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# The contradictions in ‘alternative’ service delivery: governance, business models, and sustainability in municipal water supply

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**Abstract.** Restructuring municipal water supply using ‘alternative service delivery’ models is a growing trend. The author examines potential contradictions between ‘alternative service delivery’ business models, on the one hand, and goals of good governance and sustainability on the other. A case study of water conservation and efficiency programs implemented by municipal water utilities in Canada is used to show that specific alternative service delivery (ASD) models which seek greater distance between management and government can create incentives which deter utilities from pursuing important social and environmental goals. The neoliberal governance reform that commonly accompanies and encourages ASD tends to exacerbate its deficiencies vis-à-vis conservation in the water sector. Still, the prevalent government-led service delivery model can impose trade-offs of its own. Strategic (rather than ideological) improvements in governance can enable municipalities to reap the benefits of a variety of business models (including ASD) without compromising sustainability objectives.

## 1 Introduction

The growth in alternative service delivery (ASD) since the 1990s has been extraordinary. With “55% of the public service operat[ing] outside of traditional departments” in Canada the alternative is now the norm (Wilkins, 2003, pages 176–177). In Ontario alone, the provincial government boasted a movement of 14 000 jobs from the public sector to ASD arrangements (eliminating 6000 jobs) between 1996 and 2000. Experts from 130 countries visited Ontario to learn about its approach (OPSRs, 2002, page 13).<sup>(1)</sup>

Rather than independent restructuring, ASD is often propagated in conjunction with other governance reforms. In the water sector much of the literature on utility governance prescribes a set of governance reforms including new business models (or ASD—eg, corporatization), delegation to nonstate actors (the shift from ‘government to governance’), and devolution (or ‘decentralization’) of authority from higher to lower orders of government. These reforms are promoted on the basis that they will improve the governance of water-supply utilities through, for example, increasing efficiency and improving accountability mechanisms.

Critics argue that such reforms will not necessarily improve governance in the ways described by proponents. Criticisms have also been directed at the potential attenuation of accountability and transparency associated with new business models, and also at the risks of devolving responsibility without a concomitant reallocation of resources (particularly with regards to delegation to the local scale) (eg Prudham, 2004).

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<sup>(1)</sup> Cited by Wilkins (2003, page 178).

Within this debate, relatively little analysis has been devoted to the interrelationship between governance reform and sustainability concerns. The conventional assumption in the literature is that restructuring governance in the ways described will contribute positively to sustainability. In this paper we question this assumption, through the analysis of one instance of the relationship between governance reform and sustainability.

Specifically, we use a case study of business model restructuring of water-supply utilities and conservation/efficiency programs in several municipalities in Canada, and document the potential constraints and limits that some forms of alternative service delivery may imply for water conservation. Water conservation is of increasing importance in Canada for a variety of reasons, including physical water stress (eg Southern Alberta), limitations to infrastructural capacity (eg Ontario), and consumer fairness as water rates increase in many municipalities (Furlong and Bakker, 2008b). The research suggests that with declining government authority over water-supply services (as ASD models become more arm's-length), the incentives for engaging in conservation are reduced, and the breadth and durability of conservation programming is diminished.

Water conservation is a compelling issue through which to examine the governance–sustainability relationship for at least two reasons. First, demand-side management and water-loss control are now considered to be standard 'best practice' for water utilities worldwide. Second, water conservation provides a classic example of the 'win–win' scenario promoted by sustainability proponents, with both economic and environmental gains to be made. But without taking broader governance issues into account, we argue, the case for conservation is neither as clear-cut nor as straightforward as one might assume.

This, in turn, suggests more general implications for our understanding of the governance–sustainability connection (discussed in the next section), as well as practical implications (discussed in the closing sections of the paper). Specifically, although there may be good reasons in particular cases for municipalities to seek ASD models, it is important to be aware of potential contradictions between them and sustainability goals (such as water conservation). We argue, below, that these contradictions arise in part because of a lack of attention to the articulation of local reforms with governance at higher scales. By taking a broader focus than business models, and by situating performance in the context of wider governance issues, we identify concrete strategies for good governance for sustainability in municipal water delivery.

## **2 The contradictions of 'improved' governance**

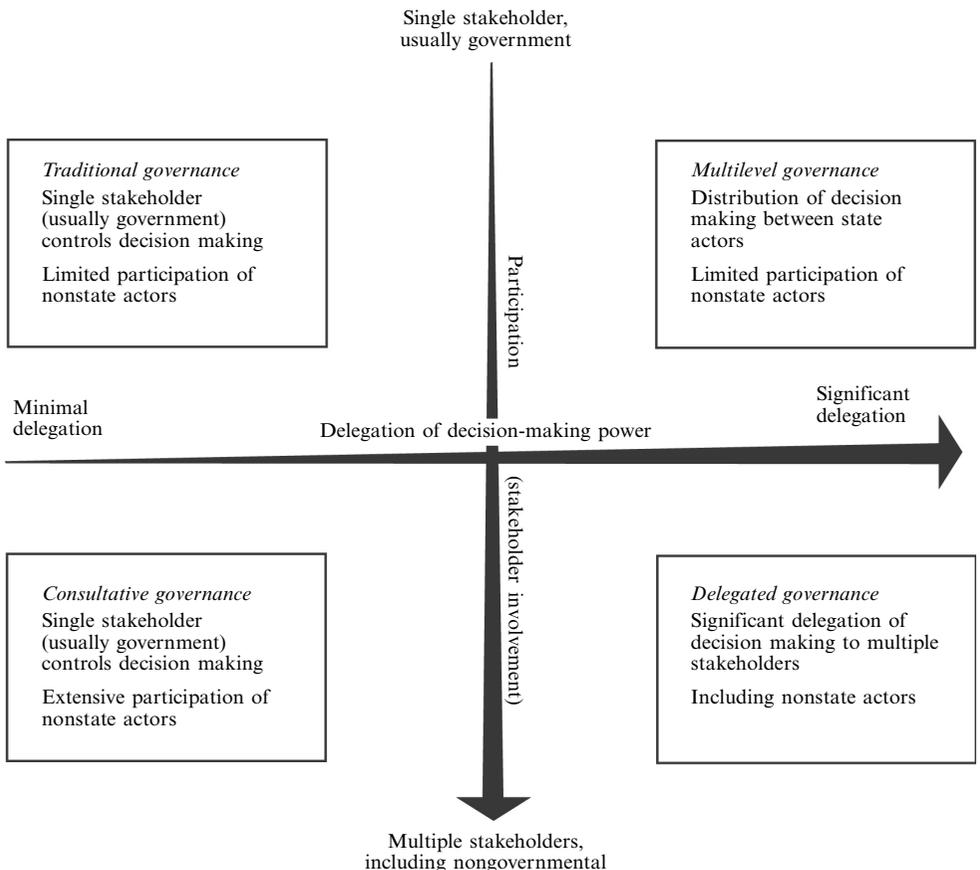
### **2.1 Business models**

Public sector organizations have been under significant pressure to reform their methods of service delivery over the last three decades. Often, these reforms are coincident with the rise of neoliberal policy and are expressed in terms of new public management norms, translated, where organizational restructuring is deemed necessary, into ASD models. Often, proponents present ASD as a natural and necessary response to 'globalization' that provides governments with the capacity necessary to improve efficiency, innovation, and performance, while reducing the putatively negative effects of civil service management structures (the 'state failure' argument) (eg Fyfe, 2004).

Definitions of ASD are varied, and tend to be both general—for example, "the many and varied organizational forms and delivery mechanisms governments use to achieve their objectives" (Wilkins, 2003, page 173)—and ideological—for example, "a creative and dynamic process of public sector restructuring that improves the delivery of services" (Ford and Zussman, 1997, page 6). Often, ASD is simply defined implicitly, as the converse of the undesirable aspects of conventional (usually government-led) service delivery—expressed as a continuum of improvement with greater distance from government.

In this paper we define ASD as the set of alternatives (business models and associated delivery mechanisms) to conventional (ie direct) government provision of public services, which are frequently implemented in the context of broader governance reform. Although our definition constrains the focus of ASD to the organizational level, it also recognizes that ASD is conceptually and temporally articulated with recent trends in governance. This relationship is visible in the standard list of ASD programs. Moving from greater to lesser government involvement, the options include 'agencies, devolution, purchase of service, partnerships, franchising/licensing, and privatization' (Good and Carin, 2003; Wilkins, 2005). In our view, this list (and others like it) mistakenly conflates two distinct but related ongoing policy processes: changes in governance and changes in business models (or organizations).

This suggests two foci in terms of ASD. First, with respect to changes in governance: policy processes have tended to involve devolution of government authority, oversight, and responsibility—a putative shift from government towards 'governance' (Hirst, 2000; Pierre, 1995). Figure 1 provides a schematic of these shifts in governance, showing it to involve a variety of possible combinations of increased participation and devolved authority in decision making. This does not necessarily imply new organizational (business) models (the second aspect of ASD), but does mean that such entities are regulated and evaluated differently. This could include such things as voluntary regulation or business-based performance evaluation.



**Figure 1.** Governance reform—increasing delegation in traditional government service sectors.

Second, ASD typically entails specific organizational restructuring of business models for service delivery (eg the creation of stand-alone agencies, private sector outsourcing, and privatization). A business model defines the operational structure of a given organization: it delineates features such as ownership, organizational structure, and the risks and responsibilities of the management of the organization and its improvement (Bakker and Cameron, 2002).

In Canada (as elsewhere), these two trends in ASD are mutually reinforcing (Hebdon and Jalette, 2008). The perceived negative link between political control of utility budgets and cost recovery is one of the main justifications given for ASD. This link is exacerbated by neoliberal policy reform,<sup>(2)</sup> which increases the strain on municipal budgets thus encouraging municipalities to avail themselves of certain financial instruments<sup>(3)</sup> to transfer funds from water budgets to municipal revenue streams (including the construing of various municipal activities as water related). This exacerbates the pressure on water utility revenues, reduces the security of meeting cost recovery, and heightens interest in ASD business model reform.

Table 1 describes an array of business models with which utilities in Canada and elsewhere are actively experimenting, often as a response to changes in governance (Bakker and Cameron, 2005).<sup>(4)</sup> They are arranged in the table from greater to lesser involvement of municipal governments. Dissecting the oft-conflated governance and organizational aspects of ASD offers important insights. On the one hand, it suggests that changes in governance and changes in business models are linked; on the other, it suggests that this relationship is neither deterministic nor unidirectional. In the municipal water sector (as elsewhere) different philosophies of governance have typically been associated with different business models. For example, whereas the Keynesian–welfare model of governance is most frequently associated with direct government provision (often through a municipal department), the neoliberal model is associated with arm’s-length business models (eg boards and commissions, contracting out, and privatization). The analytical point we wish to emphasize here (and develop in the case study below) is that, although governance and business models are interrelated, specific governance outcomes—such as improved accountability or efficiency—cannot simplistically be assumed to derive from specific business models.

The point that organizational change is not identical to governance change is important. It suggests a critical approach to evaluating the potential for success of ASD strategies. Specifically, it suggests that organizational restructuring is insufficient for improvements in sustainability (as argued below), and that the success of the organizational reforms associated with ASD is linked to broader governance reforms. This is in contrast to many approaches to ASD, which often advance organizational restructuring as sufficient to ensure the achievement of governance goals.

This overlooked interaction between governance and organizational change (and the ensuing neglect of the question of governance) is perhaps an important reason why analyses have found the results of ASD restructuring to have been mixed and sometimes contradictory (see Giauque, 2003). Three other common sets of critiques

<sup>(2)</sup> Municipalities in Canada have limited means of revenue generation. Of the available revenue sources—property tax, municipal grants and loans, and user fees—municipalities can claim exclusive control only over user fees (Kitchen, 1996). The pressure on the property tax was exacerbated by neoliberalization, which saw increasing responsibilities and decreasing funds for municipal governments.

<sup>(3)</sup> For a discussion of the options available, see Stumm (1997).

<sup>(4)</sup> The list of business models in table 1 is not exhaustive, but includes those of particular concern to the municipal water sector. For more extensive lists of ASD models, see Ford and Zussman (1997), and Langford (1997).

**Table 1.** Business models for urban water supply (source: Adapted from Bakker and Cameron, 2002, page 6).

| Business model   | Who owns infrastructure?           | Who operates infrastructure?                        | Legal status of operator           | Legal framework     | Who owns the shares?      |
|--|------------------------------------|---|------------------------------------|---------------------|---------------------------|
| Government utility—direct management                         | municipal or regional government   | municipal or regional administration                | municipal government department    | public              | na                        |
| Municipal stand-alone body (eg agency, board, or commission) | municipal government               | commission or board                                 | public agency                      | public              | na                        |
| Cooperative  | user/cooperative society           | users or delegated authority                        | cooperative society or corporation | varies              | na (or users)             |
| Public corporation (or corporatized utility)                 | government or utility <sup>a</sup> | utility (often as permanent concessionaire)         | corporation                        | public or corporate | government                |
| Delegated management ('private sector participation')        | government or private company      | government and/or temporary private concessionaires | corporation                        | corporate           | private shareholders      |
| Private utility  | private company                    | private company                                     | corporation                        | corporate           | shareholders or investors |

Note. na—not applicable.

<sup>a</sup> Where the level of government is not specified, it may pertain to another level of government than the municipal. In Canada this would generally be the provincial level, but state-owned water corporations exist in the other countries—Ghana is an example.

merit recall here. Together these may provide some insight to recent trends to reverse earlier ASD processes, from contracting out to 'contracting back in' (Chen, 2009; Hefetz and Warner, 2004; 2007). First, ASD has been criticized for its assumption of technocratic neutrality. Paquet (1997) argues that ASD is often deployed as an apolitical process, offering a technical solution to problems that are political in nature.

Following from the above, a second critique asserts that ASD processes often overlook or minimize the necessary role of governments (eg regulation). Certain aspects of service delivery lie beyond organizational or local control, and government involvement (as most ASD proponents now tend to admit) is necessary in order to "maintain the public good by ensuring reasonable prices, reliability and equity of access" (Fyfe, 2004, page 641). In practice, however, ASD often occurs in the absence of the governance reforms required to enable governments to play their new roles effectively. Thus, the potential effectiveness of ASD is limited. For example, ASD strategies often seek to improve customer service through adopting a business-like focus. But in the absence of enabling regulations, hoped-for efficiency gains may not be achieved.

A third critique, less frequently voiced, is that ASD places complex issues like sustainability and social justice in a policy vacuum where they are meant to be resolved at the organizational level, immune to (and unsupported by) broader governance processes.

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This risks ignoring the impacts of these governance processes on the ability of ASD strategies to perform on key issues like sustainability. Indeed, as argued below, without broader changes in governance, ASD poses limits to improving the environmental performance of municipal water services. In the next section, we theorize why this may be the case.

## **2.2 Environmental governance—strategies beyond organizations**

ASD, as we have seen, involves restructuring focused at the level of organizations but acts under a shifting neoliberal governance regime. Addressing first the organizational focus of ASD, we begin by drawing on theories of delegated governance which examine scale in relation to environmental governance. What becomes obvious from the discussion is that environmental issues demand action from a wide variety of actors at all scales (below and well above that of the organization). Delegated governance, however, can take on many forms and all are not equal in terms of environmental improvements. Neoliberal strategies of governance reform (which tend to be coincident with ASD) suggest a particular form of delegated governance. Accordingly, our discussion of delegated governance is followed by a discussion of neoliberal governance reforms, in which we focus on the debate over neoliberalism and sustainability (or ‘liberal environmentalism’).

### *2.2.1 Delegating environmental governance*

Environmental goods are typically messy resources to manage within conventional jurisdictional and decision-making frameworks. Their interconnectedness, for example, poses a challenge to conventional resource-management approaches. They are connected both ‘horizontally’ (between organisms and ecosystems) and ‘vertically’ (through, for example, the hydrological cycle). Yet, traditional resource-management approaches tend to adopt a ‘silo’ approach and the predominantly local nature of resource use fits uneasily with interactions at multiple scales. The mismatch between geopolitical and ecological boundaries further compounds the problem (see Jordon, 2008; Saunders and Wenig, 2007).

The response, in many instances, has been to advocate greater devolution and delegation of authority to nonstate actors and lower scales of governance; watershed committees are a typical example (see Sabatier et al, 2005). Within environmental governance more broadly, this has entailed a shift from traditional governance models to multilevel, consultative, and delegated governance models. The challenge is, of course, to balance the tensions between ‘top-down’ (centralized) and ‘bottom-up’ (decentralized) approaches (Heinmiller et al, 2008), and thus balance considerations of efficiencies and economics of scale and scope with issues of accountability, legitimacy, and effectiveness. In many ways, this is emblematic of the sustainable development challenge: rescaling and reforming governance so as to minimize conflicts and maximize synergies between social, environmental, and economic goals. This is why almost any conceptual framework regarding sustainability involves changes at orders of governance higher (and indeed lower) than the local scale (and certainly the organizational one).

Despite the obvious need for the involvement and empowerment of multiple actors at multiple scales for meaningful environmental governance to occur, delegated governance can likewise pose its own set of benefits and challenges. For example, delegation strategies at the local level may create (or enhance) such benefits as access to ‘local’ expertise (which can improve the quality of decision making); the ability to adapt regulatory programs to meet local conditions; the empowerment of stakeholders (particularly those traditionally marginalized); the reinforcement of ‘social trust’ between stakeholders and a consequent reduction of conflict over competing uses;

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greater cooperation in information sharing; or greater political legitimacy (and thus enforceability) of water-management-planning outcomes. Conversely, delegation strategies at the local level may create (or reinforce) weaknesses of a water-governance regime, such as a focus on local environmental interests to the exclusion of regional environmental concerns; emphasis on consensus may lead to politically workable solutions, rather than environmentally optimal solutions; unequal representation of local stakeholders; long-term sustainability undermined by large amounts of volunteer time required ('burnout'); greater overall costs and longer time frames for decision making (Leach et al, 2002; Nowlan and Bakker, 2007). This raises questions about how, and how much, delegation of water-governance responsibility should occur.

Another key issue with respect to delegation is the nature of the new or ongoing role of governments in resource management when certain forms of decision-making power have been delegated to lower scales of government and to nonstate actors. Importantly, delegated governance has all too often implied a diminution rather than an amelioration of the roles of various scales of government. This is especially true in an era of neoliberal governance reform, where various programs of 'rescaling' governance have been critiqued for reducing the authority and the capacity of the government to govern (Dean, 1999). Delegated governance associated with this type of reform has, for example, encouraged voluntary or economic regulation as opposed to government regulation—a move that has been found wanting in terms of improving (or even maintaining) environmental standards in many cases (eg Harrison, 2001; Prudham, 2004).

### 2.2.2 *Liberal environmentalism*

The second set of sustainability debates relevant to ASD issues pertains to 'liberal' or 'market' environmentalism: the doctrine that changes in governance consistent with neoliberal reforms are compatible with environmental improvement. This approach gradually achieved near-hegemonic status in international policy regimes by the late 1990s, characterized by a belief in the "compatibility of environmental concern, economic growth, the basic tenets of a market economy, and a liberal international order" (Bernstein, 2001, page 3). This, in turn, lent impetus (through a mixture of incentives, coercion, and emulation) to the ongoing reframing of environmental policy at the national and local level, around the world,<sup>(5)</sup> via key mediating organizations such as the Organization for Economic Cooperation and Development, the World Bank Group, and the United Nations agencies.<sup>(6)</sup>

Proponents of liberal environmentalism argue, to put it simply, that where possible environmental ends are best achieved by market means (eg Mol, 1997; Mol and Spaargaren, 2000). This implies organizational as well as institutional change, via a broad-ranging set of strategies: commercialization, liberalization, privatization, and the introduction of markets or market-simulating mechanisms in resource regulation and allocation. These strategies imply reforms to institutions ("the laws, policies, rules, norms and customs which govern resource use"), organizations ("the collective social entities that govern resource use"), and governance ("the decision-making process by which organizations enact resource management institutions ... or the practices by which ... we construct and exploit resources") (Bakker, 2007, pages 433–434). Importantly, these trends in governance and organizations not only discursively encourage ASD, but the governance changes involved likewise create the conditions for the associated organizational change on the ground.

<sup>(5)</sup> The literature on this point is vast. For references on water, see Goldman (2005; 2007).

<sup>(6)</sup> The literature here is again vast. For a specific example, see Bailey (2007a; 2007b), DuPuis and Gareau (2008), and Gareau (2008) with respect to international climate-change protocols.

Debates over the effectiveness of liberal environmentalist strategies are ongoing (and sometimes fierce). Proponents argue that market models perform better: they will be more efficient, provide more finance, and mobilize higher-quality expertise than their government counterparts (Kessides, 2004; Shirley, 2002). Proponents also often argue that private involvement will facilitate broader reforms—such as the treatment of water as an economic good and full-cost pricing—that are required in order to ensure environmentally friendly outcomes, such as water conservation and the reduction of pollution (Brubaker, 2002; Johnstone and Woods, 2001).

In response, opponents argue that government-run water-supply systems, when properly supported and resourced, are more effective, equitable, and responsive, have access to cheaper forms of finance (and thus lower tariffs), and can perform just as well as their private sector counterparts. Opponents also often reject arguments in favor of treating water as an economic good, arguing instead that environmental protection and water conservation should be fostered through new ethics of water use, whether based on a spirit of solidarity, environmental consciousness, eco-spirituality, or traditional water-use practices (eg Heynen et al, 2006; McCarthy and Prudham, 2004; Petrella, 2001; Shiva, 2002).

The two trends explored above (delegated environmental governance and liberal environmentalism) both entail the involvement of nonstate actors in decision making and resource management, although on different terms. Proponents assert that these approaches will (a) improve performance and (b) improve governance. Several questions thus arise: whether these claims are true; whether these two approaches are compatible; and what their implications might be in specific resource sectors. Next, we use a series of municipal case studies from across Canada to discuss these questions.

### **3 Water conservation and municipal-water-sector reform**

#### **3.1 Business models and conservation**

In the research presented below we examine the links between governance reform and sustainability through a case study of the interrelationship between alternative service delivery and water conservation in Canada's municipal water-supply sector, which has seen rapid shifts in governance and business models over the last fifteen to twenty years. Briefly, the methodology included eighteen municipal case studies across Canada, including seven in Ontario, the country's most populous province. The case-study research was supplemented by two expert surveys and two expert workshops held in the spring of 2007 and 2008, respectively.<sup>(7)</sup>

In Canada, as elsewhere, the implementation of ASD typically implies the introduction of new business models as well as devolution as an aspect of broader governance reform. The assumption in much of the ASD debate is that governance improves along a continuum from lesser to greater distance from government. In order to examine this hypothesis, we considered a range of business models with respect to water efficiency and conservation programming.

Our findings indicate that business models do affect the type and extent of water-conservation programs implemented. Specifically, particular business models generate incentives that tend to focus conservation programs on particular tools and policies—which can result in more limited goals and outcomes. The relationships between different business models and programming for efficiency and conservation, as revealed through the research, are summarized in table 2.

<sup>(7)</sup>Details on the workshops as well as the survey data can be found at <http://www.watergovernance.ca/municipal>

**Table 2.** Summary of the implications of different business models for conservation and efficiency programming.

| Business model   | Implications for conservation planning  | Case-study example   |
|--|---|--|
| Municipal department   | Greater care must be taken to develop programs that are acceptable to council and the public. This may mean compromises, but it can also mean more robust and broader programs in the long term. May present barriers to ring fencing of water rates. Consumer protection is a stronger consideration than in other models.               | <i>Toronto:</i> Toronto Water hired a public consultation expert that worked over 2 years to ensure council approval of their efficiency plan. <sup>a</sup> Approval also meant omitting outdoor water-use restrictions. <i>Calgary:</i> Their efficient-fixture bylaw was developed through extensive industry consultation, ensuring a successful program. <sup>b</sup> However, this also led them to omit a ban on multiple showerheads installations.               |
| Regional government two-tier models                                | Can enable broader conservation programs over a larger area. Distance from local politics can facilitate the implementation of economic and regulatory measures at the regional level. It can be difficult to achieve harmonized programs across local municipalities.  | <i>Waterloo Region</i> provides bulk water for 7 local municipalities. It has not been able to harmonize rates or outdoor water-use bylaws since 1987 (RACWC, 1987). Yet political problems related to pricing etc have not been an issue. <sup>c</sup> The CRD <sup>d</sup> is quite advanced in water conservation. Yet it lacks uniform pricing across its 13 local municipalities and had to forgo a bylaw on xeriscaping due to jurisdictional issues. <sup>e</sup> |
| Exogenous governance   | Political distance can facilitate higher pricing and efforts to link water provision to a certain level of efficient use in the receiving municipality. The receiving municipality can feel that supply is insecure, encouraging it to seek locally independent supply solutions that may not be environmentally or economically optimal. | <i>Metro, Toronto</i> , for example, charged York Region from 22%–36% more than its own area municipalities from 1987 to 1996 (Department of Works, 1979–96) and moved that York adopt their efficiency measures to reduce peak demand and delay infrastructural expansion. <sup>f</sup>   |
| Board or commission  | Program development and approval has more autonomy from council. They can provide the necessary budget autonomy to implement a broader range of economic instruments. They can suffer similar limitations to the corporation.   | The <i>Halifax Water Commission</i> credits ‘management by a commission’ (adopted in 1945) with overcoming the “perennial problems of wastage, cost overruns and poor service” (Curwin and HWC, 1995, page 9). Still, its conservation programming focuses almost strictly on water-loss control, in which the utility is a world leader.  |
| Municipal corporations   | Greater scope for economic measures for conservation. A narrower focus in terms of overall programming. Supply-side measures such as leak detection are favoured over demand-side measures. Municipal government leadership may be needed to ensure that more creative and demanding programs are pursued.                                | <i>Utilities Kingston</i> engages in water-loss control but not demand-side programs: leaking pipes are considered lost revenue, whereas excess demand is not. <sup>g</sup> <i>EPCOR’s</i> <sup>h</sup> water-efficiency activities (aside from leak detection) focus on the AWWA’s <sup>i</sup> ‘only tap water delivers’ messaging. The city’s more extensive programming has been at the initiative of council.   |
| Delegated management to an external operator (external concession) | Conservation becomes a value-added option that a municipality can request from the contracted operator. Municipalities must take the initiative for conservation. This can have different consequences for large and small municipalities. Delegation of conservation to local agencies becomes more important.                           | Conservation is not part of <i>OCWA’s</i> <sup>j</sup> standard offer to its client municipalities; programs can be requested at extra cost. OCWA had a water-conservation section when it owned the water facilities that it serviced (1993–97). The program declined when OCWA became a Crown corporation and was given a mandate for cost recovery. <sup>k</sup>  |

<sup>a</sup> Interview no 37 with municipal staff. <sup>b</sup> Interview no 6B with municipal staff. <sup>c</sup> Interviews nos 43 and 44 with regional staff and council. <sup>d</sup> CRD—Capital Regional District—Victoria, BC. <sup>e</sup> Interview no 8B with a regional commissioner. <sup>f</sup> Interview no 34 with municipal staff. <sup>g</sup> Interview no 17 with corporate staff. <sup>h</sup> EPCOR—Edmonton Power Corporation. <sup>i</sup> AWWA—American Water Works Association. <sup>j</sup> The Ontario Clean Water Agency, a provincial corporation. <sup>k</sup> Interview no 13 with provincial corporation representatives.

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In general, table 2 indicates that where a utility does not have a strong external driver for conservation (eg regulation from higher orders of government or important constraints on water supply), the more arm's-length a business model, the greater the potential constraints on water conservation and efficiency programming. In particular, these stem from (1) a lesser tendency to engage those affected by conservation in the development of conservation programs and (2) a greater tendency to focus on water as a commodity (the sale of which is necessary to maintain the financial well-being of the utility). The first means that more arm's-length utilities tend to pursue less ambitious programs, opting for more standard options that do not demand community outreach. The second means that arm's-length models tend to focus on supply-side programs (such as water-loss control) as opposed to demand-side programs that could mean lost revenue.

In most instances, a restrained approach to conservation was the outcome not only of the business model in question, but also of a particular approach to devolution (ie transfer of decision-making authority to lower scales of government), and the degree of delegation (ie the transfer or sharing of decision-making input or authority to nonstate actors).

These two issues—devolution and delegation—are key elements in successful conservation programming. Below, each of these issues is considered in turn.

### **3.2 ASD and delegated governance: conservation beyond government**

Why should delegated governance facilitate conservation? Across business models, the data clearly demonstrate that conservation programs developed cooperatively, involving a broad range of actors and concerns, are much more apt to be innovative, successful, and durable. In the case of some programs, where their implementation can be delegated to a nongovernmental body, greater successes can be achieved. Of particular importance are improvements in partnerships, participation in decision making, and communication with the public. Research in the municipalities with advanced conservation programming showed that their success related frequently to broad consultation with businesses, nongovernmental organizations, and community groups, to drawing on existing knowledge within the community, to partnering with neighbouring utilities to emulate their success, and to working closely with private groups to help roll-out or administer programs (Furlong and Bakker, 2008a, page 10).

Although such delegation can happen across business models, the findings demonstrate that it is especially characteristic of direct delivery (ie the municipal department). In fact, one might argue that one of the most important aspects of the municipal department model is that it is more likely to encourage the involvement of multiple actors and broad consultation. Given that municipal departments require budget and program approval by their municipal council, they are often more likely to tailor their programs to meet local political conditions. As such, where programs may be controversial, staff often engage with a wide array of potentially affected parties in their refinement. The benefit is that programs have greater potential for success and longevity once implemented (although it may be more time consuming to get to the implementation stage). In each of the municipal department case studies where significant water-sustainability programs exist, extensive consultation (not seen in the other models) was carried out with community members, local businesses, and council.

A key drawback of direct delivery, however, is that locally controversial programs may not get passed by, or even brought before, council. Often, it is the broader manifestation of this issue that brings many utility managers to seek ASD restructuring. Key informant interviews throughout the research indicated a desire on the part of utility management—especially in larger municipalities—to adopt business models

that would limit the influence of municipal politics on utility management. A central reason is that municipal councils have been seen to complicate rate harmonization, to use the water rate to subsidize the mill rate,<sup>(8)</sup> to take too long to approve contracts, or to exhibit ward-based political interests that may not benefit the utility. This can restrict conservation programs (eg metering and lawn-watering restrictions), but its key effect is to harm the economic sustainability of the utility.

This highlights a contradiction between ASD and conservation: popular business models that can facilitate economic sustainability are much less likely to foster delegated governance (especially in terms of program development), and thus conservation. These ASD models tend to be ineffective at involving nonstate actors (or even local governments) in their programming. Moreover, given trends toward arm's-length models, existing channels for public input through municipal councils may become even more limited. A compounding issue is that the devolutionary aspect of ASD can further limit the potential to improve conservation within ASD business models that already pose certain limitations to progress. Table 3 summarizes some of the data that demonstrate these points. In particular, it highlights municipalities' engagement with delegation, their level of program success, and their business-model type. It also shows some of the potential trade-offs of delegation.

In making the links between delegated governance, business models, and conservation, it is important to note that our evidence suggests that delegated governance is facilitative of, but not (on its own) sufficient to ensure, improvements in water conservation. It is facilitative because conservation programs achieve durability and success where the range of actors affected by them are engaged in their development and where trusted and appropriate actors external to government are involved in their implementation. But it is insufficient because certain programs and business models require the action of multiple levels of government to ensure success, as explored below.

### 3.3 ASD and devolution: the role of governments in conservation

Devolution can have an important impact on conservation as well as on the operation of business models. As explored in section 2, devolution is a change in governance that often accompanies ASD as part of broader neoliberal governance reform. Devolution—the passing of authority, duty, or power from senior governments to non-governmental actors or lower scales of government—can increase the challenges of successful conservation programming in general and for ASD business models in particular. Several issues highlight the importance of senior government engagement in terms of fostering long-term progress on water conservation within the municipal water-supply sector. Most significantly, these include: (1) the fact that many conservation tools require action from senior governments for their success; (2) the action of local government is necessary to ensure fairness, and (3) governmental action is necessary to ensure progress on conservation the more arm's-length a business model becomes.

Water conservation consists of a variety of tools and policies whose successful implementation depends on different actions from differing mixes of actors. Rather than strict devolution of government responsibilities, for many conservation practices new actions are also needed from senior governments. Table 4 highlights a few examples where this is the case, and categorizes the tools to give an indication of the types of tools for which senior government action may be of greater relevance. The table indicates which type of tool (economic, social/political, or structural/operational),<sup>(9)</sup>

<sup>(8)</sup> The 'mill rate' refers to the property tax, which is the key form of revenue for Canadian municipalities.

<sup>(9)</sup> This tripartite classification of conservation tools and policies is borrowed from Tate (1990).

**Table 3.** Municipalities with medium to high levels of efficiency and conservation and their use of delegated governance.

| Municipality                          | Business model                | Consultation/ participation  | Partnerships in implementation   | Strategically omitted programs | Level of program success                            |
|---------------------------------------|-------------------------------|--|--|--------------------------------|---|
| Cochrane, AB                          | municipal department          | community-based social marketing   | worked with Calgary on conservation bylaw  | consumption-based pricing      | high  |
| Okotoks, AB                           | municipal department          | community-based social marketing   | work with Okotoks and Edmonton on programs   |                                | high  |
| Cape Breton Regional Municipality, NS | municipal department          | through the NSUARB <sup>a</sup> community consultation is facilitated      | locally trusted ENGO <sup>c</sup> rolls out all programs except water-loss control |                                | fair  |
| Kelowna, BC                           | municipal department          | participatory development of landscaping and efficiency bylaws             | local retailers; entire program run through a separate agency                      |                                | high  |
| Region of Waterloo, ON                | regional government           |  | worked with other cities on efficiency standards for water-using devices           | bylaw and rate harmonization   | high  |
| Calgary, AB                           | municipal department          | participatory development of efficiency bylaw                              | local retailers  | multishower head restrictions  | high  |
| Toronto, ON                           | municipal business unit       | community consultation on WEP development <sup>b</sup>                     | worked with other cities on efficiency standards for water-using devices           | outdoor water-use restrictions | high  |
| Capital Regional District, BC         | regional commission           |  |  | bylaw and rate harmonization   | high  |
| Halifax, NS                           | regional commission           | worked with businesses on reducing their water loss                        |  | na                             | medium, focused on water-loss control               |
| Edmonton, AB                          | municipal corporation         | city council brought groups together to develop an efficient-fixture bylaw | local retailers  |                                | medium, EPCOR's <sup>d</sup> own programming is low |
| Peel, ON                              | contract to a public provider |  | worked with other cities on efficiency standards for water-using devices           | outdoor water-use restrictions | medium – high                                       |

Note. na—not applicable.

<sup>a</sup>NSUARB—The Nova Scotia Utility and Review Board is a provincial board that regulates all public utilities in Nova Scotia.

<sup>b</sup>WEP—Water Efficiency Plan.

<sup>c</sup>ENGO—environmental NGO.

<sup>d</sup>EPCOR—The city of Edmonton's multi-utility corporation.

**Table 4.** Sample water conservation and efficiency tools and policies.

|   | Water-conservation tools in supply management  | Water-conservation tools in demand management        |
|---|--|--|
| Economic  | Charging for water taking, including ecosystem services and sources protection<br>Who: provincial government | Pricing (various, including peak and distance based) |
|   | Who: provincial and municipal governments, utilities   |  |
| Ring fencing  |  |  |
|   | Who: provincial and municipal governments, utilities   |  |
| Social/political  |  |  |
| Employee training   |  |  |
|   | Who: provincial and municipal governments, utilities   |  |
|   | Public education/advertising programs  |  |
|   | Who: provincial and municipal governments, utilities   |  |
| Tying water allocation to efficiency                      |  |  |
|   | Who: provincial and municipal governments  |  |
|   | Municipal water and land-use bylaws  |  |
|   | Who: municipal government  |  |
| Including efficiency and conservation in MPM <sup>a</sup> |  |  |
|   | Who: federal and provincial governments, professional associations   |  |
|   | Legislation for water reuse  |  |
|   | Who: federal and provincial governments  |  |
| Standards and regulations for water-using devices         |  |  |
|   | Who: municipal governments, utilities, consumers   |  |
| Structural/operational                                    |  |  |
| System-leak detection and repair                          |  |  |
|   | Who: municipal government, utilities   |  |
|   | Water-efficient retrofit devices   |  |
|   | Who: municipal government, utilities, consumers  |  |

its use in supply or demand management, and lists the actors required for its successful implementation ('who'). Significantly for our analysis, many of the tools which fall under the mandate of higher orders of government have not been implemented, suggesting a 'governance gap'.

In terms of devolution and delegated governance, the key point emerging from table 4 is that most conservation programs require actions from multiple actors. For example, provincial-level actions are important in the implementation of economic as well as social-political instruments both for supply and for demand management. Ring fencing water rates often requires provincial oversight of municipal budgeting, ensuring supply-side efficiency through the valuation of water taken from the environment; the monitoring of utility performance likewise requires provincial engagement with clear targets, means to assist utilities, and sanctions.

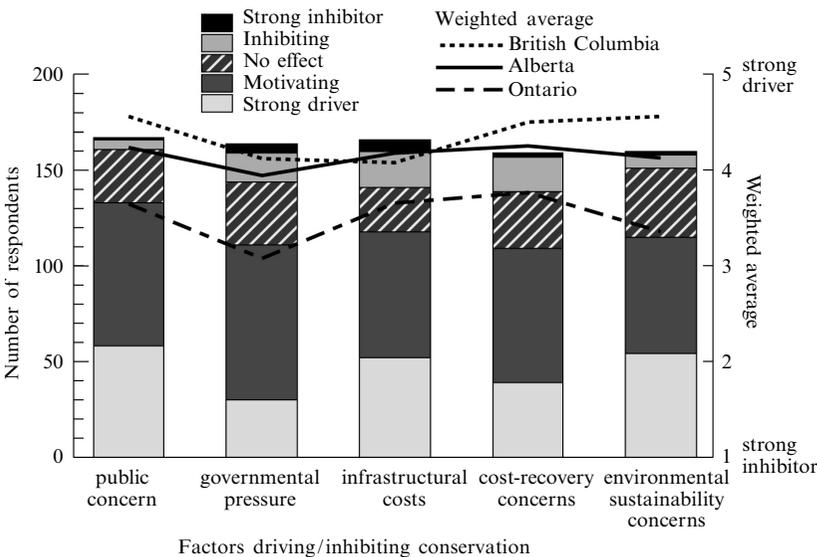
Most important is perhaps the fact that, although certain measures may be within the domain of utilities, their successful implementation relies on actions that can only be taken by senior governments. Efficient device retrofit programs (eg low-flow shower heads and toilets) are a key example. They are implemented by utilities, but the

standards that guarantee the performance of efficient devices and the regulations preventing the sale of suboptimally performing devices can only be implemented at the federal and provincial levels. Utility staff expressed frustration at the inefficiency of each municipality separately committing significant resources to such programs which are (1) limited in their impact due to the absence of standards and regulations, and (2) needlessly costly given the duplication of effort across municipalities which could be avoided by banning inefficient devices at the national scale.

Moreover, where it exists, government pressure can be a key driver of conservation. In Canada, the three provinces where municipalities have made the greatest advances in conservation are Ontario, British Columbia, and Alberta. In British Columbia and Alberta, where governmental pressure and public concern are key drivers, we see greater risk taking in terms of program development, including the development of municipal bylaws which clearly address issues of provincial jurisdiction. In Ontario, respondents felt that such bylaws (eg local water-efficient-device regulation) would be challenged at the provincial scale.<sup>(10)</sup> Where cost recovery is a key motive, on the other hand, utilities may be encouraged to reduce water loss but not necessarily water sales. Certain utility staff noted that they were discouraged from being “too successful on conservation” because it meant lost revenues.<sup>(11)</sup>

Figure 2 shows the importance of particular drivers for conservation across the three provinces. Although differences exist, infrastructure-expansion costs (capacity) and cost recovery are important across all three.

Beyond the necessity of government engagement for broad and durable programming, direct routes for government involvement in water-supply policy can help ensure that policies intended to improve the sustainability (environmental or economic) of the utility do so without imposing undue social costs (irrespective of the business model). The City of Hamilton’s experience with its universal metering program is one example.



**Figure 2.** Key drivers of conservation identified across Canada (bars), including the weighted averages of the three most advanced provinces in terms of conservation (British Columbia, Alberta, and Ontario).

<sup>(10)</sup> Interview no 15 with regional staff.

<sup>(11)</sup> Interviews no 15 and no 38 with regional staff persons from different municipalities.

In 1999, seeking to move to universal metering, utility staff proposed a tripling of flat-rate charges for consumers who refused meter installation and consumer repayment for the meter installation within two years. Council required modifications to the program, reducing the penalty to a doubling of the flat rate and increasing the payback period to five years (Hughes, 2001a; 2001b). By 2007 only 0.2% of Hamilton clients remained unmetered (City of Hamilton, 2007): council had eased the potential burden on consumers without inhibiting success.

In addition, if arm's-length business models are to continue increasing in prevalence in the water sector, government involvement is necessary to ensure the continuation and amelioration of water conservation. The most popular arm's-length business models in Canada are boards, commissions, and corporations (figure 3). In some respects, their autonomy from municipal government can enable them to implement controversial programs more easily. Typically, however, this does not result in the application of a broad range of programs but, rather, a limited focus on economic instruments (EIs)<sup>(12)</sup> for demand management and structural operational instruments for supply-side management (see tables 2 and 3).

In particular, such models exhibit a tendency to discount sociopolitical programs. In figure 4, for example, the survey results show that the greatest gap between the degree to which respondents felt a program should be implemented and the degree to which it had been implemented was for public education and public participation programs. This is despite the fact that they are both considered relatively easy to implement. In interviews, respondents explained that given their mandate to operate

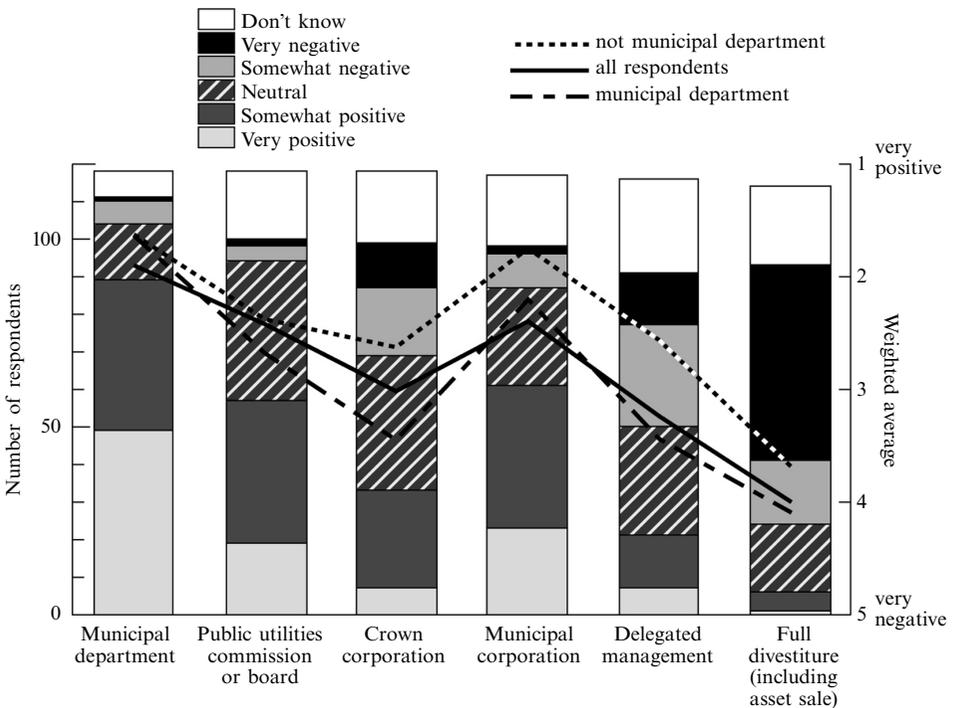
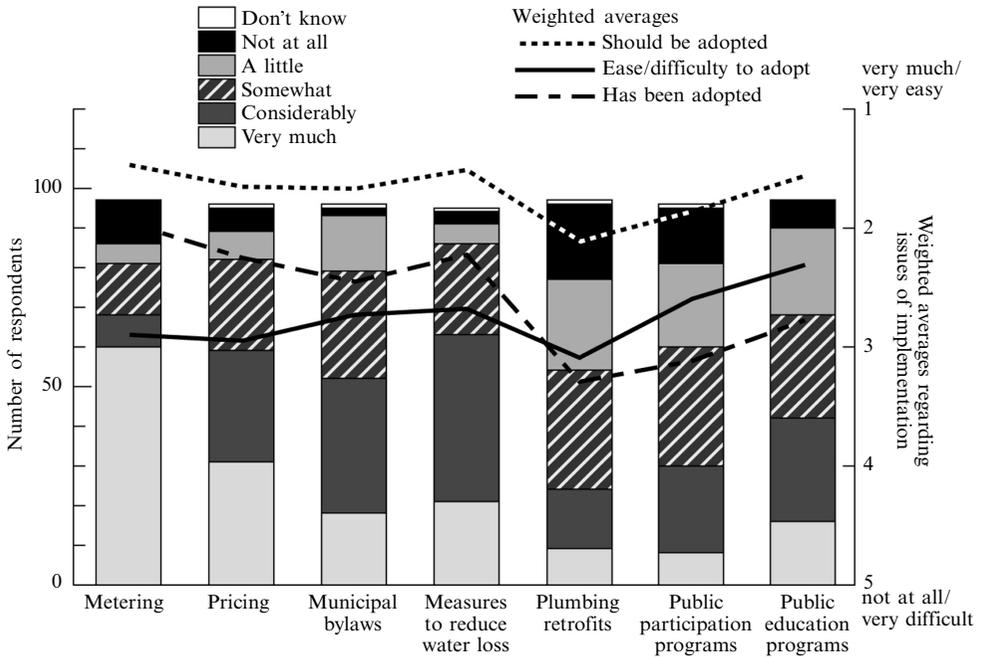


Figure 3. Expert views on key business model options in Canada.

(12) Research elsewhere has shown that arm's-length models exhibit greater ease in implementing EIs given their distance from government and the politically controversial nature of the programs (Renzetti and Marbek Resource Consultants, 2005).



**Figure 4.** Conservation/efficiency program options, their level of implementation (bars) and weighted averages of implementation perceptions (lines).

as businesses, justification of programs through cost–benefit analysis was essential but difficult to accomplish for such programs. Metering, pricing, and measures to reduce water loss, on the other hand, all have higher rates of implementation although they are considered more difficult to implement.

In the case of corporate water suppliers (such as Utilities Kingston and Edmonton Power Corporation—EPCOR), it becomes the city's role to ensure that conservation is pursued, given the narrow corporate mandate. In Edmonton, for example, the city is the key mobilizing force on water efficiency; the development of their efficient-fixture bylaw is an example.<sup>(13)</sup> In the Kingston case, councilors felt unable to advance an environmental agenda, indicating that progress is dependent upon the sympathies of the chief administrative officer<sup>(14)</sup>—the sole member of staff or council to sit on the board of Utilities Kingston.<sup>(15)</sup>

Scale is also an important issue. For larger as opposed to smaller municipalities, retaining or expanding conservation programs when delegating management may be more feasible. In Peel (population 1.16 million), for example, which delegated management to the Ontario Clean Water Agency, the region retains an extensive water-efficiency plan that it implements separately through a variety of regional departments. In Okotoks (population 17 000), however, local efficiency staff are worried that, with delegation to EPCOR, their conservation programs will wane as EPCOR will not take them under its mandate.<sup>(16)</sup> Here, the action of the provincial government to require a certain water-efficiency standard is necessary.

<sup>(13)</sup> Interview no 19B with corporate staff.

<sup>(14)</sup> Chief Administrative Officer—in Canadian municipalities, this person is appointed by a council and is in charge of administrative functions for the municipality.

<sup>(15)</sup> Interview no 22 with a municipal councilor.

<sup>(16)</sup> Interview no 17B with municipal staff.

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Moreover, for small municipalities, providing services via direct delivery may not be optimal. It could, in fact, result in excessively high water prices for consumers, poor quality services, and/or insufficient local expertise, given their frequent lack of human and financial resources. Consequently, small municipalities can benefit from business models that enable economies of scope, including delegated management to an external operator, or bulk water purchases from a larger municipality. As such, focusing on policy development through business-model restructuring may leave small municipalities with a choice between developing economies of scope and access to expertise on the one hand and well-developed conservation and efficiency programming on the other.

These cases highlight the fact that in instances of arm's-length ASD models for water supply, the strength (and political will) of the local government becomes a much more important factor in ensuring conservation. However, 'political will' is an insufficient backstop for progress on sustainability in the water sector: rather, accountability is needed. In these cases, municipal accountability for conservation must be supported by checks and balances from higher scales of government, such as standard setting and performance measurement. This becomes more important with the increasing trend toward ASD as incentives for broad conservation programming within utilities and the influence of local governments is reduced.

#### **4 Conclusions**

In this paper we have argued that ASD coincident with neoliberal governance reform often hinders sustainability in the municipal water sector. Rather than a single set of organizational reforms, we have shown that ASD likewise involves a second set of reforms directed at governance. Rather than having synergistic effects, their combined impacts are the source of important contradictions in ASD that serve to diminish the potential for improved sustainability in municipal water supply.

The research suggests that successful conservation programming is best fostered through coordinated and managed delegation at the municipal level, supported by strategic multilevel governance involving all levels of government as appropriate. On the one hand, delegation generates programs that are more in tune with community needs and thus more stable. On the other hand, there are certain necessary roles in ensuring conservation that only senior governments can fill (table 4). Moreover, municipal government involvement is essential both in promoting sustainability and in ensuring that it is fair.

Contrasting these criteria for environmental sustainability in water supply with ASD's two reform strategies clarifies the contradictions involved. First, ASD governance reforms (in keeping with neoliberal ideas) focus on devolution both in the authority and in the participation of governments. They therefore reduce the necessary involvement of government (at all scales) in conservation irrespective of the associated business model. ASD business-model reform, moreover, itself serves to reduce municipal government involvement.

Second, although ASD governance reforms may promote devolution, the organizational reforms actually curtail the propensity for delegation, which has been shown to be necessary (although insufficient) for improving conservation and efficiency in the water sector. We have seen that improved delegation is an important governance strategy in promoting conservation and efficiency, whereas devolution can be limiting. For these reasons (and, potentially, others), it is important not to confuse delegation with a diminished need for regulation. Action from higher orders of government is necessary to protect both environmental and consumer needs. On water conservation

and efficiency, the lack of regulatory action from senior governments has a profound impact on local programming.

Third, on the surface, the business models which most effectively facilitate full-cost recovery, consumption-based pricing, and metering (ie arm's-length models) are not the same as those which most effectively facilitate broad-based conservation programs that are considerate of their social implications (ie municipal department models). Thus municipalities may be compelled to make trade-offs between environmental and social sustainability on the one hand and economic sustainability on the other. Yet, it is in important measure the governance reforms associated with ASD and neoliberalism that have exacerbated some of the challenges to meeting economic sustainability goals through the municipal department model.

These contradictions highlight the complications of assuming that devolution at higher scales necessarily complements arm's-length governance in municipalities, or that business-model reform alone can resolve existing governance challenges. On an organizational level, ASD options can yield important benefits to water supply in some (especially smaller) municipalities. Getting the most from the potential of ASD business-model reform means finding creative ways to support utilities in circumventing its contradictions. This means some measure of accountability for the economic, social, and environmental sustainability of water services, overseen by senior governments. It means organizational change without the now-prevailing associated changes in governance. For ASD to function on an organizational level, the related governance reforms must steer away from their current devolutionary exigencies to a more pragmatic (and less ideological) engagement with the most effective role for each level of government in achieving the goals of 21st-century service provision.

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