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The New Zealand Water & Wastes Association Waiora Aotearoa

WHO, WHAT, WAI?
IMPROVING URBAN WATER SERVICES

CONTENTS

FOREWORD

The industrial revolution in the 19th century led to rapid urbanisation of society. Reticulation of water services to urban centres soon followed. Generally, local authorities provided ownership, governance, management, pricing, customer representation and (some) regulation of these services.

Internationally in many jurisdictions, revised arrangements have been put in place, removing these functions from local government. A plethora of ways in which water services are governed, managed and regulated have subsequently evolved. In New Zealand the original arrangements broadly continue, although actual delivery of services may be contracted out to a greater or lesser degree.

The water policy environment in New Zealand today is dynamic. It is therefore important for the engineering profession to have a view on the changing policy, particularly in relation to water services' management.

Changes to improve the way water services are managed have been recommended by the Land and Water Forum, and in the "National Infrastructure Plan" (2011). In addition, the "National Infrastructure Plan" scored both "productive" and "urban" infrastructure as the lowest performing of New Zealand's five infrastructure sectors and the most in need of attention. Additionally, the Government's *Better Local Government* reform package contains a number of initiatives that will have implications for urban water services' management.

As water services are in the spotlight at present, this report has been developed as a position paper by IPENZ, INGENIUM and Water New Zealand. These organisations represent professional engineers, local government engineers and the water sector. Our collective views on future water services' delivery (urban drinking water, wastewater and stormwater infrastructure) are intended to reframe the debate for any subsequent review of urban water services' management. This paper should be considered in its entirety.

We hope the position outlined in this paper will be carefully considered when decisions are made on the future management of New Zealand's urban water services.

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INTRODUCTION

The approach in this position statement is to set out, as a basis, the desirable outcomes for good quality urban water services and the context for a well performing water industry. To enable option selection, assessment criteria are developed, then applied to the various options, and followed by discussion and conclusions.

Background information is provided in Appendix 1, which sets out the Government's water-related policy initiatives; Appendix 2 sets out the existing arrangements for water services' management.

DESIRABLE OUTCOMES

The key ingredients of good quality water services required by customers and communities are set out below.

- **Quality:**
  - Drinking water is potable
  - Water abstraction, and wastewater effluent and stormwater discharges meet environmental standards
  - Reliability – services are available to meet the requirements of water users.
- **Price:** Prices of water services are at least cost, consistent with meeting quality requirements, and affordable.
- **Stewardship:** The long-term integrity of the assets is maintained.

These desirable outcomes are fundamental and should be common to all options. However, to evaluate alternative options, assessment criteria are required to enable the alternative options' advantages and disadvantages to be identified.

THE CONTEXT FOR A HEALTHY WATER INDUSTRY

Policy integration

A well performing water industry should be supported by an integrated central policy and planning approach. It should be managed within one central government department, or with one designated lead department.

Policy, regulation and delivery separation

Policy, regulation and delivery should be separated or clearly identified to ensure it is focused, transparent and the required expertise can be applied.

Because water infrastructure services are monopolies, there is no market to establish price. These services therefore need to operate under well performing economic regulation to deliver water service prices that are affordable, at least cost, and consistent with meeting overarching quality requirements that reflect the needs of the communities being served.

ASSESSMENT CRITERIA

The assessment criteria for evaluating water services' management options are outlined in the following paragraphs.

Clear accountabilities

For water services, various national, regional and local interests and accountabilities relate to levels of service, infrastructure stewardship and price. The key aspect of accountability is the strength of the link between the service provider and the water user.

The efficient use of water

As part of sustainable environmental management and to minimise abstraction, water should be efficiently used. Water efficiency can be achieved through water restrictions, leak detection, reuse, recycling, water conservation and the metering and pricing of water services.

Economies of scale

Increasing economies of scale with increasing organisational size have been demonstrated, as the fixed costs per unit of production are lower. There is a strong body of international research on this subject. This shows that generally small water businesses achieved greater economies of scale if they became larger[1]. There was no consensus on where the cut-off point of no further benefit with scale is reached, with suggestions varying between 100,000 and 1,000,000 connections.

Economies of scope

The costs of providing a number of similar services are generally lower than providing those services separately. There are two aspects of economies of scope – those that arise from like functions within the organisation (in-field) and those from the broader functions of the organisation (out-field). This report treats these two aspects as separate criteria.

- **In-field economies of scope** include the combined management of the three waters, and/or vertical integration (abstraction, treatment, and distribution).
- **Out-field economies of scope** could include the use of generic expertise within an organisation (e.g. asset management, policy staff, and field staff), the use of Geographical Information Systems and corporate overheads.

Sufficiency of funding

To maintain the asset's long term integrity, an adequate source of funding is required to meet capital and operational requirements. Without full cost recovery, water services are not sustainable. It may be acceptable to have averaging of prices across a number of separate supplies to achieve affordability.

A business approach and funding transparency

A sound business-like approach to management, financial investment, decision making and customer service is important to ensure resources and assets are appropriately managed. It also provides funding transparency on how fees collected for water services are invested in the service.

THE BROADER OPTIONS

There are a wide variety of arrangements for delivering water services.

Direct public sector delivery

Options include state or local council delivery. Scottish Water (one business owned by the Scottish Parliament) delivers water services to the whole of Scotland. Examples of local council delivery include the majority of local network operators in New Zealand. Asset management is in-house and services may be contracted to an internal business unit or out-sourced to the private sector.

Indirect public sector delivery

This is an arrangement whereby delivery is at arms-length from central or local political control. Examples include state owned enterprises (Victoria, Australia) and council controlled organisations (e.g. Tasmania and Watercare, New Zealand). Another possibility is a non-profit entity limited by guarantee (e.g. Welsh Water), which is similar to a community trust arrangement in New Zealand.

Concession

The private sector has a long-term lease to finance and manage water services. This arrangement is common in France.

Private operator

The private sector owns and manages water services. In England there are 26 private water companies.

ASSUMPTIONS

Taking into account the interests of New Zealanders and the public benefit from requiring sufficient adherence to minimum health and environmental standards, the following assumptions have been made in the option analysis below:

- **Ownership:** Ownership of physical assets remains in the public domain, thereby ruling out concession and private operator arrangements
- **Quality regulation**: Drinking-water suppliers will still be required to take all practicable steps to comply with the drinking-water standards (DWSNZ), and the Public Health Risk Management Plan requirements remain
- **Environmental regulation:** Regulation of water abstraction and discharges remains independent from water service delivery
- **Economic regulation:** There is a suitable means for ensuring that pricing of what is a monopoly service is transparent and fair.

SPECIFIC OPTIONS

The specific options evaluated in this paper for managing urban water services are set out in the following paragraphs.

Direct public sector delivery

The territorial authority is responsible for directly providing freshwater, wastewater and stormwater services. This is explained in more detail in Appendix 2.

Variations are:

- **Pooled services** – two or more territorial authorities share in-house professional services (e.g. asset management, design), and/or in-house physical works staff
- **Joint outsourcing** – two or more territorial authorities have a combined contract (joint principals) and engage one external provider. The provider might offer professional services, physical works, or both.

Indirect public ownership

There are three options for managing water via indirect public ownership.

- **Council-controlled organisations** – council-owned or multiple council-owned businesses that allow for indirect public delivery of water services. Examples include Watercare (Auckland), Capacity (Wellington), and Tasmania (Australia).
- **State owned enterprise** – water infrastructure management is removed from local councils and placed in the hands of one or more Crown-owned companies operating on commercial lines. It is assumed that these companies are sufficiently large to achieve significant economies of scale.
- **Non-profit entity or entities limited by guarantee** – a non-profit entity exists which has legal form, but no shareholders. For the purposes of this discussion it is assumed that such an entity would be sufficiently large to achieve significant economies of scale. Welsh Water operates in this way.

ASSESSMENT OF OPTIONS

An assessment of the possible options for managing urban water services against the proposed assessment criteria is presented in Table 1.

This is followed in Table 2 by a comparison of the options when they are applied to three hypothetical types of community:

- A high population urban community with large water networks (e.g. Auckland Council – population 1.5 million)
- A medium size largely urbanised community with one major network and a smaller number of supplementary water networks (e.g. Hasting District Council – population 70,800, with water and wastewater networks for Hastings and Havelock North, nine small water supply networks, and two smaller wastewater networks)
- A low population density and largely rural community with many water networks (e.g. Westland District Council – population 8,400, 10 water networks and four wastewater networks).

TABLE 1 – ASSESSMENT OF OPTIONS FOR MANAGING URBAN WATER SERVICES

OPTIONS	ACCOUNTABILITY	WATER EFFICIENCY	ECONOMIES OF SCALE	ECONOMIES OF SCOPE: IN-FIELD	ECONOMIES OF SCOPE: OUT-FIELD	SUFFICIENCY OF FUNDING	BUSINESS APPROACH AND FUNDING TRANSPARENCY
SINGLE TERRITORIAL AUTHORITY	High	Low to medium (use of water conservation techniques but low use of water meters)	Low to medium (depends on territorial authority size)	High (three water services)	High	Low to medium (depends on territorial authority size)	Low
POOLED SERVICES	High	Low to medium	High	High	High	Low to medium	Low
JOINT OUTSOURCING	High	Low to medium	High (scale applies to physical services only)	Medium	Low	Low to medium	Medium (provider is a commercial business)
SINGLE COUNCIL-CONTROLLED ORGANISATION	Medium (arms-length organisation)	Medium to high (tendency to meter services)	Low to medium (depends on territorial authority size)	Medium	Low	Low to medium	High
JOINT COUNCIL-CONTROLLED ORGANISATION	Medium	Medium to high (tendency to meter services)	High	Medium	Low	High	High
ONE OR MORE STATE OWNED ENTERPRISE	Low	High	Very high	Medium	Low	High	High
NON-PROFIT ENTITY OR ENTITIES	Low	High	Very high	Medium	Low	High	High

TABLE 2 – COMPARISON OF OPTIONS FOR THREE TYPES OF COMMUNITY

	LARGE URBAN COMMUNITY, LARGE NETWORKS	MEDIUM SIZE COMMUNITY, ONE LARGE AND A NUMBER OF SMALLER NETWORKS	GROUPING OF SMALL RURAL COMMUNITIES, MANY NETWORKS
SINGLE TERRITORIAL AUTHORITY	Medium accountability (very large territorial authorities are more remote from communities), good economies of scale and less of scope, no problems with sufficiency of funding.	Strong accountability, average economies of scale and scope, funding issues may be present, but are assisted by average pricing across networks.	Strong accountability, poor economies of scale but good economies of scope, small communities have problems with sufficiency of funding.
POOLED SERVICES	Medium accountability, good economies of scale and scope (already large).	Strong accountability, good economies of scale and scope.	Strong accountability, some economies of scale but more of scope, problems with sufficiency of funding.
JOINT OUTSOURCING	Medium accountability, good economies of scale and lower scope due to tendency to specialisation.	Strong accountability, good economies of scale and scope.	Strong accountability, some economies of scale and of scope, problems with sufficiency of funding.
COUNCIL-CONTROLLED ORGANISATION	Weaker accountability (arms-length organisation), good economies of scale and scope, more water efficient, business approach.	Medium accountability (arms-length organisation), average economies of scale and scope, more water efficient, business approach.	Medium accountability (arms-length organisation), poor economies of scale and scope, more water efficient, more business-like approach and funding transparency, problems with sufficiency of funding.
JOINT COUNCIL-CONTROLLED ORGANISATION	Weaker accountability, good economies of scale and scope, more water efficient, better business approach and funding transparency, no problems with sufficiency of funding.	Medium accountability (arms-length organisation), good economies of scale and some scope, more water efficient, better business approach and fund-ing transparency, no problems with sufficiency of funding.	Medium accountability (arms-length organisation), some economies of scale and scope, more water efficient, better business approach and funding transparency, fewer problems with sufficiency of funding.
ONE OR MORE STATE OWNED ENTERPRISE	Weaker accountability due to distance from water user, very high economies of scale and scope, better business approach and funding transparency, no problems with sufficiency of funding.	Weaker accountability due to distance from water user, high economies of scale and scope, better business approach and funding transparency, no problems with sufficiency of funding.	Weaker accountability due to distance from water user, some economies of scale and scope, better business approach and funding, no problems with sufficiency of funding.
NON-PROFIT ENTITY OR ENTITIES	Weaker accountability due to distance from water user, very high economies of scale and scope, better business approach and funding transparency, no problems with sufficiency of funding.	Weaker accountability due to distance from water user, high economies of scale and scope, better business approach and funding transparency, no problems with sufficiency of funding.	Weaker accountability due to distance from water user, some economies of scale and of scope, better business approach and funding transparency, no problems with sufficiency of funding.

DISCUSSION: ASSESSMENT OF OPTIONS

This section discusses the assessments in Table 1.

Accountability

While territorial authorities are directly accountable to water users, accountability is between them and council-controlled organisations (CCOs); it is far less so with much larger state owned enterprises (SOEs) and not-for-profit entities. A CCO, SOE or not-for-profit director has no direct accountability to individual ratepayers; furthermore, ratepayers are unable to vote out a director of a CCO, SOE or not-for-profit board. However, councils are able to hold the CCO's performance to account through an annual Statement of Intent and via mid-year and end-of-year reporting.

Water efficiency

The assessment suggests that CCOs, SOEs or not-for-profit entities with a utility perspective are inclined to introduce pricing for services (water meters). This provides greater certainty between the service provider and the customer on the cost of services and drives more efficient use of water. New Zealand evidence shows that residential consumption is significantly reduced when universal water meters[2] and appropriate pricing mechanisms are introduced.

The assumption that CCOs, SOEs and not-for-profit entities might be more inclined to introduce pricing mechanisms is based on their propensity to take a more commercial approach than territorial local authorities. However, in a number of cases, particularly in those communities with little or no growth and with ready access to good quality water, the cost of water meter installations for residential properties is often not economically viable.

Additionally, better resourced entities are usually able to devote more attention to managing non-revenue water (e.g. fire fighting, water losses) that is a significant source of inefficiency in reticulated water services.

Economies of scale

There is strong evidence for economies of scale for delivering water services. The assessment of options indicates that joint arrangements – whether they are shared services, joint contracting, or joint CCOs – trend towards improved economies of scale. The potential benefits might improve further if one or more (say a maximum of three or four) SOEs or not-for-profit entities were established.

Larger entities are more likely to attract and retain high quality management and staff, and have the capacity to meet current and future environmental and drinking water quality standards. The technical requirements of fully integrated water businesses are considerable and can be resourced more efficiently by larger organisations.

Larger entities are also more likely to be able to take a more integrated and strategic approach to the management of water services on a catchment-wide or multiple catchment basis.

Economies of scope: in-field

Combined management of the three water services, and vertical integration of services, are the most common examples of economies of scope used in New Zealand. For a single territorial authority or pooled services, technical expertise is likely to be broader, but as the function size grows, expertise will tend to be more specialised and the benefits of in-field economies of scope diminish.

Economies of scope: out-field

Out-field economies of scope are achieved by using an organisation's generic capability. This is more likely to occur within single territorial authorities and through pooled services, and less likely with larger functional size (such as an SOE) as there is sufficient critical mass to resource this capability in-house (e.g. a Geographical Information System). Out-field economies of scope are generally highest where water systems are geographically remote. For example, multi-tasked field crews can spread travel costs against the variety of jobs they undertake.

Sufficiency of funding

Where sufficiency of funding is critical to the maintenance and security of well performing water services, insufficient cost recovery eventually leads to a downward spiral with the services deteriorating. Funding is compromised by demographic projections for some smaller territorial authorities in New Zealand with static or declining population bases. Additionally, there is a large stock of houses in suburbs that were developed in New Zealand after the Second World War. As reticulated water assets have a useful life of 60 to 100 years, and it is now 60 years since the start of the post-war increase in housing building permits, funding renewals in areas with declining populations may be problematic. One way to address these issues may be to use averaging of prices across a number of separate supplies to improve affordability to particular consumers.

Business approach and funding transparency

Council-controlled organisations and SOEs are usually established to create a commercial focus and operate companies with professional boards of directors[3]. A dedicated water CCO, SOE or not-for-profit entity would bring a single focus to providing the services required for delivering high levels of service, separated from policy formation and regulation. In a report to Local Government New Zealand, the New Zealand Institute of Economic Research suggested CCOs may enable councils to apply many of the tools developed for private involvement while retaining public ownership[4].

Larger, more commercially-focused single purpose entities are also likely to attract high quality management and specialist staff.

A focused water services' entity is likely to remove the opportunity to prioritise funding between diverse local authority functions. The converse of this is that local decision-makers are not able to make trade-offs between these very different functions, and to consider the collective impact on their communities.

DISCUSSION: COMPARISON OF OPTIONS FOR THE THREE TYPES OF COMMUNITY

This section discusses the comparisons of the three types of community in Table 2.

Large urban community, large networks

Larger commercial organisations' accountability relationship is weaker than that of smaller ones as there is less contact between decision-makers and users. This is compounded when the larger organisation delivers services through an arms-length entity.

On the other hand, larger organisations have significant economies of scale as managerial and technical requirements can be procured efficiently. Funding sufficiency is also secure. Furthermore, these commercially-focused organisations bring a more business-like approach and greater funding transparency.

Overall, a large commercially-run entity will almost certainly provide the best water services outcome.

Medium size community, one large and a number of smaller networks

The accountability relationship is stronger for medium size communities than for larger ones. However, this decreases when very large entities manage service supply to many medium size communities. Economies of scale increase with size. As there is more specialisation in large entities, there is less opportunity for economies of scope. Where some medium size communities may have a funding sufficiency issue, the larger the water services entity the less likely this is to be an issue.

Medium size and more commercially-focused entities are more likely to actively pursue water efficiency than single territorial authorities or the pooled services option. The commercial organisation options bring a more business-like approach and greater funding transparency.

For this type of community a CCO, a joint CCO or a not-for-profit entity will often provide the best water services' outcome.

Grouping of smaller rural communities, many networks

Accountability is strong in small communities because of the closer relationship between ratepayers and elected officials. The strength of this link decreases both with size and with arms-length organisations.

Economies of scale for these communities can be improved by pooling services and/or joint contracting. However, the gains are limited by the need to manage a number of discrete small treatment plants and networks. On the other hand, benefits of scope are available due to the versatility of staff, as in smaller organisations' staff are likely to be expected to undertake a variety of duties. In addition, attracting and retaining good quality professional staff in rural New Zealand can be problematic.

Smaller rural communities often have declining populations, a small financial base and ageing infrastructure. Furthermore, reticulated networks may be absent. Achieving sufficiency of funding in these communities will remain an issue unless average pricing across a large number of consumers, including wealthier communities, is possible.

While grouping services into larger units (combined CCOs, SOEs or not-for-profit entities) reduces but does not eliminate this funding problem, it does bring a more business-like approach and greater funding transparency.

Overall, for these types of community there are issues that are not easily addressed by any service delivery arrangement. Joint CCOs or not-for-profit entities, on the other hand, are likely to achieve improved water services outcomes.

CONCLUSION

It is vital that decisions on the form of water service supply arrangements are made in a systematic manner.

It is apparent that economies of scale and to some extent of scope, sufficiency of funding and use of commercial disciplines in decision making are the key factors that determine the efficiency of a water entity. Nevertheless, it is important to recognise the trade-off between accountability and economies of scale.

Overall, our assessment suggests there are opportunities for greater water industry efficiency and effectiveness by creating greater economies of scale and to a lesser extent utilising scope. Detailed analysis of the options suggests rationalising smaller entities into larger, single-focus groupings combined with a commercial approach, should be encouraged in many circumstances.

APPENDIX 1: CURRENT GOVERNMENT WATER RELATED POLICY INITIATIVES

Water services management issues are presently being actively considered by a number of agencies. The various initiatives being examined are discussed below.

The Land and Water Forum

- Recommendation 50 of the first Land and Water Forum report (September 2010) proposes the way water services' infrastructure is managed and organised should be investigated to consider the potential benefits of rationalisation. This includes the possibility of establishing a national regulator to oversee pricing and performance issues.
- Recommendation 48 of the third Land and Water Forum report (October 2012) proposes that once a catchment is fully allocated, if more water is required to provide for urban growth, urban water suppliers will either need to increase efficiency or implement demand management activities.

Treasury's National Infrastructure Plan (2011)

- Water infrastructure should be developed and operated to use water most efficiently.
- Central and local government could work and plan collaboratively to better align national interests with local funding and accountabilities.
- Large-scale water infrastructure projects will deliver economic, environmental and community benefits. They will also provide certainty for the rural irrigation industry so irrigation projects which contribute to economic growth and balance the environmental and economic impacts of change can be undertaken.
- A consistent set of performance measures should be developed and implemented. This will ensure service levels can be compared between communities, and will enable a national assessment of water assets to be undertaken.
- A broader range of asset, demand and allocation tools (including quality standards and pricing) will be used to maximise the benefits derived from water assets.
- To better integrate land and water management, incorporating the views of iwi and other stakeholders is necessary.

Legislative amendments

- Amendments to the Local Government Act 2002 in November 2010 (Section 261B) will require the Secretary for Local Government to develop performance measures for water supply, sewerage and the treatment and disposal of sewage, stormwater drainage, and flood protection and control of works. The Department of Internal Affairs has established a steering group to develop these measures.
- Amendments to the Local Government Act 2002 in December 2012 include far reaching changes to the local authority reorganisation provisions in the Act, and are expected to result in larger councils and more unitary authorities.

Central government

Announcements by the Government in *Better Local Government* (March 2012)[5] included:

- Developing a framework for central and local government regulatory roles
- Establishing an expert advisory group to investigate the efficiency of local government infrastructure provision.

Progress to date

In July 2012, Water New Zealand and the New Zealand Council for Infrastructure Development, supported by The Treasury, released the results of Pilot Study 5, based on the National Infrastructure Plan, to review the performance and potential opportunities for improvement on local authority water and wastewater operations. That report identified a need to:

- Address the issue of scale and resourcing
- Provide a mandate for operators to move toward modern utility governance structures
- Actively promote the implementation of wider funding mechanisms including volumetric charging where it makes sense to do so
- Utilise the proposed review of regulation arising from the *Better Local Government* programme to rationalise the current disparate national regulatory framework.

APPENDIX 2: EXISTING ARRANGEMENTS FOR WATER SERVICES MANAGEMENT

Service Levels and Regulation

The typical existing performance measures, the relevant regulator (national, regional, local) and the performance requirements for some water services' management are set out below. Some performance requirements are mandatory, some are in voluntary codes of practice, and others are community-derived and self-regulated.

QUALITY

New Zealand's drinking water standards are nationally regulated by the Ministry of Health and the means of compliance is prescribed in the Health Act 1956.

QUANTITY (FIRE FIGHTING SUPPLY)

Best practice requirements are set out in *SNZ PAS:4509 New Zealand Fire Service Fire Fighting Water Supplies Code of Practice*, Standards New Zealand. This is not a mandatory code. Water extraction is regulated by regional councils under the Regional Plan. The Local Government Act 2002 requires territorial authorities to keep mains (with fire hydrants) charged with water.

QUANTITY (RELIABILITY AND PRESSURE)

Some territorial authorities set service levels for reliability (interruptions per property) and minimum desirable water pressures.

PRICE

This is set by territorial authorities. Water is charged on a volumetric basis by most territorial authorities for commercial and industrial users but only a few territorial authorities (including the Auckland Council with 1.5 million users) use volumetric charges for residential users. Most other councils charge for residential water on a uniform annual charge i.e. a flat rate per property.

Wastewater

QUALITY

Wastewater services to industries are regulated by territorial authorities through Trade Waste Bylaws under the Local Government Act 2002. The quality of territorial authority wastewater discharges are regulated through consents issued by regional councils under their regional plan and the Resource Management Act 1991.

QUANTITY

System capacity is controlled and undertaken by the territorial authority and for new developments is regulated through subdivision consents issued under the Resource Management Act 1991. Inadequate capacity is evident when there are localised spills, surcharging or overflows. Some territorial authorities have overflow performance measures. All discharges are regulated by regional councils.

PRICE

This is set by territorial authorities. For commercial discharges prices are set through the Trade Waste Bylaw (based on quality and quantity), and residential prices are a uniform annual charge per property. Volumetric charging for wastewater occurs only in the former Auckland City and Papakura District areas on the basis of metered water usage.

Stormwater

QUALITY

The quality of stormwater discharge is regulated through consents issued by regional councils under their regional plans and the Resource Management Act 1991.

QUANTITY

As for wastewater, system capacity quantity is regulated by the territorial authority through subdivision consents issued under the Resource Management Act 1991. Inadequate capacity is evident when there is localised flooding or surcharging. Some local authorities have stormwater ponding and/or flood control system overflow performance measures. Capacity is normally designed on the basis of a best practice specified flood return period. All discharges are regulated by regional council consents.

PRICING

As urban stormwater arises from both private and public land and is not measurable at source, it has the characteristics of a public good. Therefore, the revenue is generally sourced from general rates.

Accountability and Governance

Urban water infrastructure is owned, governed and funded by local authorities. There is some minor targeted central government funding for drinking water and wastewater infrastructure. Accordingly, local authorities are directly accountable to their ratepayers for the efficient management of water services.

NATIONAL INTERESTS

The only current national interest in urban water services is in specifying drinking water quality as a means of compliance under the Health Act 1956. The rationale is that there is a national public health benefit in ensuring all New Zealanders, and visitors to New Zealand, have access to good quality drinking water.

REGIONAL COMMUNITY INTERESTS

The regional community's interests, on the basis of water catchments, are protected though regional councils having responsibilities for regulating discharges of contaminants onto land, into water and into the coastal marine area under the Resource Management Act 1991. While the National Policy Statement for Freshwater Management 2011 establishes a national framework, individual regional councils set freshwater quality limits for all bodies of fresh water in their region.

LOCAL COMMUNITY INTERESTS

The local community's interests focus on levels of service and price. These are decided by the territorial authority via a community consultation processes.

NETWORK INFRASTRUCTURE STEWARDSHIP

The water networks are owned by territorial authorities; maintenance, renewal and capital works are funded largely from water-related rates.

SERVICES

The interests of water services' customers are levels of service and price. These are decided by the territorial authority and currently are indistinguishable from the local community's interests.

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