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WATER REFORM IMPERATIVES

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1 Introduction

Water industry reform is one of many areas in which New Zealand has fallen dramatically off the pace in recent years. The industry ranks with other utilities like telecommunications, electricity, gas and roading in terms of its contribution to the economy, to the living standards of New Zealanders, and to the international competitiveness of the business sector. The faltering progress in microeconomic reform since 1993 is costing New Zealand dearly in terms of deteriorating growth rates and rising unemployment.

The direction New Zealand must take in reforming the water industry is clear. Political involvement in, and control of, the industry must be replaced by greater reliance on market mechanisms. This approach has led to impressive gains in other utility industries. Market-oriented reforms have substantially improved the performance of overseas water industries and there is the same potential for improvement in New Zealand.

A market-oriented reform package would include the following elements:

- introducing efficient pricing for water and wastewater services at least in most towns and cities;
- improving the incentives for performance of the local government-owned water and wastewater businesses through corporatisation;
- privatising the water and wastewater businesses as a likely subsequent step to overcome the deficiencies inherent in the corporatisation model;
- making greater use of franchising and contracting-out if there is a strong political preference to retain public ownership;
- removing the special restrictions in the Local Government Act which prevent Watercare Services Limited operating in a fully commercial and accountable manner; and
- addressing any market power problems through a light-handed regulatory regime relying on the Commerce Act and information disclosure requirements.

These recommendations were made in the report *Reform of the Water Industry* prepared for the New Zealand Business Roundtable by CS First Boston in 1995. The fact that little has changed four years down the track, despite a degree of acceptance of their general thrust, is a sorry reflection on the inertia and entrenched ideologies in local government.

This paper reviews the minimal reform that has been achieved in New Zealand in the water industry and contrasts this with the achievements of other countries.

It then discusses why a more market-oriented approach, including changes to governance and pricing arrangements, is likely to yield substantial improvements. Although these arguments should be well understood by now, the glacial speed with which councils are implementing change suggests they need restating. The case for adopting a light-handed regulatory regime as the best option for controlling the market power of water and wastewater businesses is briefly recapitulated.

Finally, the case for rationalising the water industry is considered. The current structure of the industry has been determined politically, based on local authority boundaries. It is unlikely to be optimal. The difficult issue is determining what a better arrangement might look like.

2 Reform of the water industry

2.1 'Reform' in New Zealand

A review of progress to date in New Zealand makes pathetic reading. Although many councils appear to have considered reform options, few have made substantial changes.

Auckland City Council is the only council to have formed its water business into a Local Authority Trading Enterprise (LATE), having established Metrowater in 1997. The Council had second thoughts about this sensible change soon after. Metrowater has so far survived, but only just. It is already delivering improvements in performance and cost savings. In its first year of operation Metrowater reduced water losses from 17 to 13 percent; achieved an A grading for water supply across Auckland City for the first time; and produced the first ever long-term management plan for its assets. User charges have reduced the rate of increase in water consumption compared with the rest of Auckland.¹

Papakura franchised its water and wastewater operations to United Water in 1997 under a 30-year agreement, the first of its type in New Zealand. Papakura's supply is managed by a company that is focused on water and wastewater services and which can draw on the technical expertise of its worldwide operations. The franchise arrangement has achieved net cost savings of 10 percent, which have been passed on to ratepayers. Papakura's record shows that, with political will and leadership, substantial benefits can be delivered to ratepayers. Franchising has also been used, or is being contemplated, for a few greenfields developments such as Wellington's sewage treatment plant.

Councils have increasingly used contracting-out options. Capital construction and maintenance works are frequently contracted to the private sector. Reticulation operation is also occasionally contracted out. A number of councils have formed their construction and maintenance operations into LATEs or business units, and require them to tender for work in competition with the private sector. Savings of 10 to 20 percent from contracting out are commonly cited.²

¹ A press release of 10 September 1998 noted these and other gains achieved by Metrowater in its first year of operation.

² See, for example, CS First Boston (1995), *Reform of the Water Industry*, report prepared for the New Zealand Business Roundtable, p 126.

Asset management is also improving, although at the end of 1997 considerably fewer than half the councils responding to an Internal Affairs survey had asset management plans in place for their water and wastewater assets.³ Better monitoring of the condition of assets has revealed that a large number of councils face major upgrading of their water supply and wastewater infrastructure. The Auckland City Council recently stated that rates would have to rise between 13 and 15 percent to fund failing stormwater pipes. These figures seem dubious, but the fact that action on run-down systems is only now being taken years after such problems were recognised speaks volumes about the inadequacy of local government control. Remedial works around the country are likely to have a substantial impact on service charges.

Little progress has been made to introduce more efficient prices. Metering has been extended only in a very limited way in some cities. Wellington, for example, has adopted a voluntary metering regime. It also introduced a fixed charge per household, which was a move towards more efficient pricing, but contemplated reversing that decision a year later. The most woeful case is Christchurch which has a wide base of installed water meters but has never used them.

Many councils do not charge for the water used, or base their charges on the cost of supplying the service. Over-consumption has harmful environmental as well as economic effects, but environmental organisations seldom support the most obvious solutions. Prices commonly do not include the full opportunity cost of capital. Pricing is still strongly influenced by politics. Garry Moore, the mayor of Christchurch, has vowed to fight "like a mad dog" against plans to introduce a user pays system for water and sewerage services.⁴ One might ask why he is not also fighting "like a mad dog" against user charges for electricity, telecommunications, food, clothing and many other goods and services which are far more costly items in household budgets. Perhaps he has been too exposed to the abundant midday sun this summer. This resistance to efficient pricing principles that would wisely ration scarce resources epitomises the blinkered ideology of councils like Christchurch.

In the last four years no rationalisation of water businesses has occurred despite the large number of local authorities involved in provision. Even in Auckland and Wellington where expensive studies of rationalisation options have been completed, nothing has been achieved.

The government has tinkered with Watercare, but only in an ineffectual way. The 'club' ownership arrangement, in which local authorities are both customers and shareholders, will prove problematic. Their interests as shareholders and customers will conflict, pricing and investment are likely to be politicised, and the monitoring and performance disciplines associated with political control will be weak. Legislative restrictions, such as the restriction on local authorities selling their shares and the constraint on Watercare paying a dividend, will continue to undermine its ability to operate in a fully commercial and accountable manner.

The dismal saga is an indictment of local authority control. Local government politicians have not been prepared to lead opinion and sell the benefits of reform.

³ "Review of the Powers and Responsibilities of Local Authorities to Provide Water and Wastewater Services: Overview of Analysis of Returns from a Survey of Local Authorities", Bridgeport Group, April 1988, pp 8 and 13.

⁴ *City Weekly*, 25 January 1999, p 3.

Instead they have generally chosen to pander to misinformed concerns about change. In my view, central government must step in and direct reform, as it has with roading. Its current review is welcome and provides an opportunity for progress at last.

2.2 Reform overseas

The slow progress in New Zealand stands in stark and sorry contrast to the achievements in other countries where commercialisation and private sector involvement have become increasingly the norm.

In Australia, most of the water and wastewater industry has been corporatised. The Hunter Water Board was corporatised in 1992. The Sydney Water Board was corporatised in 1995. The largest Western Australian water utility was corporatised in 1996. The major water utility in South Australia, the South Australian Water Corporation, was corporatised in 1995. Melbourne Water was corporatised in 1991 and then restructured in 1995.

Around \$5 billion worth of water, stormwater and wastewater projects has been contracted to the private sector in Australia, with a further \$10 billion likely to be offered for private tender over the next five to 10 years.⁵ Following corporatisation, the South Australian Water Corporation franchised all water supply and sewerage services in the Adelaide metropolitan area to a private company, United Water, for 15 years. The franchising arrangement achieved cost savings of around \$10 million per annum.⁶ The ACT government has been endeavouring to secure support for privatisation of its electricity and water utility.

Other reforms have also been implemented. The Hunter Water Board began a process of demand management through user pays price reforms as early as 1982. The Sydney Water Board moved from property-based charges to usage charges during 1995 and 1996. Rural councils have also moved towards usage-based water pricing. The New South Wales government introduced tradeable water permits in 1988.⁷ Similar moves have occurred in other Australian states.

Some of the gains achieved in Victoria illustrate the benefits that New Zealand is forgoing by its lack of action:

- The metropolitan industry is on track to delivering cost savings of around \$150 million over the five years since restructuring in 1995. At the same time, service standards have generally improved;
- The non-metropolitan urban water authorities reduced their operating costs by 17 percent between 1994/95 and 1996/97 while substantially improving their technical and commercial performance; and
- The annual gains from water trading have been estimated to reach \$50 million per annum by the year 2000.⁸

⁵ *Australian Financial Review*, 18 August 1998, p 33.

⁶ *Ibid*, p 37.

⁷ Australian Industry Commission, *Microeconomic Reforms in Australia: A Compendium from the 1970s to 1997*, Research Paper, AGPS, Canberra, January 1998, pp 75-76.

⁸ Clarke, R, *Implementation of COAG Reforms: Approaches and Issues*, paper presented to AIC Australian water conference, 23-24 June 1998, p 6.

Market-oriented reforms have been implemented in many other countries as well. Scotland amalgamated its water and wastewater service supplies into three entities which were corporatised in 1996. The reforms in England involved corporatisation prior to privatisation.

Chile has established 13 corporatised water and sanitation utilities. The largest utility, EMOS, serves a population of five million in the Santiago metropolitan area. A World Bank study notes that EMOS performs well in terms of standard indicators of utility performance.⁹ At the same time that EMOS reduced tariffs by 26 percent it achieved improvements in service levels.¹⁰ Chile is pushing ahead with plans to sell shares in its water utilities.¹¹

The increasing involvement of the private sector in the water industry, particularly in third world countries, is also remarkable. A World Bank report notes that before 1990 almost all developing countries relied on government provision of water supply and sewerage services and that private participation was rare.¹² Between 1984 and 1990 developing countries awarded contracts to private companies for only eight water and sewerage projects to a value of US\$297 million.

Private participation has accelerated since 1990. Between 1990 and 1997, a total of 97 projects were implemented in 35 developing countries, with projects ranging from management contracts to leases, concessions, divestitures and greenfield build-own-operate or build-operate-transfer arrangements. Concessions were the dominant form of private sector involvement, with divestiture being relatively rare. The total value of the investment projects with private sector involvement in the period 1990-97 was nearly US\$25 billion.

Penelope Brook Cowen, an infrastructure expert at the World Bank, commented at last year's AIC water conference that "private sector participation does appear to yield significant improvements in utility performance; and the gains are more unambiguous the more responsibilities are passed to the private sector ...".¹³

3 Key elements of a market-oriented approach

This section looks at some of the key elements of a market-oriented approach to reform of the water industry. It considers governance, pricing, and regulation of market power.

3.1 Changes to governance

Different governance arrangements impose different incentives and constraints on individuals. Changes to the incentives and constraints that individuals face will affect their performance. The aim should be to encourage managers and staff in water businesses to act in ways that are more consistent with the interests of consumers and ratepayer-owners.

Governance arrangements in the water industry range from council departments, council business units, LATEs and contractual arrangements with the private sector, to outright private

⁹ Scott, G and Brook Cowen, P, "Some Issues in Institutional Reform for Improved Performance in Government-Owned Water Utilities", draft report for the World Bank, 1996, p 29.

¹⁰ Brook Cowen, P J, *Utility Reform and Private Sector Participation in the Water and Wastewater Sector: An International Perspective*, AIC 6th Annual NZ Water Summit, 26 February, 1998, p 7.

¹¹ *The Press*, 26 August 1998.

¹² Silva, G, Tynan, N and Yilmaz, Y, "Private Participation in the Water and Sewerage Sector – Recent Trends", *Viewpoint*, World Bank Group, August 1998.

¹³ Brook Cowen, P J, *op cit*, p 6.

ownership. They impose different constraints and incentives on individuals, resulting in systematic differences in performance.

Managers of council departments face conflicts because of the multiple roles and objectives of councils. A council has an ownership role in relation to its water and wastewater assets. It determines what services are to be provided to customers, and usually provides the services. The council has a role in representing customers, who usually do not have a direct relationship with the service supplier. The council

effectively regulates the charges that are levied on customers. It also has regulatory responsibilities under the Local Government, Resource Management, Building and Health Acts. Even if these responsibilities are separated from service provision within councils, conflicts arise at the chief executive and council levels.

The roles and objectives of councils translate into multiple roles for the managers of council departments. With multiple objectives, managers must make trade-offs between them, often without guidance as to their relative importance. Monitoring of performance is more difficult. And because performance is more difficult to measure, the incentives for performance are weakened.

Without a direct relationship between a council department and its customers, the service supplier has limited information on consumers' preferences. The lack of contact reduces the incentive of the supplier to be responsive to customers' interests. Council involvement politicises price setting, with the result that prices are often set too low, leading to excessive demand for water.

Council business units have a greater commercial focus but are rarely given a single commercial objective. The problem of multiple objectives remains. Political and commercial roles are not separated since business units remain divisions of councils. Often business units do not have their own balance sheet or accounts. Price setting is still strongly influenced by political considerations.

The problems associated with council departments and business units can be ameliorated by extensive contracting out of services. Competitive tendering of contracts to the private sector for capital expenditure projects, maintenance and operation of assets is a powerful way of minimising the costs of providing water and wastewater services. However, contracting out does not ensure that the council department or unit makes investment decisions at the right time and chooses the right level of capital expenditure or maintenance – it only increases the likelihood that the level chosen will be delivered relatively efficiently.

Corporatisation gives managers the primary objective of profit maximisation, subject to regulatory constraints on monopoly power. A profit-maximisation objective provides a clear focus for managers. It facilitates monitoring of management performance by owners and customers and motivates the business to strive for efficiency. Consumers benefit because corporatised firms have strong incentives to determine customer preferences and to satisfy them at minimum cost.

The main problem with the corporatisation model is that, over time, governments find it difficult to maintain an arm's length relationship with the organisation. Interference by politicians in decision-making weakens incentives for good performance. This is one of the main reasons why privatisation is ultimately the preferred option. Privatisation can cement in the gains from corporatisation while strengthening incentives for performance by exposing managers to capital market constraints.

If there is a strong political preference for retaining public ownership, greater use of contracting out and franchising may achieve improvements in efficiency, particularly in the short term. However, franchising requires detailed input from a buyer in contract design and performance monitoring. It does not therefore necessarily overcome incentive problems associated with government involvement.

In my view corporatisation of major urban water and wastewater businesses would deliver substantial benefits. Metrowater's experience as a corporatised entity confirms this, as does overseas experience. Privatisation would maintain these benefits and yield additional gains.

For smaller water and wastewater operations the overheads associated with LATEs may outweigh the benefits of an increased commercial focus. One solution would be for smaller operations to amalgamate into larger entities to economise on the overhead costs of establishing LATEs. Another option would be for them to remain (or become) business units but to contract out all of their capital and maintenance work, as well as operating services. The business units would then have primary responsibility for managing contracts with private providers.

3.2 Reform of pricing

Reform of governance arrangements goes hand-in-hand with improvements to pricing arrangements.

Water utilities must move towards use-related charges. Prices should be based on the opportunity costs of supply to ensure that users take proper account of the true economic costs of water and sewerage services. Efficient prices for water and sewerage services should include the value of water in alternative uses, the costs of any environmental damage, the cost of operating and maintaining the system, the opportunity cost of capital and the capital costs brought forward by demand. Fixed charges should be used to cover fixed costs if marginal-cost pricing does not generate enough revenue to cover total costs.

Efficient pricing requires metering of usage or the adoption of a proxy for usage. It is possible that the benefits of user charges will currently be outweighed in some supply areas by the costs of installing and monitoring meters for some customers. However, these situations are likely to become more limited as demand for water grows, and supply can only be increased at an increasing cost.

3.3 Regulation of market power

The regulatory environment needs to be considered when businesses are corporatised and a commercial approach to pricing is adopted. A profit-maximising objective gives corporatised entities incentives to exploit any market power they may have.

The Business Roundtable remains of the view that a light-handed regulatory regime involving information disclosure and the provisions of the Commerce Act offers the best option for regulating corporatised and privately owned water and wastewater businesses. It imposes constraints on market power while retaining incentives for managers to optimise the efficiency of their organisations and minimise costs. The regime is not perfect – there may still be some abuses of market power – but the alternatives are worse. While a heavier-handed regime may impose stronger constraints on the exploitation of market power, it simultaneously undermines the incentives to minimise costs and optimise investment. The costs of the distortions to productive efficiency are likely to far outweigh the costs of any monopoly pricing.

Concerns about monopoly are not an obstacle to privatisation. The same issues arise with corporatisation, and indeed with other forms of public ownership. Research suggests that public ownership is an inferior strategy for controlling monopoly compared with light-handed

regulation that relies on sound competition statutes, especially given the other disadvantages of public ownership.¹⁴

4 Industry structure

The structure of the water industry has largely been determined by political considerations (the boundaries of the local authorities) rather than commercial forces. This suggests that the current structure is unlikely to be optimal. This conclusion is reinforced by the observation that there are a large number of entities serving a relatively small population. Seventy-three local authorities, Watercare and the Wellington Regional Council provide water and wastewater services, with around a third serving populations of fewer than 20,000 people. The World Bank has suggested that the minimum efficient scale of water industry firms may involve a population base of around 500,000.

Although it is likely that there would be efficiency benefits from rationalisation there is no straightforward way of determining what form rationalisation should take, what entities should be rationalised, and how rationalisation should be initiated.

It is nearly impossible to centrally plan an industry efficiently – to determine the optimal number of entities, and preferred contractual arrangements. The problem could be solved by privatising the water and wastewater businesses and allowing private operators to seek out rationalisation opportunities within the constraints imposed by the Commerce Act. Alternatively, councils could be required to franchise their operations at the same time, which would allow private firms to bid for groups of contracts, subject to the same constraints. A further major potential advantage of privatisation options is that it would allow the development of multi-utility businesses where synergies between the supply of water and sewerage services and electricity, gas, telecommunications or roading services may exist.

Corporatisation could also improve the incentives of water and wastewater businesses to search out rationalisation opportunities. However, compromised versions of the corporatisation model and the desire of councils to retain control of local businesses may undermine these incentives.

Corporatisation may also not be a feasible option for some of the smaller entities – for such entities amalgamation or other contracting options would need to occur before consideration was given to corporatisation. However, the studies undertaken in Auckland and Wellington found that substantial efficiency gains could be achieved through amalgamation in these centres. Many of the benefits could potentially also be achieved through contractual arrangements. In France, for example, the water and wastewater assets owned by 36,000 communes are for the most part operated by three private companies through franchise arrangements.

I strongly doubt that local authorities will achieve any significant rationalisation of their businesses unless they are required to do so by central government. The government needs to devise a process to require councils to consider options for rationalisation and to implement them if potential efficiency gains are demonstrated.

Given the likely gains from corporatisation of relatively large water and wastewater businesses, the government could mandate the formation of LATEs in major urban areas. It could require that, during the establishment phase, establishment boards consider the scope for realising

¹⁴ See Willig, Robert D, "Public versus regulated private enterprise", *World Bank Research Observer* (Annual Conference on Development Economics Supplement), 1993, pp 155-180.

efficiency gains through amalgamations or other contractual arrangements. Establishment boards could be required to report on the options considered and the reasons why a particular course of action was chosen.

Smaller utilities could be given the choice of amalgamating with other utilities to form LATEs, or contracting out most or all of their operations.

5 Conclusions

The fact that so little progress has been made on reform of the water industry in New Zealand in recent years reflects deep-seated problems in local government. These include weak incentives and accountability, vulnerability to special-interest lobbying, the poor quality of analysis by many council managements, councillors with a poor understanding of public policy issues, and overly-politicised, factionalised councils. In a highly politicised climate it is not surprising that inertia and resistance to change win the day so frequently. But paralysis is neither good enough nor inevitable. The general lack of progress made by most local authorities over the past four or so years contrasts with the changes achieved in Papakura, most Australian states and many other countries.

The introduction of a market-oriented approach to reform would yield substantial improvements in efficiency. Corporatisation and greater use of franchising and contracting out would improve the incentives for performance of the local government-owned water and wastewater businesses. Privatisation would overcome the problems inherent in continuing government ownership.

The adoption of more efficient pricing arrangements must be part of a more commercial approach.

Regulation of market power in the water industry should be by way of a light-handed regime. This approach has been outstandingly successful in New Zealand, bringing benefits that far outweigh any detriments. Heavier-handed regulation would impose substantial costs in the water industry and other utilities.

Rationalisation of the water industry is likely to yield efficiency gains. However, determining what form rationalisation should take, what entities should be rationalised, and how rationalisation should be initiated is problematic. Essentially a market-based approach through privatisation or a government-directed approach are the only feasible alternatives.

Local Government New Zealand keeps telling the business sector that councils are addressing the problems and understand the need for change. They maintain that councils should be allowed to make decisions at their own time and speed. This case is wearing thin. I remain highly sceptical that most councils will implement any significant change unless they are firmly directed by central government. The prospective roading reforms would never have happened if they had been left to local government. It is perfectly appropriate for central government, which has the responsibility for determining the framework in which local government operates, to require similar changes to the water industry.

Too much is at stake. The New Zealand economy is seriously under-performing relative to its potential, and the gap between average incomes here and in more successful countries is wide. Inefficiencies in the water industry are holding the whole economy back. Those who profess to be concerned about problems of low incomes and unemployment should be calling the loudest for reforms. Unless central government insists on changes, my fear is that in another four years

we will still be discussing the same problems and issues, and that the industry's performance will be lagging even further behind international best practice.