

**London: structural continuities and institutional change in water management**

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## **Abstract**

The article provides a synthetic account of the historical development of London's water supply system within its wider national context, and addresses the current organisational setting of the water sector. Particular attention is paid to the post-Second World War period, which marked a transition towards integrated water management in England and Wales, a trend that has been consolidated since the 1970s. The paper emphasises the continuities and contradictions arising from the different combinations of public and private management strategies characterising the UK water sector, and their implications for the sustainable management of water resources. It argues that there exists an in-built contradiction in the current institutional framework between the profit-oriented rationale of the private operators and the goals of efficiency, equity, and environmental sustainability pursued by the water regulators. Within this framework, it highlights the key policy issues facing the metropolitan water systems, and suggests what their most likely trajectories might be in the foreseeable future.

## **1. Introduction**

In this article we explore the regularities and cycles characterising water management in England and Wales, with especial focus on the contradictions arising from the different combinations of public and private sector participation in the field and in the case of London in particular. We argue that there exists an in-built contradiction in the current institutional setting of the water industry, which was institutionalised in 1989 with the privatisation of the then existing ten regional water supply and sewage disposal authorities in England and Wales.<sup>1</sup> This contradiction arises from the opposing interests embodied, on one side, in the profit-oriented rationale of the private operators and, on the other, in the goals of efficiency, equity and environmental sustainability – often also mutually contradictory – which constitute the mandate of the water regulators. We highlight key policy issues arising from this contradiction, and suggest some of the most likely trajectories for the water sector in the foreseeable future.

In addressing this subject, we provide a synthetic account of the historical development of London's water institutions, with particular reference to the post-Second World War period, within the wider context of transition towards integrated water management in England and Wales. This trend was consolidated through successive institutional and political rearrangements that took place since the early 1970s. The intricacies of these reforms and of the eventual privatisation of 1989 cannot yet be entirely elucidated, as the processes set in motion are still unfolding and are subject to close scrutiny and public debate. Among other issues, this debate reflects the persistence of a long-standing tradition in the UK, where water supply services have developed from both private and public initiatives and the institutional evolution of the sector has been shaped by the social and political struggles arising from the contradictions between the defense of private rights and the protection of the public good. The internal tensions created by these contradictory forces are still at work, perhaps even more than ever before and, unsurprisingly, the restructuring of the sector continues.

## **2. The evolution of the institutional configuration**

The foundations of the modern organisational framework for the London water sector have been laid since the 1840s, fuelled by the need for regulating a fast growing industry

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<sup>1</sup> This only refers to England and Wales, as Scotland and Northern Ireland have followed a different path and these services continue to be in public hands.

in the face of increasing concerns about water-related public health scares and social equality. These efforts were directed at establishing some degree of public control over the eight private companies that supplied water to the metropolis, while wastewater and river basin management were also becoming crucial policy considerations. The convergence of growing population, accelerated decomposition of the tidal Thames owing to the increasing pollution, and expanded abstractions from the river without adequate treatment prompted a major reorganisation of the water sector in this period (Metropolitan Water Board, 1949).

Since the late eighteenth century, the prevailing *laissez faire* economic environment underpinned the adoption of free competition between private water undertakers as the model for the provision of water supply in the metropolis. However, the *laissez-faire* approach failed to deliver the expected results, which eventually led to the enforcement of stricter regulation aimed at establishing a minimum degree of social equity (especially by expanding coverage and limiting profits), and raising the quality of the services. In particular, water quality and health concerns, which had been the object of political debate since the 1820s, came to occupy a central stage during the 1840s, not least owing to the 1848-49 Cholera epidemics that were partly blamed on the reluctance of most private operators to invest in adequate treatment systems (Sisley, 1899; Finer, 1997; Ward, 1997).

The changing policy environment became embodied in a series of Acts of Parliament that had important consequences for the organization of the sector, initiating a trend towards the concentration of the water services in public hands. The Waterworks Acts passed in 1847 set up a code of practice including financial and technical standards, while the 1848 Sewers Act marked the birth of water-borne waste disposal, which would have unforeseen consequences for the river Thames. A main landmark in this process was the 1852 Metropolitan Water Act, which ordered the private water companies serving the city to move their water intakes westwards, well above the tidal section of the River Thames where the city sewers discharged. Since then, the majority of London's treatment works were placed on the fringes of the capital and supplies to the major demand centres were maintained by pumping through a network of large diameter trunk mains radiating from the treatment centres across London (Metropolitan Water Board, 1949, 1954). However, the single most important advance towards a unified water management approach was the creation in 1855 of the Metropolitan Board

of Works (MBW), prompted by the need to tackle the mounting pollution in the river Thames. Its main task, the construction of an interceptor sewer system, was completed by 1865 (Antonelli, 1992). This trend was consolidated by successive reports by the Select Committee on East London Water Bills, the Operation of the Metropolis Water Act (1867), the Royal Commission on Water Supply (1869), and the creation of the Local Government Board (LGB) in 1871, which assumed the task of overseeing the water companies (Mukhopadhyay, 1975).

Despite these attempts to increase control and supervision over water services, in practice the water status quo was maintained for several decades. To a large extent, this happened because water policies became intertwined with the political battles over the metropolis' form of government that ran through the 1870s to the 1890s (Mukhopadhyay, 1975). This development took place within the wider context of political transformation at the national level, represented by the expansion of franchise through the Reform Acts and the municipalisation of public services – ‘gas and water socialism’ (Taylor, 1999; Hassan, 1998; Laski *et. al.*, 1935; Millward, 1991). Eventually, the 1900 report prepared by the Royal Commission on Metropolitan Water Supply laid the basis for the definitive take over of the water companies by the government. In 1902, the public ownership of London's water supply was established with the creation of the Metropolitan Water Board (MWB), which led to the amalgamation of the eight water companies under the control of a joint board of local authorities (Metropolitan Water Board, 1949).

To a large extent, the main pattern of the water systems serving London today was inherited from the developments that took place in the second half of the nineteenth century. Moreover, the evolution of the water institutions provided London with its first metropolitan municipal bodies, as water flows – both clean and, especially, dirty – were instrumental in the slow process of political and administrative articulation of the city, which is still an incomplete process. Perhaps, the most important achievement of this period was the widespread acceptance – across the political spectrum – that the provision of safe water services was a binding moral duty which could not be entrusted to the unregulated free play of the market forces (Luckin, 1986).

## **2.1. The politics of water management integration**

The centralisation of water activities in the metropolis was embedded in the wider process of integration of the water sector at the national level. The campaigns for improving the nation-wide co-ordination of water management activities started as early as the late nineteenth century, and several failed attempts were made during the early twentieth century (Okun, 1977). The subject received renewed attention with the creation of the Central Advisory Water Committee (CAWC) in 1937, which would play an important role in the institutional transformations of the subsequent period. In particular, the CAWC's Third Report of 1943 (the Milne Report) recommended the creation of river authorities in charge of pollution control, water conservation and river monitoring. The Report became the basis of the 1944 White Paper on "A National Water Policy", which suggested that the Ministry of Health should be given responsibility for central planning and water conservation, recommendations that were incorporated in the 1945 Water Act and in the 1948 Rivers Boards Act that created 32 river boards in England and Wales (Parker *et. al.*, 1980).

The institutional transformations of this period marked the transition towards a new model of organisation of the water sector in the context of the post-war Keynesian welfare state, which was characterised by central control, rational planning, the increasing reliance on scientific expertise in the management of public affairs, and the pursuit of the common good in the search of greater social equality (Titmuss, 1956; Marshall, 1992; Clarke *et al.* 1997). In the water sector, this gave way to a 'managerial' water management model that sought to achieve greater control over the water cycle, provide a continuous wholesome water supply, and expand water and sanitation services to the whole population through cross subsidisation (Taylor, 1999).

These events led to significant advances and, by the late 1960s, England and Wales had achieved the formal integration of water supply and wastewater systems and the consolidation of the integrated watershed management model, while the services were extended to provide almost complete coverage to the urban and rural population. Also, the increasing water demand brought about by higher living standards and expanded consumption prompted the development of water research activities, in particular to forecast demand and identify new resources. In 1957, private initiatives created the Water Research Association, while two years later the public sector set up a Sub-Committee on Growing Demand for Water within the CAWC in response to the

serious drought of 1959 and amid calls for the further integration of water management activities. These initiatives marked the new spirit of the time and underscored the developments that led to the 1963 Water Resources Act, which gave further authority to the River Boards, renamed them as River Authorities (RAs), and created the Water Resources Board (WRB) as the central water research agency (Okun, 1977; Parker et al. 1980). However, and despite the progress achieved, the actual establishment of a national framework for integrated water management had to wait until the 1970s.

In the metropolis, after the unification of the water companies in public hands the next step was the integration of the Greater London water supply, where twelve municipal and commercial operators ran the service. Although this was partly achieved during the Second World War, when the War Emergency Water Committee established a de facto co-ordination of water activities across the Thames watershed, the attempt to institutionalise integrated basin-wide management beyond the war emergency period was strongly opposed by an important number of local authorities and by most of the sixty-five water undertakers that shared the watershed (Mukhopadhyay, 1975). The creation of the Greater London Council (GLC) in 1965 renewed the interest in centralising water management in the basin, but this would not be achieved until the 1974 national reorganisation of the water sector, when the MBW was abolished and the responsibility for water management in the Thames basin was transferred to the Thames Water Authority (TWA) (Mukhopadhyay, 1975; Okun, 1977).

## **2.2. The 1974 reorganisation: the politics of ‘apolitical’ water management**

In 1969, the Institution of Water Engineers produced a report that constituted the first explicit proposal for what shortly after would become one of the most radical transformations of the sector: the removal of local authorities from water management activities. In 1971, the CWAC produced another report suggesting the creation of a few Regional Water Authorities throughout the country, which would be in charge of the whole water management complex. Despite the clear political implications of these events, it has been argued that water issues were largely outside the party political arena during this period, not least because water management was perceived as an apolitical cross-party issue, with exception of ownership of water and the operation of private undertakings (Maloney et al., 1995).

The subsequent reorganisation of the water sector was closely related to the radical transformation of local government and the health sector in England and Wales, which took place through the Local Government Act of 1972 and reduced the number of local authorities from 1424 to 456 starting on 1 April 1974.<sup>2</sup> The simultaneous reorganisation of the water sector, implemented through the 1973 Water Act, resulted in the creation of ten Regional Water Authorities (RWAs) in England and Wales, which replaced 29 river authorities, 160 water supply undertakings managed by local authorities and joint boards, and about 1300 sewage treatment and disposal units. The RWAs became responsible for water resources and supply, sewerage and sewage disposal, prevention of pollution, cleaning up of the country's rivers and estuaries, protection and development of salmon and freshwater fisheries, the recreation and amenity use of the water space, and, in some cases, for navigation (Okun, 1977).

The reorganisation was severely criticised, especially because the scope of the rationalisation was limited, arguably owing to the political pressures exerted on the government by powerful lobbies. For instance, the RWAs were given only a supervisory role for land drainage and flood protection, which remained under the control of the Ministry of Agriculture, Fisheries and Food (MAFF) and local authorities, and this was allegedly the result of powerful lobbying of the government by rural interests (Parker et al., 1980). Also, although the creation of the RWAs was aimed at replacing the highly disintegrated water sector composed of hundreds of small water and sewerage undertakers, 31 statutory private water supply companies that together served about 25 per cent of the population were allowed to coexist alongside the RWAs. The critics pointed at the inconsequential character of the policy that took away water services from the local authorities with the argument that the public would be better served by large-scale, watershed-wide, water undertakings, but retained the small statutory water companies. They argued that the policy implemented was a discrimination against local governments, and a massive reduction of democratic accountability in the provision of the services. In London, they carried this criticism even further, as they felt that the government's argument failed to explain the abolition of the MWB and the stripping of the GLC's sewerage functions (Maloney et al. 1995).

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<sup>2</sup> London was an exception because the local government system had been already reformed in 1964/65 with the creation of the Greater London Council.



### ***2.2.1. The institutionalization of river basin management***

The creation of the Thames Water Authority (TWA) extended London's political influence on water issues to the whole Thames watershed, as the TWA absorbed 10 water undertakings and 163 wastewater operators. This, and the fact that it was the largest of the ten RWAs, serving a population of about 12.1 million – almost 25 per cent of the total population of England and Wales – gave the TWA a central role in the reorganisation process (Okun, 1977). The TWA also inherited a well-established tradition of sound water management and a well-developed – although ageing – infrastructure, which was reflected in lower charges and lower increases to charges than the other RWAs. This was an important issue, as water supply charges followed a rising trend in England and Wales through the 1970s owing to the prevailing situation of high inflation rates, recession, and high interest rates, accumulating an average increase of 97 per cent between 1974 and 1979 (Parker *et. al.*, 1980).

The 1974 reorganisation has been described as a process of integration, delocalisation, and managerialisation of water services, which over time concentrated water control in the hands of the central government (Parker *et. al.*, 1980). It took away, at least formally, water management activities from the hands of local authorities, whose influence on water policy was further curtailed by additional reforms implemented in the 1983 Water Act. These measures significantly reduced the public accountability of water management activities, which increasingly became the preserve of a techno-scientific and managerial elite. However, the new management structures greatly facilitated decision-making processes and fostered the rationalisation of distribution networks and resource planning. The advantages of the new model were eventually demonstrated during the 1975-1976 drought, when it was widely recognised that the RWAs were better prepared to respond to the emergency than the previous bodies, given their capacity to co-ordinate efforts at the watershed level (Reed, 1977; Freeman, 1977a).

### ***2.2.2. The challenge of pollution control: 'dirty water' politics***

Perhaps where the political character of the process became more transparent was in relation to pollution control. Thus, although the creation of the RWAs represented an important step towards the integrated management of the water cycle, in practice the

'brown agenda' remained relatively marginal owing mainly to political considerations. This sphere of activity had also been the subject of long-standing contradictions, characterised by the historical imbalance between water and sewage policies. According to some critics, for a long time dirty-water politics were characterised by "the staying power of secrecy", as consents granted for effluent discharges were kept secret and offenders – often well-known industries and public bodies – were sheltered from exposure and shame (Kinnersley, 1989). Also, although the 1963 Water Resources Act had introduced a system of fee-paid licenses for water abstractions, wastewater discharge consents continued to be free of charge (Okun, 1997; Parker et al., 1980).

In this regard, the 1974 restructuring did not introduce significant changes to the system. Although a public register of fee-paid discharge consents was formally introduced, in practice these measures were not enforced until the late 1980s, largely owing to the lack of independence of the RWAs – whose membership was composed of major polluters – and to the economic recession that hit the country during the 1970s. Unsurprisingly, for some critics the 1974 reorganisation was a sort of "administrative fix" that in practice allowed the maintenance of the status quo, supported by influential social actors, who had vested interests in slowing down any real improvements in environmental control policies, in particular private dischargers, farmers and factories, and urban centres (Kinnersley, 1989).

#### *2.2.2.1. Pollution control in the metropolis: a public sector achievement*

London, in this respect, followed a different path owing to a long-standing concern with the health of the river Thames dating back to the nineteenth century (Thames Conservancy, 1957). Since the 1950s, the Port of London Authority, the Middlesex County Council, and the London County Council had been pressing for new powers to tackle pollution in the river, leading to the creation in 1951 of a Governmental Committee entrusted with examining the effects of pollutant discharges into the tidal Thames. In 1964, the GLC initiated a phased programme of investments to carry out major improvements in the sewage works at Beckton and Crossness, which was taken over by the TWA in 1974. As a result of the combined action of these public bodies, by the late 1970s the tidal Thames was clean, with more than 90 varieties of fish returning to its waters (Freeman, 1977).

Also, wider environmental issues, as reflected in EC directives and other legislation, had a major impact on the working of the TWA (Kenny et al., 1980; Walker, 1983). In particular, the TWA had traditionally disposed of large quantities of sludge to the sea in the Thames estuary, a practice that had been started in 1889 (Whitelaw et al., 1988). The authority had to tighten control of trade effluent in the treatment plants at Beckton and Crossness, following the Government's ratification of the Oslo and London conventions. Moreover, there was increasing pressure from other countries to stop the disposal of sewage sludge to the sea, although this practice would not be discontinued until 1998.

### **2.3. The 1989 privatisation: continuities and contradictions**

Seen in perspective, the process of integration, delocalisation, and managerialisation of water services brought about by the 1974 reorganisation created the conditions for the next stage, the full privatisation of the sector. On the one hand, the formal integration of water and wastewater activities and the regionalisation of management were assumed as preconditions to achieve greater efficiency in a context where the water sector had been already redefined as a primarily scientific, technical and technological endeavour (Parker et al., 1980). On the other hand, the shift in the power balance created by freeing water management from the control of local authorities, especially after the 1983 Water Act, and increasingly placing it in the hands of the central government and business interests significantly limited the scope for participation and democratic control (Maloney et al., 1995).

With privatisation, all functions related to water supply and sewerage were transferred to ten Water Service Companies (WSCs), which replaced the RWAs starting on 1 September 1989 (Figure 1). Other duties previously in the hands of the RWAs, like pollution control, water resource management, fisheries, flood protection and alleviation and land drainage, were entrusted to a newly created public body, the National Rivers Authority (NRA) (WSA, 1995). The only exception were 29 Statutory Water Companies, which had survived the 1974 reorganisation and now were also allowed to continue with some changes to their status as Water only Companies (WoCs). The WSCs were set up as the principal operating subsidiaries of the ten Water Holding Companies (WHCs), the plcs established under the 1989 Companies Act. The regulatory framework established for the provision of water and sewerage services only applied to

the WSC section of the WHCs, while other activities of the water groups not directly connected with water and sewerage were left unregulated.

*<Insert Figure 1 around here>*

The main innovations introduced by privatisation were: 1) in the water supply sector, the private companies became subject to a new type of monopoly price control, 2) for the first time, sewerage and sewage disposal were turned into private businesses, and 3) the establishment of an independent body for pollution control. The development of the policy and legislative framework and the appointments of companies to act as water and sewerage undertakers and of the relevant regulatory bodies became the responsibility of the Secretaries of State for the Environment and for Wales. The Ministry of Agriculture, Fisheries and Food (MAFF) retained responsibilities concerning flood defences and fisheries, and the licensing, monitoring and control of effluent and other discharges into the sea. The Director General of the Office of Water Services (OFWAT), the Drinking Water Inspectorate (DWI), and the NRA were established as the main regulators in the sector, while other bodies like the Monopolies and Mergers Commission (MCC), the HM Inspectorate of Pollution, District Health Authorities, and local authorities also retained an overseeing role on particular issues (WSA, 1995). In 1995 the role of environmental regulator was entrusted to the Environment Agency (EA), which was created by amalgamating the NRA, Her Majesty's Inspectorate of Pollution (HMIP), 83 Waste Regulation Authorities (WRAs), and parts of the Department of the Environment. Its main functions are prevention and control of pollution by setting limits for the discharge of dangerous substances, establishing discharge consents for sewage treatment works, controlling the spreading of sewage sludge on agricultural land, setting minimum flows for rivers, and issuing water abstraction licenses. It also oversees fisheries, water recreation, conservation and navigation.

### ***2.3.1. The current organisation of water services in the metropolitan area***

The appointed WSC in the metropolitan area is Thames Water Utilities Ltd. Thames Water's supply area includes London and a large proportion of central southern England

(Figure 2). The average daily amount of water supplied by Thames Water in 2001 was 2,090 million liters in the whole watershed to an estimated population of over 7.8 million people (OFWAT, 2001). The WHC, Thames Water Plc, had a turnover of £1.39 billion in 1998, 74.1 per cent of which was derived from the UK water operation, while the rest was composed by international operations (12.4 per cent) and other activities (13.5 per cent).

*<Insert Figure 2 around here>*

However, as mentioned before, an important share of the metropolitan population continues to be served by Water only Companies (WoCs). These statutory and privately owned ventures have existed since the nineteenth century and continue to provide their service alongside the WSCs. In 2001, parts of London were served by two smaller WoCs, Sutton and East Surrey and Three Valleys Water, which also cover part of the surrounding non-metropolitan areas (Table 1).

**Table 1. The metropolitan water sector (2001)**

Company	Water Supply		Million Liters/day
	Population	Area (Km <sup>2</sup> )	
Thames Water	7,851,800	8,200	2,090
Sutton & East Surrey	637,300	833	138
Three Valleys	2,933,100	3,213	738

**Source:** Elaborated from OFWAT (2001)

Table 1 reflects the results of the industry's consolidation since the mid 1990s, when London was still served by four small WoCs, in addition to Thames Water. Since privatisation there have been substantial changes in ownership among WSCs and WoCs alike (OFWAT, 2000b, 2000c), as southern England became a target for foreign investors. Thames Water itself, being the largest of the WSCs, became surrounded by aggressive world-class competitors such as the French groups Vivendi and Saur, and was eventually taken over by the German multiutility RWE in September 2000.

### ***2.3.2. Evolution, not revolution***

There is still much debate about the real objectives and achievements of the 1989 privatisation of the water industry. Officially, the Conservative administration set five main objectives: 1) promoting competition and enterprise, 2) reducing the size of the public sector, 3) involving staff in companies, 4) spreading share ownership, and 5) freeing enterprise from state controls. There is a consensus, however, that the fifth point has been, perhaps, the most important driver of privatisation. Especially, it was expected that it would help to solve the chronic underfunding of the water sector, which was perceived as a major obstacle for the much needed upgrading of the systems after decades of underinvestment and the need to comply with the tighter environmental and quality regulations driven by the EC directives.

In this regard, it is difficult to measure the degree of improvement that privatisation has meant for water services in the metropolitan area. At the time that privatisation was carried out, the TWA had already achieved high service standards and developed a sound system for integrated watershed management (Gardiner, 1988). Actually, the management board of the Thames Water Authority (TWA) was instrumental in promoting and implementing the privatisation process, which they saw as an opportunity to transform a well-managed and well-resourced public company into a profit-making private undertaking (Maloney et al., 1995).

Also, if we consider the most significant achievements listed by Thames Water plc (TW) concerning its recent performance – i.e., the cleaning of the river Thames, the construction of the London Ring Main, and the North London Artificial Recharge in the Lee river basin (Connarton, 1999) – we find that all of them had been originally designed before privatisation (Perera et al., 1985; Kean et al., 1988), and some were largely completed by the late 1970s, like the cleaning of the Thames (Freeman, 1977). The North London Artificial Recharge Scheme replicates an old project dating back to 1905, partially implemented by the Lee Conservancy Board between 1953 and 1970, and later also explored by the Thames Water Authority between 1975 and 1984. The scheme, which can deliver up to 155 Ml/d, uses the chalk aquifer in the Enfield-Haringey area to pump in excess treated water during periods of low demand, and as a reservoir from which water can be extracted when it is needed for distribution.

The London Ring Main is a gravity-fed system for transferring water from treatment works to major distribution centres around London, and was started in 1971

with the construction of the 19km tunnel between Ashford Common in the Thames Valley and Merton Abbey (Protheroe et al., 1979). The ring tunnel was finally completed in 1994 by the privatised Thames Water, nearly two years ahead of the original schedule. It is 83 km long with a diameter of 2.54 m, runs on average 40 meters below the city, and rather than a ring shape it has a trapezoidal outline (Figure 3). The system has a capacity of 1,300 million liters, about half the city's daily consumption at the time of its inauguration in 1994.

On the down side, Thames Water also inherited an ageing trunk and distribution system deteriorated by the long-standing underinvestment in infrastructure that privatisation was expected to reverse. In the first ten years since privatisation (1989-99), Thames Water relined about 10% of the main trunks and renewed 414 km (of a total of 3,232 km). With the inauguration of the London Water Ring Main in 1994, Thames Water expected that leakage levels would be significantly reduced as the new system would release pressure from the old trunk mains. However, this has not happened and the areas served by Thames Water still have well above average losses, which at their peak (1996-97) accounted for over 30% of water put into supply. Although figures for 1997-99 suggested that important improvements were made, Thames Water is still a poor performer in terms of leakage standards and this has become a major bone of contention between the company and the regulators (OFWAT, 2001).

In this connection, the government and the regulators have been placing the emphasis on efficiency improvements, especially in the application of demand management tools (metering, leakage reduction, etc.) to achieve a sound water balance. Regarding metering, the UK has a long-standing tradition of unmetered water supply (only about 14% of households have a water meter), which has proved to be very resistant to change. Thus, although targeted metering (e.g., metering all new connections and large-scale consumers) is being applied, universal metering is considered to be both socially unacceptable and uneconomic. The discretionary powers to implement compulsory metering for domestic connections conceded to the water operators at privatisation has been now limited by new legislation passed in 1999, and most companies, including Thames Water plc, do not have metering domestic users among their priorities.

Regarding leakage, Thames Water argues that further reduction of leakage is economically unviable and their main priority is the development of new resources.

Within the framework of the post-1995 drought water policies (Bakker, 2000), the company has adopted a three-stage plan for the period 2000-25. The first stage (2000-02) includes short-term objectives like the recommissioning of disused groundwater sources; the second stage (2002-15) contemplates further recommissioning of disused groundwater sources, small-scale groundwater developments, and the extension of water reuse programmes; and, the third stage (2014-25) is based in the development of a major new resource, the Upper Thames Reservoir, a 14-square km project in South Oxfordshire, which may be ready by the year 2015 (Connarton, 1999). However, the plan is facing the opposition of the water regulators, environmental organisations, and other political actors that have consistently opposed the construction of new reservoirs and have been pressing the industry to improve its efficiency, especially concerning leakage reduction and the implementation of demand management alternatives.

To a large extent, the above considerations allow us to conclude that the pursuit of the fifth objective of privatisation has produced mixed results. In fact, the degree of state involvement in the sector continues to be one of the crucial areas where the internal contradictions of the water industry in England and Wales are more apparent. In fact, the opposition between the main goals of the private operators (i.e., achieving further freedom from state controls and securing profits) and the mandate of the industry's regulators (i.e., promoting efficiency; ensuring the economic viability of the industry; protecting consumers; protecting the environment) has been sharpened and deepened by recent events, bringing the water sector to what some analysts have termed the "efficiency frontier" (Vass, 2001). Crossing the "frontier" is leading towards the partial reorganisation of the water industry by reshaping once again the roles of the state and the private sector.

### ***2.3.3. Tightening regulation and reshaping the public/private divide***

Much debate has been provoked by the fifth objective of privatisation – freeing the water companies from state control – which is also related to the second objective of "reducing the size of the public sector". In fact, the state has developed an unprecedented regulatory apparatus, making the privatised water sector subject to a high degree of control. The already comprehensive regulatory framework was further tightened after the 1995 drought that exposed both the inefficiency of some of the water



operators (Bakker, 2000) and the acute problems facing the water sector to internalise the social and environmental dimensions of water management (Swyngedouw *et. al.*, 2002). In particular, the post-1995 intervention of the economic regulator OFWAT was driven by the perceived need for limiting the profits made by the private companies, and enforcing compliance with investment targets (which had not been met).

The Water Summit held by the New Labour administration in 1997 further intensified the pressure for tighter public control of the private water sector, trying to re-establish social equity (e.g., by imposing a windfall tax on the water companies and banning disconnections of the water supply owing to unpaid bills), and promoting greater efficiency (e.g., forcing the private companies to develop mid- and long-term plans to cope both with environmental risks, such as the predicted impact of climate change on water resources) to deal with evolving societal needs and preferences (DETR, 1999, 1998 a-d). In addition, OFWAT adopted a tighter stance in the 1999 revision of the tariff system and levels (carried out every five years), which ordered a reduction in prices for all companies (OFWAT, 1999a-e).

It can be argued that the tightening of the regulatory framework that followed the 1995 drought and, particularly the 1997 Water Summit, has helped to make more transparent what we called earlier the in-built contradiction of the current organisation setting of the water sector in England and Wales. Also, there are already unambiguous signals suggesting that the policies adopted might lead to significant changes in the current organisation of the industry, which, to some extent, would reshape once again the public/private divide in water policy.

In this connection, another crucial driver of institutional change is the impact of competition, which has been very limited due the monopoly and highly regulated characteristics of the sector. The main tool has been the incorporation of yardstick competition, where the regulator fixes prices based on costs across the country providing an incentive to reduce costs below the average level to achieve higher profits. Some authors have argued that despite the lack of competition “within” the market owing to the monopoly characteristics of the service, there has been intense competition “for” the market, which would be providing incentives for greater efficiency (Vass, 2001; OFWAT, 2000a). In this regard, until 1994 no single individual or company could control more than 15 per cent of the WSC shareholdings, while the government retained an absolute veto over the activities of the privatised utilities. The protection was levied

in December 1994, and there has been a wave of take-overs and mergers, especially boosted by foreign investors, and the consolidation of multi-utility conglomerates, with different combinations of water, electricity, waste management, gas, and related services. However, while in gas, electricity and telecommunications competition has helped to improve services and cut down tariffs, water prices have been substantially increased since privatisation while performance has been uneven and investment has been lagging behind. For these reasons, in the last price review (1999) the regulator set a reduction in tariffs and new investment targets, which has prompted a negative reaction of the industry.

In particular, the companies reacted to the 1999 reduction of prices and, consequently, of expected profits, by cutting down investment programmes, reducing staff numbers, and searching for alternative management models. At least two of the ten water and sewerage companies presented plans for partial or even total mutualisation and turning their activity into a non-for-profit operation. This was first proposed by the Kelda Group (that controls Yorkshire Water), but OFWAT rejected the application mainly on technical grounds (OFWAT, 2000d). A not too dissimilar proposal by Welsh Water (Glas Cymru) had a very different outcome, and the mutualisation plan was approved by OFWAT in July 2001 (OFWAT, 2001b). The Welsh case represents the first serious departure from the model institutionalised in 1989 with the full privatisation of the water industry. However, it seems clear that the Welsh case was also driven by political considerations, in the context of partial devolution of political power to the National Assembly for Wales by the New Labour administration, which created the conditions for a sort of “deprivatisation without renationalisation” of the water company (Vass, 2001).

### **3. Concluding remarks**

Although in the short-term it is unlikely that overall substantial changes will be made to the current model based on the private ownership of the water companies in England, it is possible now to envisage the potential for significant modifications in the mid and long-term. In the case of Thames Water, it can be expected that the private company will continue to challenge the dispositions set by the environmental and economic regulators, especially their opposition to new reservoir building, the stricter price control mechanisms, and the tighter leakage targets. The contradictions arising from this process

may foster the chances for institutional reorganisation, like in the cases of Yorkshire Water and Welsh Water. Also, the current trend towards transnationalisation of the water sector is likely to continue, especially the acquisition of UK water companies by foreign investors. Thames Water itself has been acquired, in October 2000, by the German multi-utility RWE, and this may also have important consequences for the organisational landscape of the UK water sector in the mid and long-terms.

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