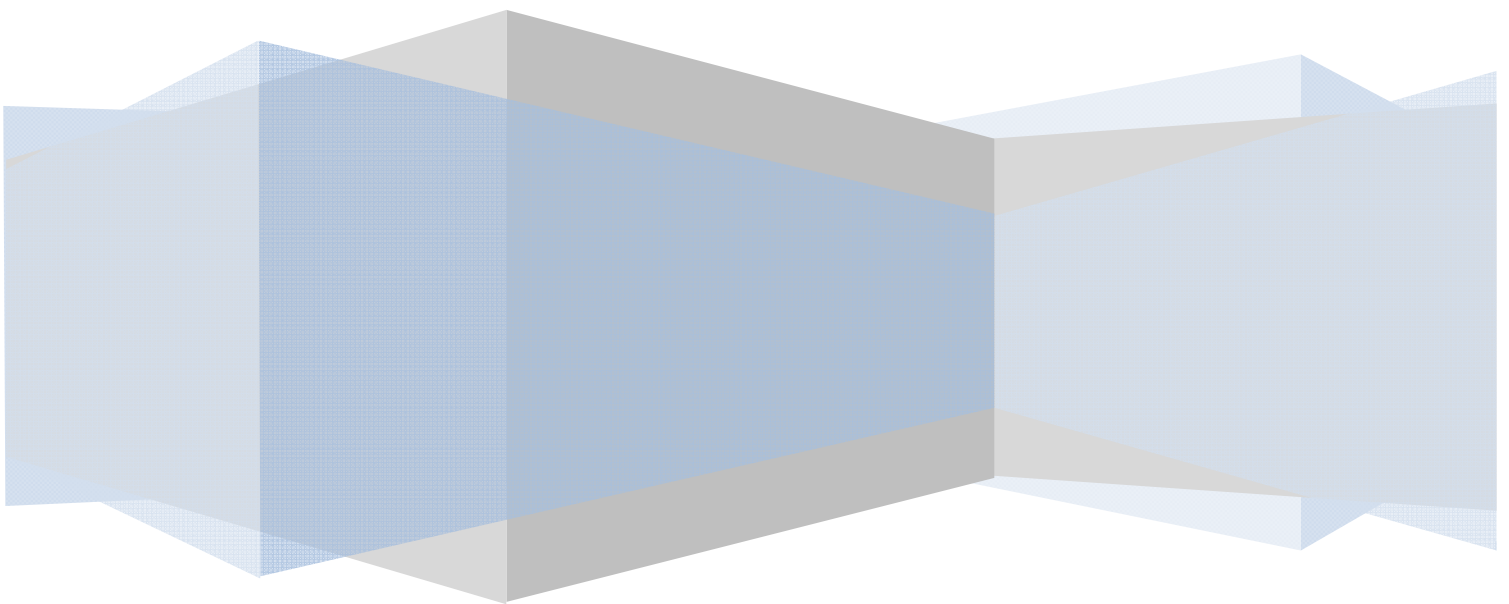


Charging Regime Advisory Group

Tariff Review

March 2016



Contents

Executive summary	3
Purpose of report	5
Introduction and Background	5
CRAGs activities and progress.....	5
CRAG Membership.....	5
Meeting schedule.....	6
Information considered by CRAG	7
Water Charges for 2014/15	7
Changes in water use	9
Water Activity Finances	12
Closed water account	13
Tariff options.....	14
Previous tariff models considered by CRAG	14
Alternative options considered in 2016 CRAG review.....	14
Impact on users.....	15
Other related Policy matters	17
Conclusions	18
Recommendations	19
Bibliography	20
Appendix 1 - Terms of Reference: Charging Regime Advisory Group. (CRAG).....	21
Appendix 2 – Tariff options - details	23
Appendix 3 – 2016 Tariff Review Supporting Information Report	25

EXECUTIVE SUMMARY

- 1 The Charging Regime Advisory Group (CRAG) was set up in 2011 to design an efficient and equitable system for the charging of water supply to the Kāpiti community. CRAG's first report was presented to the Kāpiti Coast District Council (Council) on 5 April 2012 and its 12 recommendations were accepted. Subsequently, they have been, in large part, implemented and the indications are that the charging regime has achieved a considerable measure of public acceptance.
- 2 On 10 December 2015, Council decided to proceed with the recommended review of the regime and to reconvene CRAG for this purpose. It proved possible to retain the original membership apart from the need to replace the two Council and the two tangata whenua representatives. The reconstituted CRAG has met four times and reviewed a substantial body of data presented to it by Council staff.
- 3 CRAG has found that in large measure the proposed regime, reinforced by Council's own conservation measures, has worked in practice and has resulted in a considerable reduction in per capita consumption – mainly as a result of the scheme's ability to identify leaks but also in part from the price signals given by the volumetric component of the new charge.
- 4 The initial tariff set for a cubic meter, \$0.95 did not cover the full cost and this resulted in a deficit in the water account. As a consequence Council has decided to smooth the projected increases in the volumetric cost of water supply over a five year period. This has limited the volumetric price increase that might otherwise have been required. The deficit is now forecast to rise to \$1.1M by the end of the financial year 2015/16, with full recovery by 2019/20.
- 5 It is acknowledged that Council will need to balance this account in the future but to avoid the uncertainty created by potentially big price increases for volumetric supply, the adopted approach of a 'staged or smoothed' price management process to bring the account back into surplus over time is thought to be both effective and a practical solution to the financial reality Council faces.
- 6 CRAG's deliberations over the second round of meetings were dominated by the need to maintain the original principles of the regime, while dealing with the practical issue of ensuring full cost recovery. It was accepted also that any changes to the regime should avoid major fluctuations in charges from year to year. This will promote transparency in the charging process, as well as consistency in the pricing model.
- 7 On this basis, CRAG has come to the conclusion, that while some minor adjustments may be necessary from time to time to ensure the regime's continuing viability, the current principles and structure, the 50/50 fixed/volumetric split, should remain in place. There needs to be more evidence of both, consistent water conservation and stability in the pricing structure under the current charging regime, something that can only be achieved over time, before any further review be initiated. Taking into account the valuable and helpful information put together by Council staff, CRAG has made seven recommendations concerning its preferred approach to charging over the next three years, to be followed by a review of the regime. CRAG would prefer confining any adjustments to within a 5% band either side of the 50/50 fixed and volumetric split.
- 8 The CRAG recommends:
 - a) The current principles, structure and charging formula of a 50/50 split between fixed charge and volumetric charge, remain;
 - b) The objective should be to retain as far as possible the 50/50 ratio between fixed and variable and that any adjustments should be within a 5% band above or below;
 - c) Council continues to take a medium term view of the water account and to retain the current 'price smoothing' approach to alleviate the need for substantial fluctuations in the volumetric price;

- d) Further steps should be taken to ensure the community is aware of the assistance available, both with leak detection as well as with high water invoices. It should also undertake a review of the criteria for high water invoices to ensure such assistance is more widely available to those in genuine need;
- e) The continuation of the Council's efforts to publicize the importance of water conservation as the best way to manage future costs as well as protect a finite resource, by limiting per capita consumption and postponing the need for further infrastructure development.
- f) The water account should remain closed to ensure transparency, and other mechanisms to balance deficits and surpluses be considered;
- g) A further review be undertaken towards the end of the 2018/19 financial year, at which time significant data regarding water usage and price sensitivity is likely to be better understood.

PURPOSE OF REPORT

- 9 This report provides the considerations and recommendations of CRAGs review of pricing and charging for water by the Council to date, progress against the CRAG's recommendations and inform the tariff structure for 2016/2017 water charges.

INTRODUCTION AND BACKGROUND

- 10 On 23 June 2011, Council approved the original Terms of Reference (ToR) and representation to establish CRAG. The group met nine times between September 2011 and March 2012 and provided a report to Council on their findings and recommendations for the most efficient and equitable system to charge for water by the Council.
- 11 The original membership was developed to ensure that it provided for key stakeholder interest (given that the formula must apply to all sectors) and to ensure that there was careful consideration of social and other impacts.
- 12 The original ToR focused on the development of the most efficient and equitable system for the charging of water by the Council. It also contained scope to undertake on-going monitoring of pricing and charging for water within the framework set out for developing the volumetric charges that provides the context for reconvening the CRAG for this review.
- 13 Other than the background, which has been updated to reflect the events that have occurred subsequently, the ToR (**Appendix 1**) for the review uses the original ToR as a basis with only minor wording adjustments being made in the framework to remove the reference to annual charging adjustments and cashflow requirements.
- 14 The group provided 12 recommendations in their report including the adoption of a 50% fixed charge and 50% volumetric (50/50) tariff structure subject to a review after two years of operation. In 2012, CRAG considered this tariff structure:
- provided the most balance between the impacts across users;
 - provided more incentive to save water than the scenarios with higher fixed charges;
 - provided an acceptable level of revenue stability for Council.
- 15 The installation of district-wide water meters commenced in August 2012 and was substantively complete by January 2014 when trial reading of water meter commenced. Following initial trial water readings from April 2014, volumetric water charges were introduced on 1 July 2014 and have been in place for just over a year and half.
- 16 On 10 December 2015, Council approved the reconvening of the Charging Regime Advisory Group (CRAG) to review the pricing and charging structure for water by Council.
- 17 Reconvening the CRAG will allow for a review of pricing and charging for water by the Council to date, progress against the CRAG's recommendations and inform the tariff structure for 2016/2017 water charges.

CRAGs ACTIVITIES AND PROGRESS

CRAG Membership

- Mr Don Hunn , Chairperson
- Jean Chamberlain representing community interests and low income households from the north of the District
- Don Richards representing community interests and low income households from the south of the District
- Ross Leggett representing Chamber of Commerce
- Bernard Parker representing landlords and tenants
- Charles Lloyd representing Grey Power

- Jill Stanfield representing Council of Older Persons
- Councillors Michael Scott and Gavin Welsh representing the Council
- Bill Carter representing Te Āti Awa ki Whakarongotai
- Raewyn Klenner representing Ngāti Toa

Meeting schedule

18 The CRAG met four times.

- 28 January 2016
- 17 February 2016
- 25 February 2016
- 2 March 2016

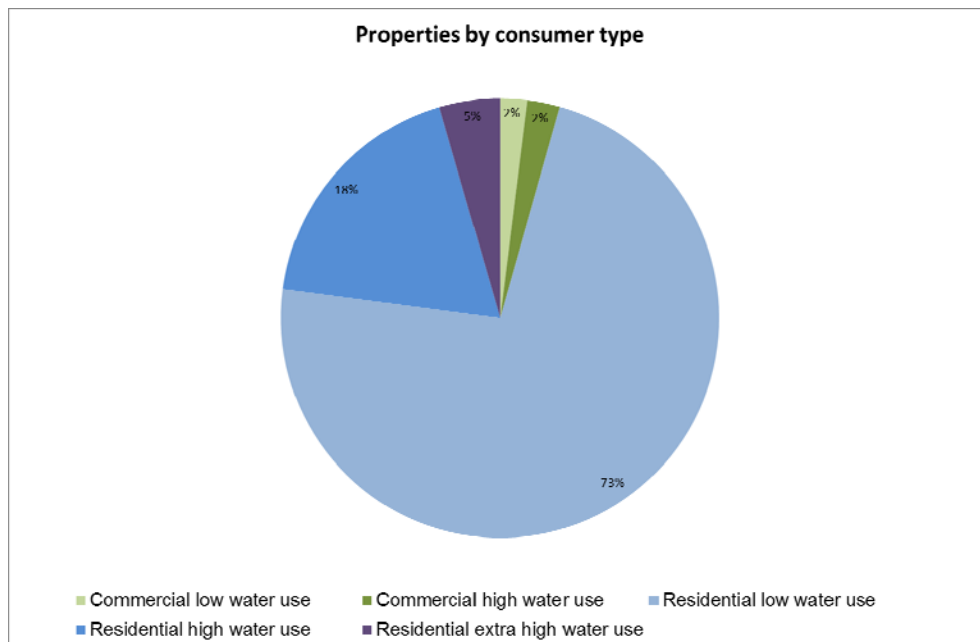
INFORMATION CONSIDERED BY CRAG

Water Charges for 2014/15

- 19 On 1 July 2014, volumetric water charges were introduced in Kāpiti using the 50% / 50% tariff structure recommended in the 2012 CRAG report. The charges were set as follows:



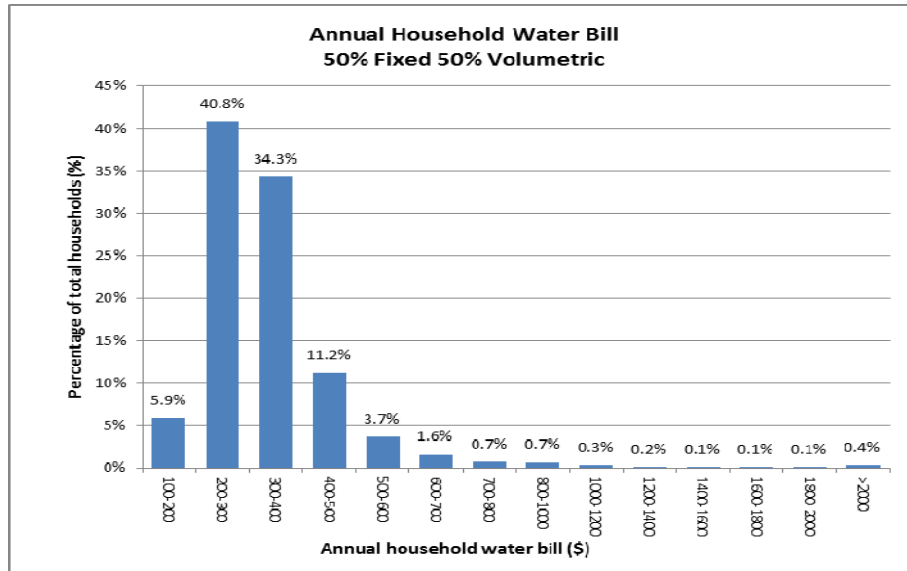
- 20 The equivalent fixed water charge would have been \$377 if volumetric water charges had not been introduced in 2014/15.
- 21 The total water revenue collected in 2014/15 was \$7.62 million against a budget of \$8.14 million¹ leaving an under recovered deficit of \$528,000 in the water account. Of the revenue collected \$3.37 million was from volumetric charges and 4.02million from fixed charges.
- 22 The equivalent fixed charge for 2015/16 to cover costs and recover the entire 2014/15 deficit in one year would have been \$429.50.
- 23 With the completion of the first year of water meter charges, the actual distribution of water rates paid can be analysed. To illustrate the distribution of users they were grouped into five broad types. Low users were classed as those with bills under the equivalent fixed charge of \$377 (2014/15) and high being those over \$377. Extra high residential water users using 1,000 litres or more per day were further split out.



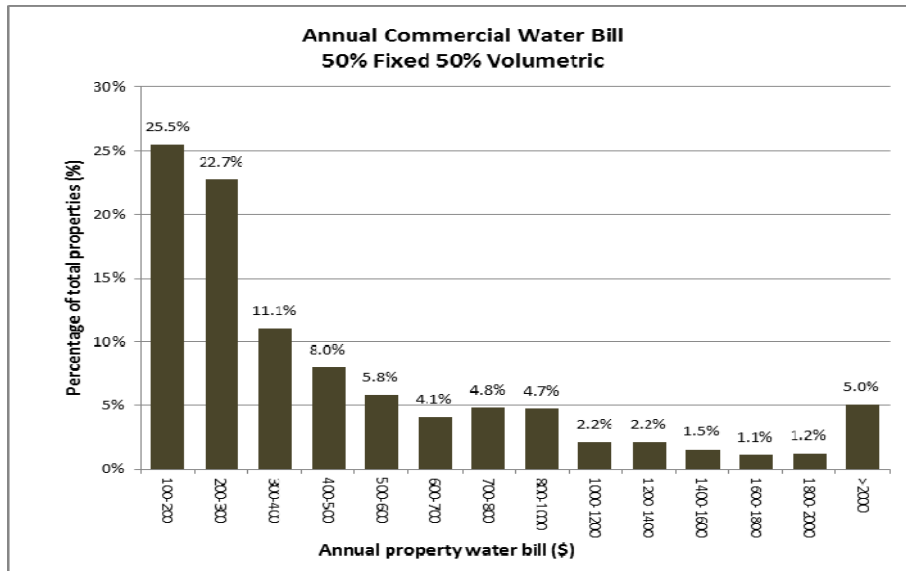
¹ This figure is the total budgeted water rates including those from the Hautere scheme

- 24 Analysis of the records shows that 75% of properties were “low water users” paying less than \$377 (the equivalent fixed charge), 73% being residential and 2% commercial. The average 2014/15 water bill for each of these groups was \$292 and \$233 respectively.
- 25 Eighteen percent of properties were high residential users with a further 5% classified as extra high and the balance of 2% of properties high commercial users. The average 2014/15 water bill for each of these groups was \$444, \$2,627 and \$2,369 respectively.
- 26 The distribution of annual water bills for households and commercial properties is shown in the graphs below:

Domestic (household) water bills 2014/15



Commercial water bills 2014/15



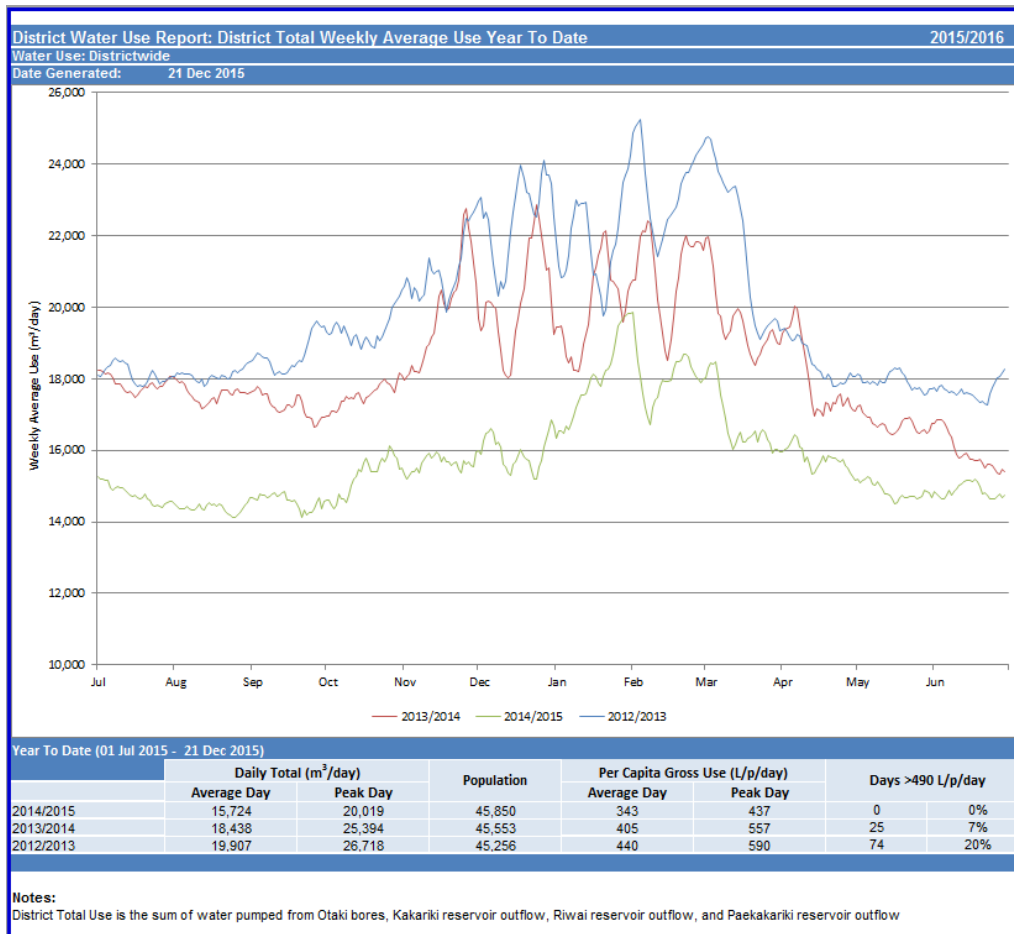
Changes in water use

27 Since the introduction of volumetric charges for water the District's water use has seen a marked reduction. The figure below shows the Districts' combined water use from 1 July 2012 through to 31 June 2015, the period over which metering was installed, trial readings sent and charges introduced. The figure also includes the average and peak day consumptions (in m³/day and per capita), population projections and days above the water conservation target of 490 litres / person / day (l/p/d) for each financial year.



TARGET

28 The graph below uses a rolling weekly average to highlight the trends in water use over time rather than the daily totals. This means that the peaks on the graph (weekly averages) are lower than the peak days recorded in the table.

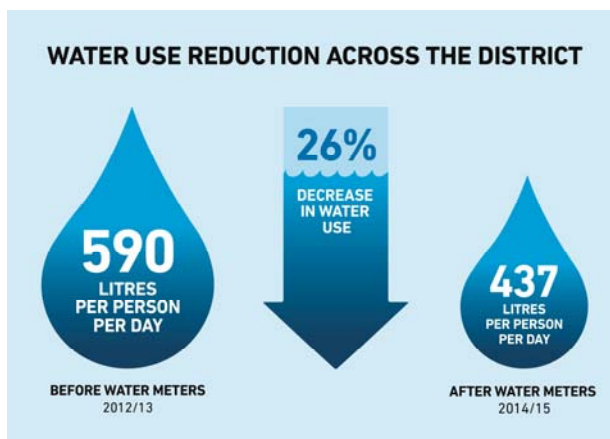


29 The graph shows a reduction in water use for each subsequent year with a marked reduction in 2014/15 (green line). Reductions in the peak day use can be seen in the summer of 2013/14 (red line) compared to the previous year (2012/13 (blue line), as the meter installation contract came to a conclusion. A noticeable reduction in winter usage can be seen starting from around April 2014, which drops from around the 18,000m³/day of previous year to just over 15,000m³/day. This was just prior to the introduction of volumetric charges on 1 July 2014.

- 30 As marked change in water use occurred through 2013/14 comparisons of pre and post water meters water use has been based on 2012/13 (the year installation began) and 2014/15 (the first year of volumetric charges).

Peak water use

- 31 The per capita peak day for 2012/13 was 590 l/p/d while in 2014/15 this had reduced to 437 l/p/d.
- 32 Despite the 2014/15 summer being drier than 2012/13, a 26% reduction in peak use was achieved.
- 33 The peak day use is what drives the need for capacity upgrades in the water supply system and this reduction has provided surplus capacity for future growth.



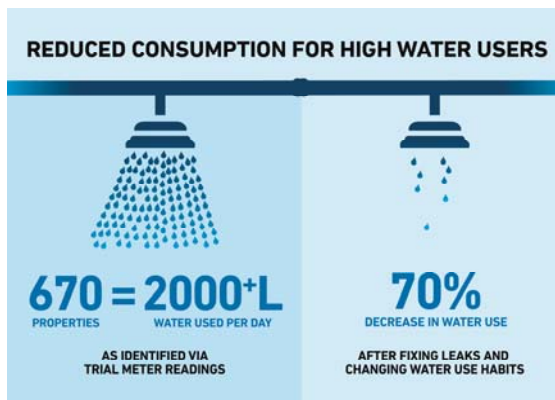
- 34 The number of days district-wide consumption exceeded the water conservation target has also reduced from 74 days (20%) in 2012/13 to no exceedances in 2014/15.

Average water use

- 35 The District average daily use (including leaks and use) reduced from 19,907 m³/day (2012/13) to 15,724 m³/day (2014/15) or 21%.

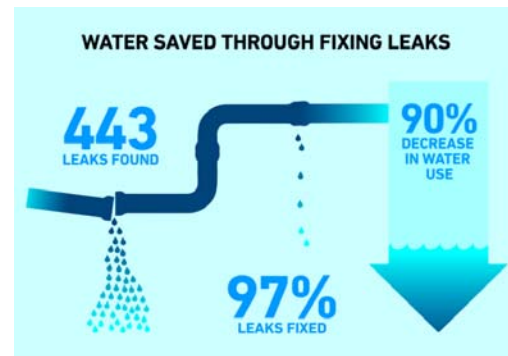
Water loss / leakage

- 36 The installation of water meters has allowed Council to significantly improve the understanding of water use and leakage from the water supply system. Water metering and volumetric charging has been a driver in identification of leakage and incentivising repair on the private side.



- 37 Throughout the water metering contract consumers were notified when leakage was identified or suspected following a meter installation. During the installation process 443 leaks were found on private pipes. Consumers fixing these leaks have resulted in their water use reducing by 90% on average.
- 38 In addition to the leaks notified during the meter installations during the trial water meter reading period, Council staff visited more than 670 property owners whose readings showed they were using more than 2,000 litres of water per day. Water leaks and ways to use water more economically were discussed with the householder. The leaks people have fixed and wiser use of water has reduced their consumption by 70% on average.
- 39 In 2013/14 Council repaired 776 reported minor water leaks and replaced 600m of aging asbestos cement mains. In 2014/15 this was 774 and 975m respectively.

40 In 2012/13 the total real water losses from consumer side and public network leakage was estimated at 7,480m³ per day. This has significantly reduced to an estimated 4,240m³ per day in 2014/15 a reduction of 43% in real water losses.



41 Repairs on the private side have seen an estimated 84% reduction in private daily water loss while repairs undertaken on the public side in 2014/15 have helped reduce the rate of leakage by 6%. A table of estimated water losses is shown below:

Water losses	2012/13 (revised) (m ³ /day ¹)	2014/15 (m ³ /day ¹)	Water Loss Reduction (m ³ /day ¹)	Water Loss Reduction
Current Annual Real Losses	3,900	3,680	220	6%
Customer Side Leakage	3,580	560	3,020	84%
Total Real Water Losses	7,480	4,235	3,245	43%

42 In 2005, the World Bank Institute, with assistance from members of the IWA Water Loss Task Force, developed an internationally applicable Banding System for leakage management in developed countries called the infrastructure leakage index (ILI). This is banded into four groups from A to D. In 2012/13 Kapiti's ILI was band C described as poor leakage management. In 2014/15 ILI was classed as band B, indicating possibilities for further improvement.

Water use management

43 Council monitors the distribution of water across its water supply networks using 19 district meter areas (DMA) across the three water supply schemes. Following the installation of consumer water meters the Council audited all the zones and re-established the integrity of the DMAs in February 2014.

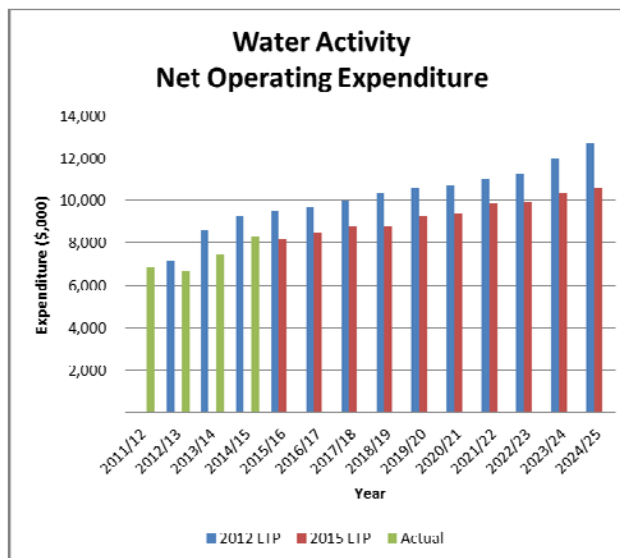
44 Council commenced a staged improvement plan in December 2014 following a review of water use management practices in April 2014. Significant progress has been made on improving the water use management processes and practices as part of an on-going plan to increase the effectiveness and efficiency of the service. The benefits include:

- Automated weekly reporting that provides standard DMA performance measures on scheduled reporting. Reduced administrative time to investigate, analyse and establish leak detection priorities, provides readily repeatable and auditable results and greater confidence in the effectiveness of leak detection and repair works.
- Automated district-wide water use reporting for annual and comparative water use reporting by District, scheme and network (community). Reduced administrative time to source, extract and prepare water use reports, provides readily repeatable and auditable results.

Water Activity Finances

Costs

45 A comparison of the forecasted water supply activity costs is shown in the diagram to the right. The diagram shows the budgeted costs in the 2012 LTP, the actual expenditure for years from 2011-15 and the 2015 LTP projected costs.



46 The actual costs to date include the completion of a number of significant projects related to securing the long term water supply for Kāpiti. These include:

- Installation of district-wide water meters – August 2012 – January 2014
- Securing the river recharge consents – issued September 2013
- Commencement of river recharge compliance monitoring – December 2013
- Year one of river recharge consent compliance monitoring – April 2014
- The initiation of trial water meter readings and water meter billing – April 2014
- Construction of stage one of the river recharge infrastructure – Opened May 2014
- Waikanae Treatment Plant stage one renewal and upgrades - Opened May 2014
- The first operation of the river recharge scheme – October 2015

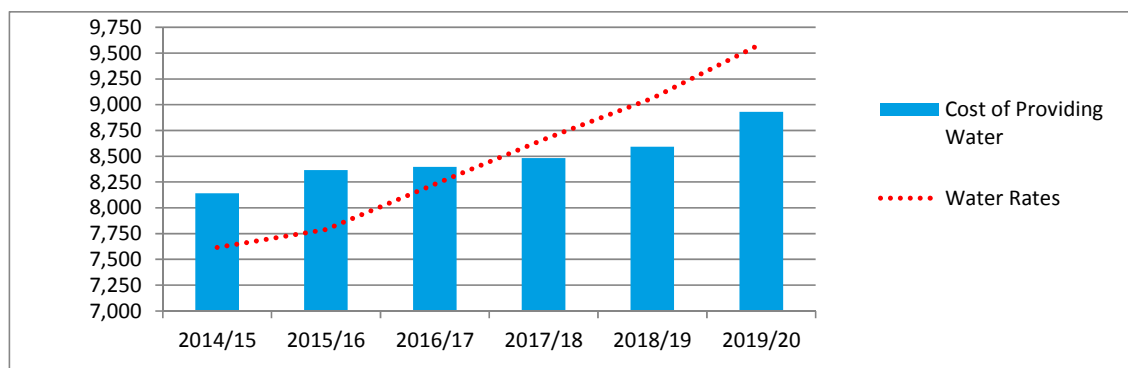
47 The break-down of the water activity costs for each year from 2014/15 to 2019/20 are set out in the table below. Each of the areas are described in greater detail below:

	2014/15 Actual (\$000)	2015/16 Forecast (\$000)	2016/17 - AP (\$000)	2017/18 (\$000)	2018/19 (\$000)	2019/20 (\$000)
Total Cost of water planned to be recovered by Rates	8,143	8,366	8,333	8,471	8,626	8,976
Broken down by:						
Income	(185)	(39)	(39)	(40)	(41)	(42)
Fees and Charges	(185)	(39)	(39)	(40)	(41)	(42)
Expenditure	8,328	8,405	8,372	8,511	8,667	9,018
Other Operating Expense	4,212	3,610	3,985	4,101	4,219	4,338
Depreciation and Amortisation	2,343	2,654	2,582	2,720	2,814	3,033
Finance Expense	1,773	2,141	1,805	1,691	1,635	1,647

48 It should be noted that interest and debt repayment on capital expenditure contributes significantly to costs. The actual cost of providing the water supply service has been less than that projected in the 2012 LTP and future costs projected in the 2015 LTP also remain lower than the 2012 LTP projections.

Water revenue

- 49 Changes in water use have been experienced as the community gets used to the value of water with the introduction of water meters in 2014 and this may take a number of years to settle down.
- 50 Council proposes to gradually increase water rates over the first five years of the long term plan, to a level that makes sure that Council is able to pay the full cost of providing this service across the District.
- 51 Following the initial under recovery of \$528,000 experienced in 2014/15; this is forecast to grow to \$1.1 million by the end of 2015/16 and Council has planned to fully recover costs by the end of 2019/20 as shown in the diagram below.



- 52 The forecasted gradual increase in water rates proposed by Council eases the rate of change for the community while ensuring the recovery of the full cost of providing water services over time.

Closed water account

- 53 The financial management of the water activity is a closed account. This means that all costs and revenue remain within the account. Any surplus or deficit in a given year remains against the account and is not transferred out or subsidised from other sources. All service and costs also remain within the water account.
- 54 The group considered a semi-open account option. The semi-open account was proposed as a mechanism that could use general rates surplus' to top-up water account deficits rather than using loans and any surplus would stay in the water account for future years. This would allow some flexibility for Council to top-up the account and allow the management of overs and unders in revenue to be balanced over time and mitigate rising debt.
- 55 The group reflected on the original purpose of the closed account recommendation as a mechanism to allay the concerns raised that Council would price water to make a profit and use these funds in other areas. On balance, it was agreed that that account should remain closed and other mechanisms to balance deficits or surpluses be considered.

TARIFF OPTIONS

Previous tariff models considered by CRAG

- 56 The 2012 CRAG initially considered a range of potential tariff models including:
- Volumetric or variable with no fixed charge
 - Fixed and volumetric charges
 - Fixed and volumetric charges with an initial location
 - Stepped charges
 - Seasonal rates
- 57 From these models seven water charging scenarios were developed and evaluated against the critical success factors with four being discounted from further consideration. The three remaining scenarios were all based on the fixed and volumetric charge model.
- 58 A further subset of six water charging scenarios were developed and evaluated using various proportions of fixed and volumetric ranging from 25% fixed / 75% volumetric to 70% fixed / 30% volumetric. It was agreed that a fixed charge range of 40-60% provided balanced outcome across the criteria. Before a final recommendation of water charging tariff was arrived at the three scenarios with a fixed charge of 40%, 50% and 60% were examined further with particular interest on the impacts on:
- low income families
 - older people
 - large water users such as schools, retirement villages and supermarkets
- 59 On consideration of a variety of impacts, the 50% fixed 50% volumetric (50/50) tariff was believed to provide the most fair and equitable outcomes and was recommended.

Alternative options considered in 2016 CRAG review

- 60 During the 2016 CRAG review, a number of alternative tariff options were discussed in relation to variance from the original 50/50 ratio recommendation to ensure full cost recovery and address the deficit in the water account.
- 61 The following tariff options have been prepared to illustrate the resulting water rate charges that allow the recovery of the deficit in the water account over a five year period 2015-19. Descriptions of each option and their finance details are included in Appendix 2.
- Option 1 - 50/50 Smoothed
 - Option 2 - 50/50 Fixed "surcharge"
 - Option 3 - 60/40 Variable @ 99c for 5 years
 - Option 4 - 60/40 Variable rate increase at 2% average

Option 1 - 50/50 Smoothed

Item	2014/15 Actual	2015/16	2016/17	2017/18	2018/19	2019/20
Variable Rate	\$0.95	\$0.99	\$1.04	\$1.09	\$1.15	\$1.21
Fixed rate	\$189	\$190	\$199	\$205	\$210	\$220

Option 2 - 50/50 Fixed "surcharge"

Item	2014/15 Actual	2015/16	2016/17	2017/18	2018/19	2019/20
Variable Rate	\$0.95	\$0.99	\$1.14	\$1.14	\$1.14	\$1.18
Fixed rate	\$189	\$190	\$189	\$189	\$190	\$195
Fixed rate (surcharge)			\$11	\$11	\$11	\$11

Option 3 - 60/40 Variable @ 99c for 5 years

Item	2014/15 Actual	2015/16	2016/17	2017/18	2018/19	2019/20
Variable Rate	\$0.95	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99
Fixed rate	\$189	\$190	\$207	\$230	\$240	\$245

Option 4 - 60/40 Variable rate increase at 2% ave

Item	2014/15 Actual	2015/16	2016/17	2017/18	2018/19	2019/20
Variable Rate	\$0.95	\$0.99	\$1.01	\$1.03	\$1.05	\$1.08
Fixed rate	\$189	\$190	\$203	\$216	\$229	\$238

62 In considering any change to the recommendation, CRAG members were cognisant to the terms of reference of the review. The terms of reference sets out the purpose, scope and framework for the CRAG's review of the pricing and charging for water by Kāpiti Coast District Council. The Framework for Development of Volumetric Charging Formulae from the CRAG 2012 report is included Appendix 1.

Price sensitivity

63 A review of international literature on water price and use elasticity suggests for every 10% change in volumetric price a 3% to 6% change in water use might be expected. One of the more extensive studies of over more than 100 water authorities concluded the average response to be 4.1%. The studies suggest volumetric price changes are an effective mechanism for reducing discretionary water use and the results vary depending on the specific regimes in place prior to any change.

64 It's too early to predict what the specific price sensitivity would be for Kapiti. The community is half way through the second year of water meter charging and while significant savings have been made through leak repairs in the first year, it may take some time for water use behaviours to settle. Where sharp changes in volumetric charge for water are applied a further corresponding decrease or increase in water use might be expected.

Impact on users

65 The following tables set out the annual water bills for each of the five user types to illustrate the impact of the various tariff options. The user types were based on the average

usage for low users being those with bills under the equivalent fixed charge of \$377 (2014/15) and high being those over \$377. High residential water users were further split out to those using 1,000 litres or more per day considered as extra high.

Residential low water users (73% of properties)

Residential low water users (104m3)	Usage	Ave no fix chgs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Option 1 - 50/50 Smoothed	104	1	\$288	\$293	\$307	\$323	\$330	\$346
Option 2 - 50/50 Fixed "surcharge"					\$316	\$318	\$321	\$330
Option 3 - 60/40 Variable @ 99c for 5 years					\$310	\$343	\$338	\$341
Option 4 - 60/40 Variable rate increase at 2% ave					\$308	\$323	\$338	\$350

Residential high water users (18% of properties)

Residential high water users (255m3)	Usage	Ave no fix chgs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Option 1 - 50/50 Smoothed	255	1.2	\$470	\$480	\$503	\$525	\$545	\$572
Option 2 - 50/50 Fixed "surcharge"					\$531	\$531	\$533	\$548
Option 3 - 60/40 Variable @ 99c for 5 years					\$501	\$528	\$540	\$546
Option 4 - 60/40 Variable rate increase at 2% ave					\$501	\$521	\$542	\$561

Residential extra-high water users (5% of properties)

Residential extra-high water users (958m3)	Usage	Ave no fix chgs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Option 1 - 50/50 Smoothed	958	2.25	\$1,339	\$1,375	\$1,439	\$1,508	\$1,574	\$1,652
Option 2 - 50/50 Fixed "surcharge"					\$1,544	\$1,542	\$1,548	\$1,593
Option 3 - 60/40 Variable @ 99c for 5 years					\$1,414	\$1,466	\$1,488	\$1,500
Option 4 - 60/40 Variable rate increase at 2% ave					\$1,423	\$1,471	\$1,519	\$1,570

Commercial low water users (2% of properties)

Commercial low water users (57m3)	Usage	Ave no fix chgs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Option 1 - 50/50 Smoothed	57	1	\$243	\$246	\$258	\$267	\$276	\$289
Option 2 - 50/50 Fixed "surcharge"					\$265	\$265	\$266	\$273
Option 3 - 60/40 Variable @ 99c for 5 years					\$263	\$286	\$296	\$301
Option 4 - 60/40 Variable rate increase at 2% ave					\$260	\$274	\$289	\$300

Commercial high water users (2% of properties)

Commercial high water users (865m3)	Usage	Ave no fix chgs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Option 1 - 50/50 Smoothed	865	2.28	\$1,255	\$1,289	\$1,349	\$1,412	\$1,474	\$1,546
Option 2 - 50/50 Fixed "surcharge"					\$1,444	\$1,442	\$1,447	\$1,489
Option 3 - 60/40 Variable @ 99c for 5 years					\$1,328	\$1,381	\$1,404	\$1,415
Option 4 - 60/40 Variable rate increase at 2% ave					\$1,335	\$1,382	\$1,429	\$1,477

66 Low water users benefit from a lower fixed tariff of 50% whilst higher water users would be paying more. Conversely with a higher fixed tariff of 60% low water users pay more whilst higher users benefit from lower bills.

OTHER RELATED POLICY MATTERS

67 A review of the policies in place to support those in financial hardship identified that these had only been utilised to a limited extent by large families and for repairs to water leaks. It was unclear if this was due to a lack of awareness, high access thresholds or absence of need.

68 A greater emphasis on advertising the potential assistance available from Council for those in financial hardship as well as a review of the criteria for these funds may well make them more accessible to those in need.

CONCLUSIONS

- 69 The first year of water metering has achieved two distinct results. Firstly, an average daily use reduction and secondly the reductions in peak water use at high demand times needed to support the water conservation requirements of the 35 year resource consent obtained by Council for its continued water extraction from the Waikanae River. It is the meeting of the water conservation peak day use target that underpinned the future investment planning in water for Council.
- 70 The 50/50 tariff structure was proposed by CRAG to Council as likely to be the most equitable approach in balancing the interests of high and low users. In practice it has redistributed the recovery of water costs by providing an incentive to low users. As a result there has been a reduction in annual water charges for 75% of rate payers. It is accepted there will be fluctuations and that it will be necessary to make further adjustments over time. However CRAG would not like to see more than a 5% percentage variation above or below the 50/50 split.
- 71 If the fixed charge was increased to 60%, while providing a greater certainty of revenue stream, there is a potential for a corresponding relaxation in water conservation effectiveness. This would increase the average and peak day water consumption for the District. Not only would it tend to dilute the water conservation message, it would erode the head room in capacity gained from the initial introduction of water metering and necessitate advancing future investment in infrastructure upgrades, such as the second stage of river recharge.
- 72 Conversely, if the fixed charge was reduced to 40% there is likely to be real pressure put on the revenue stream needed by Council to manage the budget effectively. The price signal would be expected to reduce demand further as it would need to be compensated for in a dramatic increase in the volumetric portion of the charge. Such a substantial fluctuation in the volumetric price could be seen to be inequitable to many water users for whom usages cannot realistically be further curtailed.
- 73 Policies in place to support those in financial hardship have been utilised to a limited extent by large families and for repairs to water leaks. A greater emphasis on advertising the potential assistance available from Council for those in financial hardship as well as a review of the criteria for these funds may well make them more accessible to those who are burdened by water charges.
- 74 Internationally, water use is sensitive to volumetric price changes. There is nothing to suggest that will not be the same here. Certainty and transparency in charging are vital to ensure community acceptance of any charging structure. The community is only half way through the second year of water meter charging. While initial savings have been made it may take some time for water use behaviours to settle. Where sharp changes in volumetric charge for water are applied, a further corresponding decrease or increase in water use might be expected.

RECOMMENDATIONS

- 75 The charging strategy recommended by the CRAG and adopted by Council, has been widely accepted within the community served by water meters. There has not been any widespread clamour for change nor has there been any evidence of widespread hardship caused by the formula that was adopted. Through its deliberations and review of the available data, the group could understand and appreciate that a change in formula might more promptly deal with the current deficit in the closed water account and better manage the need for a more certain funding flow.
- 76 It was generally agreed that the formula adopted over time was likely to promote the continued conservation of water so vital for the Kāpiti community, as well as deliver a stable income stream from which the costs of the provision of water can be drawn. The group was mindful that the community is effectively only half way through the second year of water metering in Kāpiti.
- 77 There is no real discernible pattern of use yet available. It was felt it would therefore be a mistake to signal any change to the current formula at this time, despite the attraction of a 60/40 split in terms of revenue stream certainty.
- 78 The CRAG recommends:
- a) The current principles, structure and charging formula of a 50/50 split between fixed charge and volumetric charge, remain;
 - b) The objective should be to retain as far as possible the 50/50 ratio between fixed and variable and that any adjustments should be within a 5% band above or below;
 - c) Council continues to take a medium term view of the water account and to retain the current 'price smoothing' approach to alleviate the need for substantial fluctuations in the volumetric price;
 - d) Further steps should be taken to ensure the community is aware of the assistance available, both with leak detection as well as with high water invoices. It should also undertake a review of the criteria for high water invoices to ensure such assistance is more widely available to those in genuine need;
 - e) The continuation of the Council's efforts to publicize the importance of water conservation as the best way to manage future costs as well as protect a finite resource, by limiting per capita consumption and postponing the need for further infrastructure development.
 - f) The water account should remain closed to ensure transparency, and other mechanisms to balance deficits and surpluses be considered;
 - g) A further review be undertaken towards the end of the 2018/19 financial year, at which time significant data regarding water usage and price sensitivity is likely to be better understood.

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3. Cole, G., O'Halloran, K., Stewart, R. (2011) *Efficient 2011*, Griffith University, Wide Bay Water Corporation, Australia
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APPENDIX 1 - TERMS OF REFERENCE: CHARGING REGIME ADVISORY GROUP. (CRAG)

Background:

The Kāpiti Coast District Council (the Council) introduced volumetric charging for water from 1 July 2014.

Prior to the introduction of volumetric charging, the Council convened the CRAG to consider the most appropriate formula for volumetric water charges and after careful consideration the CRAG reported back in April 2012 recommending the current tariff structure, being a 50% fixed charge and a 50% volumetric charge.

The CRAG also recommended a review of the tariff structure be undertaken after two years of operation.

Purpose of the Charging Regime Advisory Group:

1. To develop and recommend a draft volumetric water charging formula for introduction in conjunction with residential water meters;
2. To undertake on-going monitoring and review of the pricing and charging for water by Kāpiti Coast District Council.

Scope:

CRAG will have the responsibility to develop a draft volumetric charging formula for water which can be applied to both residential and non-residential properties using the following reticulated water supply.

CRAG will be provided with technical support to gather data, explore, develop and test any charging model or formula, prior to recommendation to Council. This will include the provision of independent external expert advice commissioned for the Group on charging systems, or any other necessary analysis. There will be opportunities for members of the community to provide ideas on charging regimes into the work programme.

Framework for Development of Volumetric Charging Formulae:

In discussing and arriving at any advice on a draft formula will work within the following framework:

- water charges must provide revenue for all existing and new costs of the water service activity (Note: this does not and cannot include any costs associated with wastewater services);
- in finding a balance between fixed (if any) and volumetric charges, there is sufficient incentive available from volumetric charging to effect behaviour change;
- impacts on small and larger households, in terms of fairness (horizontal equity) and social impacts (vertical equity) are considered and explicitly addressed;
- the charging regime must be capable of being applied across all geographic communities on reticulated supply and all sectors (eg. residential and commercial);
- fairness of impacts on reasonable and high users of potable water are to be explicitly addressed;
- that particular characteristics of the Kāpiti coast are provided for in the design of the charging system, in particular: special interest of communities in gardening;
- large older population;
- relatively high number of low income households;
- retirement homes;
- unit titles;
- holiday homes;

- marae;
- be capable of adjustments to charging to address fluctuations in consumption;
- links to the water bylaw in terms of landowner responsibilities and to the rating policy in terms of hardship provisions;
- satisfy Council's cash-flow requirements;
- not impose unreasonable administration costs.

Membership:

- Chair: Mr Don Hunn
- Grey Power: 1 member
- Council of Older Persons: 1 member
- background in financial skills: 1 member
- community interests and low income households: 2 members
- Chamber of Commerce: 1 member
- Landlord interest – 1 member
- Council: 2 Councillors
- Iwi: up to 3 representatives

All members shall be ratepayers or residents of the Kāpiti Coast District.

Processes and Support:

- the CRAG would: meet regularly with meeting times structured to enable the Group to provide timely comment and advice to Council at each stage;
- be provided with all reports and technical data within timeframes that allow robust advice to be provided to Council staff and Council;
- Council would: reimburse members' travel costs arising from participation in the CRAG;
- provide all secretarial support;
- provide a project management support to advance necessary technical work and follow-up between meetings actions;
- commission any independent expert advice on behalf of the Group, including peer review processes. The latter may include seeking input from other Councils with experience in water meters and volumetric charging.

APPENDIX 2 – TARIFF OPTIONS - DETAILS

Below are the details of each of the tariff options prepared to inform the CRAG review.

Option 1 - 50/50 Smoothed

This scenario applies the deficit recovery to the volumetric charge over the period. At the end of the five years the deficit is repaid and the fixed proportion is 52% of the revenue recovered.

Item	2014/15 Actual (\$000)	2015/16 Forecast (\$000)	2016/17 (\$000)	2017/18 (\$000)	2018/19 (\$000)	2019/20 (\$000)
Variable Rate	\$0.95	\$0.99	\$1.04	\$1.09	\$1.15	\$1.21
Fixed rate	\$189	\$190	\$199	\$205	\$210	\$220
Total cost of water proposed	8,143	8,366	8,399	8,483	8,593	8,932
Total water rates received	7,615	7,788	8,230	8,663	9,061	9,590
Annual Surplus/(Deficit)	(528)	(578)	(169)	179	468	658
Balance of Water Borrowings	(528)	(1,105)	(1,275)	(1,095)	(627)	32
Fixed Proportion	54%	54%	54%	53%	52%	52%

Option 2 -50/50 Fixed "surcharge"

This scenario applies a 50-50 a split of in year costs to fixed and volumetric and recovers the deficit as a fixed surcharge to all users over the period. At the end of the five years the deficit is repaid and 50%/50% ratio is maintained.

Item	2014/15 Actual (\$000)	2015/16 Forecast (\$000)	2016/17 (\$000)	2017/18 (\$000)	2018/19 (\$000)	2019/20 (\$000)
Variable Rate	\$0.95	\$0.99	\$1.14	\$1.14	\$1.14	\$1.18
Fixed rate	\$189	\$190	\$189	\$189	\$190	\$195
Fixed rate (surcharge)			\$11	\$11	\$11	\$11
Total cost of water proposed	8,143	8,366	8,399	8,483	8,593	8,932
Total water rates received	7,615	7,788	8,671	8,758	8,871	9,212
Annual Surplus/(Deficit)	(528)	(578)	272	275	278	280
Balance of Water Borrowings	(528)	(1,105)	(833)	(559)	(281)	(1)
Fixed Proportion	54%	54%	52%	52%	52%	52%

Option 3 - 60/40 Variable @ 99c for 5 years

This scenario applies the deficit recovery to the fixed charge and holds the volumetric rate fixed at 99c over the next five years. At the end of the five years the deficit is repaid and the fixed proportion is % of the revenue recovered.

Item	2014/15 Actual (\$000)	2015/16 Forecast (\$000)	2016/17 (\$000)	2017/18 (\$000)	2018/19 (\$000)	2019/20 (\$000)
Variable Rate	\$0.95	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99
Fixed rate	\$189	\$190	\$207	\$230	\$240	\$245
Total cost of water proposed	8,143	8,366	8,399	8,483	8,593	8,932
Total water rates received	7,615	7,788	8,243	8,838	9,138	9,345
Annual Surplus/(Deficit)	(528)	(578)	(157)	355	545	414
Balance of Water Borrowings	(528)	(1,105)	(1,262)	(907)	(362)	52
Fixed Proportion	54%	54%	56%	58%	59%	60%

Option 4 - 60/40 Variable rate increase at 2% ave

This scenario applies the deficit recovery to the fixed charge and increases volumetric by the average cost increases over the period. At the end of the five years the deficit is repaid and the fixed proportion is 57% of the revenue recovered.

Item	2014/15 Actual (\$000)	2015/16 Forecast (\$000)	2016/17 (\$000)	2017/18 (\$000)	2018/19 (\$000)	2019/20 (\$000)
Variable Rate (incl GST)	\$0.95	\$0.99	\$1.01	\$1.03	\$1.05	\$1.08
Fixed rate (incl GST)	\$189	\$190	\$203	\$216	\$229	\$238
Total cost of water proposed	8,143	8,366	8,398	8,438	8,593	8,932
Total water rates received	7,615	7,788	8,220	8,667	9,105	9,521
Annual Surplus/(Deficit)	(528)	(578)	(180)	184	512	589
Balance of Water Borrowings	(528)	(1,105)	(1,285)	(1,011)	(589)	-
Fixed Proportion	54%	54%	55%	56%	57%	57%

APPENDIX 3 – 2016 TARIFF REVIEW SUPPORTING INFORMATION REPORT