

# WATER METERING AND VOLUMETRIC CHARGING ON DOMESTIC DWELLINGS

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## **Policy**

Water New Zealand supports the introduction of metering and direct volumetric charges for domestic dwellings connected to local authority reticulated water schemes. These tools assist in the management of water demand by reducing household use and the volume of wastewater requiring transportation and treatment. The ensuing conservation of financial resources associated with capital investment in infrastructure capital and reduced maintenance and operational costs (including energy consumption), leads to improved efficiency.

Metering and volumetric charging is also the fairest way of recovering the cost of supplying these services.

As with other charging methodologies, direct volumetric charging may put financial pressure on some household budgets. While affordability is not the responsibility of water utilities, as corporate citizens it is appropriate for these entities and Water New Zealand to work with relevant agencies to develop guidelines for dealing with customer groups that are vulnerable under this and other charging regimes.

Water New Zealand supports continuing public ownership of potable water reticulation infrastructure.

## **Explanation**

Local authorities face significant costs in providing potable water supplies and removing and processing wastewater. There is a directly proportional relationship between domestic water use and the output volume of wastewater requiring treatment. Managing household demand for potable water results in a reduction in the volume of waste water required to be transported and processed.

Nationally just less than 30% of total Territorial Local Authority (TLA) expenditure is allocated to the provision of potable water supply, waste water removal and treatment as well as storm water management. Managing demand to encourage the reduction of water use reduces supply and ongoing maintenance costs, and assists in deferring capital expenditure on new potable water supplies and wastewater treatment systems.

A suite of policy instruments are available to assist in managing the domestic demand for potable water.

These include:

- educating the public to moderate demand;
- encouraging the use of efficient technologies such as low flow shower heads, dual flush toilets, 'water efficient' dishwashers and washing machines;
- reducing water loss from reticulated systems;
- collection and use of rainwater and 'grey water' at individual dwellings; and
- the application of regulatory instruments at a national or TLA level to encourage moderation of demand.

Metering and volumetric charging for domestic water supply is currently fully employed by 11 of the 73 TLAs in New Zealand. A further 8 TLAs have metering in some areas of their respective jurisdictions and one TLA requires the installation of meters at domestic dwellings but does not impose volumetric charging.

The average daily water use (per capita) across TLAs that apply volumetric charging for water supply is typically in the region of 200 litres. This contrasts with figures of over 700 litres from some TLAs without metering and volumetric charging.

The introduction of metering and volumetric charging will enable effective and cost efficient monitoring of domestic water use, including monitoring of variations in demand at different times of the year. Using this tool Nelson City reported a 37% reduction in peak summer demand periods.

Cost/benefit analyses of water metering and volumetric charging indicate that there is a high rate of return in areas where large capital expenditure is required on the treatment facilities to keep up with demand. (It should also be noted there is an increasing trend to employ volumetric charging for wastewater.) One TLA has reported that the introduction of metering delayed estimated capital expenditure of \$75 million on water supply investments for around 10-12 years. More recently the same TLA has estimated that \$30 million to \$40 million of wastewater treatment investment can now be deferred for up to eight years. These savings have resulted from the \$9.7 million cost of installing metering in every household.

Smaller water suppliers with fewer available resources may not see the same high rates of return with universal metering, as the initial capital, maintenance and reading costs can outweigh the benefits in these areas. An alternative for such suppliers may be to apply metering for users of extra-ordinary or excessive amounts of water.

For larger water suppliers, however, metering provides a strong signal to users to conserve water and reduce wastage. Customers will have an increased awareness of their water use, and save money accordingly. While uniform annual charges to reticulated domestic dwellings can lead to high volume users being cross-subsidised by low use householders, metering provides an equitable method for charging consumers as they are charged for water used rather than having to pay a fixed annual fee.

Where there is pressure on water supplies available to be allocated for TLA reticulated schemes, it is likely that regional authorities will require evidence of demand management as conditions on consents.

On environmental, economic and social equity grounds the case for metering and volumetric charging is compelling.