

CONSENTS TO TAKE WATER: DEMYSTIFYING EFFICIENCY OF USE

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ABSTRACT

Being able to demonstrate that a proposed water take is "efficient" is a key consideration in most applications. At present, water is owned by the Crown, and consent holders are not charged to take water. However, when managing available allocation and deciding who gets to take available water, Regional Councils often have regard to, or seek to ensure, that a proposed use of water is "efficient". This concept comes from section 7(b) of the Resource Management Act 1991 (**RMA**), but is not defined in the legislation.

So what does efficiency of use mean, and how can an applicant demonstrate that its use is efficient? What are the implications for other competing users? At a high level, efficiency of use requires an applicant to show that it is not "wasting" water through inefficient practices. It also requires an applicant to demonstrate that its take is efficient in the sense of demonstrating that, over the life of the consent, it needs the quantities of water sought, and will not unnecessarily exclude other parties from the resource.

This presentation considers real world examples of the requirements of efficiency of use, as set out in Regional Plans, and how they can be addressed by applicants.

KEYWORDS

Resource Consents, Water takes, Efficiency, Resource Management Act 1991, Municipal Supply, Irrigation, Watercare

1 INTRODUCTION

Being able to demonstrate that a proposed water take is "efficient" is a key consideration in most applications. When deciding applications for resource consent, Regional Councils often have regard to, or seek to ensure, that a proposed use of water is "efficient". This concept comes from section 7(b) of the Resource Management Act 1991 (**RMA**), but is not defined in the legislation.

At a high level, efficiency of use requires an applicant to show that it is not "wasting" water through inefficient practices. It also requires an applicant to demonstrate that its take is efficient in the sense of demonstrating that, over the life of the consent, it needs the quantities of water sought, and will not unnecessarily exclude other parties from the resource.

This presentation considers real world examples of the requirements of efficiency of use, as set out in Regional Plans, and how they can be addressed by applicants.

2 EFFICIENT USE OF WATER UNDER PART 2 OF THE RMA

Part 2 of the RMA (sections 5-8) sets out the purpose and principles of the Act. These are set out in a hierarchy of importance. Section 5 sets out the Act's purpose of "sustainable management of natural and physical resources". Section 6 then lists "matters of national importance" that must be "recognised and provided for" by persons exercising powers under the Act. Section 7 sets out other matters that decision-makers must have "particular regard to" when making decisions. Section 8 requires decision-makers to "take into account" the principles of the Treaty of Waitangi. The concept of the "efficient use of natural and physical resources" is not

included as part of section 5. Nor it is a matter of national importance under section 6. It is merely one of the matters to which decision makers exercising functions under the Act must have particular regard to under section 7(b). This provides:

"7 **Other matters**

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall have particular regard to-

...

(b) *The efficient use and development of natural and physical resources:"*

The fact that a proposal might be an "efficient" use of resources does not mean that consent should automatically be granted. The Court has held that the efficient use of resources under section 7(b) is only one of many matters to be weighed by decision-makers under Part 2 of the RMA noting: "*rather than dominating any other relevant Part 2 criteria, s 7(b) [is] intended to be weighed and balanced alongside them*".¹

Despite this, the concept of efficiency is particularly relevant on resource consent applications and plan changes that concern allocation of water – a finite natural resource. Regulators are understandably concerned to ensure that maximum benefits are derived from that resource.

Councils must also have particular regard to the "efficient" use of resources when preparing proposed plans under the RMA. This includes Regional Plans that manage the allocation of surface water and ground water. For this reason, such plans typically include objectives and policies regarding the efficient use of water resources, with the concept of efficiency flowing through to the Plan's rules regarding information requirements for and assessment of applications for consent.

3 WHAT DOES EFFICIENCY OF USE MEAN?

The term "efficient" is not defined under the RMA.

However, the term "efficient" is commonly understood to cover three different types of efficiency:

- Allocative efficiency – "*the use of resources to produce the collection of goods and services that is most highly valued by consumers*";
- Productive efficiency – "*the production of a given good or service at a minimum cost, that is, without wasting resources*"; and
- Dynamic efficiency – "*an economy that appropriately balances short-run concerns (static efficiency) with long-run concerns...*"² (i.e. efficiency overtime).

In *Meridian Energy v Central Otago District Council* [2010] NZRMA (HC) the High Court (on appeal) rejected the Environment Court's finding that the "efficient" use of resources in the context of section 7(b) of the RMA requires an applicant to demonstrate that its use of a resource is the "*best use*" (in the sense of resulting in more benefit than an alternative use or proposal – or allocative efficiency). The High Court in *Meridian Energy* noted that:

¹ *Meridian Energy Ltd v Central Otago District Council* [2010] NZRMA 477 (HC) at paragraph [116].

² These definitions have been taken from the *International Encyclopaedia of Economics*, Volume 1, by Frank N. Magill (editor).
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"The RMA is a regulatory statute restraining full rights of private property, ownership, and freedom of contract. ... But it would be extremely surprising if the statute granted to agencies, be they elected councils or the Courts, the power to impose upon owners of resources and parties to contracts some duty to make the best use of the subject resources, as construed by a council or Court.

...

However, we do not think s 7(b) (or Part 2 generally) was intended to give to decision-makers under the RMA the power to make judgments about whether the value achieved from the resources that are being utilised is the greatest benefit that could be achieved from those resources of lower value or a different set of resources. To go that far would be to assert a planning function beyond the scope of the RMA. The Act effectively represents a compromise between values of planning and respect for private developments."³

Accordingly, in situations where surface water or ground water resources are nearly fully allocated, and parties are competing with each other, it is not relevant for one party to say that its proposed use of the water (eg industrial use) would result in greater economic benefit or "efficiency" than another use (eg for irrigation of crops). Under the RMA, decision-makers are precluded from deciding which of competing proposals has greater economic benefit. In a resource consent context, decision makers are only required to consider the environment effects, and social and economic benefits of the particular proposal before them. They are not required to consider the benefits and effects of an alternative proposal for the same resource, that is yet to be lodged: *Fleetwing Farms v Marlborough District Council* [1997] 3 NZLR 257.

Accordingly, decisions under the RMA relating to the "efficient" use of water have tended to focus on "productive efficiency"—could the same benefit be produced, but by using less of the resource?

This presentation focuses on the application of this concept of efficiency to applications to take water. There are no cases specifically on what "efficient" means in this context.

Nonetheless, Regional Plans around the country have set out certain other requirements for applicants for water take consents under the "umbrella" of demonstrating efficiency of use of water. These include:

- (a) demonstrating a need for the quantity of water applied for, over the life of the consent;
- (b) demonstrating that other potential users of the resource will not be "excluded"; and
- (c) that the applicant is not using more water than is required for a particular output or unit of activity (i.e. that it is not "wasting water").

The rationale for these requirements, and ways in which they can be demonstrated by applicants, is set out below.

4 DEMONSTRATING A NEED FOR THE QUANTITY OF WATER APPLIED FOR

Although Councils and the Court cannot adjudicate on whether one use of water is more "efficient" than another in the sense of providing a greater economic benefit, an applicant will often be required to show the proposed quantity of water it is seeking is "efficient" in the sense of taking no more than is required for its stated purpose.

³ Paragraphs [118] and [120] of the decision.
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As noted in the Waikato Regional Plan, historically in New Zealand:

*"... water [has] been perceived as a free public resource, plentiful in supply and generally available to anyone wishing to use it... Decisions by Regional Councils regarding water takes are becoming increasingly focussed on promoting the efficient use of water, that is, ensuring that when water is allocated it is for a justifiable purpose and the quantity taken represents a reasonable allocation for the proposed use."*⁴

As water is currently a "free" resource (apart from consenting costs), parties could conceivably apply for far more water than they need, without any financial penalty if they do not use it. This would result in an "inefficient" use of available resources in that other parties would be prevented from using this water (for any purpose, whatever its economic value) because the water has already been allocated under a consent to another party. The first come first served method of allocating resources under the RMA (subject to any modification under the Regional Plan) provides no guarantee that the first application to be granted consent represents the highest value or "best" use of the resource.

The requirement to demonstrate a "need" for the quantity of water sought aims to address this. That said, an applicant's "need" for water can often change over a term of consent (maximum term 35 years). In particular, it can increase due to growth in output (farms or businesses), or increased population and demand (municipal supplies). Accordingly, it is legitimate to show that although the maximum quantity of water applied for might not be used straightaway, it will be achieved at some point during the term of consent. However, credible evidence needs to be provided in support of this.

Example 1 – Application for renewal of consent by an irrigation company in Northland

We have acted for a submitter on an application for renewal of a consent to take water by an irrigation company in Northland.

The Northland Regional Council's Regional Water and Soil Plan includes a requirement for an applicant to supply information regarding both its maximum daily take, and average daily take.

In this case, the irrigation company demonstrating a "need" for the quantity of water sought on renewal was important – as the resource was considered fully allocated (so a grant of the full renewal would exclude other users).

Information submitted in support of the renewal indicated that the maximum daily take was only being used by the irrigation company very occasionally. The average daily and monthly take was well below the consented maximum.

As part of the renewal process the Council sought further information regarding the likely rate of growth of the scheme, the crops likely to be planted, and their water use requirements to try and assess whether, over the life of the consent, demand would increase towards the maximum consented take.

Example 2 – Waikato Regional Plan Requirements for Municipal Supply

The Waikato Regional Plan includes an information requirement for applications for municipal supplies to include a Water Management Plan setting out (amongst other matters) an assessment of "existing demand and future demand for water with regard to reasonable population growth".

We act for Watercare Services Limited on its proposed increased take of water from the Waikato River. Last year Watercare lodged an application with the Waikato Regional Council to increase its take from the lower Waikato from 150,000m³ per day (net) to 350,000m³ per day (net) for the purposes of municipal supply. The water demand management report included analysis of the likely quantities of water needed by 2049 (end of the 35 year term) based on:

⁴ Waikato Regional Plan at 3.4.
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- current average per capita consumption applied against median population projections showing Auckland's population increasing to 2,350,000;
- achieving further water efficiency targets;
- allowing for estimated peak water demand;
- storage levels in reservoirs; and
- outages.

This demonstrated that the quantity of water applied for was needed to provide security of supply and meet increasing demand for water over the life of the consent, and was reasonable to service a municipality of that size.

5 DEMONSTRATING THAT OTHER USERS ARE NOT (UNNECESSARILY) BEING EXCLUDED

As noted above, the rationale for demonstrating a reasonable need for the quantity of water sought is so that, where a water resource is at or near full allocation, other potential users are not unnecessarily excluded.

However, some applicants will have a demonstrated need for certain quantities of water at certain times, but not others. Ways in which this can be addressed, and an applicant demonstrate its proposed take is still efficient (and other users are not being unnecessarily excluded) are:

Method 1: Giving a consent a "seasonal profile"

A "seasonal profile" is where the maximum daily take under conditions of consent is not the same year round, but varies, due to demonstrated need.

One of the most obvious examples of where this might apply is in applications to take water by irrigation companies. Demand for water will be higher in summer months (where there is little rainfall), will be lower in autumn, and very low in winter.

Conditions restricting the maximum take in this way will result in allocation being freed up in certain months of the year, and available to other users with a different seasonal profile.

This is a more "efficient" use of resources than if an even level of take was granted, year round, and then certain amounts of allocation remain unused (no economic benefit).

Method 2: Giving a consent a "Daily Take Profile"

The concept of a "take profile" (as discussed above) can also be applied to a consent to take water on a daily basis.

For example:

- A Regional Plan may specify that a certain amount of water is available for abstraction each day.
- Party A – is an irrigator with storage reservoirs. It takes water for 8 hours overnight to fill up its reservoirs, and take advantage of lower electricity spot rates.
- Party B – Takes water during the day over a 16 hour period, that coincides with shifts in its factory.
- The conditions on each party's consent specify different maximum rates of take during the day and during the night.
- Both parties' needs are met, and the minimum flow rate is not exceeded.

This represents a more "efficient" use of resources (and we have settled appeals on this basis).

Method 3: Secondary take rights

Another method by which water takes can be "more efficient" in the sense of not taking more water than is needed for an activity (resulting in other users of the resource being unnecessarily excluded) is by allowing for a regime of "secondary" take rights.

These operate so that Party A has the first priority right to take water (subject to it being available). However, if Party A does not use it (or use all of it), then Party B is entitled to use it.

This is similar to the "seasonal take profile" or "daily take profiles" (discussed above). However, the arrangement is more flexible in that the party with the first priority right can still take all of the maximum quantity if it needs to. This arrangement may be more appropriate where usage fluctuates on a daily basis, and there is no demonstrated seasonal profile.

This arrangement favours the party with first priority rights and may not give the necessary certainty to the party with secondary rights for investment decisions.

As example:

Condition 1 sets out the "first priority" rights and provides:

- *The quantity of water to be taken by the consent holder shall not exceed x.*

However, Condition 2 sets out "secondary rights" and provides that:

- *Notwithstanding Condition 1, the Consent Holder may also take water at an additional rate not exceeding Y, equivalent to the rate of allocation not being used by other users.*

Method 4: Having a "Stepped take" that increases over time

Another method of ensuring that other users are not unnecessarily excluded is by having a "stepped consent". Under this approach, the conditions of consent guarantee the consent holder an eventual maximum quantity of water under the consent. However, the maximum daily take of water starts off as less than this, and is then increased in "steps" or "stages", following reviews by the Regional Council to assess increases in demand.

This approach was volunteered by Hamilton City Council as part of its consent to take water from the Waikato River for Municipal Water Supply.

This approach ensures that the consent holder has security of supply and will, over time, be allocated the water that it needs. However, in the meantime, the allocation not being used by the consent holder could be allocated to other users (until such time as the demand from the consent holder with the stepped consent increases to a point where this water is needed).

Method 5: Temporary Transfers under section 136 of the RMA

Finally, another way in which unnecessarily excluding other users from the taking of water can be addressed is through the temporary transfers of water takes under section 136 of the RMA. Section 136 of the RMA provides:

136 Transferability of water permits

...

(2) *A holder of a water permit granted other than for damming or diverting water may transfer the whole or any part of the holder's interest in the permit-*

(a) *to any owner or occupier of the site in respect of which the permit is granted; or*

(b) *to another person on another site, or to another site, if both sites are in the same catchment (either upstream or downstream), aquifer, or geothermal field, and the transfer-*

(i) *is expressly allowed by a regional plan; or*

(ii) *has been approved by the consent authority that granted the permit on an application under subsection (4).*

[(2A) A transfer under subsection (1) or subsection (2) may be for a limited period.]

...

(4) *An application under subsection (2)(b)(ii)-*

(a) *shall be in the prescribed form and be lodged jointly by the holder of the water permit and the person to whom the interest in the water permit will transfer; and*

(b) *shall be considered in accordance with sections [39 to 42A,] 88 to 115, 120 and 121 as if-*

(i) *the application for a transfer were an application for a resource consent; and*

(ii) *the consent holder were an applicant for a resource consent,-*

Except that, and in addition to the matters set out in section 104, the consent authority shall have regard to the effects of the proposed transfer, including the effect of ceasing or changing the exercise of the permit under its current conditions, and the effects of allowing the transfer."

This enables all, or part, of the quantity of water held by a particular consent holder to be transferred to another user for a specified period of time. In some instances, this can be done as a permitted activity (if allowed under the Regional Plan).

Potentially, this gives a party the security of supply it needs in the longer term (e.g. where the maximum daily take is increasing over the life of a consent). However, the water can still be used by other parties in the short term, in accordance with section 136 (while the consent holders demand increases).

It is not clear how commonly these provisions are used. One potential downside would seem to be that the recipient of the temporary transfer may often need to make a considerable investment to have the infrastructure to use the water rights. However, this can then no longer be used if water rights are temporary and not secured in the longer term.

6 DEMONSTRATING THAT AN APPLICATION WILL NOT USE MORE WATER THAN IS REQUIRED FOR A PARTICULAR ACTIVITY (ie THAT WATER WILL NOT BE "WASTED")

The other key aspect of demonstrating a proposed use of water is "efficient" is showing that the amount of water used for a particular activity conforms with best practice, and that water is not "wasted".

Example 1: Information Required in Support of Applications for Irrigation

The Northland Regional Council Regional Water and Soil Plan (and other similar plans around the country) includes a requirement that:

"Where an applicant applies for more than 500m³ per day for irrigation purposes, the provision of a water balance sheet estimating average daily water needs for each month over the period of irrigation, and estimating peak requirements. The water balance sheet should take into account rainfall, soil types, evapotranspiration and soil moisture deficits and how these change over the irrigation season."⁵

The purpose of these requirements is to show that the amount of water being used for irrigation is being applied scientifically, and not "wasted" in the sense of using more water than is required to produce the economic benefit (crops).

Example 2: Information Supplied with Application for Municipal Water Supply

In a similar way (to the example above) applications for municipal water supplies need to demonstrate that they are an "efficient" use of the resource in the sense of not taking more water than is reasonably needed to service a town or city of that size.

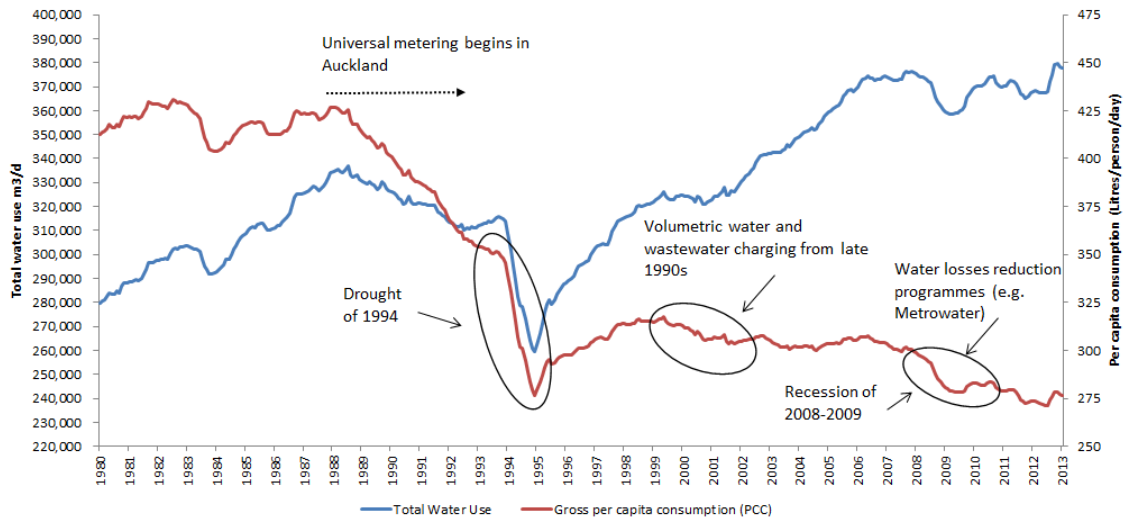
The Waikato Regional Plan requires applicants for municipal supply to include a Water Demand Management Plan justifying the amount of water sought, and showing that it is in broad terms "efficient".

As already mentioned, we act for Watercare on its application to take additional water from the Waikato River (lodged last year). By way of example, Watercare's Demand Management Plan submitted to the Regional Council included information outlining the following initiatives taken by Watercare to increase efficiency of water use:

Watercare's target to reduce per capita water consumption by 15%

Watercare's current gross per capita consumption (daily water into supply divided by the connected population) is around 275 litres per person per day. This is down from approximately 400 litres per person per day 30 years ago, and is low (i.e. efficient) compared to other New Zealand metropolitan centres.

⁵ Paragraph 35.2.1 of the Regional Plan.
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Despite this already low rate of consumption, Watercare is committed to further reducing per capita water consumption by 15% below 2004 levels, by 2025 (and is currently half way towards achieving this goal).

Volumetric water and wastewater charges and metering

One of the key reasons why Watercare (and the Auckland Region) have lower (i.e. more efficient) water usage than other metropolitan centres in New Zealand is due to the introduction of universal water metering and then volumetric water and wastewater charges.

Water and waste water use is now measured at water meters installed in individual properties and homes, and water and waste water usage (based on meter readings) charged separately from general rates. Auckland is one of only three cities in New Zealand that has universal metering. The graph set out above indicates the decreased per capita consumption of water following first the introduction of meters, and then the introduction of volumetric charging, and the corresponding efficiency benefits.


Watercare's billing practices

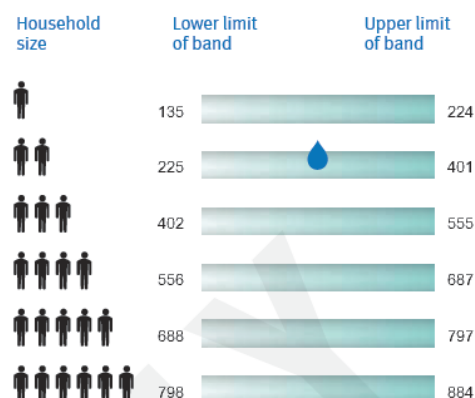
Watercare's billing practices are also aimed to reduce water usage and increase efficiency.

Bills are sent monthly, and include information about average household consumption (based on household size). This enables households to easily identify whether their usage is above average.

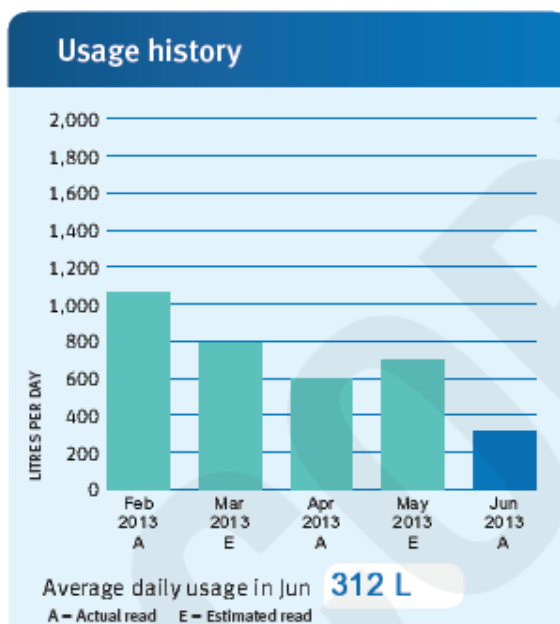
Usage comparison

Average daily consumption in litres per day*

 The droplet shows you where your household falls



* these figures are based on average usage according to the 2008 BRANZ Water Use in Auckland Households Study and are indicative only. If your usage puts you into a household bracket with more people than are currently residing in your household your usage is more than average. Outdoor usage, for example an irrigation system, will influence your consumption towards the upper end of the band.



Watercare's billing system also charges for water and waste water usage in the same bill. Wastewater charges are linked to water usage. So, customers can see that any reduction in water usage will also result in reduced wastewater charges (further incentivising efficient water usage).

Working with high water users

Watercare also seeks to encourage efficient water use by working with customers who use large volumes of water. A "Be Waterwise" programme to help non-domestic water efficiency will be rolled out in late 2014, including a suggested four-step pathway to water efficiency and accompanying tools. Existing large users working on their water efficiency with Watercare include Auckland Council and Housing New Zealand. Watercare continues to work closely with these customers (and other large users) to prevent wastage and develop new ways in which water usage can be reduced.

Network maintenance including leak detection programmes

Watercare has a leak management and maintenance programme designed to reduce the amount of water lost on its network through leakage. Watercare's corporate statement of intent aims to keep unaccounted water to below 13% for the 2013/2014 year (a downwards trend from 15% in 2012/2013). To achieve this target, Watercare works to repair leaks reported by customers.

All of these various measures go towards establishing that, as an applicant, Watercare is using water efficiently, and is applying for an amount of water that is comparatively low (compared to other centres) for a population of that size.

7 CONCLUSIONS

The efficient use of water is one of many considerations under the RMA. However, in circumstances of increasing competition and scarcity of water resources it has become more important than the single reference to it in section 7(b) of the Act would suggest. In practical terms, Regional Plans augment the status of efficiency of use by requiring applicants to provide information demonstrating a need for the quantity of water

applied for, that other users will not be unnecessarily excluded, and that water will not be wasted. The better an applicant can address these matters in its application, the more likely it is that the application will be successful.

Information requirements in the Waikato Regional Plan for applications for municipal supply provide a useful checklist to show how an applicant can demonstrate that a proposed take of water is efficient. The Water Demand Management Plan prepared by Watercare and lodged with its application to take water from the Waikato River addresses these matters, and shows various measures that can be adopted to demonstrate efficiency of use (for an application of that type).