



# Water Demand Management Strategy 2017



# Thames-Coromandel District Council Water Demand Management Strategy

---

## Vision

Council managed water supplies in the district meet customer demand in a responsible, reliable and sustainable manner.

Thames-Coromandel District water supply resources will be responsibly managed by Council.

## Opportunity/Problem Statement

Council operates eleven water supplies across thirteen settlements. These supplies must be able to continue meeting the basic water supply needs of the communities connected to the supplies in times of high summer demand when the ability to continue taking water from streams and bores comes under pressure from dry weather. This demand must be managed inside the resource consent limits for the water supply from the relevant stream or bore.

## Context

In areas such as Thames-Coromandel where there is a healthy annual rainfall and an abundant supply of surface water, surface water supplies are generally the first to develop. It is only at a point in time where the run-of-river extractions are judged to be at a level where the environment is significantly impacted that restrictions on extractions come into play. In the case of Thames-Coromandel, these restrictions come in the form of resource consent conditions, which place limits on the timing and volume of water to be extracted with a view to protecting the environment. These limitations are more often than not focussed on preserving the low flow regime.

The unfortunate fact is that due to the use of water for urban irrigation and cooling and the influx of tourists in summer, these periods of low flow tend to coincide with periods of high demand. To remedy this situation, communities rely on stored water. This water can come from dams, which capture or divert water during higher flow periods, or from groundwater stores, which are recharged in periods of wet weather and can be extracted to supplement surface water supplies. The latter type of storage tends to characterise urban water supplies on the District.

In coastal communities with large tourist influxes in summer, for demand management to be most effective, it needs to bring about significant reductions in water use in peak periods as well as in low demand periods.

The National Policy Statement on Freshwater has an increased focus on demonstrating management of community water demand which will play a role in the conditions to be met when applying for or renewing water take consents. Council needs to be cognisant of this national framework in how it manages its water supplies and manages demand on this resource.

This Water Demand Management Strategy is informed by work undertaken by Jacobs consultants, HARC consulting and good practice from the water supply sector. The strategy will be used to inform work programmes for the 2018-2028 Long Term Plan and subsequent long term plans.

Good water demand management should reduce the incidences of water use restrictions in the district and ensure we are responsibly using water as an environmental resource. The best demand management approaches aren't enough though - this strategy needs buy in from household and industry users to truly be effective.

## Strategies

There are a wide range of options that can be evaluated when developing demand management strategies. They are generally classified into six different types:

- Retrofit and Rebate
- Recycling and Rainwater use
- Water Pricing
- Regulation and Codes
- System Leakage Reduction
- Community Education

Council has decided to use the following five strategies to manage water demand in our district. The Regulation and Codes approach is not employed as part of this strategy.

### **Retrofit and Rebate**

This theme is about updating existing fittings in homes and business to more water-efficient ones. We are focusing on high volume commercial users as part of this strategy. As a result, we expect to see meaningful reductions from those high users with comparatively little administrative input from Council. Targeting the biggest individual users first also allows us to see the success of this approach before potentially including smaller users, which require substantially more effort on the part of Council to run this strategy.

Residential retrofitting is a measure that works best with universal water metering which, as discussed below, is not an intervention Council is adopting at this point in time. The material produced as part of the community education intervention will include information on the benefits of installing low flow devices in households.

### **Recycling and Rainwater use**

This theme encourages customers to recycle their used water through water treatment systems, and to collect their own rainwater. There will be no requirements around rainwater tanks, but all households and business in the district will be provided with information on the benefits of rainwater tanks, both to themselves and to the security of water supply in the district.

### **Water Pricing**

The water pricing theme is about making customers aware of what their consumption is by showing them how much they pay for water. This is where water metering as a tactic lives, which can be a flat charge or increasing so that high water users pay more per volume at the higher end of use. It can also include linking water use from metering to what that household is charged for wastewater. Several of our water supply networks already have household metering and equivalent pricing, and it's unclear whether this has had a positive effect on reducing household water consumption. Our high number of non-resident ratepayers is also a challenge to the efficacy of this approach.

We will not implement universal metering until we are clear that this will work for our district, given the high cost of setting this system up and operating it.

Instead we will make sure all Council network infrastructure is appropriately metered. This will help us to identify leaks in the network earlier and more accurately. This is identified in the "System Leakage Reduction" theme below.

## **System Leakage Reduction**

This theme focuses on leaks in the systems that deliver water to homes and appliances rather than leaks from those homes or appliances, or inefficiencies. Council would actively monitor and respond to identifiable loss in the system, and ensure that the water supply infrastructure has the lowest leakage practicable. It's important we have a good handle on water efficiency within our networks, some of which have quite old infrastructure, to ensure we are doing the best we can as a Council to reduce leaks and water loss in our network before turning to households to ask them to do the same. A three year programme will see all of our reservoirs and our eleven water supply networks properly metered. We also need to proactively respond to this metering and ensure leaks are fixed promptly to minimise water loss.

## **Community Education**

This last theme, community education, focuses on making water users responsible by ensuring they have a good knowledge of their water use practices and implications, as well as what responsible water use looks like. Television and newspaper advertising, programs in school and information sheets direct to households are examples of community education.

## **Goals and Objectives**

Each strategic theme includes goals which, if met, will show that the Council is on track to achieving its vision. The objectives articulate what specific outcomes are expected to contribute to the overall goals. These are detailed explanations of initiatives to be undertaken and what these initiatives will achieve.

## **Retrofit and Rebate**

### **Non-Residential Audit and Retrofit**

#### **Goal**

Council facilitates a water audit and assessment of non-residential water users. The customer then pays for the cost of their own retrofit. This brings non-residential users into helping to lower water demand while limiting Council expenditure on retrofitting.

#### **Objective**

A Council-facilitated and customer-funded program of undertaking water use audits for high volume use non-residential customers. This program will identify efficiencies for water demand from some of the district's largest users. Once fully implemented across all eleven of the Council water supplies, the program is projected to lead to an average reduction in annual demand of 56,000m<sup>3</sup>.

This program should be run across three years, with four Council water supplies included each year, and three supplies in the final year. Addressing the areas with the largest non-residential water users by volume and those most exposed to water shortages in the first year of the program is proposed.

Council-owned buildings will also be audited and a programme of retrofitting undertaken. The scale of this work required will be identified in the 2018/19 year, and actual retrofitting will then be included as part of the 2019/20 Annual Plan.

## **Recycling and Rainwater use**

Provide rainwater tank information to residential stand-alone dwelling customers to encourage greater water independence in peak summer periods

## Goal

Council provides detailed information to customers about how to install and maintain rainwater harvesting systems. This is a low effort initiative from Council to encourage responsible water supply from customers. Rainwater tank information can be provided to all household to encourage responsible individual water supply regardless of whether they are connected to a Council water supply.

## Objective

Provision of information on the benefits of rainwater tanks and recommended options to all households in the district in the first two years of the Long Term Plan is a low-cost method of reducing demand.

Rainwater tanks are beneficial for both Council water supplies and community/individual schemes and information should be provided to all households. Water savings from this program are estimated to be 11,000 m<sup>3</sup> per annum by 2020/21. Implementation will cost \$31,000 in the 2018/19 year and an ongoing cost of \$3,000 from the 2019/20 year.

## Water Pricing

### Households informed by water metering reduce their water consumption

#### Goal

On water supplies where water metering and water pricing is employed, leaks are addressed and water is used less per person permanently resident than in areas without household metering.

Council supply area	Water metering	Water pricing
Cooks Beach	No	No
Coromandel	Yes	Yes
Hahei	No	No
Matarangi	No	No
Onemana	No	No
Pauanui	Yes	Yes
Tairua	Yes (only 25% of connected properties)	No
Thames	Yes	Yes
Thames South (Hikutaia, Puriri and Matatoki)	Yes	Yes (but a 50% remission available)

Whangamata	No	No
Whitianga	Yes (commercial only)	Yes (commercial only)

## Objective

Households with existing water metering in the district (Thames, Pauanui, Coromandel, Thames South and part of Tairua) will continue to be monitored and advised of identified leaks by Council as part of calculating water charges by volume.

Property owners are currently incentivised to fix identified leaks with a rebate of their water charges under Council policy upon presentation of evidence that the leak has been fixed. This policy will be maintained to continue to incentivise voluntary rectification of leaks in household networks.

Council will assess the effectiveness of water metering and water pricing in reducing water demand per person and property in those areas where it is currently implemented, and assess whether further water metering and water pricing should be implemented in the district.

## System Leakage Reduction

**Council will implement new network metering and utilise existing meters to identify and address network leakage**

### Goal

Leakage on Council water supply networks is reduced through the active identification and rectification of leaks.

### Objective

Council will install network meters on those water supplies which do not have existing network meters over three years, at an estimated cost of \$200,000 in the 2018/19 year, \$450,000 in the 2019/20 year, and \$300,000 in the 2020/21 year. The first year will include provision of network meters on all water supply reservoirs and year two will include metering along the network in Tairua, Coromandel, Whitianga, Onemana, Matarangi and Hahei. Year three will include metering on the networks in Whangamata, Thames, Matatoki, Puriri and Hikutaia.

Council will monitor all network meters, by analysing night time flow beginning with those which are pre-existing, and undertake actions to fix identified leaks on the network. Water savings from this program are estimated to be 228,000 m<sup>3</sup> per annum by 2021.

## Community Education

**Implementation of a Community Education Program encourages customers to reduce their water use on both Council managed and community/individual water supplies**

### Goal

Council will run a Community Education Program which informs customers about good water use practice and responsibility for managing personal water demand. This will reduce demand by creating more aware and more conservative water users. This will include highlighting the Water Efficiency Labelling Scheme (WELS) which is designed to provide information to consumers on the water efficiency of washing machines, dishwashers, lavatories, showers, taps and urinals.

## **Objective**

Council will implement a two-year community education program on reducing water use and initiatives that households can take to improve their water use efficiency. This will include promotion of the water efficiency labelling scheme which identifies more efficient household appliances for their water use. Water savings from this program are anticipated to be over 21,000 m<sup>3</sup> per annum by 2021.

A budget of \$45,000 in 2018/19 will be required, and ongoing costs of \$25,000 from 2019/20.

## Action plans

The action plan below presents delivery of a work programme as part of the 2018-2028 Long Term Plan against the objectives of this strategy. It identifies the action to be undertaken, the objective this aligns against, the cost, timeframe and who is responsible.

The action plan from the 2018-2028 Long Term Plan is included below.

[final detailed action plan to be included after adoption of LTP]

## Evaluation

This strategic approach aims to deliver reduction in average demand of 7% by 2022, with a similar reduction in peak demand. Once implemented, the water demand management strategy will have interim milestones identified for each year and in response to actions being put in place that will show Council if they are on track to meet their reduction targets.

If the strategy is not on track, it will be reviewed and further interventions may be considered to increase water reduction in order to meet demand targets and therefore meet Council's vision.