QLDC Council

27 November 2014

Report for Agenda Item: 10

Department:

Infrastructure

10: Proposed District-wide Water Metering Trial

Purpose – Decision Making

1 To seek Council approval to implement a one year metering trial to understand better water use across the District, and to determine whether metering is a preferred option for better managing future water demand.

Recommendation:

2 *That Council*:

a. **Approve a** District-wide water metering trial to commence 1 April 2015;
b. **Approve** a reallocation of $275,000 from the water supply renewals budget to fund the project;
c. **Authorise** the Mayor to issue a media release outlining the scope of the proposed project.

Prepared by:	Reviewed and Authorised by:
Ulrich Glasner	Peter Hansby
Chief Engineer	General Manager Infrastructure
14/11/2014	14/11/2014

Background

3 A paper was presented to Council on 27 March 2014 (Ref: COU140308) outlining the principles for Water Metering and Supply Management and recommending them for adoption. The principles are:

a) **Financial sustainability**: water supply must be managed in a manner that avoids financially unsustainable capital expenditure across the water supply network.
b) **Environmental responsibility**: unnecessary water demand needs to be managed in a manner that minimises avoidable adverse effects on the environment.
c) **Fair and equitable allocation of costs**: All water supply costs (both operating and capital costs) should be fairly and transparently allocated to ratepayers (i.e. without unreasonable cross-subsidisation).
d) **Efficient Management:** Water supply must be undertaken in a manner that enables the most efficient and cost-effective management of our resources and network, and therefore use tools which will provide us with better information to enable this to be done.
e) **Cost recovery**: Any changes to the current form of charging for water supply must maintain the principle of cost recovery only through the reallocation of costs, and therefore avoid any windfall revenue gains.
f) **Demonstrable cost benefits**: The introduction of any form of metering should only occur when the financial and other benefits from doing so demonstrably outweigh the costs of implementation.
g) **Revenue stability**: Water metering must be implemented in a manner which avoids any material revenue volatility across financial years.
h) **Complementary water management measures**: Alternative or additional measures to metering need to be considered as part of a water demand management strategy.

Current Position

4 The District has a comparatively high average water use to most other districts in New Zealand (687 l/person/day based on 28k resident population; 416 l/person/day based on 46k average day population). Peak day use is also high as a result of summer irrigation. The national average water consumption is 290 l/person/day[1].

5 The introduction of metering has the potential to help QLDC manage water demand growth more efficiently and cost effectively. Metering can provide many benefits, such as reduced environmental impact, improved network management, delaying capacity driven capital works (cost savings), improved fairness and equity and consumer education.

[1] 2012/13 National Performance Review of Water Utilities, Water NZ

6 A significant issue with metering, particularly on district-wide basis, are the initial capital costs of installation. Additional considerations are; possible operational costs, meter replacement costs, potential public concerns, and revenue volatility.

7 To better understand the benefits of water metering, it is proposed that further investigations are required, including collecting additional network data on consumption patterns; the effectiveness of existing metering in the District; and the financial assessments of metering costs.

Current Metering

8 There are approximately 21,000 water supply connections in the District. Of these around 14,000 are domestic water users, and the remaining commercial users and Council use (buildings, reserves, parks etc). Queenstown has around 9,000 connections and Wanaka 6,000.

9 The Luggate water supply has been metered since 2012. There are 218 properties with a water meter (predominately residential with some commercial and rural properties). Water meters are read on a quarterly basis.

10 Wanaka has nine metered properties (7 residential, 1 commercial, 1 rural). These were read 3 times during the summer from Dec 2012 to Feb 2013.

11 Metering in Lake Hayes commenced in 2006. There are 294 properties with a water meter (predominately lifestyle properties). Water usage is read 8 times/year.

12 There are very few water meters on Council buildings, community facilities, reserves, parks or public toilets.

13 Queenstown CBD has 34 commercial properties metered. These have been read on a fortnightly basis since Oct 2011.

Current Limitations

14 Metering to date has been confined to predominately small, residential communities.

15 If District-wide volumetric metering were to be introduced, most meters would be installed in Queenstown and Wanaka. These two areas have had limited metering in the past and there is limited information on the cost and complexity of installing meters in urbanised centres e.g. multi-use accommodation, commercial properties and Council facilities.

16 The pattern of water use throughout the year (summer and winter peaks) will likely vary in the different communities. Water use in small, residential

communities will not be representative of water use in the main centres (Queenstown, Wanaka and Arrowtown).

17 Accordingly, to understand the cost-benefit of water meters, and all the implications of them being installed, an understanding use across all locations is vital.

Proposed Next Steps

18 It is proposed to implement a water metering trial for a 12 month period. The purpose of the trial will be to:

a) Provide certainty as to the cost of installing meters across the District (including different costs for different types and locations of installation;
b) Understand the complexity of physical meter installations;
c) Quantify the potential reduction in water usage as a result of metering;
d) Quantify the potential leakage that is occurring on private property;
e) Inform the metering cost-benefit analysis to demonstrate whether the financial and other benefits outweigh the costs of implementation.

Problem & Benefit Definition

19 The following problems have been identified as information gaps to substantiate the case for water metering:

	Problem	**Focus**	**Benefit**
1	We don't know the true cost of fully metering the District	Focus on the costs to buy meters, installation costs, operating and maintenance costs, meter reading costs	Understand all the **costs** of installing meters (This informs cost-benefit business case)
2	We don't know how difficult it will be to install meters in main centres	Focus on the practicalities and logistics of installing meters across a range of property types and locations	Understand **implementation** issues of installing meters
3	We don't know what reduction there will be in water consumption	Focus on water use of metered properties pre- and post-installation, as well as comparison with non-metered properties.	Understand **water consumption patterns** for a range of water users
4	We don't know how much water QLDC uses and loses from its networks	Focus on understanding QLDC water use and the split of water losses between private and public	Understand QLDC water consumption and **water losses**
5	We don't know if metering is the best solution for the District	Review the outcomes from problems 1-4 to inform a decision	Informs the **cost-benefit case** for district wide metering

Metering Trial - Options Analysis

20 The following options were considered for a metering trial:

Option 1: Status Quo

21 No further meters are installed and water consumption is reviewed for trends and to identify potential leaks.

Option 2: Meter Trial – Single Community

22 Based on an earlier analysis Luggate, Arthurs Point and Lake Hayes had the greatest cost-benefit for metering. Luggate and Lake Hayes are now metered. These are predominately residential communities. The option would be to conduct the trial in Arthurs Point, which is similar to the currently metered communities, or one of the main centres (Queenstown, Wanaka, or Arrowtown).

Option 3: Meter Trial – District-wide

23 This option would involve the metering of a sample of premises across the District in each of the seven communities. The majority of the trial would be conducted in Queenstown, Wanaka and Arrowtown.

24 A range of commercial businesses in Queenstown and Wanaka CBDs would be metered. These are considered the most difficult and most expensive to meter. The trial would also include lifestyle blocks and different types of residential properties (single and multi-dwelling).

25 A selection of Council buildings and reserves across the District would be included in the trial. This will enable the Council to show leadership by understanding its own water use, informing water efficient behaviour and leading by example.

Benefit Assessment

26 An assessment was made to demonstrate if the three meter trial options met the requirements of the benefits discussed above. The conclusions are shown below.

Benefits	Status Quo - Existing Meters	Meter Trial - Single Community	Meter Trial - District Wide
Understand **cost** of installing meters – informs cost benefit business case	No	Partial	Yes
Understand **implementation** issues of installing meters	Partial	Partial	Yes
Understand **water consumption** changes for a range of water users	Partial	Partial	Yes
Understand QLDC water consumption and **water losses**	Partial	Partial	Yes
Informs the **cost-benefit case** for district wide metering	No	Partial	Yes

Recommended Option

27 The recommended option is to commence with a metering trial across the Queenstown Lakes District.

Financial Considerations

28 No financial provision was made for a metering trial in the 2014-15 Annual Plan. It is estimated that the proposed trial will cost approximately $275,000 based on the installation of 500 meters across the District at an average cost of $550/meter.

29 Options for funding the trial this financial year are:

a. To commence from 1 April 2015, and re-allocate funds from the existing renewals programme for each of the community supplies.
b. To commence from 1 April 2015 with funding from efficiency savings gained from other projects identified for spend in the 2014-15 capital programme.
c. To commence in 1 July with new funds allocated as part of the 2015/18 LTP process.

30 Given the length of time that water demand management has been an issue in the District, and the fact that a full 12 month analysis is necessary to allow for seasonal variations in use, it is recommended we commence the project

as soon as possible, but which also fits with the transition between seasons (and associated different patterns of water use).

Local Government Act 2002 Purpose

31 The author has reviewed Section 10 of the LGA. This matter gives effect to the purpose of local government because the consideration of universal metering relates directly to the provision of core local infrastructure. This will include taking steps to determine the most efficient and cost-effective options for water supply management in the district

Significance of Decision

32 The report is not significant under the Council's Policy on Significance.

Consultation - Interested or Affected Persons

33 No public consultation has been undertaken in association with this report.

Relevant Council Policies and Plans

34 The proposal has been considered against the principles adopted by Council for managing water supply and management.

Publicity

35 Water metering attracts widespread public interest. Notwithstanding the proposal is only being conducted on a trial basis, and there will be not charging based on metered use, there is likely to be some adverse public comment. It will be important to ensure that the public is fully and accurately informed as to the purpose of the project and to deliver a positive message as to the intentions and benefits of it.

36 It is proposed that these issues are initially addressed by the attached draft media release. This will then be followed up by an ongoing communications exercise via Scuttlebutt and other Council communication channels.