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CENTRAL HIGHLANDS WATER

29 September 2017

Dr Ron Ben-David
Chairperson
Essential Services Commission
Level 37, 2 Lonsdale Street
MELBOURNE VIC 3000

Sent via email: water@esc.vic.gov.au

Dear Dr Ron,

RE: PRICING PLAN 4 (2018-23) SUBMISSION TO THE ESSENTIAL SERVICES COMMISSION

Please find enclosed the above submission from Central Highlands Region Water Corporation (CHW).

The submission follows the requirements as set by the Essential Services Commission (ESC) and is the result of extensive consultation and decision making with our customers and communities of the Central Highlands region, our Board and the organisation.

It is a reflection of the most extensive customer and community consultation that CHW has conducted as part of the preparation of a Pricing Plan which overall we believe will continue to deliver not just the same but improved levels of service and commitment to our customers whilst ensuring that tariffs are still affordable whilst maintaining a sustainable business model into the future.

Furthermore it will allow CHW to deliver on the actions associated with the recent *Water for Victoria* Policy announcement and continue to provide high levels of service and support, liveability and development for the communities within our region.

CHW looks forward to further discussion with the ESC on this important plan and implementing the outcomes post 1st July 2018. Should you require additional information, please contact

Yours sincerely

Paul O'Donohue
Managing Director

Cc: Marcus Crudden, Director, Water, Essential Services Commission

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CENTRAL HIGHLANDS WATER

ESSENTIAL SERVICES COMMISSION PRICE REVIEW 2018 (PR18)

CHW SUBMISSION

SEPTEMBER 2017

chw.net.au

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1. EXECUTIVE SUMMARY

SUBMISSION HIGHLIGHTS

IMPROVING CUSTOMER VALUE

- Five substantive Outcomes (38 Outputs) developed collaboratively with customers
  - 21 new and 17 improved services
- Prices flat or reducing for all customer segments over a 5 year regulatory period
  - All tariffs held flat except wastewater access (-CPI for first 2 years)
  - Retaining tariff reduction applied on 1 July 2014
  - Effective 5-year price path for owner occupier equates to -0.55% p.a.

SUSTAINABLE BUSINESS MODEL

- Delivering both short and long term value and tariff relief to customers
- Continuing recent track record of strong cost control
- OpEx efficiency increased to 1.6% p.a and equal to customer growth
- CapEx spend prioritised to $130m with uncertain projects witheld

PREMO

- PREMO rating self-assessed as Advanced
- Extensive customer engagement and Board ownership
- Complied with all requirements of ESC Guidance Paper
- Effective risk management = improved value + downward pressure on prices

CUSTOMER VALUE PROPOSITION

Engagement: CHW has engaged with more than 1,000 customers over 12 months to understand their key concerns and priorities and identify opportunities to improve our service offering and value.

Outcomes: Clear themes emerged from the engagement around water security, water quality, water efficiency, digital communications and prices. This feedback shaped the development of 5 Customer Outcomes and targets listed below that reflect the customer experience and their priorities

Customer Outcomes	Better Customer Experience	Safe clean drinking water that tastes great	Reliable and sustainable water and sewer systems	More efficient water use	Increased value for money
Key Targets:	• Implement online account access 2018 • E-billing +20% p.a. • Direct debit +20% p.a. • Phone calls -5% p.a. • Web traffic + 20% p.a. • Automated interruption alerts +20% p.a.	• 100% compliance with water quality regulations • Identify solutions for small town water quality • Water quality rating +10% • Water quality complaints -5% p.a.	• Implement Integrated Water Management Plan actions • Publish annual water security plan • Improved network performance thresholds between 20% - 50% across a range of KPIs • Carbon emissions -20%	• Install 15,000 digital meters p.a. • Household water consumption -3% • Non-Revenue water -2% • Minimum 100 Rainwater tank rebates p.a.	• No tariff increases • Wastewater access fee – CPI 2 years • Value for money rating +10% • Community amenity plan • Hardship early intervention strategy

CapEx - CapEx: By reprioritising projects to focus on delivering customer outcomes and withholding uncertain projects we have avoided $20m in CapEx, saving customers $5 each year on their bill

OpEx - OpEx: CHW has committed to achieve an efficiency target equal to customer growth of 1.6% p.a. This ensures recurring controllable costs are held flat, savings customers $27 each year on their bill

Reporting: We will report performance against our targets annually to customers through a range of channels

Bills: Households bills reduce 0.55% p.a. on average across the period

AVERAGE BILLS – CUSTOMER SEGMENT & USAGE SCENARIOS

		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Average Price Path p.a
OWNER OCCUPIER	Average Usage (150kL)							
	Annual Bill	1,231	1,214	1,197	1,197	1,197	1,197	-0.55%
	Price Path		-1.38%	-1.37%	0.00%	0.00%	0.00%	
	Low Usage (75kL)							
	Annual Bill	1,091	1,074	1,057	1,057	1,057	1,057	-0.62%
	Price Path		-1.56%	-1.55%	0.00%	0.00%	0.00%	
	High Usage (300kL)							
	Annual Bill	1,510	1,493	1,476	1,476	1,476	1,476	-0.45%
	Price Path		-1.13%	-1.11%	0.00%	0.00%	0.00%	

		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Average Price Path p.a
OWNER	Annual Bill	952	935	918	918	918	918	-0.72%
	Price Path		-1.79%	-1.78%	0.00%	0.00%	0.00%	

		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Average Price Path p.a
TENANT	Average Usage (150kL)							
	Annual Bill	279	279	279	279	279	279	0.00%
	Price Path		0.00%	0.00%	0.00%	0.00%	0.00%	

		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Average Price Path p.a
BUSINESS	Average Usage (150kL)							
	Annual Bill	2,254	2,237	2,220	2,220	2,220	2,220	-0.30%
	Price Path		-0.75%	-0.74%	0.00%	0.00%	0.00%	
	Low Usage (75kL)							
	Annual Bill	1,603	1,586	1,569	1,569	1,569	1,569	-0.42%
	Price Path		-1.06%	-1.05%	0.00%	0.00%	0.00%	
	High Usage (300kL)							
	Annual Bill	3,556	3,539	3,523	3,523	3,523	3,523	-0.19%
	Price Path		-0.48%	-0.47%	0.00%	0.00%	0.00%	

Average bills decline for all customer segments ranging from -0.2% p.a. to -0.7% p.a. with the exception of tenants which remain flat.

CHW's tenant segment has the 6th lowest bill across the state.

Additional support will be provided to low income customers via the hardship output (refer page 36).

Also refer pages 9-10 for tariff scenario modelling

CUSTODIANS OF A SUSTAINABLE BUSINESS MODEL

Our customers have vivid memories of the Millennium Drought. As a result they are very supportive of CHW making decisions that enable the business to be resilient in the long term.

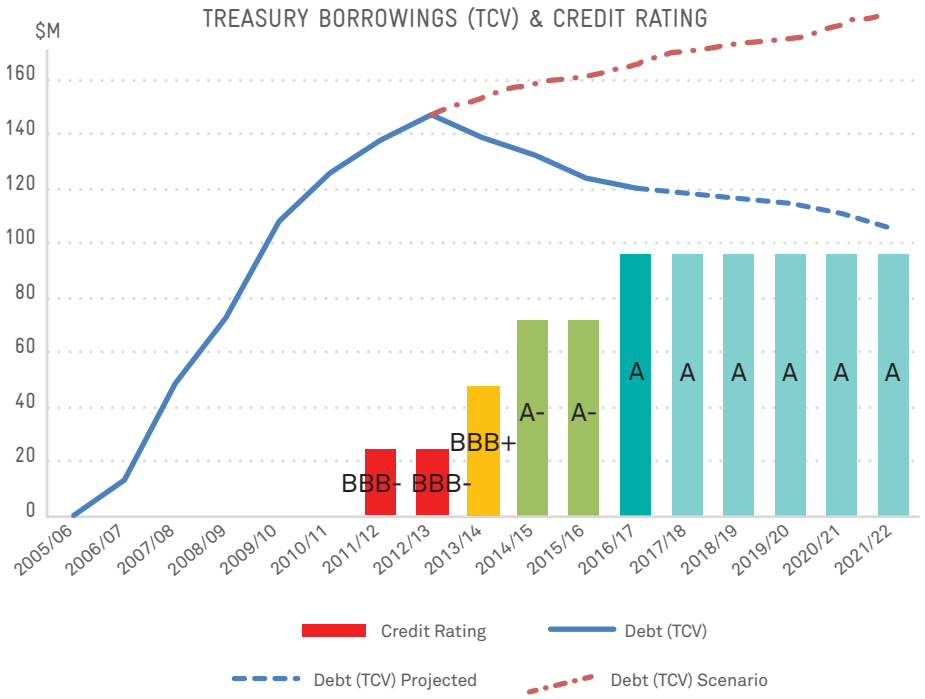
This requires CHW to balance the delivery of Social, Environmental and Economic outcomes.

- While our social agenda is well informed by the breadth and depth of our engagement activities, customer expectations are increasing. We are also committed to ongoing engagement with Registered Aboriginal Parties to incorporate aboriginal values in long-term water resource planning

- Environmental outcomes have never been more critical as we deal with the challenge of climate change and population growth. The very fundamentals of our operations continue to evolve as we strive to meet ever-changing policy (e.g. Water for Victoria) and community standards. Our business looks very different to that of 20 years ago as it will look very different again in the next 10 years

- Maintaining a strong financial position provides the necessary buffer to manage short term shocks and risks while also ensuring we do not pass an unreasonable debt burden on to future generations.

CUSTODIANS OF A SUSTAINABLE BUSINESS MODEL



Any excess efficiency gains achieved by CHW during the current period have been utilised to balance both the immediate short-term and long-term interests of customers as follows:

- $50 reduction to fixed access water fee from 1 July 2014 (and being retained from 1 July 2018)
- Reducing debt to alleviate pricing pressure on future generations and mitigate against the risk interest rate rises
- Additional efficiencies are creating further downward pressure on prices as proposed in this submission.

SCENARIO:

The following scenario has been modelled to contrast current performance with a 'do-nothing' approach, as follows:

- Debt continued on its 2006-2013 trajectory
- Another drought or major event hits in next 5-10 years
- Interest rates increase (up to 2%).

IMPACT

- Debt +$75m
- Interest +$5m p.a.
- Credit Rating downgrades
- Passed on to customers through higher prices.

LONGER TERM TARIFF STRUCTURE

Feedback from customers indicates a desire to rebalance tariffs by increasing variable charges and reducing fixed charges.

CHW modelled a number of scenarios and shared this output with the Customer Reference Group. One unintended consequence from any such rebalancing was that tenants would see bills increase materially above CPI.

This was problematic given the tenant customer segment includes many of our lower income and vulnerable customers. It is noted this customer segment currently has the 6th lowest bill in the state. The preference of the Customer Reference Group was for no customer segment to incur price rises above CPI.

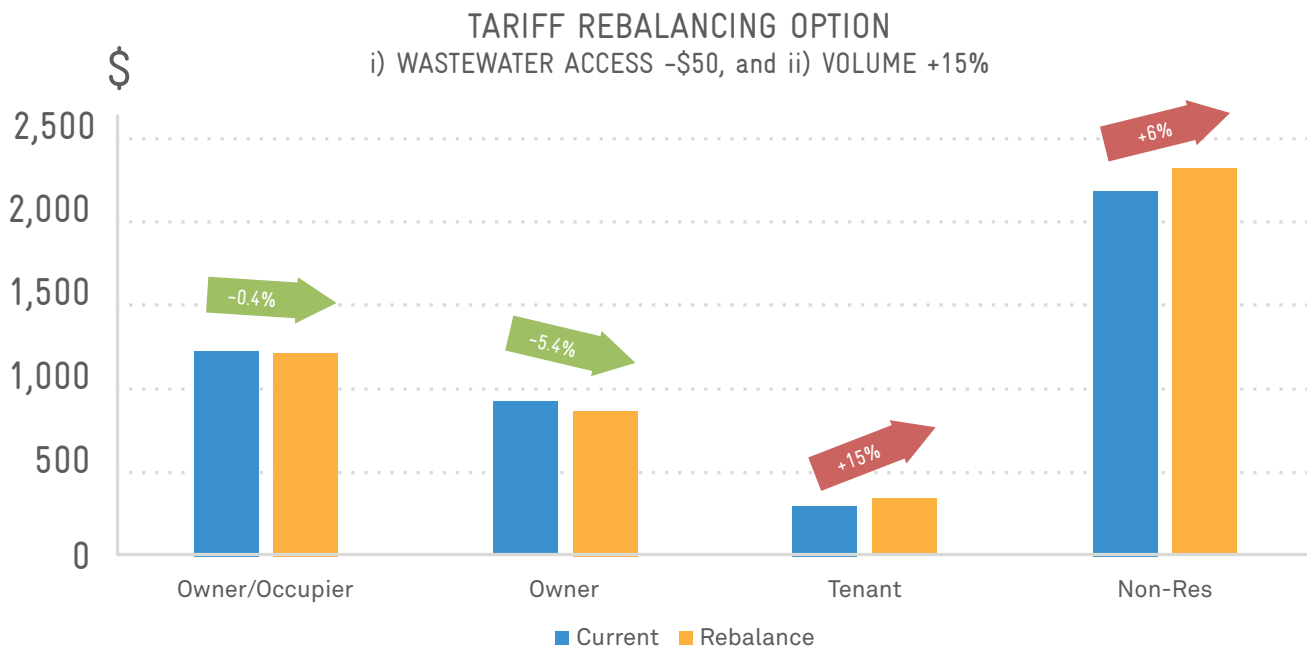
As a result, our approach to tariff reform is to continue a longer term process whereby any opportunity for tariff relief will be provided by a reduction to fixed tariffs. Over time this will produce a gradual rebalancing while not disadvantaging any particular customer segment.

Should favourable conditions prevail over the 5 year pricing period CHW will consider extending the nominal freeze on the wastewater access fee in accordance with the tariff reform principles outlined above.

TARIFF – REBALANCING SCENARIO

In response to customer feedback in relation to tariff rebalancing to provide more control over bills CHW completed some analysis to share with the Customer Reference Group

Tariff rebalancing impacts



Impact based on average bill for each customer segment

The slide shared with both the Board and the Customer Reference Group demonstrated that any rebalancing would have a detrimental impact on tenants as they are the only customer segment that would not benefit from a reduction in access fees given tenants do not incur this charge. As a result any form of rebalancing increases bills for tenants.

Neither the Board nor the Customer Reference Group would support a position that disadvantaged any customer segment, in particular the segment which includes many of our vulnerable and low income customers. Both stakeholders were also mindful of the impact on non-residential customers.

PREMO SELF-ASSESSMENT SUMMARY

ENGAGEMENT

- Allowed a broad representative sample of customers to engage all our water supply sytems
- Engagement started early to allow feedback to inform the development of proposals
- Provided clear instructions to customers at each stage of the process
- Engaged on matters of importance to customers through iterative process
- Detailed quantitative survey data supports engagement findings
- Engagement has influenced outcomes, activities and GSLs

OUTCOMES

- Iterative process of engagement and refinement of outcomes with customers, which results in outcomes completely taking into account the views, concerns and priorities of customers
- TotEx of $20m above BAU reprioritised to deliver customer outcomes
- A total of 38 robust and measurable performance measures, including material improvements to customer experience, network performance and water efficiency
- An easy to understand and robust performance reporting dashboard that will be distributed through numerous channels

RISK

- Significant improvement to GSL scheme
- Utilisation of regulatory strategies to appropriately manage risk
- Savings of more than $30 per customer p.a. achieved through reprioritisation of costs and withholding uncertain projects
- Flat or negative price paths for all customer segments

MANAGEMENT

- Prudent cost baseline following achievement of efficiencies during regulatory period 3
- Demonstrated commitment to ongoing OpEx and CapEx efficiency
- Strong governance framework surrounding the development of the submission
- Management and Board ownership of proposals

PREMO SELF ASSESSMENT

AMBITION LEVEL	BASIC (1–1.5)	STANDARD (1.75–2.5)	ADVANCED (2.75–3.5)	LEADING (3.75–4)
RISK			3.00	
ENGAGEMENT			3.50	
MANAGEMENT			2.75	
OUTCOMES			3.50	
OVERALL			12.75	

Refer section 6 for CHW responses to Guiding Questions and detailed scoring assessment

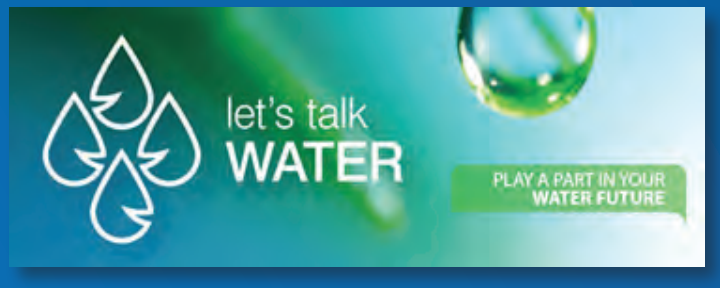
BOARD ATTESTATION

At the date of lodging this submission (29 September 2017), the directors of Central Highlands Water, having made such reasonable inquiries of management as we considered necessary (or having satisfied ourselves that we have no query), attest that, to the best of our knowledge, for the purpose of proposing prices for the Essential Services Commission's 2018 Water Price Review:

- Information and documentation provided in the price submission and relied upon to support Central Highlands Water's price submission is reasonably based, complete and accurate in all material respects;
- Financial and demand forecasts are the business' best estimates, and supporting information is available to justify the assumptions and methodologies used; and
- The price submission satisfies the requirements of the 2018 Water Price Review Guidance paper issued by the Essential Services Commission in all material respects

At the meeting held on 22 August 2017, the Board endorsed the key components of the submission including tariffs and customer bill impacts.

2. CUSTOMER ENGAGEMENT & OUTCOMES DEVELOPMENT



CUSTOMER ENGAGEMENT & OUTCOMES DEVELOPMENT

IN THIS SECTION:

- CHW's engagement process
- Voice of the customer
- Customer outcomes summary
- Measures, targets & key activities for each outcome
- Performance reporting
- Guaranteed Service Levels

ENGAGEMENT APPROACH

In 2016 CHW launched the Let's Talk Water customer and community engagement campaign. We spent more than 12 months, listening, consulting and collaborating with our customers across our entire service area.

The aim of the campaign was to:

- Engage early, broadly and deeply on the issues and priorities of our customers and communities we serve
- Give every customer from our 15 water supply systems an opportunity to have their say
- Collaborate with customers to determine new and /or improved services that deliver increased customer value
- Be coordinated, agile and responsive in our engagement approach
- Ensure final proposals are representative of our customer base.

let's talk WATER

ENGAGEMENT APPROACH

The Let's Talk Water customer and community engagement program was designed specifically around the internationally-recognised IAP2 public participation framework.

- Customers were involved early through a range of locally accessible face-to-face engagement activities and digital engagement platforms (via online engagement company **www.oursay.org**) for wider customer reach
- Customers were given every opportunity to be involved and/or collaborate directly with CHW to help shape the development of future services.

Our Say is a digital media organisation that specialises in online engagement. Their platform provides a way for organisations to connect with customers and communities on decisions that affect them. CHW utilised Our Say from campaign commencement through surveys, online forums and e-communications. Customer uptake was monitored and measured in real time. This enabled CHW to gain further insight into customer priorities and/or adjust its engagement approach for optimal results.

ENGAGEMENT OVERVIEW STAGE 1 (INFORM, CONSULT, INVOLVE)

ESTABLISHING DIRECTION & FRAMEWORK
July - August 2016

- Let's Talk Water brand and engagement framework
- Initial trial via Our Say of engagement formats Survey vs Online Discussion Forum; Survey most successful
- Short vs. Longer survey trialled online, with equal success rate
- Longer survey established and officially launched August 2016.

MAJOR SURVEY AND FACE-TO-FACE ENGAGEMENT
September 2016 - January 2017

- 834 surveys completed via events (face-to-face), telephone and digital channels, representative of all water supply systems
- Breakdown of key priorities per water supply system generated
- **39% of customers who completed the survey "opted in" to stay informed**
- 18 x Community events
- 6 x "Drop in" information sessions
- Focus Group event
- CHW & Federation University Research Forum.

Data Analysis

Clear messages & key themes emerge

Feedback to customers

EXPLORING & RE-TESTING KEY THEMES WITH CUSTOMERS
February – March 2017

- Customers re-engaged via Online discussion Forums n= 698 visitors; 18 customers engaged; 14 ideas posted
- One-on-one meetings commence with key stakeholders, major customers and agencies
- Stakeholders and customers invited to participate in Customer Forum event.

Draft Outcomes developed

by CHW from key themes to be explored/re-tested at upcoming Customer Forum

CONTINUED...

ENGAGEMENT OVERVIEW STAGE 2 (INVOLVE, COLLABORATE)

CUSTOMER FORUM
April 1, 2017

- n= 46 customers (61 register)
- Informal world-café workshop format
- 6 Outcomes and 28 draft Outputs workshopped (based on all customer feedback received to date)
- All attendees invited to participate in *Let's Talk Water Customer Reference Group*
- 69% of Customer Forum attendees "strongly agree" or "agree" that their opinions and feedback will influence future CHW services and prices; 25% "somewhat agree".

Feedback to participants

Revised Outcomes based on Customer Forum feedback

LET'S TALK WATER CUSTOMER REFERENCE GROUP
May - July 2017

- n= 17 members
  n= 2 group meetings
  n= 1 survey
  n= 1 discussion forum
- **88% of Customer Reference Group members surveyed support all draft Outputs prior to final customer reference group meeting.**

Group meeting to refine Outcomes

Surveyed group on proposed final Outcomes

Group meeting and consensus achieved

Final Outcomes & Outputs

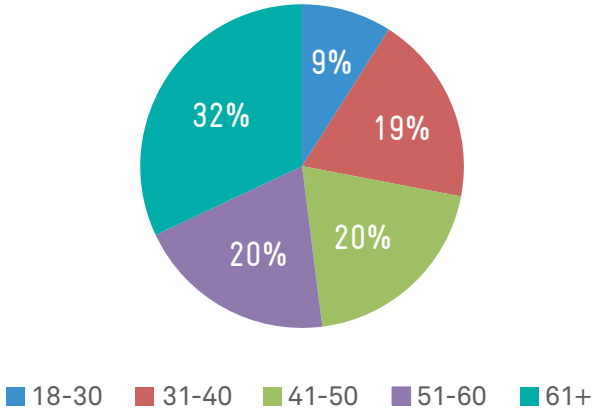
CHW draft PR18 submission prepared
August 2017

- PR18 Proposed services and prices communicated to customers, stakeholder groups and the general public for feedback.

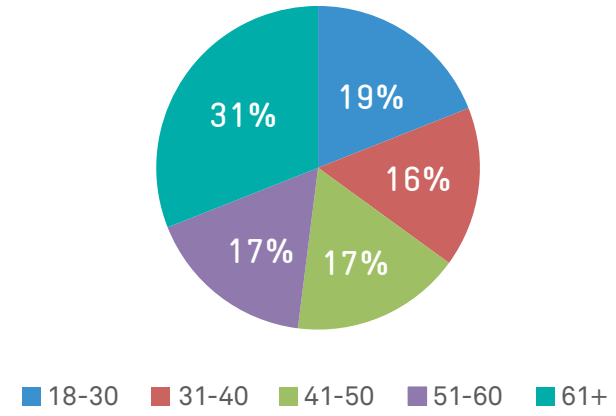
ENGAGEMENT – REPRESENTATION

- The age demographic of CHW's customers surveyed reflects the ABS age demographic profile for the region with the exception of the 18-30 year old category, where our survey representation lags the profile by 10%
- In the context of seeking views from property owners/tenants this differential is not detrimental to the integrity of the results in that it would partly be explained by the increasing rate of younger Australians choosing to stay at home longer
- As a result CHW's survey results provide confidence that we have engaged a representative sample of our customers based on age.

AGE GROUP – CHW SURVEY



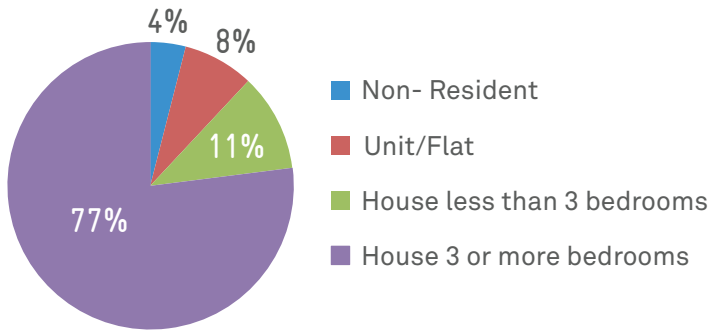
AGE GROUP – ABS PROFILE



ENGAGEMENT – REPRESENTATION

- While the ABS data on residency type is not an exact match with the CHW categories, the data available indicates that our sample is representative based on residency type.

RESIDENCY TYPE – CHW SURVEY



CHW CATEGORY	%	ABS CATEGORY (DWELLING STRUCTURE)	%
Unit/Flat	8%	Semi detached, flat or apartment	12%

CHW CATEGORY	%	ABS CATEGORY (DWELLING STRUCTURE)	%
Unit/Flat + House with less than 3 bedrooms	19%	Number of bedrooms (0,1,2)	21%
House with 3 or more bedrooms	77%	3, 4 or more bedrooms	76%

ENGAGEMENT – REPRESENTATION

The table shows that all of CHW's 15 water supply systems were represented in the *Let's Talk Water* survey.

WATER SUPPLY SYSTEM	TOTAL CONNECTIONS AT 30 JUNE 2016	CONNECTIONS %	SURVEY RESPONSE (n)	SURVEY RESPONSE (%)
Amphitheatre	76	0%	19	2%
Avoca	667	1%	9	1%
Ballarat	54,304	81%	394	47%
Beaufort	833	1%	23	3%
Blackwood	341	1%	5	1%
Clunes	946	1%	23	3%
Daylesford	2,889	4%	31	4%
Dean	21	0%	3	0.40%
Forest Hill	498	1%	7	1%
Landsborough	144	0%	11	1%
Learmonth	102	0%	6	1%
Lexton	154	0%	4	0.50%
Maryborough	5,894	9%	106	13%
Redbank	43	0%	9	1%
Waubra	110	0%	9	1%
Location not provided	N/A		175	21%
TOTAL	**67,022**	**100%**	**834**	**100%**

Assume mostly Ballarat

ENGAGEMENT REACH 2016/17

SURVEY OF 834 CUSTOMERS Every CHW customer was given the opportunity to complete our Satisfaction Survey via their water bill and online	**18 COMMUNITY VISITS** CHW participated in community fairs, markets and agricultural shows, surveying customers and discussing their needs and priorities	**6 COMMUNITY 'DROP IN' INFORMATION SESSIONS** With key communities to discuss system-specific issues		**CUSTOMER FORUM WITH 46 CUSTOMERS** attending from across the CHW region
1 FOCUS GROUP to discuss general issues with community leaders	**SATISFACTION SURVEY** of customers who contacted us directly with a Service Request in the past 12 months	let's talk WATER	Social media promotion and engagement via **CHW FACEBOOK PAGE**	In depth discussions with the **LET'S TALK WATER CUSTOMER REFERENCE GROUP**
RESEARCH FORUM in collaboration with Federation University to discuss current water research	Meetings with **2 ABORIGINAL CORPORATIONS**	Meetings with **19 MAJOR CUSTOMERS**	Meetings with **6 LOCAL COUNCILS**	Meetings with key **REGULATORY AGENCIES**
Campaign Information and how to have your say included on **EVERY CUSTOMER BILL**	Discussions with **COMMUNITY AGENCIES**	**ONLINE DISCUSSION FORUMS** continued through 2016-17	Workshops with **CHW BOARD** to review customer feedback	**CHW STAFF WORKSHOPS** for internal alignment and focus on delivering customer preferences

ENGAGEMENT – INSTRUCTIONS / INFORMATION REFERENCES

STAGE 1 ENGAGEMENT	DETAILS	EXAMPLE INSTRUCTION AND INFORMATION PROVIDED TO CUSTOMERS
Let's Talk Water: branding and launch 2016 – 2017	• Media release to all regional media • Advertisements • CHW social media & CHW website • Posters and postcards • Sponsored advertising • Cross promotion via community orgs • Customer bill advertising	Central Highlands Water has launched one of its biggest community engagement campaigns to date called Let's Talks Water. The campaign encourages people to share ideas and thoughts about the future of water and quality of life in the Central Highlands including water usage, sustainability, liveability and other topics As part of the campaign, Central Highlands Water will be at ... We invite you to complete our survey at www.talkwater.net.au
Survey (hosted via Our Say) September-December 2016	www.talkwater.net.au Administered via: • Online & Email • In-person at events • Telephone / Hardcopy / postal	We are about to ask you a series of questions relating to how you value our services and then another series of similar questions on our performance... Telephone script: "My name is [insert] and I am calling from Central Highlands Water. I'm contacting you as Central Highlands Water is currently seeking customer feedback on its services and prices...
Control Room Customer Satisfaction Survey & Summary Report November 2016	• Telephone survey • 18-page Summary Report	Telephone script: "....We are conducting a survey about customers' perceptions of service quality received through the CHW Customer Service Faults Centre... I would like to read to you a set of statements that relate to your feelings about the assistance provided to you by CHW personnel when you made your initial call..."
Online Discussion Forums (hosted by Our Say) 2016-2017	https://oursay.org/chw/waterquality	How can customers help Central Highlands Water improve water quality? Overall, you rated water quality a 7.1 out of 10. Sometimes it smells and tastes funny. The quality can vary from location and from day to day. Sometimes customers gave us a 10 out of 10. Sometimes a 1 out of 10. It is also an area where the gap between our performance and your expectation is greatest. We now want to start exploring solutions with you. Click here to join the conversation...
Community information sessions – invitation letter October-December 2016	Direct mail letter/Letter box drop to residents / businesses in key regional communities	Let's Talk Water' invites you to share your ideas and thoughts about the future of water and quality of life in the Central Highlands. To hear your thoughts, Central Highlands Water team members will be visiting...
Let's Talk Water Research Forum December 7, 2016	A joint initiative of CHW and Federation University Australia	Ballarat's water future- where are we heading? Hear the latest in exciting water research from the thought leaders of our local university
Customer Feedback - Let's Talk Water preliminary survey results December 2016	2-page document	Thank you for participating in Central Highlands Water's Let's Talk Water Customer Survey. To date, we have received more than 700 survey responses... Customers indicated their top 5 service priorities are: 1. Water quality 2. Having customers' interests at heart 3. Prompt response to emergencies 4. Willingness of employees to assist customers 5. Reliability of water services...
CHW Lets Talk Water Community Engagement Research Report	123-page CHW internal document	N/A
Major customer / stakeholder meetings 2016-2017	Internal CHW 2-page background document / template	Talking points included: Customer's water consumption history over 10+ year period; key customer priorities as revealed through the Let's Talk Water Survey research; If we could change one thing to improve value for money what would it be?

ENGAGEMENT – INSTRUCTIONS / INFORMATION REFERENCES

STAGE 2 ENGAGEMENT	DETAILS	EXAMPLE INSTRUCTION AND INFORMATION PROVIDED TO CUSTOMERS
Customer Forum - Invitation & promotion March 2017	Direct mail / email invitation to individuals, businesses and community organisations including those who 'opted in' to stay engaged	"Inform future water services and the prices you pay" We are currently seeking our customers' views on important long-term decisions about our services and how they should be priced. The Let's Talk Water half-day Customer Forum seeks important customer feedback on topics that have been identified in a recent customer survey as major priorities. These include water quality, value for money and customer service. Feedback will inform Central Highlands Water services and prices for the period 2018 - 2023
Customer Forum - Feedback Report 27 April 2017	Thankyou email, including: • 28-page Customer Forum Feedback Report • Post-event participant survey, • Video of event https://www.youtube.com/watch?v=aLjdYuWVLFw • Invitation to participate in Customer Reference Group	We received a great deal of valuable feedback on a whole range of issues, ranging from water quality improvements to wastewater, communication preferences and increasing customers' value for money. Attached here is a report where you can read all customer comments. You can also view a video from the day here. Post-event survey (example question): Thinking about the topics and key deliverables you discussed at the event, how do you think CHW should report back to customers on how the organisation is performing / tracking with them? Please select no more than two preferences.
Customer Reference Group - Member Welcome Pack April- May 2016	• Email • 4-page Member Welcome Pack • Online Discussion Forum	The Customer Reference Group has been established to collaborate with Central Highlands Water to determine the services most valued by customers. This collaboration and insight will assist us in shaping Central Highlands Water's services and prices for the period 2018-2023...
Customer Reference Group - Updated Outcomes and Measures document 9 June 2017	12-page document	Thankyou for joining us on Tuesday 16th May for our first Let's Talk Water (LTW) Customer Reference Group meeting. We greatly appreciated your comments and feedback and have updated the Outcomes and Outputs based on what you told us was most important to you. In addition, you also requested specific detail on the Outcomes proposed before final decision-making takes place. This document includes this information
Customer Reference Group - Survey & Results document June 2017	• Online Survey • 16-page Survey Results Document distributed prior to final meeting	The next task for you as a member of the Reference Group is to provide comment on whether you feel the Outcomes and Outputs described meet the needs of Central Highlands Water customers. Have we got them right? Do you support these Outcomes and Outputs for the period 2018-2023?
Customer Reference Group - final communications July 2017	• Thank you Letter • Email with Let's Talk Water proposed services and prices 2018-2023 (see below) prior to public release	As a member of our Let's Talk Water Customer Reference Group, I would like to thank you for your wonderful contribution. The Customer Reference Group has been instrumental in helping our organisation shape our proposed services and prices for the next five year period, in a way that directly reflects the needs of our customers and communities...
Let's Talk Water Proposed services and prices 2018-2023 (close the loop) August 30	12-page document released / promoted publicly including to all customers and stakeholders engaged through the campaign	Take a moment to read out proposed services and prices for 2018-2023 and tell us what you think. If you have any questions or feedback about our proposed Price Review ... or if you would like to be involved in future customer engagement initiatives, we would love to hear from you. Contact us....

ENGAGEMENT – INSTRUCTIONS / INFORMATION EXAMPLES


Let's Talk Water with CHW

Thurs 13/10/16

Campaign launch media article, October 2016

The Courier's cartoonist John Ditchburn's take on the Central Highlands Water survey.

Let's Talk Water Survey & online discussion forums powered by Our Say

Online Discussion Forums: Key topic included: *How can customers help Central Highlands Water improve water quality?*

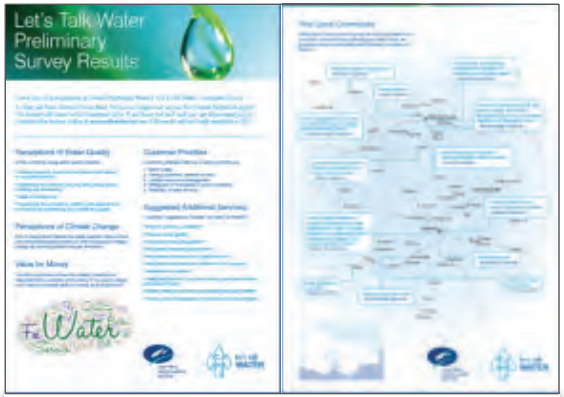
Promotion of Let's Talk Water via **every customer bill , 2016**

Focus Group, 2016

STAGE 1 ENGAGEMENT EXAMPLES

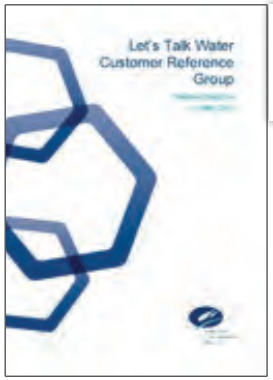
Let's Talk Water 123-page Community Engagement Research Report (Feb 2017). Diagrams pictured show survey results per water supply system and scatterplot of service importance vs performance based on **ServQual model;**

Control Room Customer Satisfaction Survey, of customers who had reported faults or issues to CHW between June - October 2016.



Customer feedback: preliminary survey results distributed December 2016.

ENGAGEMENT – INSTRUCTIONS / INFORMATION EXAMPLES



Customer Reference Group – Member Welcome Pack

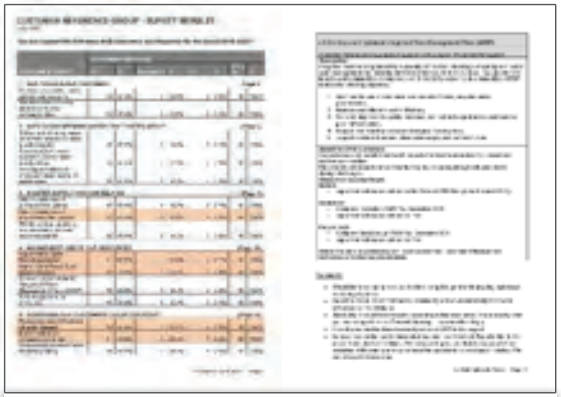
Customer Reference Group **– Updated Outcomes and Measures** June, 2017

Invitation letter to Customer Forum

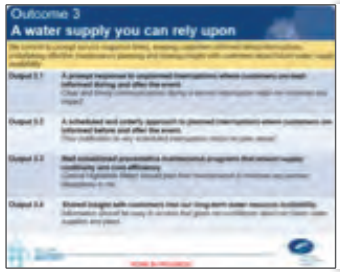
Customer Forum (pictured) and Customer Reference Group facilitated by independent facilitator Dr Joy Humphreys

STAGE 2 ENGAGEMENT EXAMPLES

CHW Proposed Prices and Services 2018-2023 communicated publicly, including 12-page overview document, editorial and social media.



Customer Reference Group **survey results** of support for draft Outcomes and Outputs, June 2016



Customer Forum table topics/ handouts (being x6 early stage draft Outcomes x28 draft outputs).

WHAT WE HEARD ... VOICE OF THE CUSTOMER

A common set of customer priorities and values emerged from our community engagement.

Our customers told us:

- **A safe and reliable water and wastewater system is critical.** Customers rated the importance of a reliable water service 9.1 /10 and a reliable wastewater service 8.7/10 (10=highly important). CHW performance of these services also rated highly, being 8.7/10 and 8.6/10 respectively (10=excellent performance).
- **Improvements to water quality, particularly "taste" is a priority in some water supply systems.** CHW's water quality satisfaction rating average is 7.1/10, with the lowest rating in Waubra 2.9/10 and highest rating in Dean 9.0/10 (0=most unsatisfactory and 10=highly satisfied). 146 open-ended survey responses emphasised "taste" across 13 of CHW's 15 water supply systems.
- **Cost-of-living pressures and affordability concerns mean customers want CHW to keep costs down.** Value for money was rated on average 6.9/10 with a strong correlation between perceptions of water quality and value for money (the correlation coefficient being 0.6). Open-ended responses on value for money reinforced reducing cost burdens by lowering costs (18% of comments) reducing service fees (14%) and reducing wastewater service fee (7%).
- **Savvy, digital communications that give customers greater choice and convenience when interacting with CHW is desired.** The following services were rated medium to high importance in the Let's Talk Water Survey: "Communications direct to you" (8.4/10), "website functionality" (8.3/10) and "flexible payment options" (7.7/10). These themes evolved at the Customer Forum where customers emphasised a desire for more agile and flexible digital communications that they can use and select according to their personal preferences. Corresponding draft Outputs were supported (87.5%) and somewhat supported (12.5%) by the Customer Reference Group prior to the Group's final meeting.
- **Customers who reported a fault were highly satisfied with CHW's service response.** Of the Control Room Customer Satisfaction Survey, satisfaction with the quality of service provided was on average 6.4/7.0 (1=strongly disagree, 7=strongly agree) and 90% of respondents prefer to "keep how much they pay and the level of service they receive at the current level".

WHAT WE HEARD ... VOICE OF THE CUSTOMER

- **Communication of water supply interruptions could be improved.** Customers are forgiving of occasional service interruptions, whether planned our unplanned, however the Customer Forum and Customer Reference Group expressed a desire for improved digital communication prior, during and at conclusion of interruptions (a clear comparison of CHW lagging behind other utility providers was voiced). Draft outputs relating to informing customers of planned interruptions and unplanned interruptions were supported by Customer Reference Group members (94% and 81% support, respectively)
- **Long-term water security is a key topic of interest and customers want more information about how CHW is planning for the future.** 25% of all "additional suggestions" from the Let's Talk Water Survey (open-ended) related to concerns for future water security. The Customer Forum and Customer Reference Group further highlighted this customer priority and desire for ongoing communication on the topic
- **An ability to monitor and control water efficiency in and around the home is sought.** 58% of Let's Talk Water survey responses believe they can do more to conserve water in their home and 90% of respondents believe water suppliers have a responsibility to provide the community with rebates in order to encourage water efficiency. Understanding customers' own water usage through digital metering and the ability to influence their own water usage was a key topic at the Customer Forum and fully supported by the Customer Reference Group if at no additional customer cost
- **Customers support emissions reduction, with mixed views on their preparedness to pay.** 86% of Let's Talk Water survey responses believe that CHW has a responsibility to limit the impact of climate change, however survey respondents were divided in terms of their willingness to pay for these initiatives. Customer Forum participants were satisfied for CHW to comply with government requirements regarding greenhouse gas emission reductions which was supported by 94% of Customer Reference Group members prior to the final Group meeting
- **Continuing to improve value for money is important to all customers.** It was a consistent theme across all engagement activities throughout the campaign and either "supported" (94%) or "somewhat supported" (6%) by all Customer Reference Group members.

CUSTOMER FORUM – WHAT DID OUR CUSTOMERS SAY?

"It is always wonderful to be listened to. By giving the community represented on the day a chance to join in a type of partnership with CHW, it felt empowering." - *Mary Sila-Mato*

"I commend the customer focused culture" - *Michael Hynes*

"Fantastic... I very much felt listened to by Central Highlands. Really learnt something too."
- *Carol Ayo*

CLICK TO PLAY VIDEO

Post-event Customer Forum Survey: 69% of Customer Forum participants "strongly agree" or "agree" that their opinions and feedback will influence future CHW services and prices; 25% "somewhat agree"

"I liked the ability to converse with senior staff and management, have questions answered, and issues and suggestions taken on board."
-Peter Leitch

"I felt we were being heard."
- Justine Howell

"Well facilitated and explained. Friendly atmosphere. Knowledgeable CHW staff who really listened and kept the discussion on track while accepting any idea in a brainstorming process. Then a good summary. I cannot think of anything you could do better. That is an honest feedback." – *Michael*

CUSTOMER REFERENCE GROUP – WHAT DID OUR CUSTOMERS SAY?

"I came with mixed emotions... thinking that CHW just want to sign off on what they have decided... that was quickly dispelled at the Customer Forum. It was inspiring that we were asked our opinion as customers, not just told what to do. We've gone back to basics, then gone through the whole rigmarole... work, through education, metering... to get it right. I've told people that I'm in the CHW customer advisory group. I've had every question answered.... It's all about us at present, we can see positive results... congratulations."
– Ken Burge

CLICK TO PLAY VIDEO

"I've learnt so much but I'm really keen to stay involved... Every question you've gone away and answered. I think you have given back."
- Rachel Plumridge

Follow up survey with Customer Reference Group members achieved 88% support for all draft Outcomes and Outputs prior to final Customer Reference Group meeting.

"I fully support this group and objectives and it's given me a large insight into CHW, very proud to be a part of this group. Something about a large company providing this resource to people... thank you." – Goars Kristaps Herman

ENGAGEMENT TO OUTCOMES

Through our collaboration with customers we developed five high level Customer Outcomes, supported by 38 measurable Outputs, 21 of which are new service offerings with the remaining 17 reflecting an improvement on the current offering:

- A number of the measurable outputs contain a two-step process whereby CHW will engage further with customers to agree on subsequent measurable outputs e.g. small town water quality, integrated water management plans, early intervention to assist vulnerable customers and the community amenity plan

- As a result the measurable outputs will not be static over the five year period

This approach reinforces CHW's commitment to continued meaningful customer engagement

A snapshot of the customer feedback collected through each major engagement stage (*Let's Talk Water* Survey, Customer Forum and Customer Reference Group) culminating in the final Outcomes and Outputs is included in Appendix 1 on page 97.

CUSTOMER OUTCOMES – SUMMARY

BETTER CUSTOMER EXPERIENCE

- Online self-service account access
- Online two-way digital communication channels
- Service interruption alerts by SMS & email
- Understand our customers' needs

SAFE CLEAN DRINKING WATER THAT TASTES GREAT

- Safe drinking water
- Options for improved water quality of small towns
- Improve water quality rating

RELIABLE AND SUSTAINABLE WATER AND SEWER SYSTEMS

- Sustainable water resource planning
- Communicate long term water security plan
- Improve network performance
- Reduce greenhouse gas emissions

MORE EFFICIENT WATER USE

- Digital Metering program
- Rainwater tank rebates

INCREASED VALUE FOR MONEY

- Minimise cost of living pressures
- Community amenity plan
- Assist vulnerable customers
- Improve value for money

CUSTOMER OUTCOMES – DETAIL

OUTCOME 1 : BETTER CUSTOMER EXPERIENCE

Measure	Baseline	Target	Key Activities & costs above BAU
1. Online self-service account access Includes online bill viewing and payment functionality, usage history, ability to update details and setup of payment plans	N/A	Implement by December 2018	• Scope, design, build & test online functionality; go-live (Portal) • Website upgrade • Establish Pilot group • Marketing and advertising plan • Scope, design, build & test online functionality; go-live (Automated Alerts) • Community Engagement (event schedule) • Stakeholder engagement strategy (including but not limited to: event participation/calendar, one-on-one meetings with major customers) • Continue updating customer contact details (via Call Centre) • Annual Customer Satisfaction Survey • Annual 'Care Flow' event with community agencies • TotEx above BAU / redirected $1.5m
• Customers using e-billing • Customers using direct debit	7,082 3,016	Increasing by 20% p.a. Increasing by 20% p.a.	
2. Online two-way, digital communications channels Improved website functionality, social media and public messaging to make it easier and more accessible for customers to contact CHW. Includes online 'Customer Service Chat Box'	N/A	Implement by June 2019	
• Telephone contacts per year • Website traffic • Online platform satisfaction	55,316 Set new baseline 2018 Set new baseline 2018	Reduce by 5% p.a. Increase by 20% p.a. Develop target 2018	
3. Service interruption alerts – SMS & Email Customer alerts via SMS or email for planned and unplanned water supply interruptions	N/A	Functionality available December 2018	
• % customers interrupted that receive SMS/email notification	0	Increase by 20% each year with final target 90% in 2023	
4. Understanding our customers' needs Ongoing consultation with our customers to identify any emerging customer needs, particularly in relation to affordability and flexibility of payment terms	N/A	Top three customer priorities identified annually by February and prioritised into existing or new processes	

CUSTOMER OUTCOMES – DETAIL

OUTCOME 2 : SAFE CLEAN DRINKING WATER THAT TASTES GREAT

Measure	Baseline	Target	Key Activities & costs above BAU
1. Safe drinking water that meets regulatory water quality requirements • E.coli standards • Turbidity standards • Compliance with Safe Drinking Water Act requirements (including external audit of CHW systems, processes and controls)	 100% 100% 100%	 100% 100% 100%	• Stakeholder Engagement Plan (small towns) • Review customer service water quality contact/complaint process • Resource a new Customer Water Quality Support Officer • Customer Drinking Water Taste Panel • Research study(s) of influences of customer water tastes in the water supply system • Marketing and education campaign (i.e. 'Be Smart Choose Tap' program, major business/school/resident information and education programs, etc) • CHW Drinking Water Quality Committee • Mains cleaning program • Staff training and education • TotEx above BAU/redirected $1.9m
2. Options for improved water quality of small towns (Waubra, Learmonth & Clunes) CHW will work collaboratively with these communities to obtain a deeper level of understanding of customer concerns, preferences and together investigate options for water quality improvements. A new target will be set for implementation of preferred option pending report outcomes	N/A	Summary report for priority small towns published by; • Learmonth: July 2018 • Waubra: February 2019 • Clunes: November 2019	
3. Improve water quality rating Annually survey a minimum of 400 customers ensuring representation across all water supply systems with a target of improving trend results over 2018-23 • Water quality complaints	7.1/10 160	Improve by 10% by 2023 Reduce by 5% p.a.	

CUSTOMER OUTCOMES – DETAIL

OUTCOME 3 : RELIABLE AND SUSTAINABLE WATER AND SEWER SYSTEMS

Measure	Baseline	Target	Key Activities & costs above BAU
1. a) Sustainable water resource planning Implement key actions from the 2017 Ballarat Integrated Water Management Plan (IWMP) and publish Integrated Water Management Plans for Daylesford and Maryborough **b) Sustainable water resource planning** Continue to lead the collaboration with the City of Ballarat & Corangamite Catchment Management Authority to deliver agreed projects	N/A	• Implement key actions of Ballarat IWMP • Publish Daylesford IWMP by 1 December 2019 • Publish Maryborough IWMP by 1 December 2021	• Integrated water management plans for Ballarat, Maryborough and Daylesford • Community and Stakeholder Engagement Plan • Sewer network maintenance program • Sewer sidelines maintenance program • Implement improved sewer asset handover within land development manual • Develop inflow and infiltration program • Sewer network master planning • Field compliance auditing • Implement greenhouse gas reduction strategy • Climate change adaption and risk management • TotEx above BAU/redirected $9.6m
2. Communicate Long-term Water Security Plan Tailored to customers, this information document will include current and projected water resource levels and actions being undertaken to secure our water future across the 15 supply systems	N/A	Produce and publish plan by 1 December annually	
3. Improve network performance (due to CHW failure) • Sewer spills to customer premises • Rectification of unplanned water supply interruptions • Number of customer water supply interruptions annually • Repair of leaking service • Rectification of sewer service interruptions • Number of customer sewer supply interruptions annually	N/A Less than 5 hours Less than 6 Less than 5 days Less than 5 hours Less than 4	0 Less than 4 hours by 2023 Less than 4 by 2023 Less than 3 days by 2023 Less than 3 hours by 2023 Less than 2	
4. Reduced greenhouse gas emissions CHW will implement a range of initiatives to reduce CO^2 emissions	18,336 tCO_2-e	Reduce by 20% to 14,738 by 2024/25	

CUSTOMER OUTCOMES – DETAIL

OUTCOME 4 : MORE EFFICIENT WATER USE

Measure	Baseline	Target	Key Activities & costs above BAU
1. Digital Metering program Provide customers with access to their water usage history including alerts for leaks and high water use. This will be achieved by replacing the existing analogue water meter system with a digital metering system, enabling customers to better understand and manage their water usage • No of digital meters • Average household water consumption • Non Revenue Water	 0 150kL 11%	 Add 15,000 per year 145kL by 2023 9% by 2023	• Digital Metering Project Plan • Water Network Monitoring Program Plan update • Marketing and communications • ICT Integration • Rainwater Tank Program Project Plan • TotEx above BAU/redirected $6.5m
2. Rainwater Tank Rebates A rebate will be provided for new rainwater tanks plumbed into customers' premises and an education program will inform customers on the maintenance process for rainwater tank systems. This will allow customers to become more water efficient and reduce demand for potable water	0	Minimum 100 p.a.	

CUSTOMER OUTCOMES – DETAIL

OUTCOME 5 : INCREASED VALUE FOR MONEY

Measure	Baseline	Target	Key Activities & costs above BAU
1. Minimise cost of living pressures For the next five years we commit to cap bills at CPI or below	N/A	• No individual tariff to increase greater than CPI annually • 2018-2019 Wastewater service fee frozen	• Proactively promote new tariff and downward pressure on prices • Annual Care Flow Forum (with community support agencies) • Annual Customer Satisfaction Survey • Customer & Community Engagement Plan • Marketing and Communications Plan • Provide tailored support and programs specific to individual needs, and review the programs annually • Implementation of a policy for customers affected by family violence, outlining specific support and assistance provided • Delivering ongoing training for all front line staff, managers and others in identifying and assisting customers experience family violence • Developing resources for use by front line staff in identifying and assisting people experiencing family violence • TotEx above BAU/redirected $0.7m
2. Improved value for money Survey a minimum of 400 customers annually (ensuring representation across all water supply systems)	6.9/10	• Improve rating by 10% by 2023	
3. Publish community amenity plan Local sites will be identified for increased community amenity (such as water fountains, fire hydrants and 'greening' of community spaces) in consultation with the community	N/A	• Produce and publish plan by 1 December 2018	
4. Assist vulnerable customers CHW will implement a range of initiatives to further assist customers in need through early intervention processes and programs	N/A	• Develop early intervention strategy and targets by 30 June 2018	

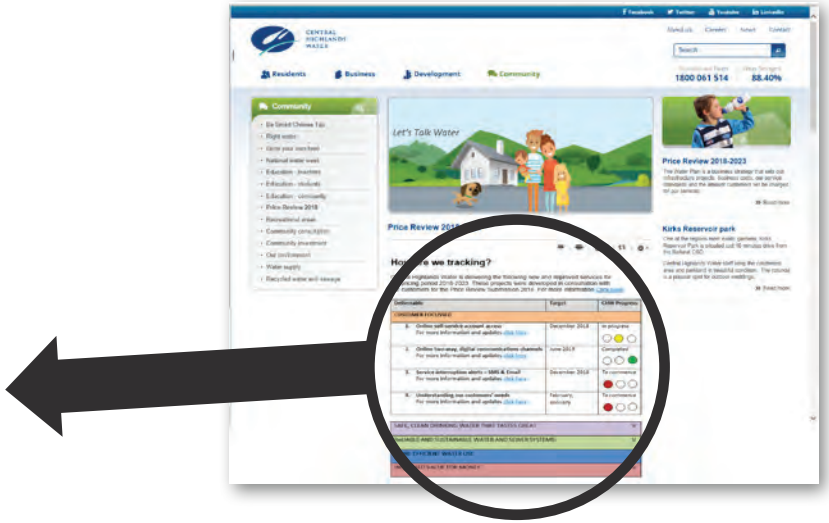
REPORTING ON OUR PERFORMANCE TO CUSTOMERS

Price review 2018 - 2023
How are we tracking?

Central Highlands Water is delivering the following new and improved services for the pricing period 2018-2023. These measures were developed in consultation with our customers for the Price Review Submission 2018.

Deliverable	Target	CHW Progress
BETTER CUSTOMER EXPERIENCE		
1. **Online self-service account access** For more information and updates click here	December 2018	*In progress*
2. **Online two-way, digital communications channels** For more information and updates click here	June 2019	*Completed*
3. **Service interruption alerts – SMS & Email** For more information and updates click here	December 2018	*Behind schedule*
4. **Understanding our customers' needs** For more information and updates click here	February, annually	*In progress*

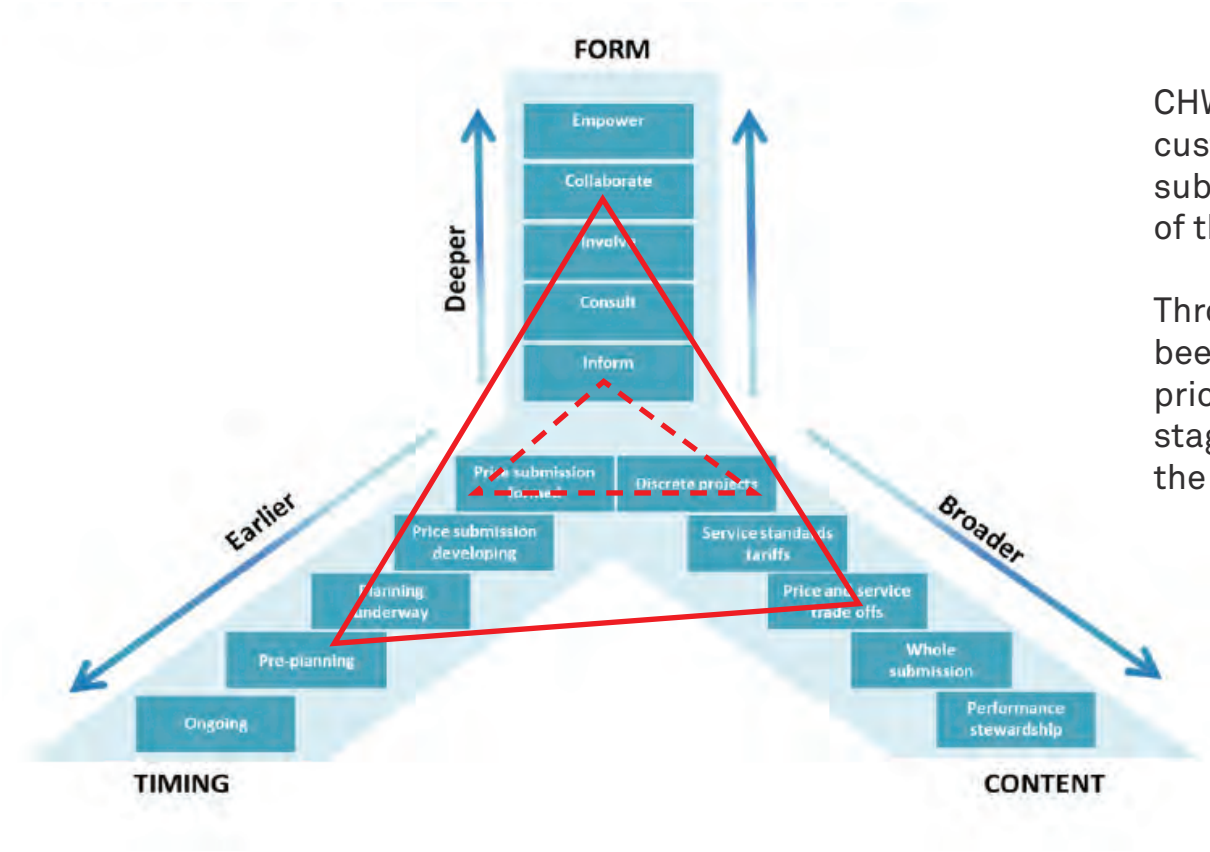
SAFE, CLEAN DRINKING WATER THAT TASTES GREAT	V
ReLIABLE AND SUSTAINABLE WATER AND SEWER SYSTEMS	V
MORE EFFICIENT WATER USE	V
INCREASED VALUE FOR MONEY	V



CHW has developed a draft template for reporting on our performance against the measurable targets to customers. The reporting dashboard will be housed on our website.

Guided by CHW's Communications & Engagement Strategy, the dashboard will be communicated through various channels including bill inserts, email and social media.

CUSTOMER ENGAGEMENT ASSESSMENT AGAINST ESC MODEL



CHW has significantly developed its customer engagement compared to previous submissions, as indicated by the broadening of the triangle in the diagram opposite.

Through the Let's Talk Water program we have been able to collaborate with customers on price and service trade-offs at a pre-planning stage and positively integrate them into the submission.

GUARANTEED SERVICE LEVELS (GSLs) REVIEW

PR18 Requirement:

A GSL scheme will:

1. Reflect the main service priorities and concerns of customers, informed by a water businesses' customer engagement
2. Provide incentives for the business to provide efficient service levels to all customers

In response to these requirements, CHW proposes to:

1. Introduce two new GSLs relating to:
    - Failure to provide clean drinking water
        - GSL rebate $100
    - Sewage spill within a customer's house which is caused by CHW
        - GSL rebate equivalent to annual wastewater fixed fee $750
2. Reduce thresholds on all existing network GSLs by an average of 40%
3. Double the rebate on all existing network GSLs from $50 to $100

GUARANTEED SERVICE LEVELS (GSLs) PROPOSAL

GUARANTEED SERVICE LEVEL	EXISTING THRESHOLD	2018/2019 THRESHOLD	2022/2023 THRESHOLD	EXISTING REBATE	PROPOSED REBATE
NEW **Failure to provide clean drinking water with the presence of dirty water (more than 5 turbidity units) as the result of a CHW fault not restored within 12 hours**	**N/A**	**12 hours**	**8 hours**	**N/A**	**$100**
Failure to rectify an unplanned interruption to a customer's water supply within 5 hours of becoming aware of the interruption	5 hours	5 hours	4 hours	$50	$100
Number of water supply interruptions to a customer in any 12 month period	Exceeding 5	Exceeding 4	Exceeding 3	$50	$100
Failure to repair leaking service within 5 business days of becoming aware of the leak	5 days	4 days	3 days	$50	$100
NEW **In the event of a sewer spill within a customer's house, which is caused by CHW, the annual wastewater service fee will be refunded as a rebate**	**N/A**	**1 event**	**1 event**	**N/A**	**$750**
Failure to rectify a sewer interruption within 5 hours of becoming aware of the interruption	5 hours	4 hours	3 hours	$50	$100
Number of sewer supply interruptions to a customer in any 12 month period	Exceeding 3	Exceeding 2	Exceeding 1	$50	$100
Restricting the water supply of, or taking legal action against, a residential customer prior to taking reasonable endeavours to contact the customer and provide information about help that is available if the customer is experiencing difficulties paying	1 event	1 event	1 event	$300	$300

3. FINANCIAL MODEL

FINANCIAL MODEL

IN THIS SECTION:

- Benchmarks and past performance
- Key assumptions for OpEx and CapEx
- Cost pressures and efficiency opportunities
- CapEx program summary
- Depreciation, RAB & Revenue Requirement

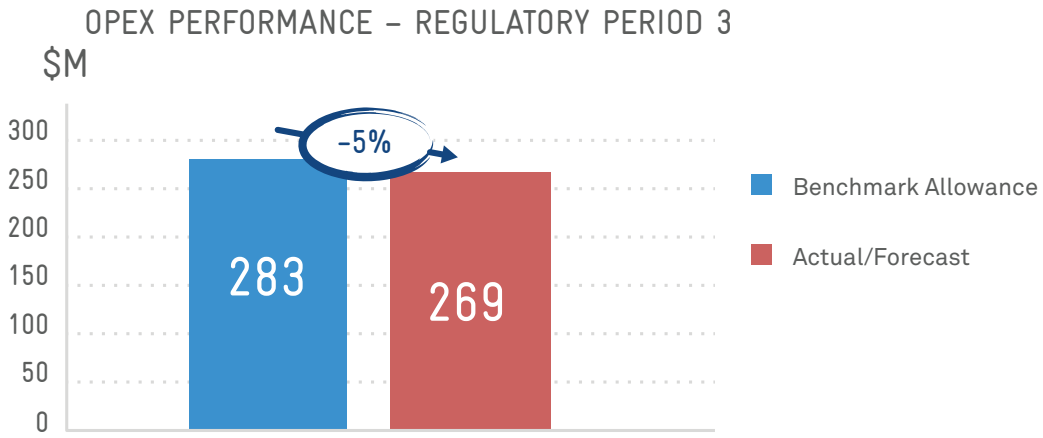
OPEX – OUTLOOK

	ISSUE	DRIVER
MAJOR GROWTH DRIVERS	Connections	Population Growth
	Value Proposition	Customer driven initiatives
	Government Policy	e.g. Water for Victoria
	Energy	Wholesale market pricing
	Labour	Enterprise Agreement
	CapEx program	Maintaining new assets

	ISSUE	DRIVER
EFFICIENCY OPPORTUNITIES	In-house program	e.g. WSAA benchmark study
	Digitalisation	e.g. Digital metering roll out
	Energy	Behind the meter renewables
	Industry collaboration	e.g. Intelligent Water Network, joint procurement

OPEX – REGULATORY PERIOD 3 PERFORMANCE

- CHW will underspend the OpEx allowance for the third regulatory period by approximately $14m or 5%

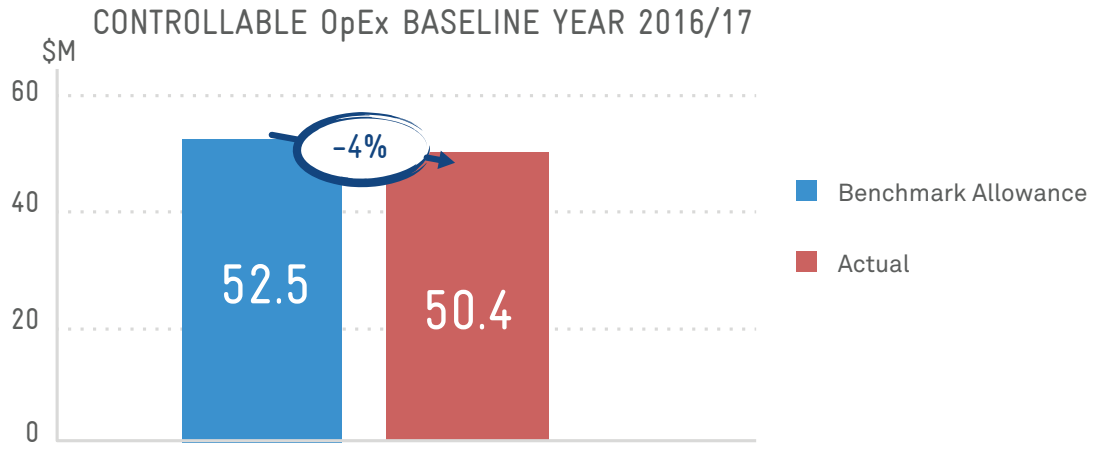


- This result has been driven by a focus on efficiency, highlighted by the outcomes on key expense categories as illustrated below.

ITEM	SEWER MAINTENANCE	BIOSOLIDS	CONSULTANTS	SUPERANNUATION
Description	Insourcing maintenance contract delivered savings of approx. $0.8m p.a. when fully implemented	CHW developed its own Biosolids Processing Facility – delivering a favourable financial outcome due to reduced transport costs, low operating & technological treatment solution, strategically located on CHW owned land to deliver a valued agricultural reuse product	• Developed increased in-house capability • Leveraged industry knowledge & sharing • Tighter strategic prioritisation	Absorbed 2011 Defined Benefit funding shortfall upfront. Avoiding costs across regulatory periods 3-6
Period 3 Savings	$3.5m	$3.5m	$4.5m	$2.5m

OPEX – 2016/2017 BASE YEAR BENCHMARK

The efficiency initiatives outlined in the previous page have contributed to an efficient controllable baseline year spend of $50.4m in 2016/17



CHW has a strong track record in delivering OpEx efficiencies which have funded:

- $50 reduction to water access fee from 1 July 2014 (being retained from 1 July 2018)
- A debt reduction program to support long term tariff reductions for customers (TCV Debt: 2013 = $147m, 2017 = $120m)

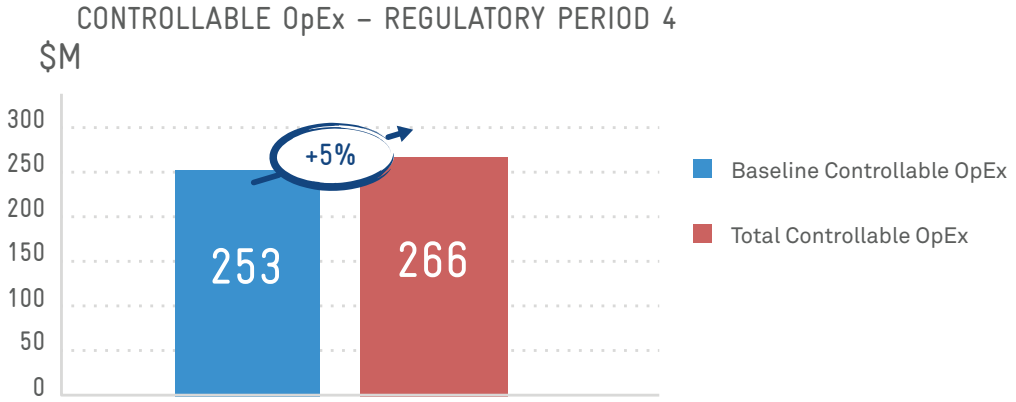
OPEX – REGULATORY PERIOD 4 RECONCILIATION

- Customer growth rates aligned with Victoria in Future (VIF) 2016, average 1.6% p.a. across the period
- Efficiency target set to equal customer growth rate i.e. 1.6% p.a. across the period
- Resulting in adjusted baseline controllable OpEx held flat at $50.7m across the period
- Variations to baseline total $12.7m, these are detailed on page 49
- Non-controllable OpEx total of $22.8m, this is reconciled on page 50

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Period 4 Total
Basline Controllable OpEx	50.36							
+ Customer Growth Allowance		1.6%	1.6%	1.6%	1.6%	1.7%	1.7%	
- Efficiency Target		1.0%	1.6%	1.6%	1.6%	1.7%	1.7%	
Adjusted Baseline Controllable OpEx		50.66	50.66	50.66	50.66	50.66	50.66	253.30
Variations to Baseline								
Energy - retail market prices increases			1.50	1.50	1.50	1.50	1.50	
Energy - emissions reductions initiatives			0	0	-0.67	-0.67	-0.67	
Labour - Enterprise Agreement			0.25	0.51	0.76	1.01	1.27	
New initiatives			0.98	0.74	0.73	0.54	0.45	
Total Variations			2.73	2.74	2.31	2.38	2.54	12.71
Total Controllable OpEx			53.39	53.4	52.97	53.04	53.2	266.01
Non-Controllable OpEx			4.74	4.65	4.57	4.48	4.40	22.84
Total Prescribed OpEx			58.13	58.05	57.54	57.52	57.6	288.85

OPEX – REGULATORY PERIOD 4 RECONCILIATION

- Variations to Baseline Controllable OpEx total $12.7m or 5%



- Breakdown of the adjustments are included in the following table:

ITEM	ENERGY – RETAIL MARKET PRICES	ENERGY – EMISSIONS REDUCTIONS INITIATIVES	LABOUR – ENTERPRISE AGREEMENT	NEW INITIATIVES
Description	Prices increase 40% above current contract rates (contract ends 30/6/18) based on mid-point of VicWater Supply Chain Excellence Program Forecast	2.7m kwh behind the meter generation from 2021 = savings of $0.7m p.a. Refer Program 4 in Appendix 2 for more detail	• Future EA increases remain at 3% p.a. nominal beyond current agreement expiry 2020 • Salary progression adds a further 0.5% p.a.	• Digital metering transition costs $0.9m. Material savings flow from 2022-23. Refer Program 3 in Appendix 2 for more detail • Water Efficiency $1.5m • Water for Victoria $1m
Period 4 Total	$7.5m	($2.0m)	$3.8m	$3.4m

OPEX – REGULATORY PERIOD 4 RECONCILIATION

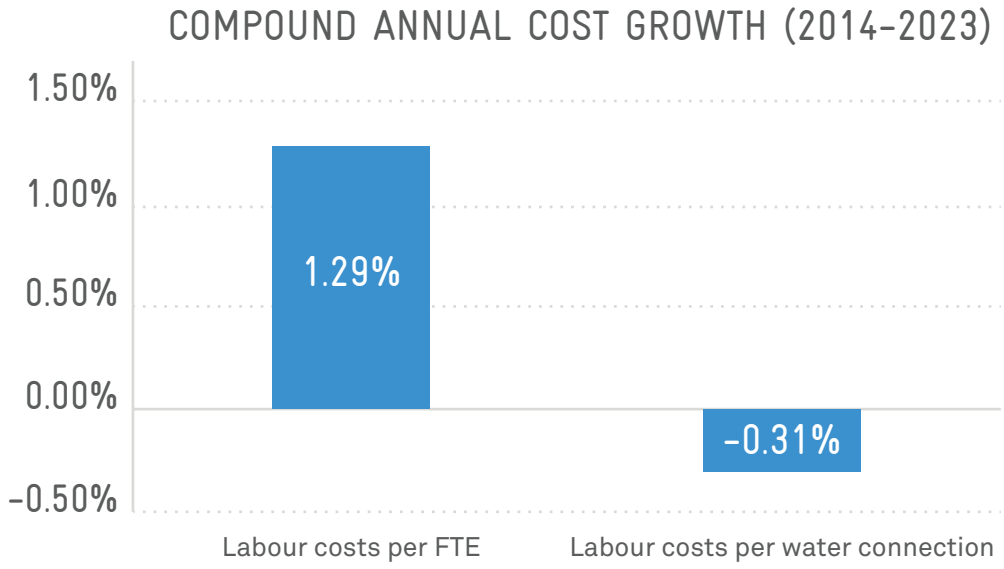
- Non-Controllable OpEx total of $22.8m, reconciliation below:

ITEM	VALUE $m	COMMENT
Bulk Water	$3.3m	No change
Temporary Water	$0.6m	No change
License Fees	$0.4m	No change
Environmental Contribution	$18.5m	Levy increase applied from 1/7/18. New rate is $3.967m p.a. (nominal)
Total	**$22.8m**	

OPEX – KEY ASSUMPTIONS: LABOUR

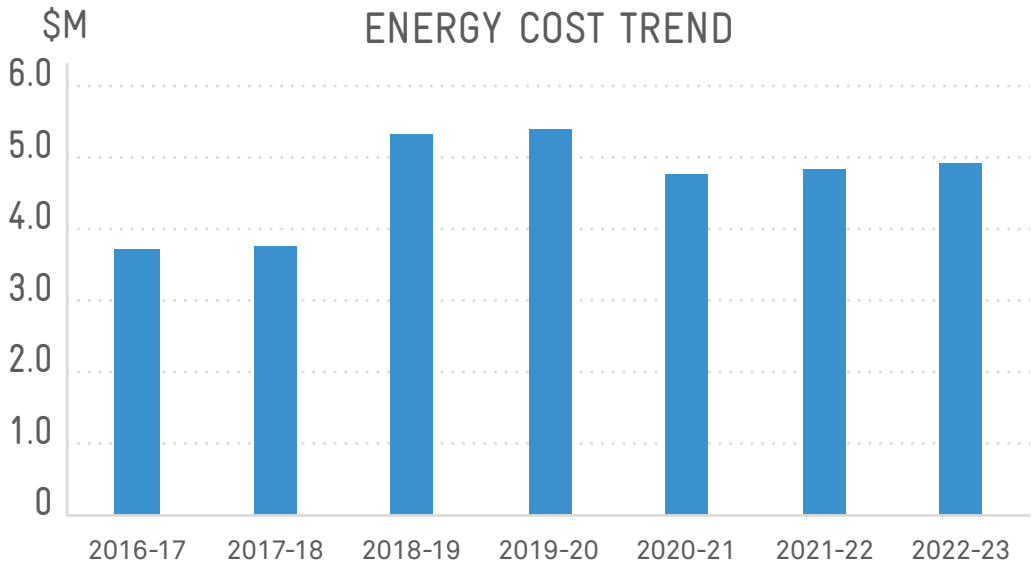
- FTE levels held flat at 187 – absorbing growth
- Future EA increases remain at 3% p.a. beyond current agreement expiry 2020
- Salary progression adds a further 0.5% p.a.

- While average labour cost per FTE will grow at a compound rate of 1.29% p.a. to 2023, by holding FTE flat average labour cost per water connection will decline at a compound rate of 0.3% p.a. over the same period.



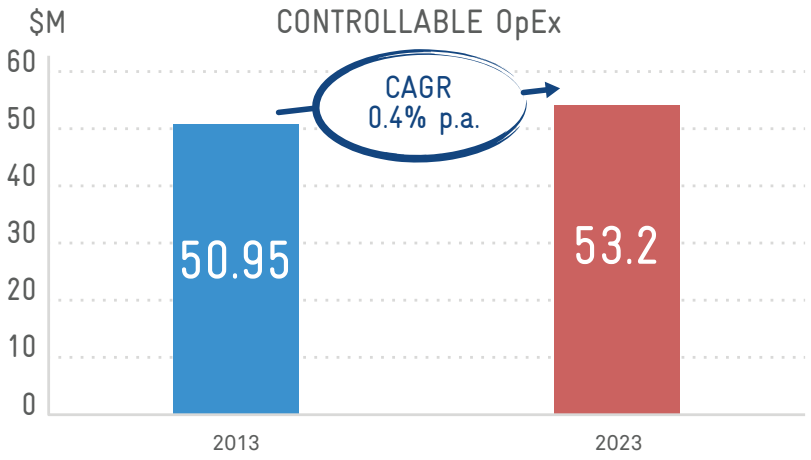
OPEX – KEY ASSUMPTIONS: ENERGY

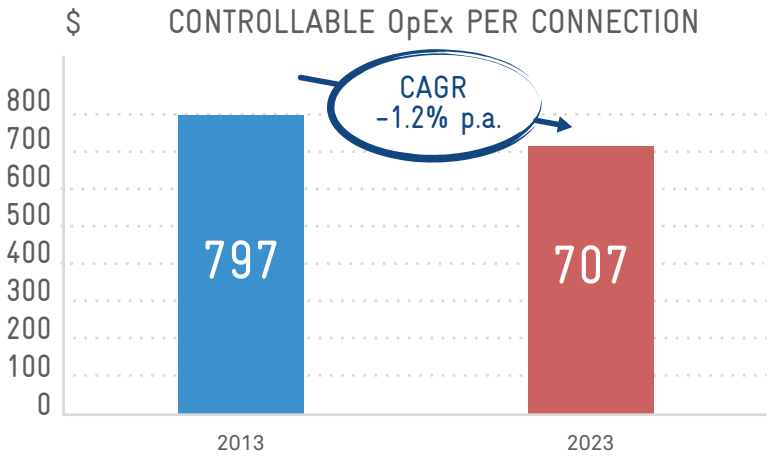
- Market pricing beyond current contract (expiry June 2018) to increase total energy cost by 40%+ (Using mid-point *VicWater Supply Chain Excellence Program Forecast*)
- Generation mix aligned with pledge
  - 2.7m kwh behind the meter generation from 2021 = savings of $0.7m p.a.
  - Refer Program 4 in Appendix 2 for more detail.



OPEX – CONTROLLABLE OPEX TREND

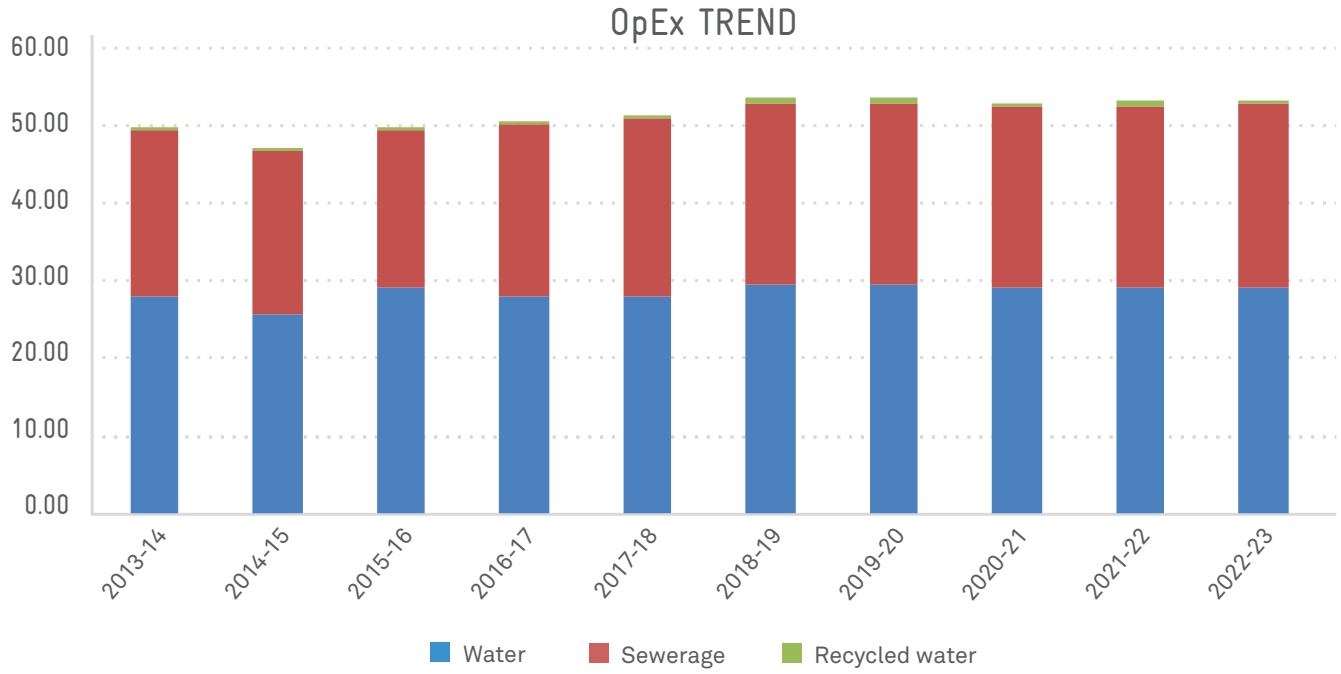
- Absorbing impact of all other growth drivers and customer driven initiatives
- Deliver 1.6% efficiency p.a.
- In absolute terms controllable OpEx is growing modestly, at a compound rate of 0.4% p.a.
- On a per connection basis in real terms, controllable OpEx is reducing at a compound rate of 1.2% p.a. over 10 year period reflecting strong cost control over a sustained period.





OPEX - TREND

- Increase in spend during Regulatory Period 4 driven by variations to baseline detailed on page 49
- Efficiency focus contains further growth in OpEx run rate



CAPEX - OUTLOOK

MAJOR GROWTH DRIVERS

ISSUE	DRIVER
Network Reliability	e.g. Higher mains renewals spend
Value Proposition	Customer driven initiatives e.g. Digital Metering
Government Policy	e.g. Emissions reduction, Integrated Water Management
Water Security	e.g. Daylesford Superpipe connect
Water Quality	e.g. Learmonth, Waubra, Clunes
Environmental Compliance	Sustainability
Connections	Population growth

EFFICIENCY OPPORTUNITIES

ISSUE	DRIVER
Analytics	Asset Management optimisation
Joint Procurement	e.g. Mains renewals
Delivery model innovation	e.g. Transition to cloud

CAPEX – MAJOR PROJECT / PROGRAM OVERVIEW

Current: CHW is on schedule to successfully deliver all the key project outcomes for the current pricing period as reported to the ESC in the annual performance reporting (as outlined on the following page).

Future: CHW capital planning, project development and delivery model has continued to mature during the current period and supported the positioning of the business to submit a robust and informed PR18-23 submission. This will ensure efficient and prudent expenditure of capital that is aligned to beneficial and timely customer and regulatory outcomes.

Key advancements include;

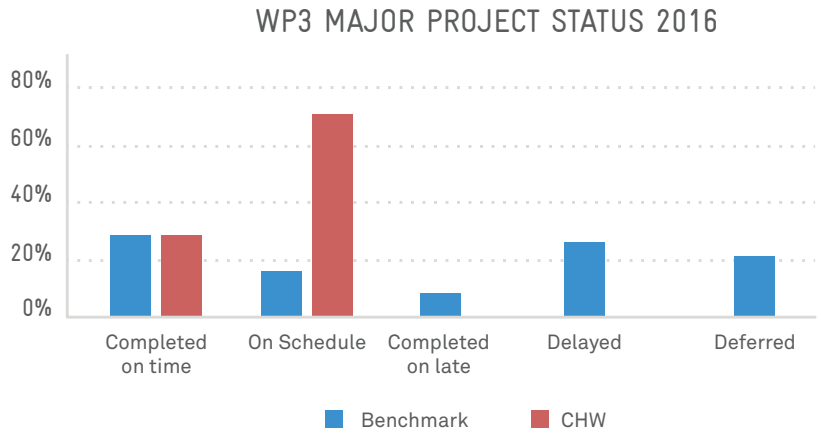
1. Development and implementation of the CHW Asset Management Strategic Framework 2015 (aligned with ISO55001 and our Statement of Obligations requirements) and supporting Asset Plans to inform short, medium and longer term investment needs as they relate to business strategic objectives/drivers, levels of service, risk appetite and allocation, Customer Outcomes, growth and Regulatory Compliance Needs;
2. Enhancement of the capital program development prioritisation processes to support a much deeper understanding of the available options/solutions/innovations, risks/benefits and the overall justification to ultimately inform an investment decision (or not in some cases or deferral beyond this plan) – refer to the following slides for detail on the "CHW Strategic Options Model"
3. Increased detailed preparatory work in project development and investigations to mitigate risks and refine project solutions & options, further the preferred level of design completeness and cost estimates, contingencies (i.e. geotech, approvals, concept level and in some case detailed design well in advance of the proposed construction period). This work has supported a greater understanding of project TotEx (total whole of life cycle expenditure) implications before committing to the build/fabricate phase in accordance with the Strategic Options Model. This is detailed in a Project Justification Report available on request that incorporates (issues, needs, scope, risk, options, timing, stakeholders, approvals, financial evaluation, environmental, social, customers, delivery , etc)
4. Evaluating and determining the most appropriate procurement/ contracting models to deliver maximum project value, risk/ reward allocation and efficiency of expenditure (i.e. early contractor involvement processes, public private partnerships, joint industry partnership procurement opportunities, etc) – all projects are competitively tendered and our standard terms and conditions of contract cater for the management of risk, cost overruns, penalties, delays, etc.

CAPEX – BENCHMARK: MAJOR PROJECT DELIVERY

- CHW's delivery of major projects is industry leading as evidenced by the graph below. The data in this graph has been extracted from the ESC's 2016 Water Performance Report (the relevant data table from the ESC report is also shown below)
- CHW's submission to the ESC's 2017 Water Performance Report (this report is yet to be released) showed another major project was completed on time during 2016-17

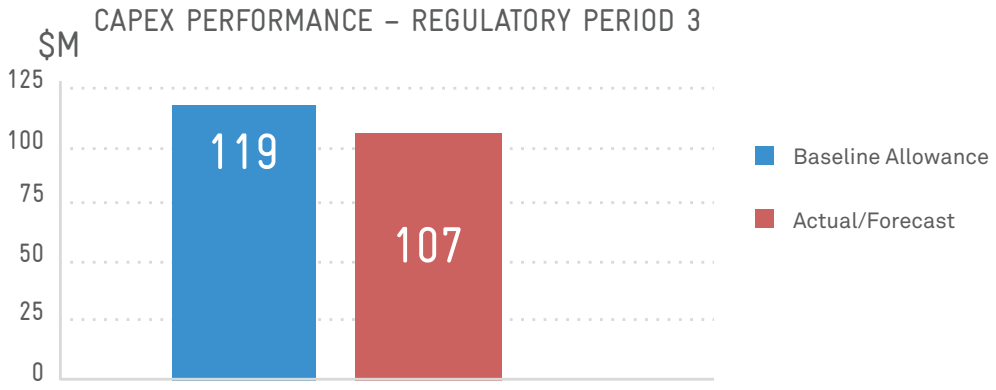
TABLE 8.1 SUMMARY OF SCHEDULED MAJOR PROJECTS 2013-18

	NO. MAJOR PROJECTS SCHEDULED FOR 2013-18	ON SCHEDULE	DELAYED	DEFERRED	CANCELLED	COMPLETED ON TIME	COMPLETED LATE
Melbourne Water	6		4			2	
City West	4	1	1			2	
South East	6	2		1			3
Yarra Valley	5		3	2			
Barwon	/	1	1	2		3	
Central Highlands	7	5	5			2	
Coliban	7					2	
East Gippsland	4	1		2		1	
Gippsland	3					2	1
Goulburn Valley	6		1	3		2	
GWMWater	8			1		6	1
Lower Murray	6		2	1		3	
North East	5	1	1	2			1
South Gippsland	5	1	2			1	1
Wannon	/	1	3	2		1	
Western	8	2	1	5			
Westernport	6	1	2			2	1
Total	**100**	**16**	**26**	**21**	**0**	**29**	**8**

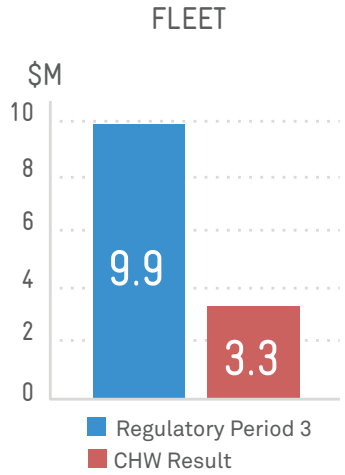


CAPEX – BENCHMARK SPEND: THIRD REGULATORY PERIOD

- CHW will underspend the CapEx allowance for the third regulatory period by approximately $12m or 10%.

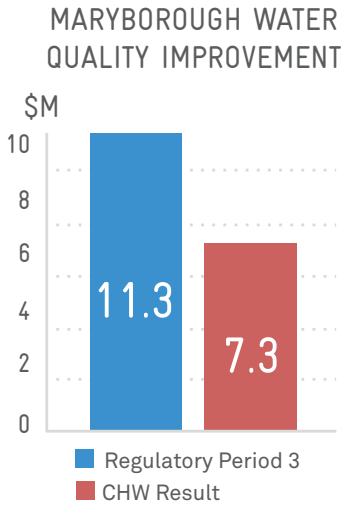


- This result has been driven by a focus on efficiency, highlighted by the outcomes on two of CHW's major projects during the period as illustrated below.



Fleet savings driven by:

- Fleet size reduced by greater than 30% since 2013
- Introduction of an innovative online car pool booking system
- Revised fleet policy resulting in changes to private use terms and extended vehicle turnover rates
- Addressing comments from Deloitte following WP3 submission
- Regulatory Period 4 spend $4.3m



The Maryborough Water Quality Improvement Project delivered a favourable capital expenditure outcome due to an innovative procurement and project development solution;

- Early contractor involvement
- Competitive market conditions
- Utilisation of existing treatment plant assets in the optimised solution by successful tenderer saving CapEx $

CAPEX – CHW STRATEGIC INVESTMENT OPTIONS MODEL

ELMINATE
• Demonstrating that investment can be avoided through understanding of the problem that needs to be resolved

COLLABORATE
• Multi-stakeholder relationships which allow for alternate solutions to be created

OPERATE
• Continue to operate the asset or system in a more sophisticated manner which allows deferral or reduction in investment

INVIGORATE
• Identifying and releasing "headroom" within existing assets and systems. Understanding true risk

FABRICATE
• Once all the above cannot be achieved, satisfied that the build is required

Based on the learnings, experiences and advancements in the UK (AMP6 program development/Ofwat period) CHW has leveraged the use of the 5 strategic options assessment phases to take on more risk on behalf of the customer by identifying deferral and/or elimination opportunities of at least $30+ million of capital investment in the PR18-23 period before committing expenditure to the build/fabricate phase.

This is evidenced by examples such as undertaking further research on compliance activities/outcomes, collaborative investigations with local government to ensure customer/community acceptance & willingness to pay for small town improvements/upgrades, ensuring strong alignment of new growth area land and timing of development with planning authorities to ensure no over investment or stranded assets, etc).

CAPEX – MAJOR PROJECT / PROGRAM DEVELOPMENT

A project summary with the key information for each of the top 10 major capital investment projects and 6 programs ($96m) is included in Appendix 2. This selection of key projects / programs represents 74% of the total proposed capital allocation required for PR18 ($130m).

Detailed business cases (i.e. internally referred to as CHW Project Justification Reports) are available on request for all or specific projects /programs).

Other capital expenditure in the PR18-23 and beyond is provided in the financial model.

CAPEX – ESTIMATES / CONTINGENCY / P50s

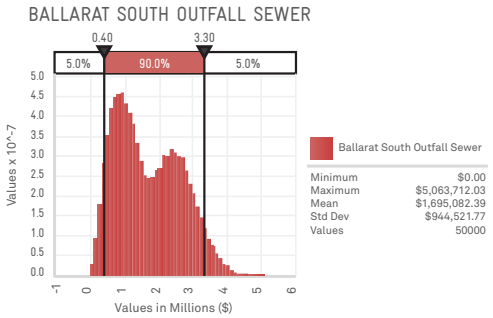
The project capital cost estimates have been developed with external expert technical input (where applicable) combined with internal staff expertise and knowledge.

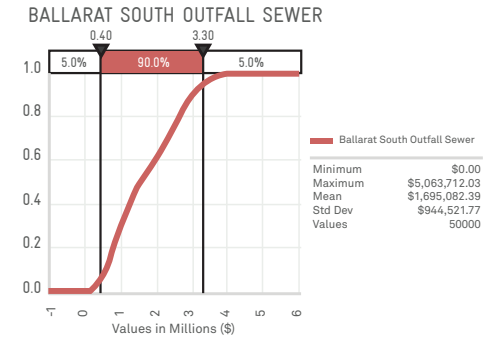
Contingency levels have been optimised to balance customer and risk outcomes using the Monte Carlo P50 methodology.

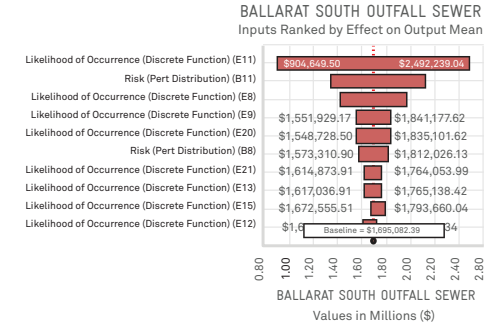
This analysis has been conducted by external engineering consultants Stantec combined with key internal project planning and delivery staff. The outcome of the supporting project work/investigations combined with this P50 assessment has allowed CHW to refine the contingency levels to 15% for the combined expenditure in the top 10 projects.

Contingency varies from project to project based on risks and uncertainty in each project. Refer to the attached illustration of a P50 assessment for a major project, that is available for all major projects.

@RISK Output Report for Ballarat South Outfall Sewer







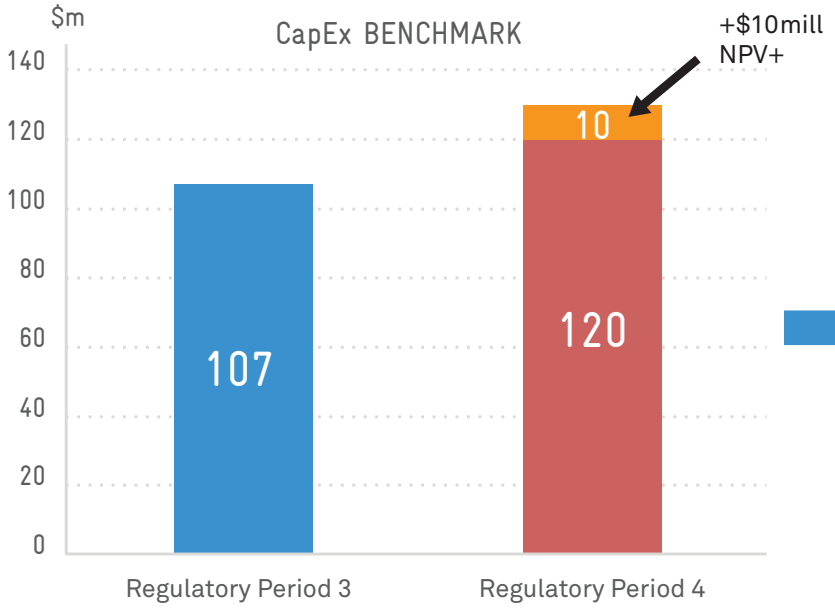
Simulation Summary Information	
Workbook Name	Ballarat South Outfall Sewer Risk Register.xlsx
Number of Simulations	1
Number of Iterations	50000
Number of Inputs	28
Number of Outputs	1
Sampling Type	Monte Carlo
Simulation Start Time	25/08/2017 16:02
Simulation Duration	00:00:13
Random # Generator	Mersenne Twister
Random Seed	1657146002

Summary Statistics for Ballarat South Outfall Sewer			
Statistics		**Percentile**	
Minimum	$0.00	**5%**	$398,771.96
Maximum	$5,063,712.03	**10%**	$547,168.94
Mean	$1,695,082.39	**15%**	$665,803.78
Std Dev	$944,521.77	**20%**	$778,125.72
Variance	8.92121E+11	**25%**	$887,795.84
Skewness	0.363293418	**30%**	$997,307.58
Kurtosis	2.13618514	**35%**	$1,114,996.54
Median	$1,546,958.08	**40%**	$1,238,707.14
Mode	$987,383.49	**45%**	$1,376,687.48
Left X	$398,771.96	**50%**	$1,546,958.08
Left P	5%	**55%**	$1,750,788.76
Right X	$3,304,093.81	**60%**	$1,949,875.21
Right P	95%	**65%**	$2,133,576.85
Diff X	$2,905,321.85	**70%**	$2,299,360.51
Diff P	90%	**75%**	$2,458,199.32
#Errors	0	**80%**	$2,624,275.66
Filter Min	Off	**85%**	$2,796,932.48
Filter Max	Off	**90%**	$3,008,142.98
#Filtered	0	**95%**	$3,304,093.81

Change in Output Statistic for Ballarat South Outfall Sewer			
Rank	**Name**	**Lower**	**Upper**
1	Likelihood of Occurrence (Discrete Function) (E11)	$904,649.50	$2,492,239.04
2	Risk (Pert Distribution) (B11)	$1,342,994.70	$2,127,743.49
3	Likelihood of Occurrence (Discrete Function) (E8)	$1,421,820.54	$1,970,930.25
4	Likelihood of Occurrence (Discrete Function) (E9)	$1,551,929.17	$1,841,177.62
5	Likelihood of Occurrence (Discrete Function) (E20)	$1,548,728.50	$1,835,101.62
6	Risk (Pert Distribution) (B8)	$1,573,310.90	$1,812,026.13
7	Likelihood of Occurrence (Discrete Function) (E21)	$1,614,873.91	$1,764,053.99
8	Likelihood of Occurrence (Discrete Function) (E13)	$1,617,036.91	$1,765,138.42
9	Likelihood of Occurrence (Discrete Function) (E15)	$1,672,555.51	$1,793,660.04
10	Likelihood of Occurrence (Discrete Function) (E12)	$1,601,586.55	$1,720,982.34

CAPEX – BENCHMARK SPEND: FOURTH REGULATORY PERIOD

- CHW will increase CapEx spend during the fourth regulatory period by approximately $23m or 21%.
- The three main drivers of this increase are Government Policy, Customer Outcomes and Water Security.
- It is important to note that the Emissions Reduction and Digital Metering programs are positive in Net Present Value (NPV) terms. These programs account for $9.7m (or 42%) of the increase.
- A summary of each of the projects/programs listed in the table is included in Appendix 2



DRIVER	PROJECT/PROGRAM	INCREASE	NPV+	APPENDIX 2 REFERENCE
Government Policy	Emissions Reductions	$4.7m	Yes	Program 4
	Integrated Water Management	$3.7m		Program 6
Customer Outcomes	Digital Metering	$5.0m	Yes	Program 3
Water Security	Renewals	$7.2m		Program 1&2
	Daylesford Superpipe Connection	$9.2m		Program 2
Total		**$29.8m**		

CAPEX – KEY ASSUMPTIONS / STRATEGIC ALIGNMENT

- Urban Water Strategy 2017, refer to (http://www.chw.net.au) for more details
  a. Growth Forecast – Victoria in Future 2016 (VIF, 2016)
  b. Climate Change – DELWP 2016 Guidelines for assessing the impact of climate change on water supplies in Victoria
  c. Demand Forecasting - Simulait, a leading-edge human behaviour modelling platform using 'agent-based' modelling.
- Land development (refer to key growth areas map opposite)
  a. Ballarat West Urban Growth Zone – staging plans in accordance with the City of Ballarat
  b. Ballarat West Employment Zone
- Emission Reduction Pledge by CHW (and new SoER) – minimum 20% reduction by 2024/25 to the five year historical baseline & NPV positive projects
- Regulatory / Policy Drivers / Changes
  a. EPA and DHHS guidance notes for PR18-23
  b. No future material regulatory/legislative changes have been assumed at the time of the submission
  c. No EPA licence changes, water resource entitlement changes (groundwater and/or surface water entitlement/water shares)
- Local Government &/or Community Initiated Capital Projects – due to current high levels of uncertainties and PR18-23 risk management needs for our customers, no allowance for funding of small town water quality, water supply and/or sewer scheme projects in the CHW service region have been incorporated in the capital pricing plan.

CAPEX – COMMITMENT TO PROGRAM COST EFFICIENCY

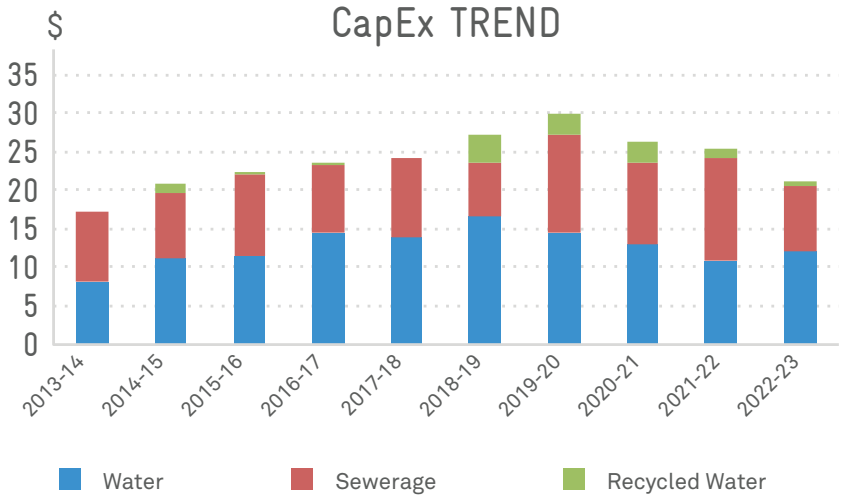
All projects will be competitively tendered in accordance with *CHW's Procurement Framework* and government policy requirements to drive best value for customers – including appropriate risk / reward allocations and cost efficiency outcomes.

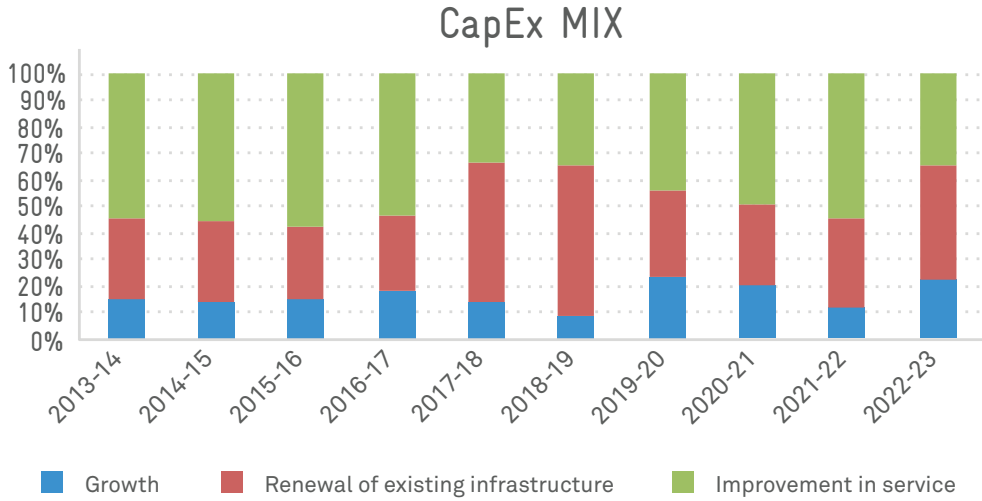
Key capital efficiency initiatives incorporated into PR18 capital program development and delivery include:

1. Shared procurement on water and sewer main renewals with other water corporations – in progress (tenders being evaluated in October 2017), targeted a minimum 2.5% efficiency on current unit rates from the current contract rates;
2. Engineering Services Contract – currently in progress for a new contract to commence in July 2018, targeting flat or reduced prices;
3. Exploring shared procurement opportunities with other water corporations for digital water metering program development, shared infrastructure and rollout; and
4. Driving further optimisation in fleet size by the introduction of Smartrak GPS solutions;
5. Avoidance of greater than $30 million of identified CapEx projects in PR18-23 using the CHW Strategic Option Model assessment approach as outlined earlier (optimising, deferral, investigations, risk, partnering, eliminating etc)
6. Continuing progress made in the current water plan period in the packaging/programmed deliver of like works/ increased scale within CHW program and/or with other water corporations (or other partners) to identify and deliver efficiencies.
7. No allowance for market intelligence indicating an increase in construction costs/skills & resource shortages on the horizon (risk absorbed by CHW).

CAPEX - TREND

- Progressively scaling up CapEx spend rate to meet increased demands outlined on page 62
- Changing mix in CapEx spend reflects increase in renewals across both network mains and raw water pipelines as detailed in Appendix 2





CAPEX – MAJOR PROJECT / PROGRAM SUMMARY

ITEM	KEY PROJECT	ESC KEY DRIVER	PR18 ESTIMATE ($M)	CONTINGENCY	SERVICE	ASSET CATEGORY
1	Ballarat South Trunk Sewer Duplication	Growth	$11.36	15.8%	Sewerage	Pipelines / Networks
2	Daylesford Water Supply Upgrade	Service Improvement	$9.22	17.6%	Water	Headwork's
3	Ballarat South Wastewater Treatment Plant - Inlet Works Upgrade	Growth	$9.20	19.0%	Sewerage	Treatment
4	Ballarat East Sewer Duplication and Flow Storage	Compliance	$7.09	15.0%	Sewerage	Pipelines / Networks
5	Ballan Wastewater Treatment Plant - Recycled Water Storage Capacity Upgrade	Compliance	$4.16	9.6%	Recycled Water	Treatment
6	Fellmongers Siphon Raw Water Upgrade	Renewals	$4.03	14.1%	Water	Headwork's
7	Maryborough Wastewater Reuse Scheme Improvements	Compliance	$3.36	8.9%	Recycled Water	Treatment
8	Ballarat South Wastewater Treatment Plant - Lagoon Pipework Upgrade	Compliance	$3.20	12.1%	Sewerage	Treatment
9	Evansford Raw Water Pipeline	Renewals	$3.20	16.5%	Water	Pipelines / Networks
10	Ring Road Trunk Water Main Duplication	Growth	$2.96	9.0%	Water	Pipelines / Networks
	Subtotal		**$57.79**	**15.0%**		

ITEM	PROGRAM OF WORKS	ESC KEY DRIVER	PR18 ESTIMATE ($M)	CONTINGENCY	SERVICE	ASSET CATEGORY
1	Water Main Renewal Program	Renewals	$10.00	0.0%	Water	Pipelines / Networks
2	Sewer Main Renewal Program	Renewals	$8.70	0.0%	Sewerage	Pipelines / Networks
3	Digital Water Metering Program	Service Improvement	$7.65	11.6%	Water	Pipelines / Networks
4	Emission Reduction Program	Service Improvement	$4.69	6.0%	Other	Corporate
5	Fleet, Plant and Equipment Renewal Program	Renewals	$4.30	0.0%	Other	Corporate
6	Intergrated Water Management Program	Service Improvement	$3.29	13.3%	Recycled Water	Pipelines / Networks
	Subtotal		**$38.59**	**4.3%**		
	Total		**$96.38**	**10.7%**		

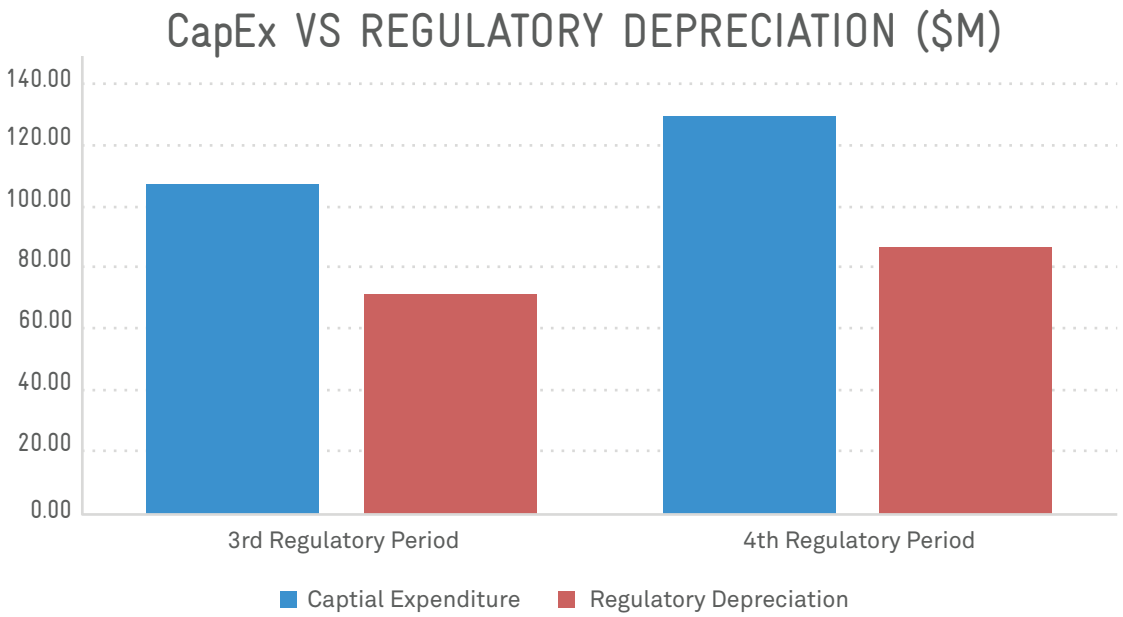
CAPEX – MAJOR PROJECT / PROGRAM SUMMARY

ITEM	KEY PROJECT	CORPORATE RISK	CUSTOMER OUTCOME	FINANCIAL	DELIVERY	COMPLEXITY	OH&S	CONTRACTUAL	STAKEHOLDER	CULTURAL HERITAGE	ENVIRONMENT	OVERALL RISK
1	Ballarat South Trunk Sewer Duplication	Widespread Infrastructure failure	Reliable and sustainable water and sewer systems	Medium	Medium	High	High	High	High	High	Low	High
2	Daylesford Water Supply Upgrade	Failure to supply water	Reliable and sustainable water and sewer systems	Medium	Low	Medium	Medium	Medium	High	High	Medium	High
3	Ballarat South Wastewater Treatment Plant - Inlet Works Upgrade	Failure of wastewater system processes	Reliable and sustainable water and sewer systems	Medium	Medium	Medium	Medium	Medium	Low	Low	Low	Medium
4	Ballarat East Sewer Duplication and Flow Storage #	Failure of wastewater system processes	Reliable and sustainable water and sewer systems	High	High	Medium	Medium	Medium	High	High	Medium	High
5	Ballan Wastewater Treatment Plant - Recycled Water Storage Capacity Upgrade	Failure of wastewater system processes	Reliable and sustainable water and sewer systems	Medium	Low	Medium	Medium	Medium	Low	Low	Medium	Medium
6	Fellmongers Siphon Raw Water Upgrade	Failure to supply water	Reliable and sustainable water and sewer systems	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low
7	Maryborough Wastewater Reuse Scheme Improvements	Failure of wastewater system processes	Reliable and sustainable water and sewer systems	Low	Low	Low	Low	Low	High	Low	Medium	Medium
8	Ballarat South Wastewater Treatment Plant - Lagoon Pipework Upgrade	Failure of wastewater system processes	Reliable and sustainable water and sewer systems	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
9	Evansford Raw Water Pipeline	Failure to supply water	Reliable and sustainable water and sewer systems	Medium	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium
10	Ring Road Trunk Water Main Duplication	Failure to supply water	Reliable and sustainable water and sewer systems	Low	Low	Low	Medium	Low	Medium	Low	Low	Low

ITEM	PROGRAM OF WORKS	CUSTOMER OUTCOME	CUSTOMER OUTCOME	FINANCIAL	DELIVERY	COMPLEXITY	OH&S	CONTRACTUAL	STAKEHOLDER	CULTURAL HERITAGE	ENVIRONMENT	OVERALL RISK
1	Water Main Renewal Program	Failure to supply water	• Safe clean drinking water that tastes great	Low	Low	Low	Medium	Low	Medium	Low	Medium	Low
2	Sewer Main Renewal Program	Failure of wastewater system processes	• Reliable and sustainable water and sewer systems	Low	Low	Low	Medium	Low	Medium	Low	Low	Low
3	Digital Water Metering Program	Inadequate operational capability / capacity	• Better customer experience • More efficient water use	Medium	Medium	Medium	Low	Medium	Medium	Low	Low	Medium
4	Emission Reduction Program	Inadequate operational capability / capacity	• Reliable and sustainable water and sewer systems • Increased value for money	Medium	Low	Medium	Low	Low	Medium	Low	Low	Low
5	Fleet, Plant and Equipment Renewal Program	Inadequate operational capability / capacity	• Reliable and sustainable water and sewer systems	Low	Low	Low	Low	Low	Low	Low	Low	Low
6	Intergrated Water Management Program	Inadequate operational capability / capacity	• Reliable and sustainable water and sewer systems • More efficient water use	Low	Low	Medium	Medium	Low	Medium	Low	Medium	Medium

DEPRECIATION BENCHMARK

- Straight line depreciation method adopted
- Continue depreciation rate consistent with trend from Regulatory Period 3
- Depreciation / CapEx Ratio:
  - Regulatory Period 3 = 66.4%
  - Regulatory Period 4 = 66.8%



REGULATORY ASSET BASE (RAB)

- Opening RAB reconciliation reflecting:
  - Actual results 2012-13 to 2016-17
  - Forecasts for 2017-18

$m, 01/01/18	2012-13	2013-14	2014-15	2015-16	2016-17
Opening asset base	319.19	321.57	322.42	325.19	329.7
plus Gross CapEx	16.97	17.18	20.77	22	23.13
less Government contributions	2.16	0.76	0.77	1.65	0.12
less Customer contributions	2.25	1.88	1.86	1.42	1.36
less Proceeds from disposals	0.21	0.15	1.5	0.24	0.47
less Regulatory depreciation	9.97	13.54	13.88	14.17	14.59
Closing asset base	**321.57**	**322.42**	**325.19**	**329.7**	**336.3**

- Roll Forward RAB reconciliation reflecting:
  - Forecasts for 2017-18 to 2022-23

$m, 01/01/18	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Opening asset base	336.3	343.54	352.74	363.83	370.76	376.20
plus Gross CapEx	24.11	27.22	29.92	26.20	25.45	21.22
less Government contributions	0.03	-	-	-	-	-
less Customer contributions	1.4	1.53	1.55	1.58	1.69	1.72
less Proceeds from disposals	0.42	0.3	0.3	0.3	0.3	0.3
less Regulatory depreciation	15.02	16.2	16.98	17.39	18.01	18.29
Closing asset base	**343.54**	**352.74**	**363.83**	**370.76**	**376.20**	**377.1**

REVENUE REQUIREMENT

- Revenue Requirement reconciliation, reflecting buildings blocks:

BUILDING BLOCK	COMMENT
OpEx	Per reconciliation on page 48
Return on Assets	Based on the following: - Gearing level 60%, Equity 40% - PREMO advanced rating = 4.9% - 10 year trailing average cost of debt = 6.04% (nominal) - Overall RRR = 4.2%
Regulatory depreciation	Per reconciliation on page 49
Other components	Nil

$m, 01/01/18	2018-19	2019-20	2020-21	2021-22	2022-23
Operating expenditure	58.13	58.05	57.54	57.52	57.6
Return on assets	14.62	15.05	15.43	15.69	15.82
Regulatory depreciation of assets	16.2	16.98	17.39	18.01	18.29
Adjustments from last period	-	-	-	-	-
Non-prescribed revenue offset of revenue requirement	-	-	-	-	-
Tax liability	-	-	-	-	-
Total revenue requirement	**88.94**	**90.08**	**90.36**	**91.22**	**91.72**

4. RISK MANAGEMENT

RISK MANAGEMENT

IN THIS SECTION:

- Risk identification
- Risk management

RISK IDENTIFICATION

CHW maintains a strategic risk register and identifies emerging risks through market scanning and existing planning and forecasting processes.

We are continually seeking to mature our risk management framework. An internal audit conducted in 2016 assessed CHW's *Risk Management Framework* as relatively mature when benchmarked against peers.

Recent activities undertaken by CHW's Audit & Risk Committee have resulted in the development of a revised Internal Audit Plan, with a greater focus on risk advisory engagements. This has been complemented by the creation of a more senior role in the business to oversee the risk framework.

RISK IDENTIFICATION

RISK	CONTEXT
Climate Change	Security of supply, extreme events caused by drought/flood, long term reduction in yield, increased use of Superpipe
Small town water & sewer projects	Interest from local councils e.g. Moorabool
Small town water quality	Investigations for Learmonth, Waubra & Clunes – solutions unknown
Integrated Water Management Plans	Maryborough/Daylesford plans yet to be developed – actions unknown
Water for Victoria	KPIs yet to be finalised – impact unknown
Energy	Security of supply, policy uncertainty, volatile wholesale market pricing
Land development	Out of sequence development in one of the fastest growing regional cities in the country
Construction	Potential tightening of contracting market
Customer vulnerability	Increase in financial stress, cost of living pressures
Compliance	Policy / Regulatory changes e.g. EPA compliance
Customer expectations	Increasing demands
Superannuation	Potential for defined benefit plan funding calls
Statutory & Local Government Planning	Inconsistent with demand management initiatives

RISK MANAGEMENT STRATEGIES

In seeking to accept more risk on behalf of customers CHW has adopted the following strategies.

RISK STRATEGY	APPROACH
OpEx	• Absorbing cost pressures by holding FTE levels flat and targeting cost efficiency level equal to rate of customer growth • Reprioritising expenditure to accommodate delivery of customer initiatives ($20m TotEx)
CapEx	• Preparation of detailed business cases utilising CHW's Project Justification Report process • Independent expert advice obtained on options analysis and P50 estimates to inform contingency levels • Targeting cost efficiencies • Withholding uncertain projects from the proposals e.g Interest from local government in small town water and sewer services improvements, i.e. Moorabool Shire Council and CHW have committed to a joint study to further investigate a sewer scheme for Bungaree and Wallace during the PR18-23 period
GSLs	• Creation of two new GSLs • Reducing thresholds on existing network GSLs by an average of 40% • Doubling rebate levels for network GSLs by $50 to $100
Tariffs	• Continuing long-term tariff reform to reduce fixed access fees while not disadvantaging any customer • July 2014 – water access fee reduced $50 • July 2018 and July 2019 – Wastewater access fee reduced by CPI
Form of Price Control	• Adopting a price cap to provide certainty to customers with CHW taking the risk on variations in demand
Pass Through Mechanisms	• Commitment to not seek any adjustment to prices unless impact greater than $15m

RISK MANAGEMENT STRATEGIES

CHW manages risk through a range of mechanisms including:

- Cost efficiency programs
- Independently tested demand model
- Internal Committees including OH&S, Drinking Water Quality, Environment, Asset Management, People & Culture
- Capital planning and prioritisation process
- Internal control environment
- Contract management
- Guaranteed Service Levels
- Internal & external audit program
- Audit & Risk Committee oversight

This strong focus on and management of risk has allowed CHW to propose flat or reducing price paths for all customer segments.

5. OTHER INFORMATION

OTHER IMPORTANT INFORMATION

IN THIS SECTION:

- Demand
- Tariffs
- Pricing Principles review
- Price adjustment mechanisms
- Pricing Submission Governance Framework

DEMAND FORECASTING - SIMULAIT

Demand modelling has been undertaken using Simulait, an innovative leading-edge human behaviour modelling platform using 'agent-based' modelling.

The modelling has included the following components:

- Residential urban water demand forecasting, which models decisions made per household regarding water use and purchase of water-using appliances.
- Non-residential demand, a specific element added to the CHW version of the model whereby large water users (>5ML/year) are included based on historical demand and small users (<5 ML/year) are assumed to follow the same demand trend/pattern as residential users.

The SIMULAIT model was assessed by Deloitte Access Economics for Smart Water Fund in 2013 as part of a project to ascertain the needs of the Victorian Water Industry. In this assessment it scored well from a number of considerations which CHW judged to be important. It is also acknowledged and recognised by DELWP.

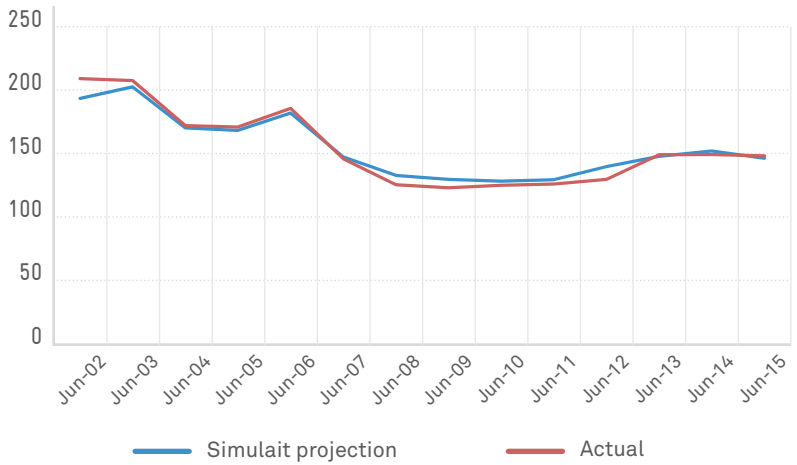
The residential model integrates a wide range of complex qualitative and quantitative data, including detailed local demographic data (ABS 2011) and household water use from Melbourne Residential End-Use Studies and Australian Bureau of Statistics (ABS) trends. The model incorporates important influences on water-use behaviour such as temperature and rainfall, as well as water restrictions (historically), social, environmental and communications on reservoir levels and water efficiency programs.

CHW operates a unique version of the model for each of its 15 water supply systems and applies local demographics, climate change and climate variability and growth expectations. Each of the models were validated against 15 years of historical water use (which includes the high variability during the 'millennium drought') and with a very high level of accuracy (note: the model does not use historical water-use data, only historical influences leading to current behaviour). Refer page 80 for the validation plots.

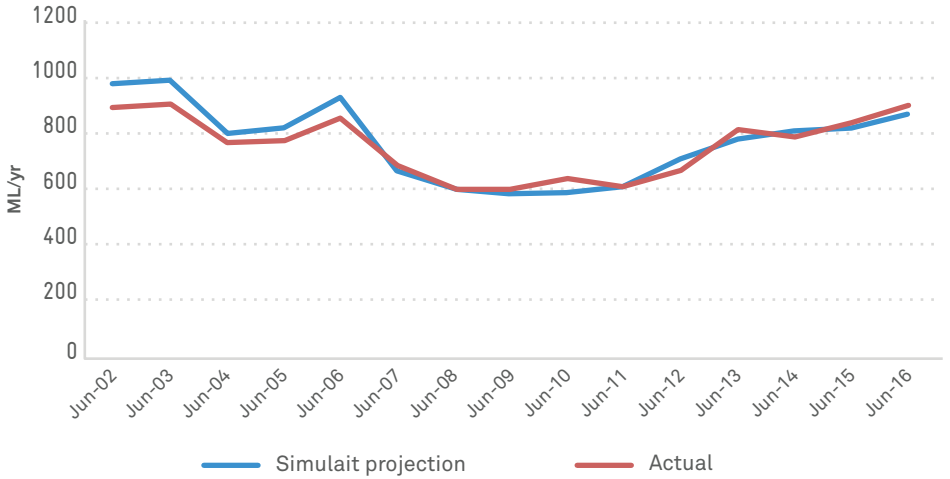
As well as the general confidence in the accuracy of the modelling, Simulait enables CHW to confidently predict the local effects on customer demand from Climate Change under the DELWP Climate Change Guidelines. CHW has used this model for 12 years. It is a model the ESC is familiar with.

DEMAND FORECASTING – SIMULAIT VALIDATION & PROJECTION

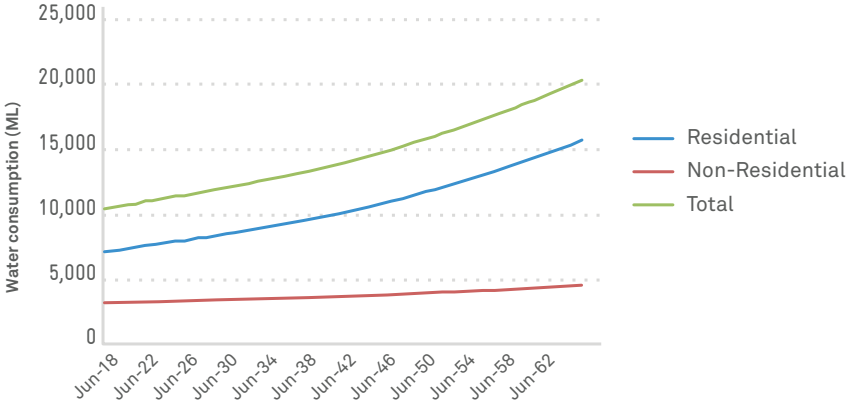
VALIDATION – BALLARAT WATER CONSUMPTION PER HOUSEHOLD



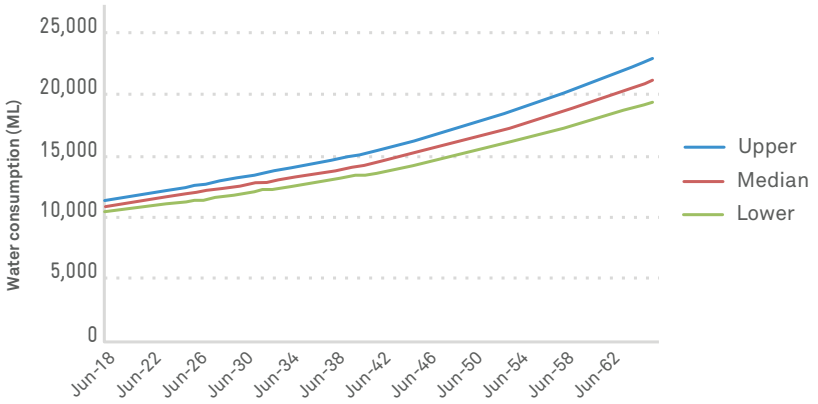
MARYBOROUGH VALIDATION



BALLARAT TOTAL RETAIL WATER DEMAND



BALLRAT IWMP COMBINED



DEMAND FORECASTS

- Customer growth is based on Victoria in Future 2016 data
- Demand forecasts based on Simulait model

CUSTOMER NUMBERS	2018-19	2019-20	2020-21	2021-22	2022-23
Water Customers	70,456	71,587	72,738	73,972	75,228
Sewer Customers	60,730	61,706	62,698	63,761	64,844
BILLABLE CONSUMPTION					
Residential	9,414,726	9,529,118	9,700,363	9,827,115	9,943,142
Non-residential	4,062,804	4,081,384	4,110,308	4,131,969	4,150,594
Total	13,477,530	13,610,501	13,810,671	13,959,085	14,093,736

TARIFFS

TARIFF AND PRICE COMPONENT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Average Price Path p.a
1.1 Residential Water Tariff							
Service charge (per annum)	195.13	195.13	195.13	195.13	195.13	195.13	0.00%
Service charge – vacant (per annum)	97.91	97.91	97.91	97.91	97.91	97.91	0.00%
Fire services charge (per service)	251.05	251.05	251.05	251.05	251.05	251.05	0.00%
Usage charge – category 1, (0 to 175kL/a) (per kL)	1.8605	1.8605	1.8605	1.8605	1.8605	1.8605	0.00%
Usage charge – category 1, (Over 175kL/a) (per kL)	2.2326	2.2326	2.2326	2.2326	2.2326	2.2326	0.00%
Usage charge – category 2, (0 to 175kL/a) (per kL)	0.8544	0.8544	0.8544	0.8544	0.8544	0.8544	0.00%
Usage charge – category 2, (Over 175kL/a) (per kL)	1.1095	1.1095	1.1095	1.1095	1.1095	1.1095	0.00%
1.2 Non-residential Water Tariff							
Service charge (per annum)	195.13	195.13	195.13	195.13	195.13	195.13	0.00%
Service charge – vacant (per annum)	97.91	97.91	97.91	97.91	97.91	97.91	0.00%
Usage charge – category 1 volume	1.8605	1.8605	1.8605	1.8605	1.8605	1.8605	0.00%
Usage charge – category 2 volume	0.8544	0.8544	0.8544	0.8544	0.8544	0.8544	0.00%
1.3 Residential / Non-residential Sewerage Tariff							
Sewer service charge (per annum)	756.4	739.39	722.77	722.77	722.77	722.77	-0.90%
Sewer Service charge vacant (per annum)	378.19	369.69	361.38	361.38	361.38	361.38	-0.90%
Non-residential volume disposal charge (per kL)	1.0884	1.0884	1.0884	1.0884	1.0884	1.0884	0.00%
1.5 Trade Waste Charges							
Trade Waste Application Fee (per application)	120.78	120.78	120.78	120.78	120.78	120.78	0.00%
Major Trade Waste – B.O.D. (per Kg)	1.4317	1.4317	1.4317	1.4317	1.4317	1.4317	0.00%
Major Trade Waste – Suspended Solids (per kg)	1.4317	1.4317	1.4317	1.4317	1.4317	1.4317	0.00%
Major Trade Waste – Heavy Metals (per kL)	0.3178	0.3178	0.3178	0.3178	0.3178	0.3178	0.00%
Major Trade Waste – Heavy Metals Surcharge (per kL)	0.162	0.162	0.162	0.162	0.162	0.162	0.00%
Major Trade Waste – Volume (per kL)	0.4134	0.4134	0.4134	0.4134	0.4134	0.4134	0.00%
Minor A Standard Charge (<500kL pa) (per item)	308.42	308.42	308.42	308.42	308.42	308.42	0.00%
Minor B Volume Charge (>500 & <5,000kL/a) (per kL)	1.2414	1.2414	1.2414	1.2414	1.2414	1.2414	0.00%
Additional sampling, investigations & enforcements*	Actual cost	Actual cost	Actual cost	Actual cost	Actual cost	Actual cost	
1.6 New Customer Contributions (per lot)							
Water (per lot)	1341.67	1341.67	1341.67	1341.67	1341.67	1341.67	0.00%
1.7 Miscellaneous Fees and Charges							
Special meter reading fees (per meter read)	27.49	27.49	27.49	27.49	27.49	27.49	0.00%
Meter cost – 20 mm (per item)	109.82	109.82	109.82	109.82	109.82	109.82	0.00%
Tariff certificates (per item)	50.15	50.15	50.15	50.15	50.15	50.15	0.00%
Plumbing consent fees (per item)	123.58	123.58	123.58	123.58	123.58	123.58	0.00%
Tapping fees – 20 mm standard (per item)	233.44	233.44	233.44	233.44	233.44	233.44	0.00%
Non-core miscellaneous services	Actual cost	Actual cost	Actual cost	Actual cost	Actual cost	Actual cost	

All Tariffs held flat i.e. 0% change with the exception of Sewer Service Charge which declines at average rate of 0.9% p.a.

Note: 2017-18 prices shown in the table reflect the revenue returned to customers from 1 July 2014 via a $50 reduction to the Water Service Charge. CHW is maintaining these tariffs below the price determination level.

PRICING PRINCIPLES REVIEW

In the development of this submission we have undertaken a preliminary review of pricing principles relating to New Customer Contributions (NCCs) and Trade Waste.

This preliminary review indicated some reform may be required to better match the revenue with the cost base for these charges.

Given these models are quite complex, a significant engagement process with our land development and trade waste customers will be required. CHW intends to undertake this process through the life of this pricing period and will work with the ESC during this review.

PRICE ADJUSTMENT MECHANISMS

- Annual price adjustments within a price cap setting to reflect changes to CPI and 10 year trailing average cost of debt
- Price re-opening only for unforseen events of significant consequence i.e. value impact > $15m
- This approach to prices and risk management will deliver price certainty to customers

GOVERNANCE FRAMEWORK – MANAGEMENT

A comprehensive and robust governance framework has been implemented to ensure ownership and integrity of the submission.

Key elements of the framework include the following:

- Senior Executive taken off-line for 10 months dedicated to coordinating the submission
- Strong communication lines with ESC water team
- Separate internal working groups set up to focus on key elements
    - Engagement Steering Group – oversight and delivery of Let's Talk Water
    - Outcomes Development – 25 internal staff split into 5 subgroups
    - CapEx planning – Three Executive Managers + Manager + Technical Specialist
    - Financial model – oversight for robustness and integrity of model inputs
    - All groups ensuring alignment with strategic documents including Urban Water Strategy, Asset Management Strategy, Corporate Plan, Water for Victoria
- Monthly review and guidance of all elements by Executive Management Team
- Guidance, direction and decisions at Board briefings (8 briefings over 10 months) and Customer & Community Partnerships Committee briefings (quarterly)
- Indicative PREMO assessment undertaken by (KPMG) with suggested enhancements adopted

GOVERNANCE FRAMEWORK – BOARD INVOLVEMENT

The input of the CHW Board including the long-running Customer & Community Partnerships Committee (CCPC), has been an important part of the development of this submission from concept to completion.

The alignment of thinking and understanding of key customer drivers has contributed to the development of a shared position on balancing three main elements of the submission, which the Board has supported:

- Delivering improved services;
- Addressing cost of living pressures; and
- Maintaining a sustainable business model

The Board has been briefed directly on eight different occasions over a 10 month period. The CCPC has been briefed quarterly with a focus on the *Let's Talk Water* engagement program.

GOVERNANCE FRAMEWORK – BOARD INVOLVEMENT

The Board briefings included discussion, alignment and agreement on the following topics:

Regulatory Framework

- Outlining the regulatory principles, process & timelines
- Understanding the PREMO model
- Two separate discussions with ESC Chair.

Customer

- Testing the robustness of the engagement process (including attendance at the Customer Forum)
- Reviewing customer feedback and key themes from the engagement
- Assessing service levels
- Guiding the development of the customer outcomes
- Understanding the impacts of tariff rebalancing scenarios
- Agreeing tariff and price paths.

Financial

- Reviewing the financial model, including scenario analysis based on stress testing key assumptions (e.g. growth, demand, FTE)
- Testing the sustainability of the business model in terms of long run OpEx & CapEx requirements and debt levels
- Setting key assumptions around CapEx, OpEx and prices
- Understanding linkages/alignment to Corporate Plans/Budgets (nominal basis)
- Confirming ambition level.

GOVERNANCE FRAMEWORK – BOARD BRIEFINGS

6. PREMO SELF ASSESSMENT

PREMO SELF-ASSESSMENT: ENGAGEMENT

GUIDING QUESTION	CHW RESPONSE – HIGH LEVEL SUMMARY	PAGE #
To what extent has the business justified how the form of engagement suits the content of consultation, circumstances facing the water business and its customers?	• CHW's pre-planning stage allowed us to use feedback to inform the development of proposals and activities. For example we initially trialled an Online Discussion Forum vs Survey using Our Say; survey being most successful with customers	16-17
	• The *Let's Talk Water* Survey was promoted and rolled out across the CHW service region. The survey was representative of CHW's customer base, with 834 survey responses received, far exceeding 95% confidence level which requires 384 responses. Survey results also represented CHW's 15 water supply systems. Demographic information obtained (including age, residential or non-residential customer, dwelling type) aligns to ABS profiles for our region	20-22
	• Subsequent and supportive engagement activities in Stage 1 and Stage 2 were tailored (both in terms of form, and content) according to such criteria as: customer type/community/water supply system. For example: Community "drop in" information sessions were conducted in priority regional communities where accessibility or infiltration of CHW communications is lower. The round-table café-style format of the Customer Forum was facilitated by an independent facilitator and the most appropriate means to discuss, clarify, debate and reshape early draft Outcomes	18-19, 23
	• Customer Forum participants and Customer Reference Group members endorsed CHW's engagement process	30-31
To what extent has the business demonstrated that it provided appropriate instruction and information to customers about the purpose, form and content of the customer engagement?	• Clear campaign messaging provided under the Let's Talk Water brand (adjusted accordingly as the campaign progressed)	24-27
	• More than 40 key documents were prepared across a range of mediums, tailored to each stage of engagement and the customers and communities we serve. This ranged from online discussion forums to hardcopy posters displayed in local Post Offices and General stores in remote communities	
	• Clear information and instruction was also provided to enable customers to effectively engage	
To what extent has the business demonstrated that the matters it has engaged on are those that have the most influence on the services provided to customers and prices charged?	• ServQual model adopted to identify service importance vs performance; open-ended survey questions captured more information on customers' feelings and attitudes	98
	• Clear and consistent customer priorities emerged throughout the engagement. Lowering costs and improving water quality standout key priorities amongst others	28-29
	• Customer priorities also deciphered per CHW water supply system	98-102
	• Following stage 1 engagement, priorities and themes refined and re-tested in an ongoing collaborative process with Customer Forum participants and the Let's Talk Water Customer Reference Group	30-31
	• Follow up survey with Customer Reference Group members achieved 88% support for all draft Outcomes and Outputs prior to final Customer Reference Group meeting	
	• Tariff scenario modelling discussed with the Customer Reference Group	9-10

PREMO SELF-ASSESSMENT: ENGAGEMENT

GUIDING QUESTION	CHW RESPONSE – HIGH LEVEL SUMMARY	PAGE #
To what extent has the business explained how it decided when to carry out its engagement?	• Campaign commenced early (July 2016). 12-month iterative engagement campaign • Spring events calendar utilised to increase uptake and engagement in Stage 1 • Customer Forum (April 2017) and Customer Reference Group (May-September) planned and commenced 6-months prior to PR18 Submission to enable adequate time for collaboration and development of Outcomes, Outputs and GSLs with customers	18-19
To what extent has the business demonstrated how its engagement with customers has influenced its submission?	• IAP2 framework adopted for the Let's Talk Water Engagement Campaign, progressing to "collaboration" with Customer Reference Group • Clear customer priorities and themes from the Let's Talk Water survey and Stage 1 engagement activities were documented in a 123-page internal Research Report and explored and re-tested with customers through Stage 2 engagement activities • Five high-level customer Outcomes developed with customers, supported by 38 measurable outputs, 21 of which are new service offering with the remaining 17 reflecting an improvement on the current service offering • $20m of expenditure reprioritised across CapEx & OpEx initiatives to deliver the new and improved outcomes • 69% of Customer Forum attendees "strongly agree" or "agree" that their opinions and feedback will influence future CHW services and prices • CHW proposed prices and services released as a 12-page public document in August 2017, seeking final feedback and to 'close the loop	16-17 19, 28-29, 98-102 30-38 33-38 98-102 19

PREMO SELF-ASSESSMENT: OUTCOMES

GUIDING QUESTION	CHW RESPONSE – HIGH LEVEL SUMMARY	PAGE #
Has the business provided evidence that the outcomes proposed have taken into account the views, concerns and priorities of customers?	• Iterative process of engagement and refinement of outcomes with customers, which results in outcomes completely taking into account the views, concerns and priorities of customers	18-19, 28-32
	• Five customer outcomes developed with 88% support for all draft Outcomes and Outputs prior to final Customer Reference Group meeting	98-102
	• 21 new measurable Outputs developed in direct response to customer feedback	34-38
Has the business provided sufficient explanation of how the outcomes it has proposed align to the forecast expenditure requested?	• $20m TotEx reprioritised from BAU to deliver customer outcomes	34-38
	• Significant investment in additional resourcing that will be absorbed into existing FTE levels e.g Water Quality Officer, Water Efficiency Advisor & engagement and communications programs	
	• Major CapEx programs aligned to Outcomes	128-131, 134-135
Has the business proposed outputs to support each of its outcomes, which are measurable, robust and deliverable? Has the business provided evidence that the outputs it has proposed are reasonable measures of performance against stated outcomes?	• A total of 38 robust and measurable performance measures, including material improvements to customer experience, network performance and water efficiency KPI's	34-38
	• Targets set for each measurable output to deliver improved customer value over the period	5
Has the business demonstrated a process to measure performance against each outcome and to inform customers?	• Easy to understand performance reporting dashboard developed to track performance against output targets and delivery of overall outcomes	39
	• Reporting dashboard will be distributed annually through a variety of channels including website, customer portal, social media platforms, email and bill inserts	
	• Dashboard will be updated to incorporate any changes in outcomes, performance measures and targets developed through ongoing engagement activities (e.g. two-step approach)	

PREMO SELF-ASSESSMENT: MANAGEMENT

GUIDING QUESTION	CHW RESPONSE – HIGH LEVEL SUMMARY	PAGE #
To what extent has the business demonstrated how its proposed prices reflect only prudent and efficient expenditure? To what extent has the business justified its commitment to cost efficiency or productivity improvements?	• OpEx spend across 3rd regulatory period is 5% below benchmark allowance, driven by a range of efficiency initiatives • OpEx efficiency target for 4th regulatory period of 1.6% p.a. set to equal customer growth rate, thereby ensuring adjusted baseline controllable OpEx is held flat across the period • Controllable OpEx per connection reducing at compound rate of 1.2% p.a. over 10 year period demonstrating strong cost control over a sustained period • CapEx spend across 3rd regulatory period is 10% below benchmark allowance, driven by a range of efficiency initiatives • CapEx spend across 4rd regulatory period to increase by $23m (21%), largely driven by two projects totalling $9.7m which are NPV+ (Emissions Reduction, Digital Metering). Remaining increase driven by Government Policy and Water Security projects • Options analysis and P50 estimates completed for major projects / programs • CapEx contingency average 15% across top 10 projects • Uncertain projects not included in proposal for regulatory period 4 allowance • Spend reprioritised to support $20m of TotEx for the delivery of customer outcomes	46 48 53 58 62 61 66 59 34-38
To what extent has senior management, including the Board, demonstrated ownership and commitment to the proposals in its submission? To what extent has the business provided evidence that there is senior level, including Board level, ownership and commitment to its submission and its outcomes?	• Senior Executive taken off-line for 10 months in a dedicated role to develop the submission • Separate internal working groups set up to oversee i) Engagement ii) Outcomes, iii) CapEx planning, iv) Financial model • Monthly reporting to Executive Management Team • Customer & Community Partnerships Committee briefed quarterly • Board briefed directly on eight separate occasions agreeing prices / tariffs, key financial assumptions and confirming ambition level	85 86-88
To what extent has the business justified or provided assurance about the quality of the submission, including the quality of supporting information on forecast costs or projects?	• Independent expert advice provided on CapEx options, costs, P50 and contingencies • Board attestation • Indicative PREMO assessment undertaken by (KPMG) with suggested enhancements adopted	61 13 85

PREMO SELF-ASSESSMENT: RISK

GUIDING QUESTION	CHW RESPONSE – HIGH LEVEL SUMMARY	PAGE #
To what extent has the business demonstrated a robust process for identifying risk, and how it has decided who should bear these risks?	• Robust risk identification processes and increased focus on risk framework	73-74
	• Prudency of forecasts established from delivery of efficient outcomes during regulatory period 3	46-47, 58
	• Effective utilisation of regulatory strategies to appropriately manage risk	75
	• Uncertain projects witheld from proposals	59
	• Savings of $30 per customer p.a. achieved through reprioritisation of costs and withholding uncertain projects	35-38, 48, 59, 64
	• Flat or negative price paths for all customer segments and providing price certainty	6
To what extent does the proposed guaranteed service level (GSL) scheme provide incentives for the business to be accountable for the quality of services delivered, and provide incentives to deliver valued services efficiently?	• Significant improvement to GLS scheme	41-42
	• Creation of two new GSLs	
	• Reduce thresholds on all existing network GSLs by an average of 40%	
	• Double the rebate on all existing network GSLs from $50 to $100	

PREMO SCORING TABLE

RATING	ASSESSMENT	RISK	ENGAGEMENT	MANAGEMENT	OUTCOMES
Leading	Very confident the element is 'Leading'	4	4	4	4
	Confident the element is 'Leading'	3.75	3.75	3.75	3.75
Advanced	Very confident the element is 'Advanced'	3.5	3.5	3.5	3.5
	Confident the element is 'Advanced'	3.25	3.25	3.25	3.25
	Satisfied the element is 'Advanced'	3	3	3	3
	Reasonably confident the element is 'Advanced'	2.75	2.75	2.75	2.75
Standard	Very confident the element is 'Standard'	2.5	2.5	2.5	2.5
	Confident the element is 'Standard'	2.25	2.25	2.25	2.25
	Satisfied the element is 'Standard'	2	2	2	2
	Reasonably confident the element is 'Standard'	1.75	1.75	1.75	1.75
Basic	Very confident the element is 'Basic'	1.5	1.5	1.5	1.5
	Confident the element is 'Basic'	1.25	1.25	1.25	1.25
	Satisfied the element is 'Basic'	1	1	1	1

TOTAL
12.75

PREMO SELF ASSESSMENT – OVERALL RATING

RATING	ASSESSMENT	OVERALL SCORE
Leading	Very confident the element is 'Leading'	15.5 - 16
	Confident the element is 'Leading'	
Advanced	Very confident the element is 'Advanced'	11.5 - 15.25
	Confident the element is 'Advanced'	
	Satisfied the element is 'Advanced'	
	Reasonably confident the element is 'Advanced'	
Standard	Very confident the element is 'Standard'	7.5 - 11.25
	Confident the element is 'Standard'	
	Satisfied the element is 'Standard'	
	Reasonably confident the element is 'Standard'	
Basic	Very confident the element is 'Basic'	4 - 7.25
	Confident the element is 'Basic'	
	Satisfied the element is 'Basic'	

APPENDIX 1

DETAILED CUSTOMER FEEDBACK

CUSTOMER FEEDBACK IN DEVELOPMENT OF OUTCOME 1

Customer Survey

Adopted 'ServQual' model to identify service importance and performance

* Most important services to customers are:
  - Reliability of water service
  - Willingness of employees to assist customers
  - Prompt response to emergencies
* Services where improvement to performance would be valued:
  - Water quality
  - Having customers' interests at heart
  - Prompt response to emergencies

Customer Forum

* Willingness and responsiveness of CHW employees a priority
* Increased education and communication about services and programs sought
* Customer want flexibility and control with their account payment/ management / viewing options
* More digital communication sought (reference/comparison to other utilities)
* Assisting vulnerable customers unanimously supported
* Prompt responses to planned/ unplanned water interruptions unanimously supported
* Customers want choice about how CHW communicates with them
* If CHW failed in its communication commitments about a planned interruption customers were ambivalent about any GSL offering, preferring a personal contact rather than a $ rebate

Customer Reference Group

* Draft Output: Online account functionality viewed by group as the most important Output (supported by 88% and somewhat supported by 12%) prior to final meeting
* Draft Output: Online digital communication channels supported (by 88% of group prior to final meeting with suggestion for "Chat Box" on website
* Customers did not see the value in the following draft Output: Continuously improve customer satisfaction rating
* Unanimous support for customers to choose communication preferences
* During planned/ unplanned interruptions, customers reiterated existing communication channels to remain open
* Customer suggestion to "grade" service interruptions

OUTCOME 1:
Better Customer Experience

1. Online self-service account access
2. Online two-way, digital communications channels
3. Service interruption alerts – SMS & Email
4. Understanding our customers' needs

CUSTOMER FEEDBACK IN DEVELOPMENT OF OUTCOME 2

Customer Survey

* Overall water quality satisfaction rated 7.1/10
* Lowest rated potable systems were:
  Waubra 2.9/10
  Maryborough 4.6/10
  Learmonth 5.0/10
  Clunes 6.4/10
* Highest rated system:
  Dean (9.0/10).
* Water quality ratings correlate highly to perceptions of value
* "Poor taste" a common and persistent issue. Chlorine taste /odour is an issue in some systems
* A reliable water and wastewater service is highly valued.

Note: Maryborough water quality improvements implemented since survey

Customer Forum

* Customers were curious and had many questions about the safety and taste of their water supply
* Some customers try filtering / other techniques to improve water taste
* Waubra and Learmonth discussed as options needing investigation for water quality improvements
* Support for establishing a Water Quality Officer who can investigate customer "taste" concerns

Customer Reference Group

* Undertake innovations towards water quality improvements within small communities
* Draft Output: Develop options for improved water quality of small towns 94% supported and 6% "somewhat support" prior to final meeting
* Draft Output: Improve water quality rating 88% supported and 12% "somewhat supported" prior to final meeting
* Water quality panel / opportunities throughout all systems/ communities
* Investment in new pipes, cleaning and water transfer for water quality

OUTCOME 2:
Safe, clean drinking water that tastes great

1. Deliver safe drinking water that meets regulatory water quality requirements
2. Develop options for improved water quality of small towns (Waubra, Learmonth, Clunes)
3. Improve water quality rating

CUSTOMER FEEDBACK IN DEVELOPMENT OF OUTCOME 3

Customer Survey

* Reliability of water service is the most important CHW service to customers. Reliability of wastewater service is also rated highly
* Priority services (unprompted): Reliable water supply was the second highest priority (17%) after quality drinking water (28%). Reliable wastewater service (8%) and recycle wastewater (8%) were also listed as priorities
* The majority of respondents (86%) believe CHW has a responsibility to limit the impact of climate change
* Future water security was nominated as a key topic of concern (25% of all comments when respondents were asked for "additional suggestions")

Customer Forum

* Long-term water security planning received strong support
* A trouble-free wastewater collection service viewed as important & currently well-delivered by CHW
* Customers were eager to develop their understanding of the wastewater system
* Protecting the community and environment from sewerage a minimum expectation from customers
* Wide agreement that the best use of recycled water was to maintain environmental values and recreational assets
* Customers are happy for CHW to comply with government requirements re greenhouse gas emissions ensuring any activities are not at an additional cost to customers

Customer Reference Group

* Sustainable water resource planning via Integrated Water Management Planning supported by 94% prior to final meeting
* Annual long-term water security plan supported by 94% prior to final meeting
* Customers support zero sewer spills, however distinction needs to be made re CHW system failure vs customer system failure
* Support for reducing greenhouse gas emissions and a general interest in how CHW is / can achieve this (supported by 94% prior to final meeting)

OUTCOME 3:
Reliable and sustainable water and sewer systems

1. Sustainable water resource planning
2. Communicate annual Long-term water security plan
3. Improve network performance
4. Reduce greenhouse gas emissions

CUSTOMER FEEDBACK IN DEVELOPMENT OF OUTCOME 4

Customer Survey

* 90% of respondents believe that water suppliers have a responsibility to provide the community with programs and rebates that encourage water efficiency, particularly rainwater tanks
* 62% would accept water restrictions once every five years in the face of dry conditions
* 58% believe they can do more to conserve more water in their home; 37% believe they are doing all they can
* Priority use of water if supply is limited include: in-home usage (38%)

Customer Forum

* Water efficiency and more information on household water usage (for example via digital metering) were of primary interest
* Customers seek greater communication and information on water efficiency
* Understanding customer's own water usage and ability to control/influence water usage a key topic
* Leak alerts valued
* Rebates and easier ways of improving water efficiencies (ie. making it easier to get and install water tanks) valued
* Bio solids recovery and utilisation was of little interested and removed from a draft Output

Customer Reference Group

* Support for digital metering, with customers wanting to manage/control water usage but at no additional customer cost (69% support, 25% somewhat support and 6% do not support prior to final meeting)
* Toilet retrofit program least supported and removed from a draft Output
* Water tank rebate program well supported (75% support and 25% somewhat support prior to final meeting)

OUTCOME 4:
More efficient water use

1. Digital metering program
2. Rainwater tank rebates

CUSTOMER FEEDBACK IN DEVELOPMENT OF OUTCOME 5

Customer Survey

* Customers are price sensitive with lower costs sought. Pricing suggestions including: "Total costs too high" (33%) and "reduced fixed service fees" (14%)
* Customer rate overall value for money 6.9/10
* Excluding CHW's two regulated systems, Waubra rated the lowest for value for money 4.9/10; Forest Hill rated the highest 7.9/10
* Strong correlation between value for money and perceptions of water quality
* To improve value for money, customers request (unprompted): Improve water quality (31%); lower costs (18%); reduce service fees (14%)
* Customers value enhanced community amenity with priority public spaces being: swimming pools, ovals and fire safety e.g. CFA hydrants

Customer Forum

* Suggested to increase water price and decrease wastewater service fee
* Payment discounts / incentives were not viewed as a high priority
* Drinking fountains highly valued, more fountains requested
* Assisting vulnerable customers unanimously supported, however additional "community funding" by customers not supported
* The overall message from the Forum was to reduce prices and take care of customers

Customer Reference Group

* Review the mix of fixed and variable charges; reduce prices
* Preference for no customer segment to incur price rises above CPI
* Draft Output: Improve value for money supported by 94% and somewhat supported by 6% prior to final meeting
* Draft Output: Deliver enhanced community amenity supported by 69%, somewhat supported by 25% and 6% do not support prior to final meeting

OUTCOME 5:
Increased value for money

1. Minimising cost of living pressures
2. Community amenity plan
3. Assist vulnerable customers
4. Improve value for money

APPENDIX 2

CAPITAL PROJECT / PROGRAM SUMMARIES

PROJECT 1

Ballarat South Outfall Sewer Duplication

Issue / Need

The Ballarat South Outfall Sewer was constructed in the 1920's and is a critical asset servicing over 50% of the Ballarat system. It has reached capacity in some sections and can no longer convey the required flows received during wet weather events.

The alignment of the pipeline runs next to the Yarrowee River and under major roads and is particularly deep (up to 8 metres) making the consequence of failure high and very difficult to repair if failure was to occur.

It has been identified as requiring augmentation and a program of works to duplicate the main commenced in 2004.

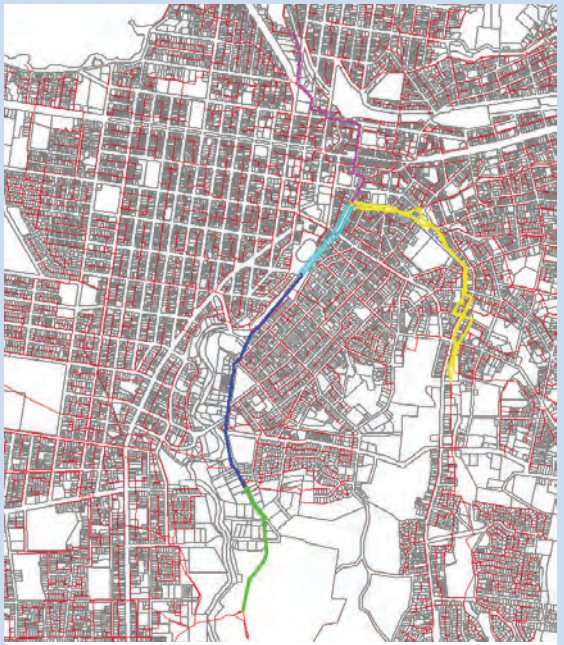
Approximately two thirds of the duplication works has been completed. Hydraulic modelling in 2013 confirmed the requirement to duplicate the remaining section of this trunk sewer to support improved flow compliance performance in accordance with EPA's containment standard. CHW has completed concept design and is currently undertaking detailed design works.

Scope

This project will complete the last section of duplication works which has been completed over previous water plans due to the large scale of the project and the prioritisation of various sections in need of duplication. The pipeline duplication is 1.9 kilometres with a diameter of 1050mm and depth varying from 4m to 8m. An above ground section of the pipeline sits on 3 metre high concrete plinths.

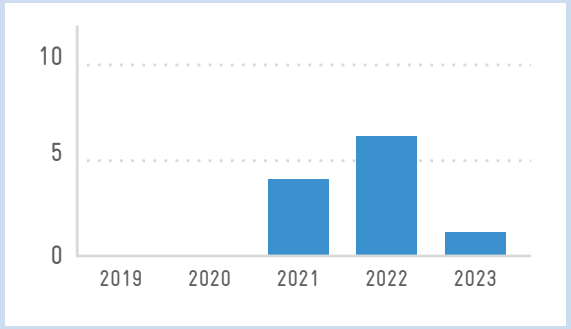
The proposed alignment follows the existing outfall pipeline alignment along the Yarrowee River. The construction methodology is expected to be predominately open trench. However, tunnelling may be used through deep sections and some areas to avoid high disruption to the community.

The new works are long-life gravity sewer assets with a life expectancy of greater than 100 years to serve the environmental protection needs of this community.



The Ballarat South sewer network transfers all flows to a large diameter outfall that conveys flows via gravity to the Ballarat South Wastewater Treatment Plant. The existing outfall network is split into the following three main sections.

PROJECT 1

Ballarat South Outfall Trunk Sewer Duplication			
Benefits	• Avoid sewer spills during wet weather events • Meet 1 in 5 year (average recurrence interval) flow containment standards (EPA) • Support future growth in the Ballarat South sewer catchment • Provide continuous sewerage services to customers during wet weather periods • Allow easier, and more cost effective rehabilitation to the existing 100 year old sewer main (following completion of this project). • Provide redundancy to the critical sewer main, if a failure occurs • Completion of a long term program of upgrades to the outfall sewer.		 Original construction of the Ballarat South Outfall Trunk Sewer
Cost Estimate	$11.36m	Construction Period	2020/21 – 2022/23
Contingency	15.8%	Risk rating: High	Spend Profile ($m)
Status	• Master plan and options assessment complete. • Concept design complete including preliminary geotechnical investigations, survey and cultural heritage/environmental assessments. • Detailed design and key stakeholder engagement work progressing throughout 2017/18.	Key risks: • Ground conditions & limited pipeline alignment options • Sensitive cultural heritage issues • Built up urban area & traffic management • Stakeholder management	

PROJECT 2

Daylesford Water Supply Upgrade

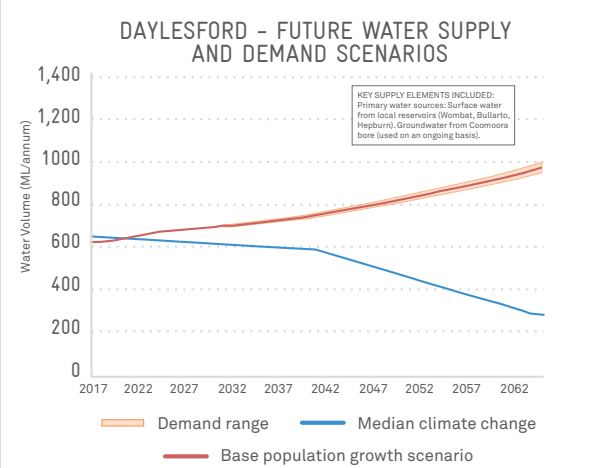
Issue / Need

The Daylesford water system is a stand-alone water supply which relies on local resources. The system has 2,889 property connections and has an annual water consumption of 577 ML. Wombat (548ML) and Bullarto (180ML) Reservoirs are the primary sources of water supply for the Daylesford area. Supply may also be sourced from the Hepburn Reservoir (30ML) and Coomoora Bore which was commissioned at the end of the Millennium drought. The Daylesford community has experienced extended periods of severe water restrictions (2002-2005 & 2006-2011).

The recent Urban Water Strategy (2017) updated modelling and assessment of system performance and indicated a need to upgrade the system in the short-term (refer to the supply-demand curve on the adjacent figure). Importantly, the current shortfall worsens into the future due to the population growth and climate change projections.

Daylesford is in the Loddon system which shows yield declines of 37% in the next 23 years. The current surface water storage capacity is only slightly greater than the existing annual demand leaving it highly vulnerable to dry weather conditions and climate change impacts. Its location at the top of the catchment makes it particularly vulnerable to the step climate change modelling scenario.

After extensive workshopping around preferred options it has been identified to connect to the Goldfields Superpipe as the preferred option in order to provide long term water supply security for the Daylesford community.

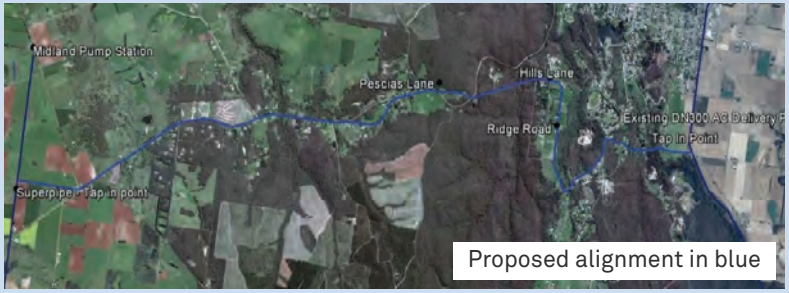


Daylesford – future water supply and demand balance

Scope

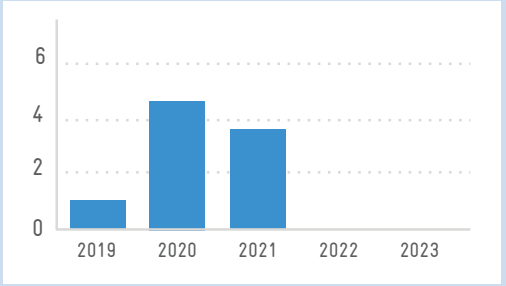
The solution is a 14 kilometre, 315 millimetre diameter pipeline connecting the Goldfields Superpipe to the Daylesford water system. The offtake is downstream of the Midland Pump Station and connects to the Wombat Reservoir outlet pipeline.

The pipeline will be predominately installed in road reserves along the most direct path. A small portion of private land will require easements. A mix of open trench (most cost effective) and trenchless technology (under roads and environmentally sensitive areas to mitigate disruption and environmental risk) will be used.



Proposed alignment in blue

PROJECT 2

Daylesford Water Supply Upgrade			
Benefits	The project will deliver the following benefits: • Improve the short to long term water security (next 0-50 years) • Increased system resilience to climate change impacts now and into the future (including droughts, floods and bushfires) • Improved connectivity of CHW's water network • Water for liveability and recreation • Water to support local business and a growing economy • Provide for the projected growth and development of the region		
Cost Estimate	$9.22m	Construction Period	2018/19 – 2020/21
Contingency	17.6%	Risk rating: High	Spend Profile ($m)
Status	Options developed and initial works completed including water efficiency & leakage improvements and water resource/treatment upgrades delivered. Concept design and detailed design complete including stakeholder engagement, geotechnical, topographical and flora/fauna survey. Cultural Heritage assessment and planning approvals in progress, expected to be finalised in the next 6 months.	Key risks: • Sensitive cultural heritage areas along the alignment • Stakeholder engagement • Varying ground conditions and difficult construction environment along sections of the project • Contracting	

Wombat Reservoir – primary source of Daylesford supply

PROJECT 3

Ballarat South Wastewater Treatment Plant Inlet Works Upgrade

Issue / Need

The Ballarat South Wastewater Treatment Plant (BSWWTP) services approximately 70% of Ballarat's wastewater treatment needs. The BSWWTP inlet works and lifting station currently receives flows greater than its capacity during peak wet weather events and an upgrade is required to enable this essential component to lift, screen and convey wastewater flows through to the WWTP processes.

CHW have undertaken a master plan including comprehensive capacity and hydraulic modelling across the site and has determined the inlet works is currently under capacity and cannot cater for future growth. CHW have completed significant upgrades to the biological process and digester system in Water Plan 3 period. These upgrades provide future treatment process capacity for the next 30 years, while reducing energy costs and greenhouse gas emissions.

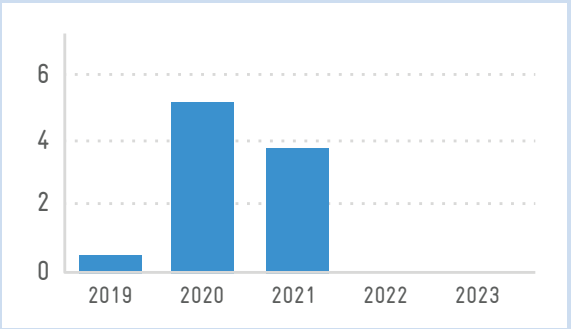
CHW is also undertaking an outfall sewer duplication to BSWWTP which will significantly increase flows to the WWTP well beyond the capabilities of the existing inlet system (refer to summary for Project 1).

Ballarat South WWTP Facility Layout

Scope

- Inlet Structure including 2 x Archimedes lift pumps each with 1230 litres/second capacity
- Screen System – capacity of 2460 litres/second
- Primary Sedimentation Tank Splitter
- Odour Control Facility to capture and treat odour emissions
- Bypass facility with capacity of 1900 litres/second

PROJECT 3

Ballarat South Wastewater Treatment Plant Inlet Works Upgrade			
Benefits	• Ensure flows entering the WWTP can be conveyed through the process by the lift pumps and protect the environment • Ensure flows can be screened to protect downstream processes and discharge requirements • Allow for future growth in the Ballarat sewer catchment • Meet OH&S requirements, protecting CHW staff and contractors • Control and treat odours emitted from the inlet works	 Overhead view of the Ballarat South WWTP	
Cost Estimate	$9.20m	Construction Period	2019/20 – 2020/21
Contingency	19.0%	Risk rating: Medium	Spend Profile ($m)
Status	• Hydraulic model is completed • Long term WWTP master plan completed • Outline design completed and planning estimates incorporated into the WWTP master plan • Concept design scheduled 2017/18 • Detail design 2018/19 • Construct 2019/20 - 2020/21	Key risks (current): • No high risks • Integration of new works with the existing facility • Ground conditions	

PROJECT 4

Ballarat East Sewer Duplication and Flow Storage

Issue / Need

The Ballarat East gravity sewer system have been assessed using hydraulic modelling and historical performance data. These assessments identify that sections of the sewer main are under capacity based on the 1 in 5 year rainfall average recurrence interval and to cater for future growth that is rapidly occurring in the upstream catchment.

CHW has undertaken a series of options studies and investigations to derive the best solution to achieve 1 in 5 year sewer flow containment within the catchment and meet EPA compliance standards. This work confirms the requirement to duplicate sections of the Ballarat East sewer main and provide wet weather storage capacity.

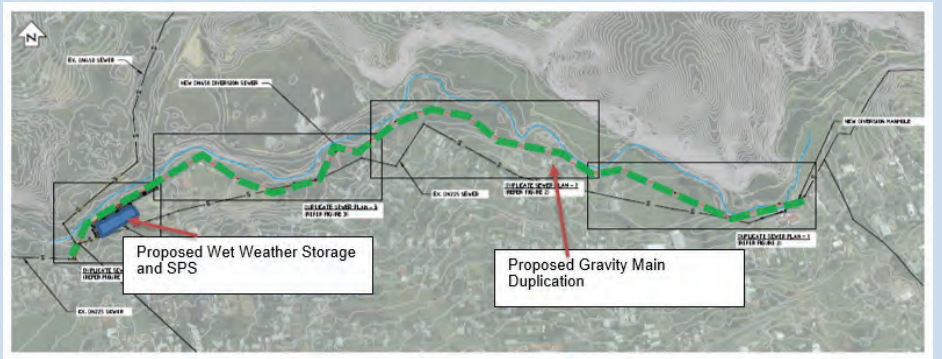
A sewer system surcharging from a manhole during peak weather event (>1 in 5 year event)

Scope

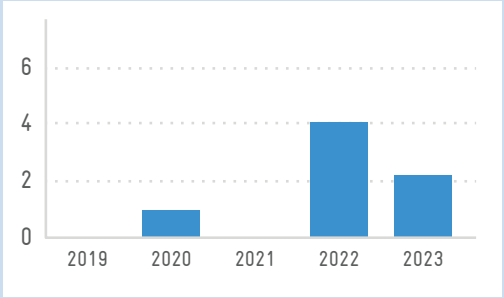
The preferred solution involves the duplication of 1.4 kilometres of 450 millimetre diameter gravity sewer and the installation a 3.0 megalitres of wet weather storage (flow control facility).

It also includes a wet weather pump station to lift stored wet weather flows from the flow control facility into the existing 225 mm diameter gravity sewer main when wet weather events cease.

CHW propose to stage the works and undertake Stage 1, the flow storage component of the project in PR18 and complete stage 2, the sewer duplication component during PR23 period.



PROJECT 4

Ballarat East Sewer Duplication and Flow Storage			
Benefits	The Ballarat East Sewer Duplication and Flow Storage project will service the growth and compliance requirements for the Ballarat East sewer catchment beyond the next 15 years. The project significantly extends the life of the existing 225 millimetre diameter sewer main and negates the need to upgrade the part of the network that flows through the central business district (CBD) which would incur significantly higher costs and community disruption. System network benefits include the smoothing of flows from the Ballarat East catchment to the Ballarat South WWTP which will assist in the management of peak treatment plant flows downstream. The improvement works will support improved environmental performance by reducing the risk of sewer spills to local waterways.	 Example works: Storage tanks being installed at Kennedy's Drive SPS	
Cost Estimate	$7.09m	Construction Period	2022 - 2023
Contingency	15%	Risk rating: High	Spend Profile ($m)
Status	Options assessment is complete in accordance with Ballarat South wastewater catchment master plan (includes hydraulic modelling, cctv inspections, inflow and infiltration management). Concept design complete with preliminary environmental assessments. Detailed design, survey, approvals and stakeholder engagement scheduled for 2019 and 2020.	Key risks: Stakeholder engagement Site constraints for construction Cultural Heritage & environmental issues Land access and approvals	

PROJECT 5

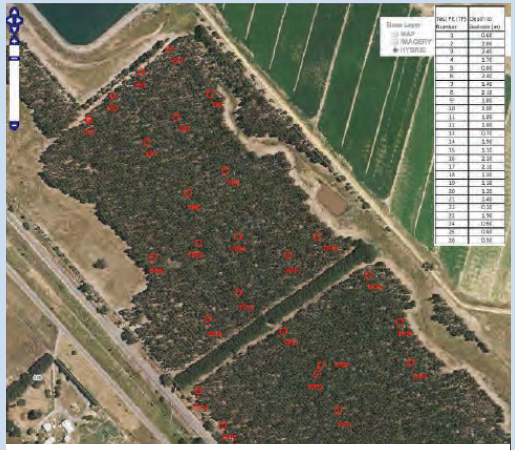
Ballan Wastewater Treatment Plant - Increase in Recycled Water Winter Storage Capacity

Issue / Need

The Ballan WWTP currently services a population of approximately 2,400 people. The catchment is mostly residential with a small commercial component.

CHW prioritised the Ballan Wastewater Treatment Plant (WWTP) for review primarily due to a restriction in the reuse scheme and regular applications for a 30A emergency discharge from the EPA as it is located close to the Werribee River. In addition, the Ballan urban development catchment is experience significant growth and this is forecast to continue into the future.

Hydraulic modelling has identified that the scheme is at capacity and requires an additional 140ML of winter storage volume and 75 hectares of irrigation area to ensure sustainable recycled water management outcomes are achieved and 90th percentile containment compliance is met (EPA standard).



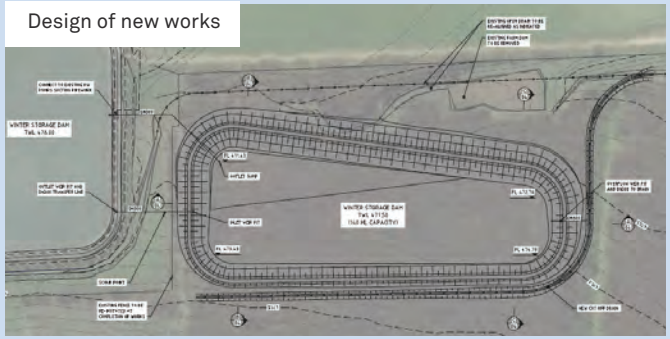
Survey of location for Winter Storage

Scope

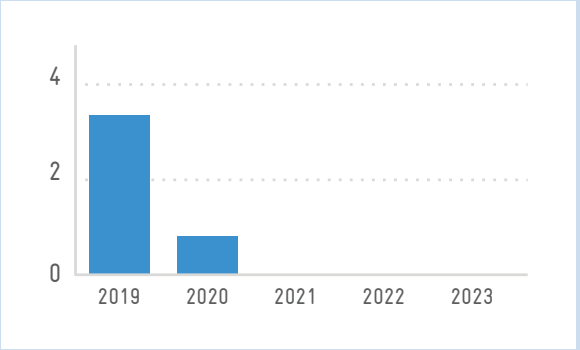
CHW will expand the current recycled water irrigation scheme by introducing 13 hectares of irrigated pasture and 140 ML of winter storage volume immediately, as well as a further 62 hectares of irrigated pasture by 2038.

This project will deliver an on-site expansion of the current recycled water irrigation scheme. The current informal irrigation area would be developed with permanent irrigation infrastructure to provide the immediate requirement of an additional 13 hectares of irrigation area, and a section of trees immediately to the south east of the existing maturation lagoon would be cleared and developed into 140 ML of winter storage volume. All new irrigation development would be pressurised sprinkler, with centre pivot irrigators as the preferred method.

Design of new works



PROJECT 5

Ballan Wastewater Treatment Plant - Increase in Recycled Water Winter Storage Capacity			
Benefits	The increased winter storage will provide the benefits of catering for urban growth, improving retention times for disinfection in the existing maturation lagoon and ensuring compliance with the EPA's 90th percentile containment requirements. This project will ensure that CHW can sustainably manage and treat the expected future volume of wastewater where growth for the Ballan township is expected to continue in the order of 2 - 3% per annum.		
Cost Estimate	$4.16m	Construction Period	2018/19 – 2020/21
Contingency	9.6%	Risk rating: Medium	Spend Profile ($m)
Status	Master plan completed including options assessment (including options for increased recycled water opportunities) Concept design completed including geotech work Detailed design in progress including early contractor involvement in cost estimations.	Key risks: Environmental Approvals and Geotechnical	

Aerial of Ballan WWTP and irrigation area

PROJECT 6

Fellmongers Siphon Replacement

Issue / Need

Fellmongers Siphon is 1080 millimetre diameter pipeline that forms a critical part of a Ballarat's raw water network by conveying flows from the channel system to White Swan Reservoir.

This high quality, low energy and low cost local water source provides a significant contribution to Ballarat's water supply mix. During average years, approximately 70% of Ballarat's water supply is moved through Fellmongers Siphon.

The siphon is mild steel pipeline that was constructed in 1946/47 and has deteriorated due to corrosion. Considerable operational effort is required to make repairs and keep the siphon operational.

The key finding from a recent assessment and review is that the siphon is at risk of structural failure due to excessive corrosion.

Fellmongers Siphon aerial

Scope

Replace the siphon together with approximately 1.5 km of open channel with a new mild steel cement lined (MSCL) pipeline on a optimised alignment on CHW land between Daylesford Road and Hillview Road.

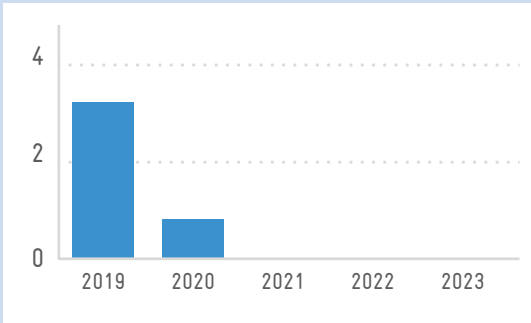
Replacement of this deteriorated open channel section will reduce operational costs, water losses, native animal deaths and reduce public liability risks.

Leak repairs on the siphon

PROJECT 6

Fellmongers Siphon Replacement			
Benefits	The siphon enables low cost, high quality local water resources to be used to supply Ballarat. Water losses will be reduced, overall costs to supply water will be lower due to avoiding high pumping resources being required. Other significant benefits are reduced OHS and public liability risks and more effective & efficient operation for CHW staff. Photograph attached of manually cleaned screens illustrates the scale of the physical input to operate the channel. In times of high flow these screens may require clearing several times a day.		
Cost Estimate	$4.03m	Construction Period	2018/19 – 2019/20
Contingency	14.1%	Risk Rating: Low	Spend Profile ($m)
Status	Options assessment and concept design complete Geotechnical, survey, preliminary cultural heritage and environmental assessments are complete Detailed design is progressing currently.	Key risks: Site constraints for construction Cultural Heritage & environmental issues.	

Manual cleaning of screens along the channel network



PROJECT 7

Maryborough Wastewater Reuse Scheme Improvements

Issue / Need

Recycled water from the Maryborough WWTP is provided to several customers for the irrigation of turf and fodder crops.

Brine produced from the recently completed Maryborough Salt Reduction Plant (major WP3 project) will increase the salinity of the recycled water currently applied to farmland for lucerne, pasture, and other fodder crops. Data shows the salinity of the recycled water has an electrical conductivity (EC) of 2,500, which will increase to 3,775 EC post brine addition dependent on flows.

Modelling has identified the need to increase the reuse irrigation area and potentially change crops to a more salt tolerant species.

The most appropriate land management solution is for CHW to assume ownership and control of the irrigation reuse area and moving away from privately operated arrangements to enable lower value, but more salt tolerant crops to be established with appropriate management techniques applied to manage risk.

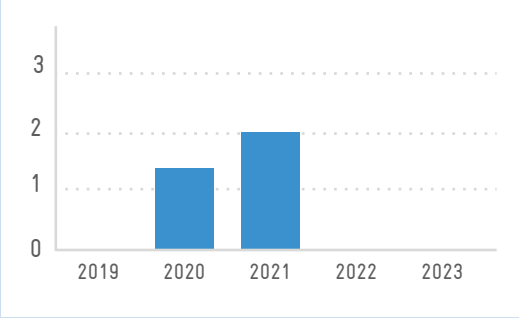
Construction of Maryborough's Bet Bet Storage Lagoon

Scope

The proposed solution is to convert the scheme to 100% CHW ownership and operation. This will enable use the recycled water for agricultural irrigation to continue by purchasing land with appropriate soils in close proximity to the Bet Bet lagoons.

CHW will own, operate and manage the agricultural reuse scheme and set a salinity threshold target for the golf course and football oval irrigation. A total of 90 hectares is required to achieve 90th percentile compliance (EPA standard).

PROJECT 7

Maryborough Wastewater Reuse Scheme Improvements			
Benefits	The Maryborough Water Quality Improvement Project has been implemented to increased water supply security and improve the consistency of water quality for our Maryborough customers. That project provides major benefits to the Maryborough and district community. However, the waste brine produced must be managed in a sustainable manner. Risk (particularly salinity) can be appropriately managed through CHW ownership and operation of the agricultural effluent reuse scheme and setting salinity threshold targets for the golf course and football oval irrigation.		
Cost Estimate	$3.36m	Construction Period	2019/20 – 2020/21
Contingency	8.9%	Risk rating: Medium	Spend Profile ($m)
Status	First stage of the water quality improvement project delivered Options assessed and preferred solution identified to deliver on needs for brine management Identification of potential sites and land valuations completed to inform project estimates.	Key risks: Stakeholder engagement Land availability.	

Treated effluent being applied to land for reuse

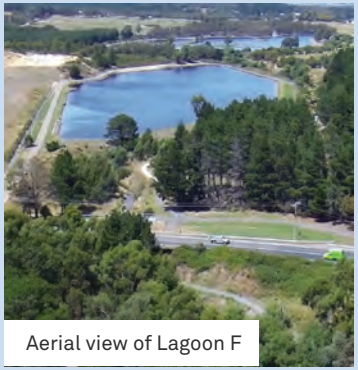
PROJECT 8

Ballarat South Wastewater Treatment Plant Lagoon Pipeline Upgrade

Issue / Need

During peak flows and wet weather events, flows currently spill from Lagoon E which is a non-licensed discharge location at the Ballarat South WWTP. Increased flows from growth, upgraded network assets and an infiltration from the aging network have increased the frequency of occurrences.

There is a need to contain these current and future flow patterns in accordance with EPA licence conditions and discharge flow from the permitted licence location in Lagoon J.



Aerial view of Lagoon F

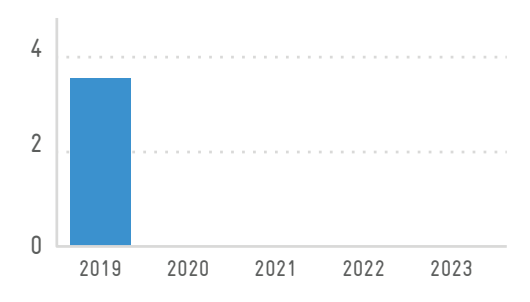
Scope

The preferred solution requires the construction of 600 metres of large diameter (1050 millimetre) pipeline from the outlet of Lagoon E through to Lagoon F and from Lagoon F to Lagoon G including a significant road crossing.

The outlet structure to the Yarrowee River also requires an upgrade to manage the future flow requirements.

Aerial view of Lagoons G, H, I

PROJECT 8

Ballarat South Wastewater Treatment Plant Lagoon Pipeline Upgrade			
Benefits	The key benefit of the project is to ensure higher quality effluent discharge and meet EPA licence compliance by conveying flows via the lagoon system for further treatment and discharge at the licenced point. The project will allow redundancy of a key critical pipeline asset at the BSWWTP. It will also will maximise the use of existing lagoon systems for disinfection thereby deferring the need for Ultra Violet disinfection which is a higher CapEx and OpEx solution.		
Cost Estimate	$3.20m	Construction Period	2018/19
Contingency	12.1%	Risk rating: Medium	Spend Profile ($m)
Status	Options assessment and hydraulic modelling completed. Long term plant master plan completed Detailed design of Lagoon E to F pipeline completed Survey and Geotech assessment completed. Preliminary environmental impacts assessment completed Detailed design of remaining sections underway, to be finalised in 17/18 for construction in 18/19.	Key risks: Stakeholder engagement Site constraints for construction Cultural Heritage & environmental issues.	

View of Lagoon E

PROJECT 9

Evansford Raw Water Pipeline Renewal

Issue / Need

The Evansford raw water main runs from Evansford Reservoir to Centenary Reservoir and provides essential raw water for CHW's Maryborough and district customers. The pipeline was originally constructed in 1927 using a variety of materials including reinforced concrete and concrete lined mild steel.

The pipeline supplies raw water at a rate of 6 megalitres per day. The Talbot Reservoir main also connects into this pipeline. In total, the Evansford main is 28 kilometres in length and the Talbot branch is another 4.6 kilometres.

The pipeline is a critical component of the Maryborough water supply system. The raw water supply from Evansford is a gravity supply of the most superior water quality within the system making it the preferred supply source due to low cost and customer taste preference.

These works will complete a long term program to renew the remaining (end of asset life) section of the Evansford main. Other sections have been replaced during previous water plan periods.

Evansford after construction was completed

Scope

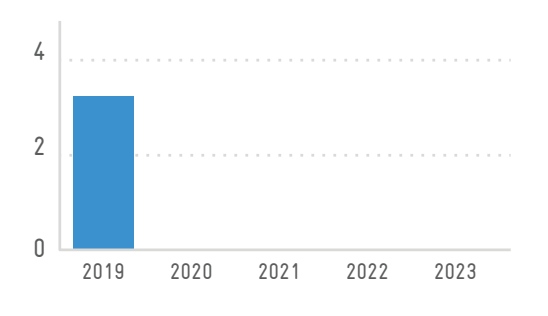
The project will replace 6 kilometres of pipeline between Evansford Reservoir to Talbot Township with a like-for-like size. The existing pipeline comprises of 300 millimetre diameter concrete lined steel and 375 millimetre reinforced concrete pipe.

Alignment of existing pipeline

PROJECT 9

Evansford Raw Water Pipeline Renewal			
Benefits	• The Evansford main provides the highest quality lowest cost water to the Maryborough water system. • Reduce leakage from the old pipeline • Improve reliability through reduced failures • Improve OH&S through automated remote control of system • The replacement of the main will ensure a robust multi source water supply with flexibility to accommodate a range of supply requirements.		
Cost Estimate	$3.2m	Construction Period	2018/19
Contingency	16.5%	Risk rating: Medium	Spend Profile ($m)
Status	Options study completed Concept Design completed Geotech, survey and flora and fauna works complete Currently being developed for tender in Design and Construct procurement Construction to begin in February 2018 and through to 18/19 financial year.	Key risks: Stakeholder, Cultural Heritage and Environmental risks are considered medium and are being closely managed through engagement with stakeholders.	

Aerial photo of Evansford Reservoir, main supply source of Maryborough



PROJECT 10

Ring Road Trunk Water Main Duplication

Issue / Need

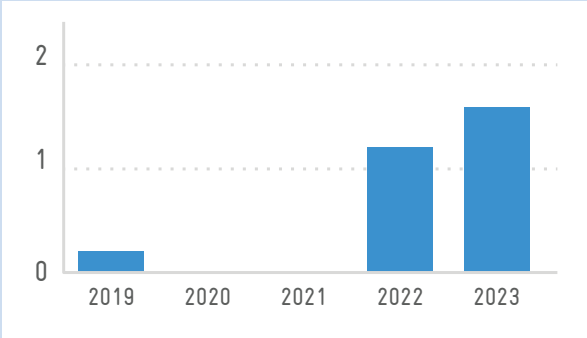
The Alfredton area of the Ballarat water network experiences pressures below 20 metres of head during peak summer days. These issues will increase with the extension of the water network into the Ballarat West Urban Growth Zone and the Ballarat West Employment Zone without upgrades to the trunk mains conveying flows.

Scope

The recommended solution is the duplication of a key trunk water main through to the Ballarat Growth Zone.

The project involves the construction of 7 kilometres of 450mm diameter water main from the Forest Street PRV to Gregory Street along Giot Drive and Ring Road. This alignment generates least community disruption and is the lowest cost option identified. The alignment also passes the Northern Greenfields Investigation Area (NGIA) which is proposed for future development by the City of Ballarat and the second stage of the Ballarat West Employment Zone commercial district.

PROJECT 10

Ring Road Trunk Water Main Duplication			
Benefits	The project ensures system pressures and flows are maintained in the growth areas of Ballarat West and Alfredton to ensure minimum levels of service. It also provides system redundancy through the duplication of a key critical pipeline. The project allows a greater volume of lower cost water from the White Swan system into the Ballarat Central flow zone. The project and pipeline alignment are consistent with future growth planning and will support higher flows to Ballarat's future growth areas and a growing customer base.	 Low pressure households shown in red	
Cost Estimate	$2.96m	Construction Period	2021/22 – 2022/23
Contingency	9%	Risk rating: Low	Spend Profile ($m)
Status	Calibrated network modelling assessment complete Options Assessment Completed Geotech assessment completed for half of alignment Preliminary environmental assessment complete Undertake detailed design in 2018/19.	Key risks: Geotechnical and Traffic Management.	

PROGRAM 1

Water Main Renewal Program

Issue/Need

CHW maintains a total of 2,486 km of water mains in 7 separate water distribution systems across the service region. CHW delivers a water main renewal program which renews mains based on a criticality and likelihood risk assessment which incorporates measured failure rates to meet the required levels of service. CHW has progressively replaced poor performing mains, predominately cast iron mains built from the mid-1800s through to the 1930s.

Since the 1950's, there was an exponential increase in the length of water main installed. The majority of the pipe laid was Asbestos Cement (AC) material (refer to the installation profile figure below).

Some AC mains are beginning to reach the expected end of life and performance levels have declined. The water mains program has identified the worst performing and the highest criticality mains needed to maintain levels of service to our customers. Over the next 5-20 years, further increases in water main renewal expenditure are expected to maintain levels of service to customers.

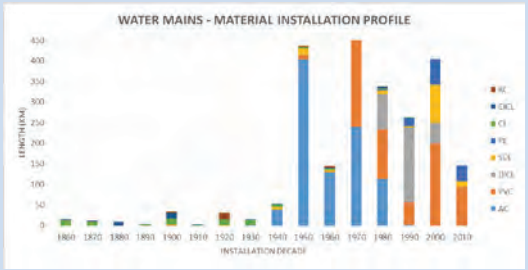
A 2.5% efficiency to current unit rates has been applied to account for improvements in technology and joint procurement efficiencies currently being undertaken. The expenditure level is expected to increase in further regulatory periods as per projections captured within our asset management plans.

Trenching for a water main renewal project in Ballarat

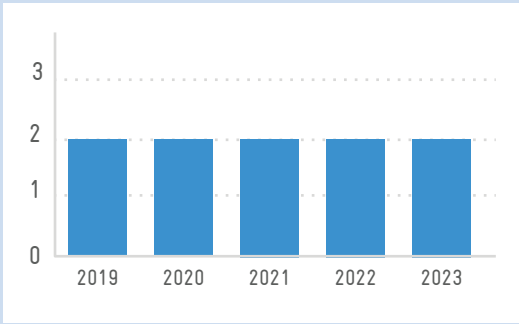
Scope

CHW has a water mains asset management plan that details the proposed methodology.
Below is a summary of the annual program of works proposed for delivery during the five-year period.

	EXPECTED RENEWAL LENGTH (KM) WP4				
PIPE DIA (mm)	AC	PVC	CI	OTHER	TOTAL
100	11.7	4.4	2.7	0.2	**19.1**
150	3.2	0.4	1.1	0.1	**4.8**
200 - 300	0.4	0.5	0.1	0.1	**1.0**
300+	0.9			1.4	**2.3**
TOTAL	**16.2**	**5.2**	**4.0**	**1.9**	**27.2**
%	**59%**	**19%**	**15%**	**7%**	**100%**



PROGRAM 1

Water Main Renewal Program			
Benefits	• Ensuring CHW maintains levels of service developed with customers as part of the Let's Talk Water Campaign including providing a reliable water supply service, prompt responses to emergencies and reliable water pressure. • Reduced customer interruptions and complaints • Improved relationship with local councils due to co-ordination of road and water main renewal works and reduced damage to new road infrastructure • Improved environmental performance due to reduced erosion from water spills/bursts • Reduced number of pipe failures and prevention of catastrophic large scale failure of aged water mains • Distributing future expenditure on water main renewals over the long term • Reduced water main bursts and leaks supporting a focus on the management of water leakages and losses.		
Cost Estimate	$9.75m	Construction Period	Ongoing – each year
Contingency	Not Applicable – Program of works and rate of replacement known	Risk rating: Low	Spend Profile ($m)
Status	Long-term asset management plans and renewal forecasting complete Annual works programs developed and contract arrangements for design and construction being re-tendered for PR18 delivery partnering with Western Water. Evaluating tenders in October 2017.	Key risks: • No high risks in this program of works • OH&S and stakeholder engagement remain key consideration for risk management during delivery phases of this type of works program.	

PROGRAM 2

Sewer Main Renewal Program

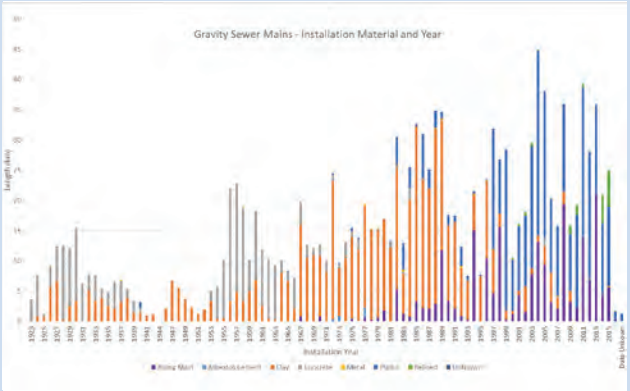
Issue / Need

Central Highlands Water (CHW) currently has approximately 1,400 km of sewer mains that service more than 56,000 properties over 13 separate wastewater systems. The gravity system accounts for 86% of the entire network, approximately 1,200 km.

Construction began on the gravity system in the early 1920's (as per the adjacent figure) consisting of concrete and vitrified clay with average expected lives of 80 and 100 years respectively. Progressively these mains are reaching the end of their effective life and are a key focus on in the identification of high criticality and poorly performing mains for renewal in the 5 year expenditure period.

A 2.5% efficiency to current unit rates has been applied to account for improvements in technology and joint procurement efficiencies currently being undertaken.

The expenditure level is expected to increase in further economic regulatory periods as per projections captured within our asset management plans.



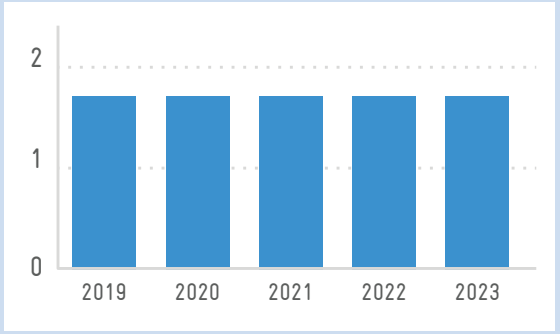
Sewer mains installation profile

Scope

CHW has developed an asset management plan that details the proposed methodology used in developing the program. Below is a summary of expected works for renewal over the PR18 period.

	EXPECTED RENEWAL LENGTH (km) WP4				
PIPE DIA (mm)	AC	CONCRETE	V.CLAY	OTHER	TOTAL
≤150	0.19	25.36	7.73	0.37	**33.65**
≤225 - 300	0.01	8.54	0.80	0.04	**9.40**
≤300					**0.00**
450 - 600	0.50	4.32	0.16		**4.98**
>600		0.88			**0.88**
Total	**0.70**	**39.09**	**8.70**	**0.42**	**48.91**
%	**1%**	**80%**	**18%**	**1%**	**100%**

PROGRAM 2

Sewer Main Renewal Program			
Benefits	The main benefit of asset management planning and a proactive renewals program is to identify key assets for renewal before failure occurs and mitigate unplanned reactive work, ensuring customer service standards are maintained. By planning and identifying key sewer mains for renewal, CHW can group and deliver the renewals more efficiently based on criticality and scale. Major program benefits include: • Reduced rate of asset failure, and associated high reactive costs • Improved asset performance for customers (spills, blockages and surcharging) • Reduced operational expenditure via improved planned preventative maintenance • Reduced sewer system infiltration during rainfall events.		
Cost Estimate	$8.48m	Construction Period	Ongoing – each year
Contingency	Not Applicable – Program of Works	Risk rating: Low	Spend Profile ($m)
Status	Long-term asset management plans and renewal forecasts complete Annual works programs developed and contract arrangements for design and construction being re-tendered for delivery during the PR18 period. Tenders are being evaluated in October 2017.	Key risks: Key risks (current): • No high risks • Integration of new works with the existing facility • Ground conditions • Early stage of design and cost estimate development based on supplier quotes.	

CCTV footage of sewer main in poor structural condition

PROGRAM 3

Automated Digital Metering Program

Issue / Need

As part of bringing digitalisation and all its benefits to CHW and our customers an Automated Digital Metering Program is planned. This extensive program will offer:

- Access to real time water usage data as expressed during Let's Talk Water community consultation campaign.
- Ability to identify customer water leaks in real time
- Transformation to a 'digital utility'
- More frequent billing
- Significant OH&S improvements with less exposure to manual meter reading practices

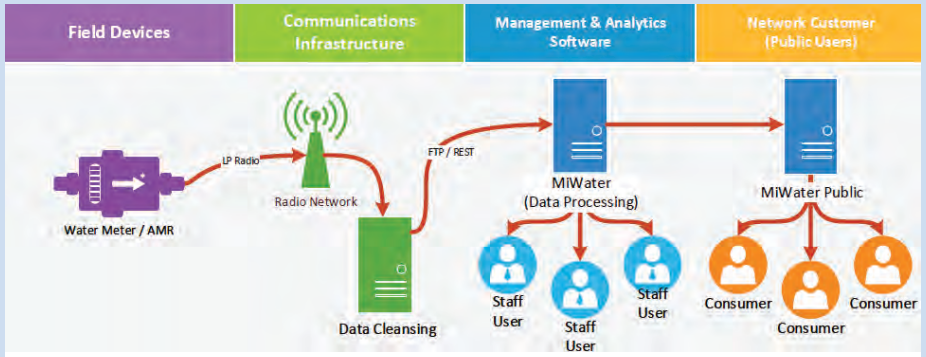
This program generates synergies between customer drivers and business drivers with clear benefits in the short, medium and long-term. A successful proof of concept has been completed covering 600 customers across three separate areas in Ballarat.

Scope

The program represents a phased conversion from manual meters to a digitally automated meter fleet over the 5-year period.

Key elements include:

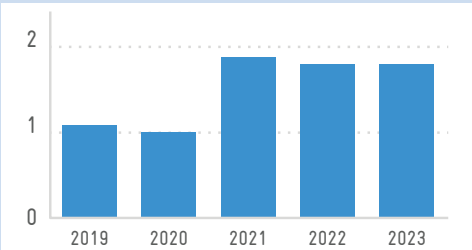
- Approaching the market on a 'technology agnostic' basis
- Data logging and transmitting devices attached to existing meters or installation of fully integrated digital meters
- Transmission of the cleansed meter reading data to a data management system or systems
- Provision and integration of periodic meter readings for analytics and customer billing



Digital metering – schematic proof of concept

A detailed business case has been developed which shows the implementation of automated digital meter reading is NPV positive. OpEx costs savings in excess of $0.5m p.a. are achieved upon implementation as existing high cost manual processes are automated.

PROGRAM 3

Automated Digital Metering Program			
Benefits	• Early identification of customer leaks • Early identification of unexpected high use (watering left on too long, water theft, etc.) • Satisfying customer need for online access to hourly water use data to better understand and manage their usage and bills • More frequent billing – smooth payments, better alignment with income timing which will help reduce hardship risk • Improved accuracy of meter reading and billing (including reliably on-time) • Elimination of meter reader (stranger) entering customers' properties • Elimination of estimated billing • Reduced customer complaints/enquiries through self-service access to water use information • Rapid provision of Special Reads • Provision of data to better handle Landlord and Tenant situations and create accountability for tenants, even if they are not paying the bill • Ability to engage Customers, especially peak demand users, to change their behaviour and reduce the cost of service • Reduced OH&S incidents including WorkCover, sick leave, rehabilitation and light duties costs associated with work injuries and work contributing to aggravation of 'existing conditions' • Significant OpEx savings in excess of $0.5m p.a. upon implementation.		
Cost Estimate	$7.65m (5m incremental to existing metering program)	Construction Period	2018/19 – 2022/23
Contingency	11.6%	Risk rating: Medium	Spend Profile ($m)
Status	• Stakeholder engagement complete • Digital metering trial successfully implemented Engagement with suppliers and broader industry Program design and implementation has been developed to support the business case, market interest and roll out.	Key risks: • New technology and supplier market • Large scale rollout of new program of works • Contracting arrangements • Stakeholder engagement.	

CHW customer Carmel, happy with successful digital metering trial

PROGRAM 4

Emission Reduction Program

Issue / Need

CHW has developed an emissions reduction program which directly supports the achievement of CHW's minimum 20% emissions reduction target by 2025, and will support the government's 2050 target of zero net emissions.

Approximately 85-95% of CHW's emissions currently stem from the consumption of grid electricity. On this basis, CHW's emission reduction pledge includes a primary focus on increasing the proportion of renewable energy in order to reduce emissions.

CHW has identified and assessed a range of initiatives to meet both the pledge commitments and deliver cost effective renewable energy projects as part of a broader environmental sustainability commitment. The selected projects in the emissions reduction program will achieve a net positive NPV.

BSWWTP solar proposed location

Scope

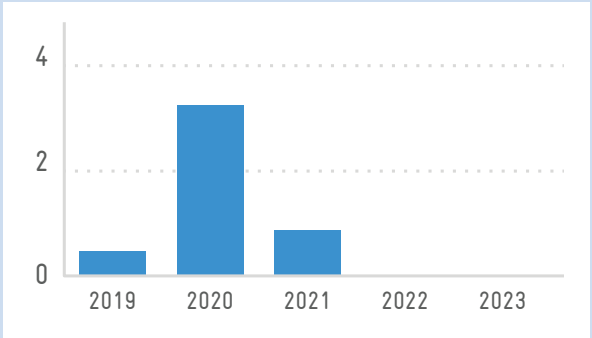
The program is based on independent expert analysis and involves the creation of 3 solar facilities (behind the meter) at CHWs existing treatment facilities which are high energy use sites. This provides the best return on investment and meets government emission requirements.

These sites include the Ballarat South Wastewater Treatment Plant , the Ballarat North Waste Water Treatment Plant and the White Swan Water Treatment Plant.

These solar facilities will be 550kW at two sites and 1000kW at the BSWWTP and achieve NPV positive results at each site. These facilities can be staged and increased in scale in the future.

CHW is developing an innovative procurement approach to deliver maximum value and benefits from this investment.

PROGRAM 4

Emission Reduction Program			
Benefits	The Emissions Reduction Pledge Renewable Energy Program is the key towards achieving the 20% emissions reduction which is directly aligned with delivering customer expectations, which includes no additional costs for services. Large scale behind the meter renewable energy projects have been identified to meet our emissions requirements with a positive NPV. Such projects have been prioritised in order to maximise return on investment and deliver on customer expectations of avoiding additional cost. Significant OpEx savings of $0.7m p.a. upon implementation.		
Cost Estimate	$4.69m	Construction Period	2019/20 – 2020/21
Contingency	6%	Risk rating: Low	Spend Profile ($m)
Status	Options assessment and outline design complete. Geotechnical, survey, preliminary cultural heritage and environmental assessments are complete. Further design investigations are progressing in 2017/18 to inform the delivery approach and project outcomes.	Key risks: Stakeholder engagement Site constraints for construction Cultural Heritage & environmental issues	

Solar facility at the CHW office

PROGRAM 5

Fleet, Plant and Equipment Renewal Program

Issue / Need

CHW has a registered vehicle fleet that needs to be replaced in accordance with the Fleet Policy.

The objective of the policy is to ensure the use of CHW's vehicle fleet supports the delivery of business requirements that meets our customers' needs by providing an efficient and effective service that offers value for money and operates in a safe manner at all times.

CHW has optimised its fleet size and efficiency of spend over recent years through implementing the following initiatives:

- Introduction of an innovative online car pool booking system
- Revised fleet policy resulting in changes to private use terms and extended vehicle turnover rates
- Revised its strategic fleet purchasing procurement method through SmartFleet, delivering significant savings through online tendering and standardisation of fleet model selection

The fleet size has reduced by in excess of 30% as a result.

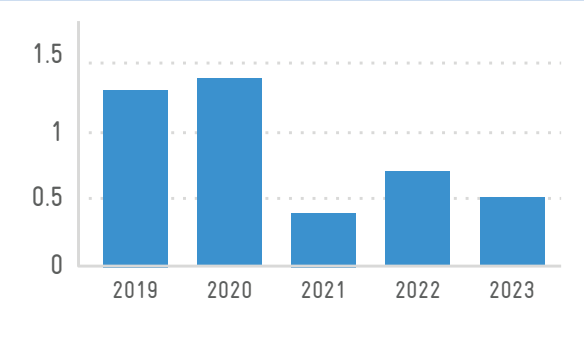
The use of technology including in vehicle GPS tracking will deliver improved safety and further efficiency through reducing unsafe driving practices and identifying the closest maintenance vehicles to works in real time.

CHW plant and vehicle

Scope

In accordance with the revised policy settings and fit for purpose needs CHW will spend $4.3m on its fleet plant and equipment renewal program throughout the next pricing period. Along with renewal of vehicles, plant and equipment, existing plant will be modified to enable CHW to meet safety requirements and prolong asset life.

PROGRAM 5

Fleet, Plant and Equipment Renewal Program			
Benefits	This program delivers significant efficiency benefits: • Revised Fleet framework delivering savings through reduced number of vehicles, and an extended period of time for vehicle changeover needs • Focus on higher efficiency vehicles and plant which are fit for purpose • Intelligent procurement delivering significant cost savings • Use of technology to ensure safe and efficient driving habits • Reduced emissions to assist emission reduction needs		 CHW plant and vehicle
Cost Estimate	$4.3m	Construction Period	2018/19 – 2022/23
Contingency	0%	Risk rating: Low	Spend Profile ($m)
Status	Revised fleet policy adopted and delivering efficiency. Online tendering arrangements in place with SmartFleet.	Key risks: No key risks	

PROGRAM 6

Ballarat Integrated Water Management Program

Issue / Need

The Ballarat City Integrated Water Management (IWM) Plan 2017 identified a range of targeted short term options to support the overall objectives of the plan and vision developed in conjunction with the community and other key stakeholders. The Ballarat City IWM Plan has been developed in partnership between Central Highlands Water, City of Ballarat and Corangamite Catchment Management Authority. The plan is aligned with and supports the key themes in the state water policy document Water for Victoria (2016).

Central Highlands Water and the City of Ballarat have identified five key projects to be delivered over the next five years that will support alternative fit for purpose supplies including recycled water, stormwater and/or groundwater to industrial/commercial customers, lakes and wetlands, public recreational open space, key sporting precincts and provides several options to support connections to school sporting ovals.

CHW proposes to deliver 2 projects as part of the commitment to the Ballarat IWM Plan. These include supplying alternative water to the Ballarat West Employment Zone (BWEZ) third pipeline system and the upgrade of the Class A treatment facility at the Ballarat North WWTP, along with pumping and pipelines to convey flows into the existing network.

Lake Wendouree, Ballarat to which CHW supply alternative water

Scope

The BWEZ alternative water project will use the existing Ballarat West Groundwater Treatment Facility and bores to provide fit for purpose blend of potable and groundwater to BWEZ customers, along with potential to connect major industry customers McCain's and Mars. The project entails 1.5 kilometre, 300 millimetre diameter pipeline from the treatment facility through to the BWEZ third pipeline network along with minor modifications to the treatment facility.

The second project involves an upgrade to the Class A facilities at the BNWWTP. This will augment the process from 3 megalitres per day up to 5 megalitres per day and improve the pumping transfer facilities. A 1.6 kilometre, 200 millimetre pipeline from the BNWWTP through to an under-utilised City of Ballarat pumping station will allow additional flows to be utilised for community benefits.

PROGRAM 6

Ballarat Integrated Water Management Program			
Benefits	These projects will deliver significant community benefits supporting a more liveable and resilient city. This program is aligned with the actions of Water for Victoria (Government Water Policy) in greening parks, gardens, sporting fields and other recreational assets and making better use of alternative water. The projects have strong community support and are recommended within the Ballarat City Integrated Water Management Plan. These projects provide strong alignment and implementation support for the community developed vision *(Ballarat and Region's Water Future, 2014)* for "A greener, more liveable and prosperous water future".		
Cost Estimate	$3.72m	Construction Period	2019/20 – 2022/23
Contingency	13.3%	Risk rating: Medium	Spend Profile ($m)
Status	Ballarat Integrated Water Management Plan complete and targeted/short term project initiatives across the City of Ballarat, Corangamite CMA and Central Highlands Water Concept design and estimates prepared for all projects programmed for PR18 delivery period Preliminary geotech has been completed	Key risks: Mediums risks are identified relating to working in significant roads and technical complexity regarding Class A treatment plant upgrades	

Lake Wendouree, Ballarat to which CHW supply alternative water