

MEMO

TO Client council representatives (CCRs)
COPIED TO Client council Chief Executives
DATE 12 November 2020

FOR YOUR INFORMATION AND ACTION

Supporting information for an economic case for providing residential customers with water consumption information ('economic case for universal metering')

Wellington Water's Client Council Representatives should note that:

- An economic case considering the merits of different options for providing residential customers with water consumption information will be released to the Wellington Water Committee, the public, and media, on 25 November 2020.
- The case is focused on the use of this information to detect network leaks, customer leaks, and to help customers reduce their water consumption, in order to reduce overall water demand and defer the need for investment in new water sources. **It does not consider the merits of using the information to recover the costs of water supply.**
- The case identifies advanced meter infrastructure (AMI, or "smart" meters) with automated reporting as being likely to deliver net benefits, including reducing water demand, supporting customer engagement, reducing environmental impacts, and improving network management.
- These benefits would materially increase if volumetric charging is also applied.
- We are continuing to recommend that the capital costs for metering be included in years 4-7 of your 2021/31 Long Term Plans, and also now recommend that a detailed business case be developed in years 1-2 to inform the final investment decision.

- It is the city councils who will make the investment decision, including undertaking any community consultation, and who will also need to decide whether or not to consider volumetric charging.
- Deferring investment in a new water source using meters requires all, or at least a significant majority of the councils to make the commitment.
- Wellington Water is preparing a press release to accompany the release of the economic case. The press release will be shared with council communications officers before being published.
- Wellington Water is also preparing some additional material to support the cost estimates that are referenced in the case.

We recommend that you brief your Senior Leadership Team and councillors on the outcome of the case before it is released, given the expected level of public interest. Relevant Wellington Water staff are available to support these briefings if required.

Please also endeavour to prevent the widespread distribution of the document, and in particular to the public and media, until it has been formally released on 25 November 2020.

Reducing water demand, including from residential customers, is a regional strategic priority

1. Reducing water consumption is one of the five strategic priorities in Wellington Water's 2020/23 Statement of Intent (SOI) and a focus of the investment proposals we are making to councils for their 2021/31 long term plans (LTPs). The high rate of population growth, together with relatively high per-capita water consumption, is putting pressure on our existing water sources and an ageing network is contributing to an increase in leaks and water loss. If action is not taken to reduce this demand in the next 5-6 years, the frequency of water use restrictions will increase and the region will need to make a significant investment in developing new water sources, storage facilities, and treatment options.
2. A key focus area for achieving demand reductions is network leakage, however we have relatively limited information about where water is being used, making it difficult to determine where these leaks are occurring. The amount of water being lost in the network through leaks is estimated at being anywhere between 6 and 31%¹ of the total volume we have treated and supplied.
3. Another major component of this demand reduction will need to come from our domestic customers, who represent around 60% of total water demand.² Achieving these reductions will require these customers to have timely and easy access to information about their water use and the ability to identify leaks within their property.

An economic case has considered the options for providing water use information

4. Greater Wellington Regional Council (GWRC) has provided funding for an economic case evaluating a range of options for providing customers with usage information³. The Wellington Water Committee also endorsed the development of the case prior to it being commissioned. EY was engaged to complete the case following a competitive procurement process, and have drawn on Beca to provide technical support.
5. The case is primarily focussed on the benefits associated with customers and Wellington Water having access to this information, i.e. reduced water demand through behaviour change and the detection of customer and network leaks.

1 This is the 95% confidence interval for regional water loss for the 2019/20 financial year. The mean was 19%.
2 The remaining ca. 20% of demand is commercial consumption, which is already metered.
3 The information would also be available to Wellington Water for use in network management and operations, including network leak detection.

6. The additional potential impact of volumetric charging is considered as a scenario (i.e. what are the additional benefits of charging?) and not part of the core analysis.
7. The case has been developed in accordance with The Treasury's Better Business Case framework, and has considered the complete picture including the strategic fit, value-for-money, deliverability, and perceived acceptability, using a comprehensive multi-criteria assessment approach.
8. A full range of options was considered, ranging from increasing the extent of the existing public network metering through to the use of Advanced Metering Infrastructure (AMI or "smart" metering) that can provide information to customers via the internet or smartphone app. The case has drawn on the experience of other water utilities in New Zealand and overseas.

Universal household smart metering is expected to provide net benefits for customers

9. The economic case has identified that universal household metering using AMI is the only option which is expected to be a material improvement on the status quo. When considered on a purely economic basis (the evaluation considered other factors), this option has a benefit-to-cost (BCR) ratio of one, while also providing a number of important but non-monetisable benefits such as better environmental outcomes, better system knowledge to support operations and investment, and improved customer satisfaction from better access to information. The use of AMI is expected to reduce gross demand by 10% (equivalent to a 13-year deferral in investment in a new source). A summary of the case's analysis is provided as Attachment A, and the full case itself as Attachment B.
10. The benefits of this option are increased if a less conservative capital cost estimate is used (information from other water utilities suggests our baseline assumption is at the higher end of the range) or if the cost of a new water source is higher than the (very high level) estimate used in the analysis.
11. A net economic benefit is expected from all of options in the event that volumetric charging is also applied (with a BCR of 2.6 and a 23% reduction in gross demand for the AMI option).
12. Taken collectively (i.e. the overall assessment together with the sensitivity analysis) the overall strength of the case is considered sufficient to justify retaining the advice provided in our 'stage 2' LTP proposals to implement universal metering within years 5-8 of the 2021/31 LTPs. Our LTP advice has applied costs for universal metering that are consistent with the costs for AMI that were determined in the economic case.

13. If the councils accept this advice into their funded LTPs, it is proposed that a full business case be developed to reduce cost uncertainties and inform key decisions like the preferred (if any) charging methodology. Completing this business case in years 1-2 of the 2021/31 LTP will enable the outcomes to inform 2024/34 LTP consultation.
14. We are also in the early stages of implementing a 'proof-of-concept' project that will see all of the existing analogue meters in one of the South Wairarapa towns replaced with AMI. This project is being progressed using government stimulus funding allocated in the Delivery Plan. The project will help to validate the expected benefits, to better understand the costs and technology requirements, and provide a convenient reference for key stakeholders, while also directly helping to address the high levels of water loss in the district.

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Attachments:

There are two attachments:

- Attachment A – Summary of economic case
- Attachment B – Economic Case for Providing Residential Water Consumption Information, October 2020.

Attachment A: Summary of economic case outcomes

Option			Status Quo	MMR	AMR	AMI
Description			Network metering	Analogue meters manually read	Digital meter with 'drive by' read	Digital meter with remote read
Critical success factor	Description	Weight	Score (-3 to 3, where status quo is 0)			
Strategic alignment	Ability to meet strategic objectives: <ul style="list-style-type: none"> Reduced consumption Better manage network Engaged customers Environmental outcomes Flexibility 	40%	0	1.2	1.5	2.7
Value for money	Net monetised benefits	25%	0	-1.0	-1.0	0.2
Supplier Capacity & Capability	Requirements to procure, install and operate the meters	10%	0	-0.2	-0.4	-0.8
Acceptability	Public perception of the solution	25%	0	0.3	0.3	0.0
Overall score	(Weighted)	100%	0	0.3	0.4	1.0

Comparison of Benefit-Cost Ratios (the basis for the value-for-money assessment) for selected sensitivities

Baseline assumptions	Excludes non-monetised benefits: <ul style="list-style-type: none"> Environmental outcomes Customer satisfaction System knowledge Reduced health risk Reliability 			0.5	0.5	1.0
Lower meter cost	Capital cost at lower end of band			0.5	0.6	1.1
Higher source cost	Higher cost for new water source			0.6	0.7	1.3
Volumetric charging	Volumetric charge for water			3.2	2.0	2.6