

Office of the Minister of Local Government
Cabinet Economic Development Committee

Review of three waters infrastructure: key findings and next steps

Proposal

1. I propose to proceed with a review of three waters infrastructure, to develop recommendations for system-wide performance improvements over the course of 2018, and to progress parts of the Government's response to the Government Inquiry into Havelock North Drinking Water.
2. This paper is intended to be read alongside the paper *Government Response to Havelock North Drinking Water Inquiry*.

Executive summary

3. The provision of three waters services (drinking water, wastewater, and stormwater) is critical for New Zealand's public health and safety, environmental protection, and economic prosperity and security. The achievement of a number of Government priorities is reliant on a well-functioning, financially sustainable three waters system.
4. However, evidence gathered through a cross-agency review (the Three Waters Review) indicates this system is coming under increasing pressure due to multiple issues, and many local authorities are struggling to respond. Pressing issues include:
 - 4.1 the Government Inquiry into Havelock North Drinking Water (the Inquiry), which concluded there is widespread systemic failure of water suppliers to meet the standards required to ensure the safe supply of drinking water to the public, and recommended significant reform;
 - 4.2 questions about the ineffectiveness of the regulatory regime for three waters, particularly drinking water and environmental compliance and enforcement, a lack of independent economic regulation to protect consumers, minimal central oversight, and relatively light transparency and accountability compared with other core infrastructure sectors;
 - 4.3 concerns about the sustainability, capacity and capability of a system with a large number of localised providers, many of which are funded by relatively small populations.
5. Local authorities are also facing a range of affordability issues and financial pressures, associated with one or more of:
 - 5.1 funding of infrastructure to support housing in high-growth areas;
 - 5.2 declining rating bases, or high seasonal demand in small tourism centres;
 - 5.3 replacement of ageing infrastructure;
 - 5.4 community expectations and regulatory requirements for water quality, treatment and management, and national directions on fresh and coastal water quality;
 - 5.5 climate change adaptation and infrastructure resilience issues; and the operation and restoration of three waters infrastructure following emergencies.

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6. There are close connections between the issues facing the three waters system and a number of the Government's key priorities. These priorities include: regional development; providing affordable housing and development capacity; climate change resilience; and infrastructure funding and financing. Progress toward our freshwater priorities in urban areas, for example, will not be possible without tackling ageing wastewater and stormwater infrastructure.
7. There is currently considerable public interest in the quality of our drinking water and freshwater, and an expectation both from the Inquiry and some stakeholders of swift action to drive lasting improvements. An integrated approach to these issues will improve health and environmental outcomes.
8. This is an opportunity to initiate a comprehensive programme of reform to transform three waters services, strengthen the regulatory regime, and start tackling the funding pressures facing the local government sector. This will enable delivery of many of the Government's priorities, and position communities to address the environmental, development, financial, and infrastructure challenges they face.
9. I propose to commence work to develop the options and recommendations needed to create a strong, sustainable three waters system, with four inter-related workstreams (**Appendix One** refers):
 - 9.1 effective oversight, regulatory settings, and institutional arrangements relating to three waters;
 - 9.2 funding and financing mechanisms, including analysis of a range of options for funding the three waters infrastructure system;
 - 9.3 capacity and capability of decision makers and suppliers (including consideration of the Inquiry's recommendations for the aggregation and licensing of drinking water suppliers); and
 - 9.4 information for transparency, accountability and decision making.
10. The options considered will not be limited to current models of ownership, supply, regulation, and oversight. The full range of appropriate institutions, market structures and regulatory arrangements will be explored.
11. This work will be delivered through a cross-agency approach, led by the Department of Internal Affairs, and will involve substantial engagement with local government, iwi, and other sector interests. I intend to come back to Cabinet in October 2018 for policy and funding decisions, and with proposals to inform Budgets 2019 and 2020.
12. There are important interdependencies between three waters work and the Government response to the Inquiry, as well as with other government work programmes. These include: infrastructure, urban development and urban growth; the proposed inquiry into local government costs and revenues; and initiatives to improve freshwater quality. Officials will work together to ensure coordination at both departmental and Ministerial level, and to identify synergies.

Background

13. Three waters services (drinking water, wastewater, and stormwater) are lifeline utilities, critical to New Zealand's economic security and prosperity, health, safety, and environmental protection. The infrastructure needed to deliver these services is complex, expensive, and largely located underground, which makes it challenging to provide and maintain.

14. Three waters infrastructure is largely owned and operated by 67 local authorities, each of which is the sole service provider in its district.¹ A complex set of regulatory arrangements apply to the three waters system, and responsibilities are shared across multiple central government agencies, District Health Boards, and regional councils. The Civil Defence and Emergency Management Act 2002 also sets out duties for lifeline utilities relating to risk reduction, readiness, response, and recovery. (Slide 6 of **Appendix Two** provides an overview of regulatory arrangements.)
15. The Department of Internal Affairs has been leading a cross-agency review of three waters infrastructure, together with the Ministry for the Environment and Ministry of Business, Innovation and Employment (supported by Ministry of Health and Treasury), to explore whether current system settings and practices are fit-for-purpose.
16. The initial phase of the Three Waters Review sought to identify and understand a range of issues across four aspects of water infrastructure services: funding and financing; asset management; compliance and monitoring; and regulatory settings. Work to date has largely involved a desk-based review of data and evidence, supplemented by interviews with elected members and chief executives from a sample of local authorities. Officials also looked at international approaches to regulation and institutional arrangements for water infrastructure.
17. The information gathered was used to identify seven key findings, and four mutually-reinforcing drivers of system performance, which I am proposing will form the basis of further work to strengthen the three waters infrastructure system. A summary of these key findings was circulated to relevant Ministers in December 2017 (copy attached for reference at **Appendix Two**).
18. The Three Waters Review has been taking place at the same time as the Inquiry, which reported its Stage Two² findings in December 2017. The Inquiry and Three Waters Review have found similar issues, many of which have system-wide implications and are not limited to the safety of drinking water.
19. Given this, the Cabinet papers on the Government's response to the Inquiry (December 2017 and March 2018 Cabinet papers) indicate that some recommendations and issues could be dealt with through the Three Waters Review. Proposals to this effect are outlined in paragraph 32 of this paper.

Comment

The Three Waters Review's key findings indicate there is significant potential to strengthen the three waters system

20. Research and evidence indicate there is significant variability in the extent to which local authorities meet their responsibilities relating to three waters infrastructure and services. While many local authorities appear to be delivering high-quality services that comply with requirements and meet community expectations, there is clear evidence of performance issues and pressure points across the three waters system.

¹ A small, but significant, proportion of households, as well as some hospitals, prisons, schools, and marae, provide their own drinking water and wastewater systems. To date, self-suppliers have not fallen within the scope of the Three Waters Review, which focuses on local government water infrastructure.

² Stage One focused on identifying what happened, the cause of the outbreak, and an assessment of the conduct of those responsible for providing safe drinking water to Havelock North. The Stage One report was issued on 8 May 2017. Stage Two focused on improvement of the safety of drinking water in New Zealand, lessons to be learned from the Havelock North outbreak, and changes to achieve those goals.

21. Overall, seven high-level findings were identified.
- 21.1 There are risks to human health and the environment in some parts of the country.
 - 21.2 There is evidence of low levels of compliance, monitoring and enforcement against a range of standards, rules and requirements.
 - 21.3 There is evidence of capability and capacity challenges, particularly for smaller councils. A consistent theme that emerged is the role that scale plays in relation to asset management and governance capability, levels of compliance, and service quality.
 - 21.4 There is evidence of affordability issues in some places, driven by a range of factors and funding pressures. These include population growth, renewals, meeting increased expectations around drinking water and freshwater, and adapting to the impacts of climate change.
 - 21.5 There is inadequate system oversight and connections between key parts of the system.
 - 21.6 Variable asset management practices, and a lack of good asset information, are affecting the efficiency and effectiveness of three waters infrastructure and services.
 - 21.7 Existing reporting obligations do not provide consumers and other interested stakeholders with meaningful information on the delivery and performance of three waters services in a way that appropriately promotes transparency, accountability and performance improvement over time.
22. These findings for three waters infrastructure are consistent with many of the Inquiry's Stage Two findings relating to drinking water supplies. For example, there are concerns about the sustainability and risks of a system with a large number of localised providers. The Inquiry found there is a compelling case for a smaller number of dedicated suppliers as an effective and affordable means to improve compliance, competence and accountability. Watercare in Auckland and Wellington Water are examples of where this has already been achieved, using different council-controlled organisation (CCO) models.³
23. New Zealand is characterised by having many small-scale, council-owned water providers. While this is not unusual internationally, there are issues with the effectiveness of drinking water and environmental compliance and enforcement. Alongside this, there is no independent economic regulation to protect the interests of consumers. In contrast with other core infrastructure sectors in this country, the three waters sector has minimal central oversight, and relatively light transparency and accountability.
24. The operating environment for three waters is becoming more challenging, due to:
- 24.1 increasing demand for three waters services in high-growth areas, often with capacity constraints;
 - 24.2 declining rating bases, or small tourism centres with high seasonal demand;

³ There are two different CCO models. Auckland Council owns Watercare, which owns and manages the drinking water and wastewater assets. Wellington Water manages, but does not own, the water assets for Wellington City, Wellington Regional, Porirua City, Hutt City, and Upper Hutt City Councils.

- 24.3 a need to replace ageing infrastructure;
 - 24.4 community expectations and regulatory requirements relating to water quality, treatment and/or management, and national directions on fresh and coastal water quality; and
 - 24.5 responding to climate change adaptation, emergencies and natural hazards, and infrastructure resilience issues.
25. The available evidence suggests the system is not well placed to address these issues and meet new challenges. Experience over the past 30 years also indicates that achieving widespread improvements, particularly through voluntary change and collaboration, is likely to be challenging.
26. While some local authorities have taken significant steps to improve three waters service delivery, changes have been slow and limited across the whole system, or have required legislation to achieve. For example:
- 26.1 Wellington Water was formed to take a more integrated and strategic investment approach to water infrastructure across Wellington's urban local authorities. It is now a successful model, but it took more than 10 years to develop and implement.
 - 26.2 Proposals for Waikato sub-regional water services arrangements have been investigated over several years, but have not come to fruition. In December 2017, Waipa District Council voted against a proposal to form a non-asset owning water company in collaboration with Hamilton City Council.
27. The Inquiry considered whether better levels of collaboration were a viable alternative to dedicated suppliers, as some submitters had contended. It expressed a belief that cooperation at a combined or shared operational level between drinking water suppliers is not readily achievable, for a range of practical, statutory, and political reasons. It concluded that something more structured and durable is needed.

There will be implications for New Zealand if the three waters system does not respond to current and future pressures

28. The Inquiry concluded that the problems in Havelock North are not confined to that area, and there is a widespread systemic failure of water suppliers to meet the high standards required to ensure the safe supply of drinking water to the public. If action is not taken, there are risks of similar incidents occurring elsewhere, with potentially serious consequences.
29. There will also be broader national and local implications if performance improvements are not delivered across the three waters system, including:
- 29.1 housing infrastructure supply being unable to meet demand in high-growth areas;
 - 29.2 failure to meet national and local environmental outcomes for freshwater and the marine environment;
 - 29.3 a constrained ability to plan and fund robust systems that can cope with climate change, emergencies, and natural hazards; and

- 29.4 limitations on developing the regions, particularly for areas with declining rating bases, or small tourism centres with high seasonal demand. Decisions to establish or expand businesses in a particular area may be dependent on the existence of reliable water infrastructure, for example.

I propose four workstreams to progress the Three Waters Review, and parts of the Government response to the Inquiry

30. The December 2017 Cabinet paper, *Government Inquiry into Havelock North Drinking Water*, signalled proposals to proceed with the Three Waters Review with four, interconnected workstreams:
- 30.1 effective oversight, regulatory settings and institutional arrangements;
 - 30.2 funding and financing mechanisms;
 - 30.3 capacity and capability of decision-makers and suppliers; and
 - 30.4 information for transparency, accountability and decision making.
31. The workstreams are based around and reflect four mutually-reinforcing drivers of system performance for three waters services, which were identified earlier in the Review. Evidence and experience from New Zealand and overseas indicates that action is needed across all four drivers to achieve sustained and widespread system improvements.
32. I am proposing that the workstreams would identify and assess a range of options for addressing the issues raised in the Review, and for delivering system-wide improvements. Given the strong links between the Review and Inquiry findings, I propose this work would also consider the following Inquiry recommendations, with a broader lens of three waters provision.
- 32.1 that the Government should make a decisive and definitive assessment of whether to mandate, or persuade, suppliers to establish aggregated dedicated water suppliers (recommendations 32 and 33); and
 - 32.2 establishing a licensing system for networked drinking water suppliers, and a mandatory qualification system for suppliers and their staff (recommendations 22, 23 and 24)
 - 32.3 establishing a drinking water regulator (recommendations 9 to 12), including considering whether a broader sectoral approach to regulatory institutional settings is more appropriate than a single focus/purpose regulator, given the interconnected nature of three waters services.
33. The matters to be covered by each workstream are outlined in the tables below, and in more detail in **Appendix One**. This work would continue to be delivered through a cross-agency approach, coordinated by the Department of Internal Affairs.

Workstream 1: Effective oversight, regulatory settings, and institutional arrangements

This workstream will provide options for new regulatory arrangements for three waters service delivery, and will comprise three main components.

1. Policy oversight: Clarifying responsibility for policy oversight, including, but not limited to, possible appointment of a lead government agency, and Ministerial accountability for the three waters system.
2. Regulatory oversight: Identifying and assessing potential mechanisms for better regulation of three waters, such as through an independent industry regulator, environmental regulator, and/or economic regulator (which are common features of regulatory models overseas). The workstream will consider any downstream competition policy work required from the private provision models being explored by Treasury and Crown Infrastructure Partners, as well as the licensing recommendations of the Inquiry.

If decisions are taken to establish a drinking water regulator, this workstream will consider how other environmental or economic regulatory functions might relate to, or be delivered alongside or as part of, this new body. This approach will ensure that the overall regulatory options are coherent and comprehensive, and have an appropriate focus on both public health and the broader impacts of the three waters system.

3. Regulatory compliance and enforcement: Exploring options for strengthening the monitoring, compliance and enforcement of the three waters regulatory structure. This includes ensuring that the land use controls and resource management planning regime implemented by regional councils are adequate and properly enforced to protect drinking water quality and quantity. This has links to work being conducted by the Ministry for the Environment on compliance, monitoring and enforcement under the Resource Management Act 1991.

Workstream 2: Funding and financing mechanisms

This workstream will:

1. Quantify the size of the funding challenge facing local government.
2. Explore options for equipping three waters infrastructure providers with a wide set of appropriate and flexible funding tools.

Funding options will need to maintain clear accountability for three waters service provision and the ongoing maintenance of infrastructure. Options will also address multiple objectives and issues, and will differ depending on the challenges at hand, such as population growth, tourism impacts, rural access to services, resilience, increasing standards and expectations, climate change adaptation, natural hazards and emergencies, and technological advances.

Workstream 3: Capacity and capability of decision-makers and suppliers

This workstream will provide high-level policy advice on options for addressing three related items:

1. The capacity and capability issues that were identified through the Three Waters Review, including the challenges faced by smaller local authorities.
2. The Inquiry's recommendations relating to the aggregation of dedicated water suppliers, but with a broader lens of three waters provision (recommendations 32 and 33).

Workstream 3: Capacity and capability of decision-makers and suppliers

This broad perspective is important given the inter-connected nature of three waters infrastructure ownership, management and service delivery. While the Inquiry did not consider the question of whether a dedicated supplier might be responsible for wastewater as well as drinking water, it recognised that this is a common feature of dedicated suppliers in overseas systems. It also noted the scope for setting up dedicated suppliers in this country without altering the structural arrangements for local government.

3. The Inquiry's recommendations for a licensing system for networked drinking water suppliers, and a mandatory qualification system for suppliers and their staff (recommendations 22, 23 and 24). (This will be considered in conjunction with workstream 1.)

Workstream 4: Information for transparency, accountability and decision making

This workstream will identify options for ensuring accessible, robust and consistent information on the performance of three waters services for consumers, local government, and central government. It will consider, for example, the type and frequency of information that should be made available to allow consumers and other interested parties to make assessments about the performance of three waters services. (This will be explored in conjunction with the other workstreams.)

34. I propose that this work be undertaken with the following high-level outcomes in mind; that three waters infrastructure services are:
 - 34.1 affordable, resilient and well managed; meet health and environmental standards, and other legal obligations; and meet the economic, social, and cultural objectives of the consumers they serve, including the concept of Te Mana o te Wai; and
 - 34.2 managed and delivered in a way that enables accessibility; sustainability; resilience; transparency (including price transparency); accountability; and the meeting of national and local objectives.
35. The work will also be cognisant of the six principles of drinking water safety, identified in the Inquiry's Stage Two Report.⁴

Timeframes and governance arrangements

36. I intend to report back to Cabinet in October 2018 on the results of the work described above, and with proposals that will inform Budgets 2019 and 2020. I anticipate presenting a package of measures covering aspects of all four workstreams. A holistic approach recognises that focusing on one or two areas only is unlikely to achieve significant and enduring improvements in system performance.

⁴ These principles are: (1) A high standard of care must be embraced; (2) Protections of source water is of paramount importance; (3) Maintain multiple barriers against contamination; (4) Change precedes contamination; (5) Suppliers must own the safety of drinking water; (6) Apply a preventative risk management approach (referred to in paragraph 31 of the Stage Two Report).

37. I propose that Ministerial oversight of this work be led by a group of Ministers with portfolio interests in water infrastructure, namely: Finance, Housing and Urban Development, Transport, Infrastructure, Environment, Local Government, Health, Climate Change, Civil Defence, and Commerce and Consumer Affairs. Policy and funding decisions would be referred to Cabinet.

Relationships with other areas of work

38. There are significant interdependencies with the Government response to the Inquiry. A separate Cabinet paper, prepared in tandem with this paper, deals with this matter.
39. Other areas of ongoing work across government that relate closely to the three waters workstreams include:
- 39.1 Infrastructure work being carried out under both the Urban Development and Transport Agency and the Urban Growth Agenda. The Urban Development and Transport Agency is considering additional tools for funding to be used to deliver complex urban development projects. The Urban Growth Agenda is developing long-term solutions for how we plan for urban growth, including alternative funding mechanisms to enable responsive provision of infrastructure.
 - 39.2 The inquiry into local government costs and revenues ("Ten Years on from the Shand Inquiry").
 - 39.3 Work relating to the Government priority of improving freshwater quality.
 - 39.4 Work on climate change, in particular around adaptation policy.
 - 39.5 Improving access to drinking water systems for small and rural communities, including marae and papakainga.
40. Officials will continue to work together to ensure coordination across these areas, share information, and identify synergies where possible to produce a cohesive response.

Consultation

41. The following agencies were consulted during the preparation of this paper: Ministry for the Environment; Ministry of Business, Innovation and Employment; Ministry of Health; Ministry of Transport; Te Puni Kōkiri; the Treasury; and the Department of the Prime Minister and Cabinet (Policy Advisory Group and Ministry of Civil Defence and Emergency Management). Their comments have been reflected in this paper.

Financial implications

42. Undertaking the work proposed in this paper, and implementing the Government's response to the Inquiry, will require a system-wide approach that spans multiple agencies. Specialist advice is likely to be needed in addition to departmental policy input.
43. Residual funding from an allocation for the Three Waters Review in Budget 2017 will enable policy work to be progressed during the remainder of this financial year.

44. Financial considerations will be an important part of the options analysis undertaken in the workstreams outlined in this paper. Proposals identified through this work may have significant financial implications. Where appropriate, funding would be sought through Budgets 2019 and 2020 to give effect to the policy decisions sought later this year.

Human rights / gender implications / disability perspective

45. There are no human rights, gender, or disability issues or implications arising from the proposals in this paper. However, there may be implications arising from the options identified through one or more of the workstreams outlined in this paper.

Legislative implications

46. There are no legislative implications arising from the proposals in this paper. However, options that are identified through one or more of the workstreams described in the paper may require legislation to implement, and result in the development of bids for the 2019 legislative programme.

Publicity

47. There is likely to be widespread stakeholder interest in this work, including from the local government and water infrastructure sectors. Accordingly, I propose to proactively release this Cabinet paper (with appropriate redactions), and to undertake substantial engagement with sector interests during 2018.
48. A draft media release is appended to the paper, *Government response to Havelock North Drinking Water Inquiry*. This outlines the Government's plan for implementing the Inquiry's recommendations.

Recommendations

49. The Minister of Local Government recommends that the Cabinet Economic Development Committee:
1. **note** that research in the Three Waters Review identified seven key findings, which indicate there is significant potential to strengthen the three waters infrastructure system:
 - 1.1 there are risks to human health and the environment in some parts of the country;
 - 1.2 there is evidence of low levels of compliance, monitoring and enforcement against a range of standards, rules and requirements;
 - 1.3 there is evidence of capability and capacity challenges, particularly for smaller councils;
 - 1.4 there is evidence of affordability issues in some places, driven by a range of factors and funding pressures;
 - 1.5 there is inadequate system oversight and connections between key parts of the system;
 - 1.6 variable asset management practices, and a lack of good asset information, are affecting the efficiency and effectiveness of three waters infrastructure and services; and

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- 1.7 existing reporting obligations do not provide consumers and other interested stakeholders with meaningful information on the delivery and performance of three waters services in a way that appropriately promotes transparency, accountability and performance improvement over time;
2. **note** that these findings are consistent with many of the Stage Two findings of the *Government Inquiry into Havelock North Drinking Water* (the Inquiry), which reported in December 2017, but apply more broadly across three waters infrastructure and services;
3. **note** that the local government sector is facing funding pressures and an increasingly challenging operating environment relating to three waters infrastructure, associated with:
 - 3.1 increasing demand for three waters services in high-growth areas, often with capacity constraints;
 - 3.2 declining rating bases, or small tourism centres with high seasonal demand;
 - 3.3 renewing ageing infrastructure;
 - 3.4 community expectations and regulatory requirements relating to water quality, treatment and management, and national directions on fresh and coastal water quality;
 - 3.5 responding to climate change adaptation and infrastructure resilience issues; and
 - 3.6 the operation and restoration of three waters infrastructure following emergencies;
4. **agree** to proceed with cross-agency work, coordinated by the Department of Internal Affairs, to address the issues identified in the Three Waters Review, comprising four workstreams (as described in detail in **Appendix One**):
 - 4.1 effective oversight, regulatory settings, and institutional arrangements (led by the Ministry of Business, Innovation and Employment (MBIE), in consultation with the Department of Internal Affairs (DIA), Ministry of Health (MoH), Ministry for the Environment (MfE), and the State Services Commission);
 - 4.2 funding and financing mechanisms, including analysis of a range of options for funding the three waters infrastructure system (led by DIA, in consultation with MBIE, MoH, and MfE);
 - 4.3 capacity and capability of decision-makers and suppliers (led by DIA, in consultation with MBIE, MoH, and MfE); and
 - 4.4 information for transparency, accountability and decision making (led by MBIE, in consultation with DIA, MoH, and MfE);
5. **agree** that the work described in paragraph 4 above will consider the following Inquiry recommendations, but with a broader lens of three waters provision:
 - 5.1 an assessment of whether to mandate, or persuade, suppliers to establish aggregated dedicated water suppliers (recommendations 32 and 33);
 - 5.2 establishing a licensing system for networked drinking suppliers, and a mandatory qualification system for suppliers and their staff (recommendations 22, 23 and 24); and

IN CONFIDENCE

- 5.3 establishing a drinking water regulator (recommendations 9 to 12), including considering whether a broader sectoral approach to regulatory institutional settings is more appropriate than a single focus/purpose regulator given the interconnected nature of three waters services;
6. **note** that I intend to report back to Cabinet in October 2018 on the results of this work, with policy and funding proposals to inform Budgets 2019 and 2020;
7. **agree** that Ministerial oversight of this work be provided by a group of Ministers with portfolio interests in water infrastructure, namely Finance, Environment, Housing and Urban Development, Infrastructure, Local Government, Transport, Health, Climate Change, Civil Defence, and Commerce and Consumer Affairs; and
8. **agree** to the proactive release of this Cabinet paper, with relevant redactions.

Authorised for lodgement

Hon Nanaia Mahuta

Minister of Local Government

Released under the Official Information Act 1982

Appendix One: Next steps for the Three Waters Review – proposals for four workstreams

Workstream 1: Effective oversight, regulatory settings and institutional arrangements

Context

1. The *Government Inquiry into Havelock North Drinking Water* (the Inquiry) highlighted a number of concerns, including that “the current drinking water regime is fragmented, with many different agencies and persons responsible for various aspects of it ... This multi-disciplinary system gives rise to issues concerning cooperation and collaboration between agencies”.
2. More broadly, international literature suggests that a fit-for-purpose three waters system includes:
 - 2.1 a clearly led and well-coordinated approach to central government policy pertaining to water infrastructure;
 - 2.2 separation of policy, regulation and delivery, with independent regulation or regulatory oversight; and
 - 2.3 effective monitoring and enforcement of regulations.
3. Evidence gathered during the Three Waters Review indicates that many of these features are not sufficiently present in New Zealand for the system to operate effectively. While New Zealand is not an outlier internationally in having many small-scale, council-owned monopoly water providers, it is unusual in that these providers are not subject to independent regulation to safeguard consumer interests.
4. There is scope to strengthen the three waters infrastructure system through:
 - 4.1 improved institutional arrangements, consumer protection, and health and environmental regulation,
 - 4.2 better coordination between government agencies; and
 - 4.3 ensuring central and local government work collaboratively towards common goals.

Scope

5. There are three main elements to this workstream.
 - 5.1 Policy oversight: Clarifying responsibility for policy oversight, including, but not limited to, possible appointment of a lead government agency, and Ministerial accountability for the three waters system.
 - 5.2 Regulatory oversight: Identifying and assessing potential mechanisms for better regulation of three waters, such as through an independent industry regulator, economic regulator, and/or an environmental regulator. These are common features of overseas regulatory models, which complement public health objectives.

If decisions are taken to establish a drinking water regulator, this workstream will consider how other environmental and economic regulatory functions might relate to, or be delivered through, this new body. This approach will ensure that the overall regulatory options are coherent and comprehensive, and have an appropriate focus on both public health and the broader impacts of the three waters system.

IN CONFIDENCE

- 5.3 Regulatory compliance and enforcement: Exploring options for strengthening the monitoring, compliance and enforcement of the three waters regulatory structure.
6. This work will explore related matters, such as the roles, responsibilities and powers of a lead government agency and regulators. It will also consider any downstream competition policy work required from the private provision models explored by Treasury and Crown Infrastructure Partners, and the licensing recommendations from the Inquiry.

Considerations that will inform this work

7. The December 2017 Cabinet paper, *Government Inquiry into Havelock North Drinking Water*, noted that further advice on the form and function of a drinking water regulator would need to be informed by a number of matters. These matters would also be considered as part of the analysis of other types of regulator. They include:
 - 7.1 establishment and ongoing operating costs;
 - 7.2 the level of regulatory, budgetary, operational, and institutional independence that would best support high quality regulation;
 - 7.3 accountability and engagement mechanisms;
 - 7.4 arrangements to ensure capacity and capability within the regulator; and
 - 7.5 guidance on regulatory institutions and practices.
8. Local Government New Zealand has proposed a co-regulatory body, similar to the Gas Industry Company operating under Part 4A of the Gas Act 1992, but without some of the independence and regulatory protections. This model may be considered as part of the options identification and analysis. It is noted, however, that the Inquiry expressed reservations about such a model, observing that any regulator would need to operate independently of suppliers and other industry participants.
9. The regulatory compliance aspects of this workstream link to work being conducted by the Ministry for the Environment on compliance, monitoring and enforcement under the Resource Management Act 1991.
10. The ability of three waters service providers to meet obligations to be operational to the fullest possible after an emergency (under the Civil Defence and Emergency Management Act 2002) will also be considered.

Connections with other work

11. The March 2018 Cabinet paper, *Government Response to Havelock North Drinking Water*, includes proposals to explore options for a new regulatory structure for drinking water.
12. Workstream 1 will align with the Inquiry response work, but with a broader lens that incorporates the inter-connected nature of all three waters.

Workstream 2: Funding and financing mechanisms

Context

13. The Three Waters Review found evidence of affordability issues relating to three waters infrastructure in some local authorities. Funding pressures are associated with one or more of the following factors.

- 13.1 Growth: While high-growth local authorities are investing significantly in assets for population growth, they are struggling to supply sufficient serviced land to meet demand. Development contributions are only partially funding capital expenditure on infrastructure, leaving about \$615 million nationally to be financed by ratepayers (as at 2015/16). In the short term, this is pushing some local authorities close to their debt limits.

Local authorities with small ratepayer bases also face affordability issues. Three waters infrastructure is under particular pressure in areas experiencing high seasonal demand from tourism.

- 13.2 Meeting increased expectations: Local authorities are facing expectations for water service improvements, relating to compliance with drinking water standards, national directions on fresh and coastal water quality, and infrastructure resilience (including resilience of assets and lifeline utilities following emergencies). The impact of these expectations varies depending on other funding pressures, geography, and current service levels. The capital and operating costs of meeting new standards is not well understood in some areas.

- 13.3 Renewals: The renewal of three waters infrastructure to maintain services does not appear to be an immediate issue for most local authorities. However, nearly two-thirds of local authorities are not fully funding the depreciation costs of water assets, and are thus shifting costs onto future ratepayers. Some local authorities are finding it financially challenging to carry out the asset condition assessments needed to enable well-planned renewals. Some smaller councils also seem reluctant to borrow to invest in renewing or upgrading infrastructure.

In addition, local authority funding practices may artificially create difficulties for funding renewals. For example, just under half of all local authorities prefer to apply targeted rates on an individual water infrastructure scheme basis, rather than using other funding options (such as general rates or targeted rates on a district-wide basis). Using this method tends to result in higher charges for small schemes, creating affordability issues.

Scope

14. Workstream 2 will identify and assess options for equipping three waters infrastructure providers with a wide set of appropriate and flexible funding tools, which can address or incentivise actions against multiple objectives and issues (such as population growth; rural access to services; resilience, including for infrastructure failure due to emergencies; increasing standards and expectations; innovation; and technological advances).
15. The options to be explored include:
- 15.1 additional funding and financing tools for local authorities;

IN CONFIDENCE

- 15.2 targeted, conditional grants or loans for specific purposes or projects; and
 - 15.3 a specific government funding stream for water infrastructure, with requirements for business cases, procurement methods, asset management, and performance information disclosure.
16. This workstream will also identify the size of the funding challenges facing local government relating to many of the issues outlined in paragraph 13.

Considerations that will inform this work

17. The workstream will seek to ensure:
- 17.1 funding streams support planned, sustainable, resilient, fit-for-purpose water infrastructure;
 - 17.2 funding streams support both capital and operating costs; and
 - 17.3 allocation of costs is aligned to benefits.
18. This work will also be cognisant of the extent to which the options that are developed address a range of issues and funding pressures facing local authorities, including those identified in paragraph 13.

Connections with other work

19. There are close connections with the other workstreams, particularly in relation to considerations about capacity, capability, and aggregation of suppliers (Workstream 3). Funding and financing mechanisms would need to be appropriate to address a range of capability and capacity challenges, and may need to be designed to support different service delivery models and new organisational arrangements.
20. Ensuring effective, appropriate funding and financing mechanisms for three waters infrastructure underpins many agencies' work programmes, and the achievement of Government priorities. However, there is a need for more information about associated costs and investment requirements, to help support decisions about the funding tools required to manage these investments in the longer term.
21. In relation to housing and urban development priorities, information is already being gathered on cost pressures and funding gaps for high growth local authorities. The workstream will also connect with the infrastructure funding and financing work programme, within the Urban Growth Agenda.
22. More broadly, the Department of Internal Affairs is seeking to understand the size of other three waters infrastructure funding challenges facing local government.
- 22.1 A report has already been commissioned to provide an estimate of the costs of compliance with the Drinking Water Standards (that is, the cost for local authorities and other network suppliers that do not currently comply with the Standards to reach compliance), and the cost of mandatory treatment for all drinking water sources currently untreated. The March 2018 Cabinet paper, *Government Response to Havelock North Drinking Water*, includes a summary of some of the report's findings.
 - 22.2 Further work may be commissioned to provide a clearer picture of the costs and investment requirements associated with compliance with national environmental standards, and managing the effects of climate change.

23. Workstream 2 will also contribute to a broader inquiry into local government funding (as per the coalition agreement between the Labour Party and the New Zealand First Party), to be undertaken in 2018.

Workstream 3: Capacity and capability of decision-makers and suppliers, including aggregation of drinking water suppliers

Context

24. The Inquiry argued that there is a compelling case for dedicated and aggregated suppliers being established as an effective and affordable means to improve compliance, competence and accountability. The Inquiry recommended that the Government should “make a decisive and definitive assessment of whether to mandate, or persuade, suppliers to establish aggregated dedicated water suppliers”, and make a decision on this matter as soon as practicable.
25. The Inquiry also recommended establishing a licensing system for networked drinking water suppliers, and a mandatory qualification system for suppliers and their staff.
26. The Three Waters Review found evidence of capability and capacity challenges, particularly for local authorities with smaller populations. A consistent theme that emerged is the role that scale plays in relation to service quality, compliance, asset management, and governance capability. Smaller local authorities generally have limited resources, which need to be spread across many activities.
27. There is a strong correlation between organisational size and levels of infrastructure asset management maturity and compliance with drinking water standards. Higher performance tends to be found in mid to large sized councils, or single purpose entities (Watercare and Wellington Water), with large, specialised three waters asset management teams, and sophisticated technology and data systems.
28. International literature indicates that a fit-for-purpose three waters system involves well-governed, well-managed, technically capable utility operators, with clear objectives, adequate resources, and a focus on delivering efficient and effective services. Many overseas jurisdictions with single purpose authorities for water services cover both drinking water and wastewater within the same organisation.

Scope

29. Workstream 3 will consider the capacity and capability issues that were identified through the Three Waters Review, and Inquiry recommendations for the aggregation of dedicated water suppliers and for a licensing system. It will provide advice on how to respond to specific recommendations, and ways to address other scale and specialisation issues.
30. The work will explore options for streamlining water infrastructure service delivery, some of which may involve fundamental reform. It will identify and assess the costs, benefits and risks associated with a range of different models, spanning:
- 30.1 local authority shared services and council-controlled organisations (including entities that both own and manage water infrastructure assets, like Watercare in Auckland, and asset managing entities, like Wellington Water);
 - 30.2 potential new arrangements for local authority three waters infrastructure service delivery;

IN CONFIDENCE

- 30.3 aggregation of existing drinking water suppliers into one or more suppliers (with continued local government involvement, and potentially covering the other two waters); and
 - 30.4 establishment of specialist drinking water, wastewater, and possibly stormwater, service providers (separate from local authorities).
31. The workstream will also consider potential mechanisms for delivering more moderate changes, including:
- 31.1 guidance and advice to support best practice in three waters asset management and governance;
 - 31.2 incentives and support for local authority participation in existing sector-led performance improvement initiatives;
 - 31.3 incentives and support for increased uptake of shared service arrangements between local authorities; and
 - 31.4 mandatory licensing of drinking water suppliers, with qualifications for suppliers and their staff.
32. It should be noted that Workstream 3 will focus on capacity, capability and organisational arrangements relating to local authority three waters services only (including in their roles as drinking water suppliers). The following matters will not be considered in this workstream (but may be addressed through the Inquiry response or other work):
- 32.1 capacity and capability issues within the Ministry of Health and District Health Boards;
 - 32.2 licensing and training for drinking water assessors, samplers, and laboratories;
 - 32.3 self-supplies.

Considerations that will inform this work

33. The December 2017 Cabinet paper on the Inquiry response highlighted the following issues that would need to be considered and addressed during this work.
- 33.1 Aggregation is a particularly sensitive issue for local authorities and communities, which currently own three waters infrastructure assets and often have strong views on service delivery.
 - 33.2 It is difficult to address responsibilities and structural arrangements relating to drinking water supply without also considering responsibilities for the other two waters (wastewater and stormwater).
 - 33.3 Water infrastructure has a role in place-shaping and spatial planning, which would need to be taken into account by any new water supply organisations.
34. The paper also noted that introducing a licensing system for drinking water suppliers might incentivise or force voluntary aggregation.

Connections with other work

35. The workstream has strong dependencies with the other workstreams, and the Inquiry response work, including investigations into the creation of a drinking water regulator. If decisions are made to establish a regulator, for example, it is anticipated that body may have responsibilities for the licensing, qualifications, standards and practices of drinking water suppliers.

Workstream 4: Information for transparency, accountability and decision making

Context

36. International literature indicates that a fit-for-purpose three waters system involves open and transparent information and reporting for consumers, decision makers, and policy makers. Many overseas countries also have a single agency that takes responsibility for compiling and interpreting three waters information, and making it available to a public audience.
37. The Three Waters Review found that transparency and accountability requirements relating to three waters in New Zealand are relatively light for an essential service. Reporting for three waters services is spread across multiple organisations (central government, local government, and non-government agencies), and does not readily promote transparency, accountability and performance improvement.
38. The current system requires only rudimentary public disclosure of three waters information, and what does exist tends to be highly technical and not easily accessible to non-experts. A consequence of this is that ratepayers and service users in many parts of the country cannot easily assess:
 - 38.1 whether there are risks associated with their drinking water;
 - 38.2 whether quality and environmental standards are being met;
 - 38.3 the level of monitoring and enforcement that is occurring on their behalf;
 - 38.4 how well publicly-owned assets are being managed;
 - 38.5 overall performance and value for money.
39. Research also indicates that many local authorities have incomplete information about their water assets, and data is not being used as well, or extensively, as it could to support decision making. For smaller councils, the immediate issue appears to be the availability of sufficient asset management information to understand asset condition, criticality, and replacement needs.
40. Not having this information can have a number of repercussions. For example, it may mean councils are unable to make optimal decisions about the timing and nature of major investments, or fail to extract maximum value from current assets, resulting in unnecessary costs and/or poor value for money for communities. It can also mean local residents and businesses do not receive essential services at the time and level they need.

Scope

41. Workstream 4 will identify options for ensuring accessible, robust and consistent information on three waters for consumers, local government, and central government. The workstream has several components, based around variations in the type, purpose, and audience for information.
42. If decisions are made to establish an industry regulator, it is likely that body would be responsible for collating and publishing information on three waters services, suitable for a range of audiences and needs. Workstream 4 will contribute to advice on a regulator's possible responsibilities in this area. It will also explore other mechanisms for improving information for transparency, accountability, decision making, and performance improvement, if a regulatory body is not created.

IN CONFIDENCE

43. The December 2017 Cabinet paper noted that “the Department of Internal Affairs will review the accountability and reporting arrangements for local authorities under the Local Government Act 2002, to see how they could enhance the transparency of decisions local authorities are making around water supply safety”. How to achieve this objective will be considered within the broader context of this and the other workstreams.
44. Issues relating to the collection and use of asset management information (referred to in paragraphs 39 and 40 of this Appendix) will be considered in Workstream 3, in the context of improving capability and capacity.

Considerations that will inform this work

45. Overseas jurisdictions use information disclosure regimes to highlight sector performance and sharpen incentives. However, capability, capacity and resourcing issues mean that few jurisdictions apply a one-size-fits-all approach.
46. Workstream 4 will consider the costs and benefits associated with different types of information disclosure requirements, and the potential impact on smaller local authorities in particular.

Connections with other work

47. Workstream 4 is strongly linked to the outcomes of regulatory and institutional design in Workstream 1, and with Workstream 3. As such, some of the detailed analysis in this workstream may be undertaken once high-level decisions have been made about ways to achieve greater regulatory oversight and to address capacity and capability issues.
48. There are also close connections with the Government’s response to the Inquiry, regarding public reporting about drinking water supplies.

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