governments at the United Nations Conference on Environment and Development (UNCED) held in Rio in 1992. Agenda 21 was reaffirmed at the World Summit on Sustainable Development held in Johannesburg in 2002</i></p>	<ul style="list-style-type: none"> • Full public participation • Multisectoral approach to water management • Sustainable water use
<p>Federation of Canadian Municipalities (policy on municipal infrastructure)</p> <p><i>Source: FCM 2002 Policy on Municipal Infrastructure. Adopted at FCM Annual Conference, June 2002. http://www.fcm.ca/newfcm/java/frame.htm</i></p>	<ul style="list-style-type: none"> • Quality of life • Shared responsibility (between governments) • Municipal government leadership • Adaptability • User pay • Maintenance and rehabilitation • Continuous improvement • Partnerships

Table 8: Applying good governance principles to water 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 lifecycle 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, O'Brien et al (2002) and FCM (2002b)

c. Good governance builds on principles to create objectives and policies

Governance principles, by themselves, are insufficient for good governance. Concrete objectives or goals must be specified in order to enable the practice of good governance.

Chapter 18 of Agenda 21 on *Water Resources* is an example of a detailed set of objectives flowing from a set of governance principles.⁸

For example, a good governance principle of public participation might lead to an objective of community involvement in standard setting. In turn, this might lead to specific policies, such as multi-stakeholder participation in a drinking water advisory role.

Similarly, a good governance principle of accountability might lead to the following objectives: clear lines of accountability; good communication; trust. In turn, this might lead to specific policies, for example: a consumers' right to know (access to information) policy; holding service providers to a statutory standard of care. Justice O'Connor recommended in the report following Part II of the Walkerton Inquiry that "since the safety of drinking

water is essential for public health, those who discharge the oversight responsibilities of the municipal government should be held to a statutory standard of care." (O'Connor 2002b, Recommendation 45).

d. Good governance is responsive: learning and reviewing options will inform restructuring

Responsiveness implies a capacity for and commitment to self-reflection, in which stakeholders learn and feed lessons learned back into an evolving vision. This might imply, for example, the need to carry out periodic reviews of management and operating structures for water supply systems. This is recommended by Justice O'Connor in Recommendation 44 of the Walkerton Inquiry (2002b): "Municipal governments should review the management and operating structure for their water system to ensure that it is capable of providing safe drinking water on a reliable basis."

⁸ Chapter 18 of Agenda 21 deals with the Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources. Agenda 21 is a plan of action adopted by more than 178 governments at the United Nations Conference on Environment and Development (UNCED) held in Rio in 1992. Agenda 21 was reaffirmed at the World Summit on Sustainable Development held in Johannesburg in 2002.

e. Good governance requires good information

Governance bodies in all sectors must have good information. Decision-makers need it to provide sound, accountable governance, while those who are governed need it to hold decision makers accountable. Decision makers must use information to analyze the need for change and then act where necessary. Of particular importance when restructuring governance are considerations of reporting requirements, and timely flows of information to and from decision makers. In assessing the restructuring options open to municipal governments, the cost of regulation and oversight should be factored into the assessment. Justice O'Connor notes that "the cost to a municipal government of due diligence before entering a contract, and of compliance monitoring over the term of a contract, are an important part of its oversight responsibilities and, as such, the full cost of water services." (O'Connor 2002, 327). Information is required by the municipal government not only on the restructuring options, but also on the cost and quality implications for municipal government more broadly.

f. Good governance requires an open, transparent decision-making process

A good governance process is one that enables stakeholders collectively to design and implement policies and management strategies that meet their goals effectively and acceptably (Kooiman 2000). Given the importance of the water supply for public health, the Walkerton Report emphasized the need for openness in water supply governance, and made two recommendations of particular relevance:

Walkerton Inquiry Recommendation 49: "Municipal contracts with external operating agencies should be made public."

In the case of the Melbourne corporatized water utility, for example, all service contracts between the corporatized agencies are made publicly available, in paper copies and on the Internet. In Canada, the cities of Moncton and Goderich make their delegated management contracts publicly available (see Table 5).

Walkerton Inquiry Recommendation 51: "The provincial government should require all owners of municipal water systems...to have an accredited operating agency, whether internal or external to the municipal government."

In Justice O'Connor's view, this accredited operating agency should operate in accordance with provincially recognized management standards (O'Connor 2002b, 281), and should be periodically evaluated or independently audited, and the results of such review or audit made public.

g: Good governance facilitates the participation of stakeholders

The participation of stakeholders in decision-making processes—including users—is a critical factor in good governance. This does not imply that participation is always necessary, or that more participation is better; some authors even question whether participation might be the "new tyranny" (Cooke and Kothari 2001). Participation can be structured along a "ladder" of options, from public information, through consultation, through to full-fledged representation (Arnstein 1971, Beierle and Cayford 2002). Good governance processes will incorporate different levels of participation when and as appropriate.

Participation is important for three reasons: it can help make decisions more effective; it may increase the political acceptability of decisions; and it fosters accountability. After a decade of experimentation, the English and Welsh water industry has evolved a multistakeholder model of participation in water policy making (Figure 1) that seeks broad representation, and formalizes citizen participation through customer committees known as WaterVoice, (formerly Customer Service Committees).

Table 9: Summary of characteristics of a good governance model

The model articulates a set of governance principles, or expresses a vision.
The governance principles are coherent and are ranked in order of priority.
The model builds on the governance principles to create objectives and policies.
The model is responsive; learning and reviewing options will inform restructuring.
The model enables the production and dissemination of high-quality information.
The model includes an open, transparent decision-making process.
The model facilitates the participation of stakeholders.

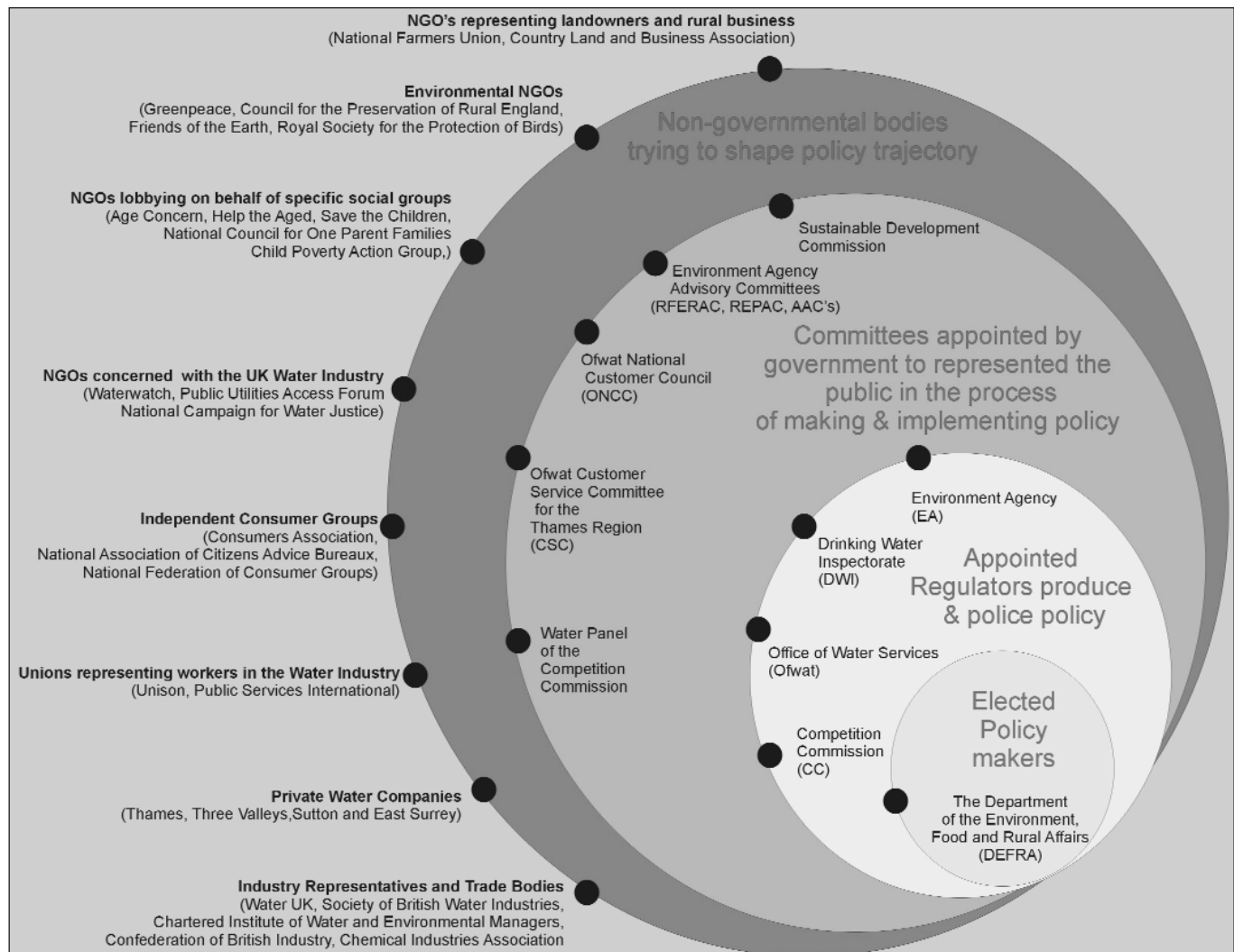
The result of this process will, in many cases, be a detailed description of the governance of the water supply utility, including routine decision making and higher-level policy processes. Governance attributes will vary depending on the business model chosen. Table 10 provides an overview of some aspects of governance of EPCOR, the corporatized water supply utility in Edmonton (see also Table 3).

Table 10: Governance model of a corporatized utility (EPCOR)

Incorporation Date	1995
Board members (number)	13
Board members (term)	Three-year term, staggered Maximum of three terms
Board members (removal)	By shareholders at any time
Board members (composition of board and committees)	All directors are non-management No board members are council members Hiring process involves public advertisements for members with specific expertise profile, head hunter search, and screening before interviews
Board authority	All powers except those reserved to city council as shareholder Plenary power (any responsibility not delegated to senior management or a board committee remains with full board)
Authority delegated to CEO	Board decision; confidential
Authority retained by council/community	Board size and compensation Appointing and removing directors Appointing and removing the chair Appointing and removing the Auditor Establishing the dividend policy Controlling all governance documents Approving sale of “all or substantially all” assets (note: acquisitions and diversification do not require shareholder approval)
Other authority	Alberta Energy and Utility Board Alberta Department of the Environment
Financial reporting	Board responsible through audit committee
Payments to city	\$90.5 million in 2001 \$100.5 million in 2002, to rise to 60% of profits thereafter
Community involvement	Public Advisory Committees (for Water Services and EPCOR) provide “feedback on policies and programs, including water efficiency, technological changes, pricing, customer care and watershed management.”

Source: EPCOR Annual Reports; personal communications from EPCOR staff.

Figure 1: Stakeholders in the English water policy-making process



Chapter 4 – Examples of water supply utility restructuring: Canada and abroad

4.1 Restructuring water supply: Examples from Canada

This section presents four brief examples of municipal governments that have undertaken restructuring of water supply systems: Edmonton; Hamilton; Kingston; and York (Table 11).

4.1.1 Restructuring in York: direct municipal management

The Regional Municipality of York, with a population of just under 730,000 (2001 Census) includes the municipal governments of Aurora, East Gwillimbury, Georgina, Markham, Richmond Hill, Richmond-Stouffville, and Vaughan.⁹ The

region is experiencing rapid population growth (23.1% increase in population between 1996 and 2001). Meeting the water demands of a growing population is a concern, as is water supply availability because the municipal government is land-locked and buys a substantial portion of its water supply from the city of Toronto. Through its Water and Wastewater Branch, the region supplies services directly to municipal governments; the operations section (61 full-time employees) 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.

⁹ The discussion of York is drawn from Cameron’s commissioned paper on drinking water safety for the Walkerton Inquiry (Cameron 2002).

Table 11: Options considered by municipal governments during restructuring reviews

Municipal government	Options considered	Option selected
Edmonton	<ul style="list-style-type: none"> • Municipal utility • Corporatization • Full privatization 	Corporatization
Hamilton	<ul style="list-style-type: none"> • Delegated management (public/private partnership) 	Public/private partnership
Kingston	<ul style="list-style-type: none"> • Municipally owned corporation • Corporatization of services provision 	Corporatized utility for services provision; asset ownership remains with municipal government
York	<ul style="list-style-type: none"> • Public/private partnership • Municipal utility 	Municipal utility – direct management

York decided to develop a long-term water project intended to meet the region’s needs to 2031. The original cost was estimated at \$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 (BOTT) 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 municipal government 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. York’s credit rating or ability to undertake other capital expenditures would not be significantly affected]
- Participation in decision making
- Environmental protection

Other criteria emerged through public consultation:

- Independence (i.e. maximizing the proportion of water obtained from member municipal governments)

- Reliability of supply
- Source of supply (Lake Ontario was a less-favoured option)
- 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, and therefore decided on a publicly delivered system. In addition to having the required financial capacity, other factors were important:

- The region had a good credit rating and could borrow money cheaply.
- The collection of development charges was restricted to municipal governments.
- Since York had received provincial grants for water and wastewater supply in the 1970s, a move to contract out operations would require repayment of those grants to the province.
- There were public concerns over the desirability of privatized operations.

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 principles in its water and wastewater program:

- Ensuring the safety of the water supply
- Maintaining confidence in the system
- Investing in infrastructure at a sustainable cost
- Promoting a constructive workplace environment
- Public participation and communication
- Transparency

4.1.2 Restructuring in Hamilton: Private-sector partnership

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 2001.¹⁰

Although the population base is relatively stable, the challenge for Hamilton is to maintain current infrastructure and address the accumulated deficit in infrastructure renewals; approximately 50% to 60% of water and wastewater systems are 50 to 100 years old.¹¹ The infrastructure deficit arises not only from past under-investment in maintenance and rehabilitation, but also from past under-investment 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 are currently operated by a private company, under the terms of a 10-year delegated management contract that will end in 2004.

In January 1995, the former Regional Municipality of Hamilton-Wentworth entered into a 10-year contractual agreement with Philip Utilities Management Corporation (PUMC), a subsidiary of Philip Environmental (later Philip Services Corporation), delegating 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 \$187 million, and when signed, was one of the largest delegated management contracts for water services in North America.

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. The contract guaranteed the Region of Hamilton-Wentworth a \$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 reports that savings are nearing this point.

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.

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 U.S.-based water services company, American Water. Shortly after completion of the sale,

¹⁰ Information obtained from Statistics Canada Web site (<http://www.statcan.ca/>), accessed November 10, 2002.

¹¹ City of Hamilton (2001) *100 Year Report – Infrastructure Asset Management Strategy*. TOE1014, p. 3.

Table 12: The City of Hamilton’s principles for Alternative Service Delivery (Schedule A, Report 01-037)

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 addressed.
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 of or revert back to the City of Hamilton.

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 U.K.-based Thames Water in late 2000.

The turnover in operators has been a source of debate in Hamilton. Questions have been 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 have risen above the rate of inflation during 1990s. To date, there has been no systematic public review of the city’s experience with its delegated management contract.

In 2001, City Council created an Alternative Service Delivery (ASD) policy, which articulates 11 principles to guide decision making about restructuring of service delivery (Table 12). 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 organizations are identified. The report also outlines suggestions for the principles of ASD, and processes and criteria for reviewing ASD options.¹²

4.1.3 Restructuring in Edmonton: A corporatized municipally owned utility

In 1997, the City of Edmonton corporatized water services by transferring ownership, operations and maintenance of its water supply assets to EPCOR, a fully owned municipal corporation. Wastewater and drainage remained a city responsibility. EPCOR had been created in 1996, in response to the deregulation of the Alberta energy sector and the passage of the *Electric Utilities Act* in 1996. Energy services had been provided by a municipal department known as Edmonton Power prior to the creation of EPCOR.

Originally a private company in the late 19th century, Edmonton Power was acquired by the City of Edmonton in 1901, and was run as a city department until the municipal government decided to corporatize the utility as EPCOR in 1996, while retaining full ownership. By 1996, Edmonton Power had become the second-largest electrical generator in Alberta, with 230,000 residential customers and 27,000 commercial customers. Widely viewed as a well-managed operation, with high service reliability (measured in frequencies and durations of power outages), Edmonton

¹² City of Hamilton Report 01-037. November 19th, 2001. Council adopted the report at its meeting on November 27, 2001.

Power was viewed as an attractive potential investment; approaches were made to the city by investors, and RBC-Dominion Securities was asked to provide advice to the city on proposed divestiture. The council's willingness to consider privatization was motivated, in part, but the tight fiscal constraints faced by the City of Edmonton in the mid-1990s, which forced the city to cut services and increase taxes. After its review of options, the city decided that it would be more profitable over the long term to retain full ownership of EPCOR. The company paid a dividend of \$100.5 million to the city in 2002 (50% of earnings); the dividend will rise to 60% of earnings in the future. EPCOR also pays property taxes to the city, and a franchise fee for utility services, providing additional revenue to the city. Approximately 70% of EPCOR's business arises beyond the City of Edmonton (including business ventures in Ontario and the United States). As the company has adopted an aggressive diversification strategy, the proportion of business generated outside the City of Edmonton is likely to continue to grow.

The city transferred ownership of its water supply assets, and full responsibility for water supply operations—then operated in a municipal department known as Aqualta—to EPCOR in 1997. In its review of restructuring options, the city considered four options: remaining with the status quo (a municipal department); full privatization; creating a stand-alone municipal corporation; and creating a corporatized utility as a subsidiary of EPCOR. Aqualta was incorporated as EPCOR Water Services Inc., as part of EPCOR's Infrastructure Division.

Senior EPCOR staff identified three goals at the time of corporatization: retaining and expanding a retail customer base; increasing management efficiency; and expanding business beyond the city boundaries. Senior management of EPCOR Water Services Inc. feel that they have met all of these goals to some degree. Increasing management efficiency has been particularly successful, with a significant increase in profits. The water division's sales have now increased to \$17 million (2002), and the city approved the Return on Equity in 2001 at 11.5%; water represents, however, a relatively small proportion of the EPCOR group's business. Voluntary staff reductions, increases in productivity stimulated through the implementation of performance assessment mechanisms, and staff and management bonuses were cited as key factors in the increase in efficiency. The company has had moderate success in developing new business, and operates management contracts in five municipal governments in Alberta and British Columbia.

Good governance of the corporation, which is characterized by limited involvement of the shareholder in the running of the corporation, was seen by senior management to contribute to the overall success of EPCOR. The city, as sole shareholder, appoints the directors, appoints the auditors, and sets dividend policy. All remaining authority is devolved to the board. In addition to its role as shareholder, the city acts as a regulator for those portions of EPCOR's activities falling within the city's boundaries; the Alberta Energy Utility Board regulates EPCOR's activities outside the city. Wastewater and drainage operations remain directly controlled by the city, despite two proposals by EPCOR to take over operations. Interviewees cited the importance of drainage to city planning and development, and the importance of coordinating drainage and development, as key reasons for the city's decision to retain control over these services.

4.1.4 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 January 1, 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). These services were brought together under one department reporting to the chief administrative officer and council, which became known as Utilities Kingston as a result of amalgamation.

The *Energy Competition Act* of 1998 created a challenge for Utilities Kingston that as a municipal department operated five utility systems. On one hand, municipal governments 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 it continue to capitalize on its competitive advantages of utility convergence (one call, one crew, one bill) while permitting it to take advantage of continued savings from the centralized services (i.e. finance, customer service) of the city of Kingston.

In its restructuring review, the city considered a wide range of options, including 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 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 the case with all but one other municipal governments within the province of Ontario, presented the municipal government 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. A study of business models conducted by staff concluded that it was possible for the municipal government to achieve equal returns versus the sale of the assets over time, while maintaining control over the assets, which helped in finalizing the decision. The municipal government decided to maintain ownership of its electricity distribution company and to work toward achieving the maximum return; however achieving the maximum return was not to be at the cost of deteriorating service, or infrastructure.

Comments on the business model

The Kingston business model (summarized in Table 3) consists of two Ontario business corporations. The first, Kingston Electricity Distribution Limited (KEDL), holds the assets of the former Hydro Electric Utility Commission. In turn, KEDL formed an affiliate corporation, 1425445 Ontario Limited, operating as Utilities Kingston, which is home to all of 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 annual capital and operating budgets in the order of \$65 million. 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 municipal government 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 work. During the set up of this structure, the city was insistent that efficiencies achieved during the amalgamation process by the sharing of central services not be lost. To achieve this, Utilities Kingston purchased these services from the municipal government, including

items such as call centre support, financial support, legal support, information systems technology, communications, and fleet services. Service agreements exist for these services.

Utility staff has identified some of the advantages of the Kingston model 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. 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.

4.2 Restructuring water supply: International examples

4.2.1 Restructuring in Melbourne, Australia

A Crown corporation water utility was created in Melbourne, Australia in 1992. Melbourne Water is owned by the State Government of Victoria, and is overseen by the Minister for Environment and Conservation. Melbourne Water is a statutory corporation constituted under the *Melbourne Water Corporation Act* of 1992. It derives its operational powers from the *Melbourne and Metropolitan Board of Works Act* of 1958 (MMBW Act), and other legislation. Melbourne Water's principal decision-making powers affecting members of the public are derived from these two acts.

The utility began contracting out in the early 1980s, and has steadily increased outsourcing since then. Outsourcing began with contracting out legal services; the utility then sold its IT division to former staff members. Subsequently, it contracted out printing, engineering design and surveying, parks and gardens maintenance, tunnelling and many other services. The maintenance of all infrastructure (water and sewerage) has been contracted out to three private engineering firms. One result of outsourcing has been a reduction in the labour force: from approximately 7,500 in 1989 to approximately 1,800 in late 1994. In 1995, the state government decided to corporatize the utility. Melbourne Water Corporation was split into four new entities—three retail water distribution companies that service metropolitan Melbourne, and a separate wholesaler. The distribution companies are responsible for the local distribution of water, for collection of sewage, and for drainage. They are required to purchase their water from the wholesaler, and are required to pay fees to the wholesaler for sewage

treatment and drainage services. The retailers bill customers directly. The new corporatized entities are able to invite, or participate in private-sector provision of water services on a concession basis (Source: ADB 2001).

**Table 13: Melbourne Water
(2000-2001)**

Population served	3 million
Water supplied	500,000 megalitres per year
Sewerage treated	335,000 megalitres (includes trade waste)
Rate of return on shareholder equity (after tax)	10.5%
Operating revenue	\$460.8 million
Gearing (debt/equity ratio)	41.4%

4.2.2 Restructuring in Washington DC

In the early 1990s, Washington DC's water supply system was experiencing significant operational difficulties.¹³ Breakdowns in the aging water and wastewater infrastructure network were frequent. Seepage of contaminated water into potable water mains occurred, and the utility was found to be violating safe drinking water laws. The public utility responsible, the Water and Sewerage Utility Agency (WASUA), did not have sufficient cash flow to cover operation and maintenance costs, as well as the rehabilitation and improvements to infrastructure that were required.

In response, the city engaged in a lengthy strategic planning exercise for the water supply and wastewater system. Months of discussion were followed by the commissioning of feasibility studies and public hearings; a process in which the federal government became directly involved. The city considered a number of options for WASUA, which at the time was run directly from the city's Department of Public Works. The option of full privatization was initially favoured; the sale of treatment plants and other assets was thought to be a means of raising the necessary capital for the utility.

In August 1996, Congress passed a law that created a new financially autonomous agency, the District of Columbia Water and Sewer Authority (WASA), publicly owned and governed by elected officials, to run Washington's water

supply and wastewater system. Congress also authorized the agency to raise financing by issuing bonds. Simultaneously, a Continuous Internal Improvement Program was put in place, designed to provide similar efficiency gains that privatization would otherwise have brought to the utility. In making its decision, WASA studied examples of this program, which had been applied and had been found to be successful for some public utilities in the United States.

The establishment of a stand-alone public agency has resolved some of the long-term problems with Washington DC's water supply system. Financially autonomous, revenues from water supply and sewerage can no longer be deferred to the city's general budget. WASA, a publicly owned, corporatized utility, assumed all of the debts and liabilities of its predecessor. The city has retained asset ownership; WASA must finance any new infrastructure. This arrangement has reduced the financing burden on the DC government. In turn, the operational management of WASA is independent from that of the DC government, enabling greater flexibility and more rapid decision making and implementation.

One of the primary goals after the creation of WASA was the sale of the Blue Plains Wastewater Treatment Plant to the private sector. In 1999, the DC government commissioned a study on privatization options. Three options were considered: continuous improvement management under public ownership; delegated management to a private operator; and full privatization. The study found that full privatization offered no economic advantage over the status quo, given the higher cost of capital for the purchaser. The delegated management option was more highly rated, and savings of between US\$17 million and US\$23 million per year were forecast from staff and contract services reductions. The study, however, recommended the third option—continuous improvement under the management of the corporatized utility—after a comparative industry analysis revealed that the “best-performing” public utilities perform better than contract-operated utilities. The study concluded: “Although the continuous internal improvement approach offers no guarantees, it does reflect the opportunities that might be provided with a best-performing public utility.” The study set down specific baselines: in order to match the benefits provided by a delegated management option, WASA would have to reduce operating costs by 2.5% to 3.8% annually. The study therefore advised: “if WASA believes it is capable of meeting or exceeding these annual reductions, it should consider the continuous

¹³ Sources: Gutierrez 2001; Hazen and Sawyer 1999; WASA 2000.

improvement alternative; otherwise, [delegated management] appears to be the most advantageous alternative.” WASA and the district’s political leaders concluded that they could meet the challenge of reducing operating and maintenance costs and generating savings while providing a better quality of service.

4.2.3 Restructuring in Wales

In Wales, a not-for-profit utility was created through restructuring in 2001. Glas Cymru, serving 1.1 million household customers and 100,000 business customers, is a private company owned by its members and limited by guarantee (a business model also used for private health insurance in Britain). Glas Cymru had been run as a for-profit private company since the privatization through divestiture of the Welsh water supply system in 1989. However, water bills had risen well above the rate of inflation since 1989, and managers perceived an opportunity to lower the cost of capital, and hence reduce customers’ bills, through alternative financing.

In contrast to the original English equity-financed model, Glas Cymru is 100% debt-financed. The company’s first bond issue was 70% oversubscribed and has resulted in a decrease in the cost of the company’s debt in excess of £55 million per year. Glas Cymru is prohibited by its articles of incorporation from diversifying outside of the water and sewerage business, or beyond its current geographical area of operation. The advantages of Glas Cymru’s lower risk profile, particularly given its commitment to remaining a *non-diversified* company operating strictly as a regulated water business,¹⁴ were confirmed by Standard & Poor’s AAA rating of the company’s bond issue.

This reduced risk was of critical importance in reducing the cost of capital and thus reducing customer bills.¹⁵ As the company noted, “the water industry is very capital intensive and the cost of paying a return on money raised to finance assets is Welsh Water’s single biggest cost, currently absorbing nearly a third of Welsh Water’s annual revenues [i.e. customer’s bills].”¹⁶ The switch to 100% debt financing, through investment grade bonds, entails not only a lower cost of capital, but also a greater surplus that can be invested in the network and in environmental protection, used to build financial reserves, or returned to customers. Operational savings have also been made through outsourcing some aspects of operations to other private water companies, notably a management contract for water and wastewater infrastructure to United Utilities. As a result, Glas Cymru was the only water utility in England and Wales to make voluntary price cuts (worth approximately

C\$50 million) in addition to price cuts mandated by the economic regulator of the water supply industry, during the most recent review of the water supply industry.

Strong support of the Welsh Assembly was another key factor influencing the government to approve the restructuring proposal, as domestic control of Wales’s water supply was a high priority for local politicians assuming increased power in the process of devolution of decision making from the British to the Welsh government. Another important factor was the fact that Western Power, the new owner of Hyder Utilities (the parent company of Welsh Water), wanted to exit the water business and was willing to sell the assets at a discount of their regulatory asset value.

Glas Cymru’s governance model is unique. The directors have no financial interest in the company and do not receive dividends, but their financial remuneration is incentive-based; compensation includes a discretionary bonus related to service delivery performance compared to other water and service companies. In addition to the directors, there are approximately 60 members at present, who are reappointed every three years, for up to 10 years. Members bear no personal liability, are not remunerated (except for expenses), have no financial interest in the company and do not receive dividends. Open to application by any resident of Wales, the membership is chosen to represent a range of Welsh interests; an effort has been made to include individuals with experience in administration, finance and/or the water supply industry, as well as individuals representing consumers and environmental groups.

The role of the membership is to act as a body of quasi-shareholders, advising and overseeing the directors, approving the annual report and accounts. In addition, members communicate information about the company to particular stakeholder interests, and provide an informal liaison between the company and financial and political contacts. Members therefore fulfil a key accountability function, overseeing the performance of directors, whom

¹⁴ Glas Cymru is prohibited from diversifying into other activities, both by its Constitution and by an undertaking to Ofwat that it will not change the constitution without first consulting with the regulator (Utilities Journal, April 2001).

¹⁵ Personal communication from D. Owen, Member of the Supervisory Board of Glas Cymru.

¹⁶ Glas Cymru, 2001, Briefing on Membership, <http://www.glascymru.com/english/pdf/english/members/BriefingMem.pdf>, accessed October 16, 2001.

they re-elect at the annual general meetings. Given these arrangements, members believe that transparency is higher under the Glas Cymru model than under other governance models involving private companies. It should be noted, however, that the political governance and legal framework under which the Welsh model operates are not found in many jurisdictions.

4.3 Restructuring: Discussion

The survey in this chapter and the previous chapter has revealed a variety of business models that exist around the world for water supply. For networked water supply, the municipal direct utility predominates, in Canada and in most countries around the world. The past decade has seen significant experimentation and restructuring, particularly with delegated management approaches. In Canada, as elsewhere, full privatization in the water supply sector is rare.

One common point in the variety of restructuring options pursued by the different municipal governments surveyed was a strategic planning process, initiated by council and overseen by staff, in which the various business models were evaluated. This process was not always a predictable one. In the case of York, the municipal government had expected at the outset that a delegated 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. In the case of Washington, full privatization had been contemplated; instead, a corporatized structure with a new governance model was determined to be the better option.

Another key tactic was the strategic use of the private sector. Staff drew upon private-sector resources to assist them in their work. In both these cases, private-sector entities worked as consultants for staff, who were setting the directions. The informed professionalism of both public- and private-sector staff was critical in good process, and in making good decisions.

This approach would appear to coincide with the recommendations of the Walkerton Report. Specifically, Part II of the Walkerton Inquiry recommended that municipal governments review the operating and management structure of their water systems (O'Connor 2002b). The report clearly notes that the decision to operate a system directly or through an external operating agency is separate and distinct from the issue of municipal ownership. The report lists three options that municipal governments should consider when reviewing their systems: a municipal department; a

municipal agency similar to a public utility commission (or board), and a municipal corporation. **Careful consideration of the options open to municipal governments is the central lesson drawn from this survey of restructuring processes.** The recommendations of the Walkerton Inquiry regarding restructuring emphasise the importance of good governance principles and competent, informed public oversight of the process. Examples of practical questions to ask when reviewing business models are listed in Box 3.

Box 3: Questions to ask when comparing business models

There are myriad questions that a municipal government should ask when considering restructuring. The following questions focus on comparing the municipal direct management business model to some other business model:

- What is the basis for judging a restructuring option?
- Do you have sufficient information on the municipality's current total cost of providing the service, and on the level and quality of output provided for that cost? Do you have sufficient information on the total costs, levels and quality of service under other restructuring options? (Without this information, the municipality will not be able to make robust comparisons)
- If one option is priced significantly lower than other options, what is the possibility that you are being "low-balled" (also called "opportunistic bidding") in order to convince you to choose a particular option?
- What will happen to the affected municipal employees? What policies has the municipality adopted to ensure that they are treated fairly?
- If you do restructure and are unhappy with the results, what are your options? Will you have sufficient expertise left in house to resume direct responsibility for the service in question? If not, are there other options to which you can easily turn? If there are not, are you not better off remaining in a situation of municipal monopoly?

(Adapted and expanded from Tindal and Tindal 2000)

Chapter 5 – toward sustainable water supply governance: recommendations for restructuring

5.1 Key issues to consider

5.1.1 The need for robust regulation

Governance of networked water supply and wastewater systems raises issues not relevant to most other public services. Networked water supply services are almost always characterized by monopoly provision. Competition for provision of water and sewerage services through linear assets (networks of pipes and mains), if it exists, will be indirect.¹⁷ Competition may exist for other services and products, yet these typically constitute a relatively small proportion of the total capital and operating expenditure requirements of network utilities.

Networked water supply systems are therefore open to abuse of monopoly powers (particularly in pricing), and are likely to be characterized by inefficient management if unregulated. These incentives may lead to outcomes that conflict with sustainable water management goals, and in some cases with public health goals. Good governance, in the case of water supply and sewerage services, requires a regulatory framework that covers water quality, environmental issues, and economic issues. In some cases, one regulator may address these multiple issues; in others, they will be addressed by separate regulators. For example, in England and Wales, the water supply and sewerage industry is overseen by three primary regulators: environmental, economic, and water quality.

A regulatory framework is necessary because conflicting incentives may arise under public and private ownership. Conflicting incentives under public ownership may arise insofar as meeting standards for quality or maintaining infrastructure requires increasing government expenditure; the tendency is to prioritize expenditure requirements over water investment. In England and Wales, for example, publicly owned water authorities were run as self-regulating Crown corporations from 1974 to 1989. In response to budgetary pressures, the central government subjected the water authorities to increasingly stringent spending limits, leading to under-investment and a decline in water quality.

Perverse incentives also occur under private ownership; for example, the profit motive does not necessarily motivate private companies to increase efficiency.¹⁸ After privatization in the U.K., leakage rates of the private water companies increased.¹⁹ Thames Water's leakage rate, for example, rose approximately 40% in 1995-1996.²⁰ Given the low marginal cost of water, most companies found it cheaper to treat water and allow relatively high rates of leakage, rather than to undertake expensive operational repairs. The risk inherent in this approach was highlighted during the Yorkshire drought of 1995, when an unusually dry summer combined with record leakage levels threatened the water supply to a region of nearly three million people (Bakker 2000). In response, the regional private water company increased abstractions from local rivers and refilled reservoirs by tanker truck at a total cost of over \$100 million (C\$ equivalent). No mechanism existed in the regulatory framework to require companies to reduce leakage until the central government intervened and imposed targets.²¹

Under public or private ownership, perverse incentives may arise, so that companies may not necessarily maintain technical efficiency, ensure a high quality of output, or safeguard public health. Post-privatization in the U.K., for example, an increase in disconnections for non-payment of bills (to more than 20,000 households in 1991-1992) was associated with increased rates of water-borne diseases. These negative public health outcomes of disconnection particularly affected households with lower revenues, large

¹⁷ Direct competition in the market – with multiple networks of pipes, maintained by competing companies, between which customers can choose – is rare in the water supply industry. Indirect competition for the market, through periodic competition by companies for the right to operate a monopoly for a limited period of time, is more common. The British government is continuing to move toward common carriage as a more direct form of competition for domestic water users (Fletcher 2001).

¹⁸ Under the provisions of the *Water Industry Act* (1999).

¹⁹ Water supply industry leakage rates in England and Wales averaged 150 l/person/d in 1996-1997 (OfWat 1997a), which the regulator estimated to lie between 25% and 30% of total water put into supply. Leakage is notoriously difficult to calculate, and figures expressed in leakage mask important variables, including the number of households supplied per unit length of pipe. The industry accordingly favours measurement in Ml/d (million litres per day), or l/prop/day (litres per property per day). The percentage figure is supplied as a means of establishing relative magnitude of leakage only.

²⁰ Thames estimated self-reported leakage rates were 1,109 Ml/d (Ofwat 1997), with a figure of 2,671 Ml of water put into supply (WSA 1996).

²¹ These mandatory leakage targets were first announced in the government's Ten Point Plan for the water industry in May 1997; the Office of Water Services (the economic regulator of the water industry in England and Wales) now monitors these targets.

families, or medical conditions with high water needs (Bakker 2001). The British government promulgated new regulations in 1999 prohibiting disconnections of domestic properties and essential services such as hospitals.

The above examples provide anecdotal evidence regarding the perverse incentives that arise in the water supply and sewerage sector, whether under public or private ownership. Loopholes in the regulatory framework introduced at the time of privatization, combined with the incentives arising from private ownership, in the British case, led to decreased efficiency and worsening public health outcomes. A significant amount of empirical evidence exists, in addition to economic theory, to support the claim that negative incentives can arise under public or private ownership, and to justify the need for effective regulation and oversight. The Walkerton Inquiry arrived at a similar conclusion with respect to the public-private question. Justice O'Connor's final report, in addition to several of the issue papers produced for the Walkerton Inquiry, emphasized that professional management and appropriate regulation, sufficiently enforced, were key determinants of performance, regardless of the business model chosen.

5.1.2 Sustainable water supply management

Restructuring should be approached within the broader context of the goal of sustainable water supply management.

Sustainable water supply management requires a process that “promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of eco-systems.” (Global Water Partnership 2000, 2001).

Many communities are developing integrated water resources management approaches that seek to ensure equitable, economically sound, and environmentally sustainable management of water resources and provision of water services. In some cases, this requires balancing apparently competing goals: environmental protection, efficiency, equity, and public health.

In many instances, “win-win” solutions can be found to apparent tradeoffs. Eco-efficiency initiatives,²² for example, may allow municipal governments to simultaneously meet goals of water conservation and equity. This is because most of the water we use at home is for secondary purposes; water is used directly for drinking, but it is also converted in appliances (dishwashers, washing machines, radiators, toilets) into the desired application. In Canadian homes, the majority of water we use is for a secondary purpose. Properly targeted, water conservation programs (for example, bylaw changes, labelling schemes, and schemes for conversion to water-efficient appliances) can help reduce water bills, while lowering residential water demand. Particularly where subsidy schemes are targeted at lower-income families, goals of equity and water conservation are compatible.

In some cases, however, a “win-win” solution cannot be found to conflicting goals in water supply management. In these instances, a set of good governance principles can assist with the decision-making process. Some principles, such as source protection or universal provision of water supply, may be inviolate. Others may have to be prioritized. Box 4 gives an example of a municipal government that has developed a sustainable community vision, which in turn provides guidance to communities on preferred water management goals and strategies.

5.2 Recommendations for restructuring processes

Debates over governance of essential public services revolve around the question of the involvement of governments, citizens and the private sector with basic services provision. Issues of good governance are particularly important in the case of natural monopoly services, the provision of which has public health implications.

A well-managed restructuring process is invariably time-consuming. It is not, in the narrow sense of the term, efficient. Good governance—like democracy—is not always efficient. But good governance is essential if organizations are to perform effectively. It is also essential if restructuring is to be politically acceptable: governance must not only be good, it must be seen to be good.

²² See the FCM annual awards for best practices in sustainable communities (FCM 2001, 2002).

Box 4: Hamilton's Vision 2020 – The Sustainable Region

In the early 1990s, the Regional Municipality of Hamilton-Wentworth launched a sustainable community initiative. Regional Council created a citizens' Task Force on Sustainable Development, and asked them to explore the concept of sustainable development as a basis for review of all regional policy initiatives. Over two years, this group met with more than 1,000 citizens and developed a community vision: *Vision 2020: The Sustainable Region*.

In 1992, the regional council adopted Vision 2020 as a basis for regional decision making in Hamilton-Wentworth. The region has won several Canadian and international awards for its innovative process. The region's Vision 2020 statement consists of a set of principles intended to guide the process of moving toward sustainable development, together with a vision statement—an image of a sustainable community toward which citizens and government should strive—and specific recommendations.

Hamilton's Vision 2020: Principles of Sustainable Development

- Fulfillment of human needs for peace, clean air and water, food, shelter, education, and useful and satisfying employment;
- Maintenance of ecological integrity through careful stewardship, rehabilitation, reduction in wastes and protection of diverse and important natural species and systems;
- Provision for self-determination through public involvement in the definition of local solutions to environmental and development problems; and
- Achievement of equity with the fairest possible sharing of limited resources among contemporaries and between our generation and that of our descendants.

Environmental quality, and particularly water quality, occupies a central place in the vision statement. The second paragraph refers to “clean streams and lakes.” The description of “our communities” refers to access to “continuous public open space along the bayshore and lakeshore,” making reference to industrial development and extensive pollution of Hamilton Harbour. Supplementing the Vision 2020 statement were Vision 2020 water quality goals, which have been regularly updated.

2001 Vision 2020 Revised goals for improving the quality of water resources

1. To promote good water quality in streams, Cootes Paradise, Hamilton Harbour, Lake Ontario and other surface bodies
2. To identify and virtually eliminate sources of potential chemical contamination
3. To promote more efficient use of municipal water by households and businesses
4. To restore adequate habitat for balanced natural populations so that populations are healthy and productive
5. To promote the protection of groundwater quality and quantity throughout the watersheds
6. To minimize the negative effects due to activities on the landscapes on water quality and quantity including run-off and sedimentation
7. To make Lake Ontario and Hamilton Harbour waterfronts accessible and attractive for recreation

In response to the recommendations, regional council undertook water conservation education initiatives, constructed combined sewer overflow tanks, supported a waterfront park development initiative, and formed a new non-profit organization, Action 2020, to implement the Vision 2020 recommendations.

City residents stopped swimming in Hamilton Harbour in the 1920s due to high levels of pollution; in part thanks to Vision 2020 and local organizations like the Bay Area Restoration Council, swimming in the Harbour is again possible—a public beach was opened on the Harbour in the late 1990s.

Sources: Regional Municipality of Hamilton Wentworth: (1997) *VISION 2020 Implementation Review*. October; (1993) *Directions for Creating a Sustainable Region*, Report presented by the Task Force on Sustainable Development; *Vision 2020 Task Force Action Plan for Improving the Quality of Water Resources*. See also www.vision2020.hamilton-went.on.ca

Recommendation 1: Define what good governance means for your community, and do so via an inclusive and democratic process.

As a first step in restructuring, the municipal government should define good governance principles and rank them in an inclusive, transparent review process that involves meaningful public participation. These principles, which should be coherent and ranked, will guide the restructuring process.

Based upon a review of relevant Canadian and international documents (Bakker and Cameron 2002), a suggested list of good governance principles that municipal governments may wish to consider include:

- protection of public health and safety
- environmental protection
- accountability for stewardship and performance
- transparency
- participation
- equity, efficiency and effectiveness

These are not definitive or prescriptive principles; as part of a good governance process, each organization develops its own governance principles. These governance principles should be coherent; municipal governments should consider ranking the principles in order of priority. To arrive at these principles, the municipal government should engage in an open, transparent decision-making process, involving relevant stakeholders, including citizens, in meaningful participation.

Recommendation 2: The municipal government needs to review the available business models, including the (improved) status quo, and consider the advantages and disadvantages of each before selecting a restructuring option.

In its restructuring review, the municipal government should consider an improved status quo as one of its restructuring options. In many instances, the most cost-effective strategy will be to make service improvements internally prior to considering a significant restructuring in the operation and delivery of water services. The National Guide to Sustainable Municipal Infrastructure has produced best practices guides on potable water and wastewater infrastructure which many communities will find helpful (see Appendix).

Should the municipal government decide to go ahead with a restructuring review, this should be an inclusive, transparent decision-making process, involving all relevant stakeholders. Council should take responsibility for initiating the process of the necessary gathering of information and assessment of options. Council will find it helpful to commission studies on relevant topics: current business model (functions and services); business model options for restructuring; contract options; human resources; corporate finance; legal issues; restructuring processes (request for proposals, prequalification, etc.); and governance. Professional staff should be mandated to examine these issues, or to oversee any external studies commissioned. The municipal government should review the available options, and consider the advantages and disadvantages of each, before selecting a preferred option. In doing so, the governance principles should inform the decision-making process.

Recommendation 3: In its consideration of costs and benefits for the review of options for restructuring water and wastewater, the municipal government should identify and quantify (where possible) synergies that would be lost as well as gained under each restructuring option.

Most of the municipal governments that have restructured their water supply services, as reviewed in this report, conducted a broad-based review of their water supply options. In some cases, the process led to unexpected outcomes; what appeared to be the most desirable option at the start proved not to be the preferred option, upon careful study. This indicates the importance of comparing all available options, including an “improved status quo” option, in a restructuring process.

This review process should be conducted in an open, transparent manner that allows the full and fair comparison of different restructuring options. In this manner, it is similar to a tendering process, whereby competition between different bidders for a contract helps to ensure that the most effective, best-value option is chosen, and public scrutiny increases transparency. Municipalities may find it useful to draw on the governance principles to create formalized standards (or desired levels) of service and standardized benchmarks against which to evaluate different options.

Council needs to play a key role in the restructuring process. This involves initiating the restructuring review, and mandating professional staff to examine alternatives and identify problems they are facing, gather the information necessary for an assessment of options, and/or to directly oversee any external studies commissioned. The city's governance principles need to inform the decision-making process, which has to be transparent and involve meaningful public participation from all stakeholders, including citizens.

Recommendation 4: Should the municipal government decide to restructure, it should create a separate restructuring unit responsible for overseeing the restructuring process.

Restructuring is a complex and time-consuming task; restructuring of water services is a vitally important process leading to vitally important decisions. The restructuring process requires dedicated staff; the examples surveyed for this report indicate that effective and successful restructuring requires dedicated staff, able to draw upon required expertise. While council would lead the strategic, participatory process, which establishes good governance principles and identifies potential business models, the restructuring unit would be mandated to oversee the comparative study of restructuring options, recommend the most desirable option, implement the transition (if any), including the design and implementation of required regulatory frameworks. As effective regulation is a key criterion for successful management of utilities, municipal governments should ensure that sufficient resources are available to support the design and implementation of their regulatory framework, and should consider investigating the experience of other jurisdictions with respect to regulation. In terms of customer service standards, for example, the Office of Water Services standards for water companies in England and Wales provides a comprehensive, workable model with clear guidelines and penalties citation.

Recommendation 5: If it decides to create an arms-length entity to run its water and wastewater supply services, the municipal government should not lose sight of the fact that, as owner of the infrastructure, it remains accountable.

The municipal government should ensure that it has access to good information and resources sufficient to carry out its oversight duties. In the case of water, given its public health implications, this requires frequent and comprehensive reporting to the council. In addition, the council may wish to require independent performance audits, conducted by

a third party. The results of these audits should be made publicly available. The costs of regulation and enforcement may, in some cases, be significant; municipal governments should have factored these costs into their restructuring review. Regulation of an external agency is invariably time-consuming; this should not dissuade councils from focusing on the regulatory task, which is essential if organizations are to perform effectively.

Restructuring may imply additional oversight duties for municipal governments and councillors, and may require changes to accountability structures. In the case of management of water supply systems by external agencies, council will need to carefully consider the mechanisms by which it ensures accountability.

The municipal government should consider mechanisms for independent performance audits if management is delegated to an external agency. The municipal government should ensure that it has access to good information, sufficient to carry out its oversight duties.

Recommendation 6: Because of the potential for conflicts of interest, municipal governments should ensure that the advice they obtain from advisers, consultants and managers is impartial.

Restructuring (particularly corporatization, private-sector participation and privatization) usually generates substantial fees paid to advisors and consultants. It is important to ensure that consultants/advisors retained by the city and its subsidiaries are independent. Council may wish to consider legal and contractual mechanisms to prevent advisors, directors and managers from benefiting from the restructuring process. These mechanisms might include a form of restrictive covenant; provisions in the procedures used to appoint directors; or changes to bylaws. Organizations and individuals advising the city on restructuring should have an arms-length relationship to the process.

Recommendation 7: Municipal contracts with external operating agencies should be made public before they are signed. The municipal government should actively solicit the views of residents before entering into such agreements so that the community can have a role in determining the preferred course of action.

The weakening of political accountability under contracts with external agencies was one of the key factors in the recommendation of the Walkerton Inquiry that municipal contracts with external operating agencies should be made

public (O'Connor 2002, Recommendation 49). In his report on Part II of the Walkerton Inquiry, Justice O'Connor made specific reference to the City of Hamilton's experience, while noting that "changes in ownership have the potential to generate instability with respect to the operating agreement." (O'Connor 2002, 326). Following on from this observation, Justice O'Connor noted that:

A municipal government contemplating the engagement of an external operating agency to deliver water services should ensure that the proposed transaction is fully transparent. The concern for water quality justifies full publicity in the operation of a community's water system, whether it is run privately, by the public, or as a mixed system. Municipal governments should actively solicit the views of residents before entering into such agreements so that the community can have a role in determining the preferred course of action. (O'Connor 2002, 327; emphasis added)

Some communities in Canada, such as Moncton, have made delegated management contracts available to the public. Full public disclosure may be difficult if the municipal government does not specify clearly at the start of the process (e.g. in its Request for Proposals) that contract information is to be shared publicly.

Recommendation 8: The restructuring process should take into account broader community goals, particularly with respect to sustainable community development.

The authors of the Walkerton issue paper on governance concluded from their study of water supply governance in Ontario: "The ability of a governance structure to succeed has less to do with [business models] and more to do with the public policy goals and objectives to be achieved." (Joe et al 2002, i). Because water supply touches on so many different aspects of a community's economic, environment and social well-being, broader considerations of sustainable community development must be kept in mind when engaging in a restructuring process.

Appendix A – Global trends in restructuring water supply

Municipal governments run most formal water supply systems around the world. However, private-sector participation in the financing, construction and management of water supply infrastructure has increased over the past decade.

In **Europe**, systems of water supply provision vary widely (Table 14). In the Netherlands, corporatized water utilities have long been used a means of running water supply systems; wastewater remains a municipal responsibility. In France, the practice of delegated management to private companies has been in place for over a century; approximately 75% of the population is supplied by private companies, and 25% of the population by directly municipally managed companies. In Spain, a similar system of delegated management is used, but a smaller proportion of users are covered by delegated management contracts, and the state retains an important and interventionist role in the water sector, particularly for water resources destined for agriculture. In Denmark and Finland, the cooperative model has remained relatively stable. In Germany, some municipal governments that employ the *Stadtwerke* model have begun experimenting with (greater degrees of) delegated management.

In the **United States**, there are approximately 50,000 community water systems. Of these, 43% are publicly owned, 33% are privately owned (the majority are small, user-owned/local investor-owned rather than publicly traded corporations) and 24% are classified as "ancillary systems" (i.e. serving very small communities such as trailer parks). Because most private systems are small, public water systems serve 86% of U.S. households; private water supply systems supply about 13% of households. It is also important to note that in many states, both public and private utilities operate under similar (although not identical) regulations. The National Research Council, in its study of privatization of water services in the United States, found that 15% of the population was served by privately run systems, a figure that has remained stable since 1945 (NRC 2002; Siedenstat et al 2000).

The debate over restructuring of water supply in the United States has received increasing attention in recent years, particularly in light of forecast needs for high levels of capital expenditure to maintain and extend infrastructure networks. Most recently, the U.S. Senate has debated various proposals for a new Water Investment Act (Senate Bills 1961, 2002 and 2813, 2002), in which various controversial measures for permitting or encouraging private-sector participation in municipal water supply have been considered.

In **England and Wales**, nine of the 10 water companies that were privatized by public flotation in 1989 continue to operate as private companies. The tenth, Glas Cymru (formerly Welsh Water) has restructured into a not-for-profit corporatized utility, owned by its members. The water supply industry has undergone consolidation as the larger water and sewerage authorities have bought up smaller, private “water-only” companies. Twenty-nine private water companies that had continued to operate (typically in urban areas) during the period of nationalization were converted into publicly limited companies and listed on the stock exchange. The number of these smaller water supply companies has been reduced from 29 to 13 through mergers and acquisitions. The water and sewerage companies have, in turn, been acquired by other utilities (forming multi-utilities) and by foreign companies. Foreign companies have acquired three water and sewerage companies (Enron-Wessex, Thames-RWE, Lyonnaise des Eaux/Northumbrian), and 16 of the original 29 private water-only companies. All of the private water companies have engaged in diversification overseas and out of non-core businesses. In contrast to the vertically integrated, equity financed model envisioned at the time of privatization in 1989, some companies have entered into delegated management contracts, and many have replaced equity financing with bond financing.

In **non-OECD countries**, between 1987 and 2000, 183 water and sewerage projects with private participation were initiated (Table 15). These statistics include water *resources* (or “raw” water), *water supply*, and *wastewater treatment*. Water companies may be involved in either/or the construction of large-scale infrastructure developments, such as reservoirs or canals, to supply raw water, or in management, rehabilitation and extension of “clean” (i.e. potable water) and dirty (i.e. wastewater) networks. The majority of projects undertaken to date involve both “operation and maintenance” of the infrastructure, together with the construction and/or rehabilitation of infrastructure (See Table 4). There are few examples of full-scale privatization or divestiture; most jurisdictions have chosen a delegated management option.

Public-private partnerships have been initiated in high-, middle- and low-income countries, including Argentina, Bolivia, China, Chile, Indonesia, Morocco, the Philippines, Poland, South Africa, Thailand and Turkey. The sector is highly concentrated; 10 private companies, based in OECD countries, hold the majority of contracts. Thames Water, England’s largest water supply company, for example, is one of the largest international water management operators. Thames Water has more than 25 million customers on four continents, having begun to diversify from its London-area base only a decade ago.²³ To date, the majority of contracts have been granted on a concession basis, in which a private company obtains the exclusive right to operate the water supply infrastructure for an extended period of time (usually 20 to 30 years). The vast majority of contracts have been granted in urban areas; given economies of scale associated with concession contracts, rural areas, or even conurbations with a population less than 500,000, are unlikely to attract the interest of the private sector.

²³ For more information on private companies supplying water and wastewater services, see the report *Water and Wastewater Markets, Investors and Suppliers*. Prepared for the SuperBuild corporation by MacQuarie and Tasman Economics, Toronto, June. www.superbuild.gov.on.ca

Table 14: Population served by different business models

	Public management (%)		Private management (%)	
	Municipal department	Municipal corporation	Delegated private management	Privatized utility
United States	86 (disaggregated figures not available)		14 (disaggregated figures not available)	
European Union	48	15.5	20.5	1
Germany	55	30	15	0
France	23	2	75	0
United Kingdom	12	0	0	88
Netherlands	15	85	0	0

Sources: EPA (1995) and EUREAU (1994)

Table 15: Water and sewerage projects with private participation in developing countries (1987 – 2000)

Year	Number of projects reaching financial closure (cumulative)
1987	2
1988	2
1989	5
1990	5
1991	7
1992	13
1993	22
1994	37
1995	57
1996	75
1997	105
1998	124
1999	158
2000	183

Source: World Bank PPI database (personal communication).

Appendix B – For more information

Water quality in Canada

- Environment Canada's "freshwater" Web site.
http://www.ec.gc.ca/water/e_main.html

Water governance in Canada

- Environment Canada (2002). *Water in Canada: Preserving a Legacy for People and the Environment*. Ottawa. Downloadable:
www.ec.gc.ca/water/en/info/pubs/wwf/e_contnt.htm
- Bakker, K. with Cameron, D. (2002). *Setting a Direction in Hamilton: Good Governance in Municipal Restructuring of Water and Wastewater Services in Canada*. Program on Water Issues, Munk Centre for International Studies, Working Paper #1. November 2002. Downloadable: www.powi.ca/recentresearch.html.

Sustainable asset management

- FCM (2001). *A Guide to Green Infrastructure for Canadian Municipal Governments*. Prepared for the Federation of Canadian Municipalities by the Sheltair Group. May 2003. (<http://kn.fcm.ca/ev.php>)
- FCM (2002b). *Ahead of the Wave: A Guide to Sustainable Asset Management for Canadian Municipalities*. Prepared for the 2nd Annual Sustainable Communities Conference. February 2003. Federation of Canadian Municipalities. Downloadable:
<http://kn.fcm.ca/ev.php>
- The National Guide to Sustainable Municipal Infrastructure (www.infraguide.gc.ca/indexe.html) has published Best Practices Guides for a variety of topics, including potable water:
- *Deterioration and Inspection of Water Distribution Systems*
- *Water Use and Loss in Water Distribution Systems*
- *Selection of Technologies for the Rehabilitation or Replacement of a Water Distribution System*

Canadian water Web sites

- Environment Canada's Web site contains links to provincial, federal and international Web sites, as well as to Web sites of general interest.
http://www.ec.gc.ca/water/en/info/pubs/wwf/e_web.htm

Public-private partnerships

- NRC (2002). *Privatization of Water Services in the United States: An Assessment of Issues and Experience*. Committee on privatization of water services in the United States, National Research Council. The National Academies Press (see <http://www.nap.edu/catalog/10135.html>)
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- Canadian sources: for a public-sector union perspective, see CUPE's WaterWatch campaign (www.cupe.ca). For an NGO perspective critical of private-sector participation in water supply, see the Council of Canadians Blue Planet Project (www.canadians.org). For a business perspective supportive of private-sector participation, see the Canadian Council for Public-Private Partnerships (www.pppcouncil.ca). See also the reports commissioned by the Ontario government's SuperBuild (<http://www.superbuild.gov.on.ca>).

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