

**sunwater**



# Irrigation Price Path

1 July 2025 to 30 June 2029

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**Lower Fitzroy Water Supply Scheme**

19 April 2023

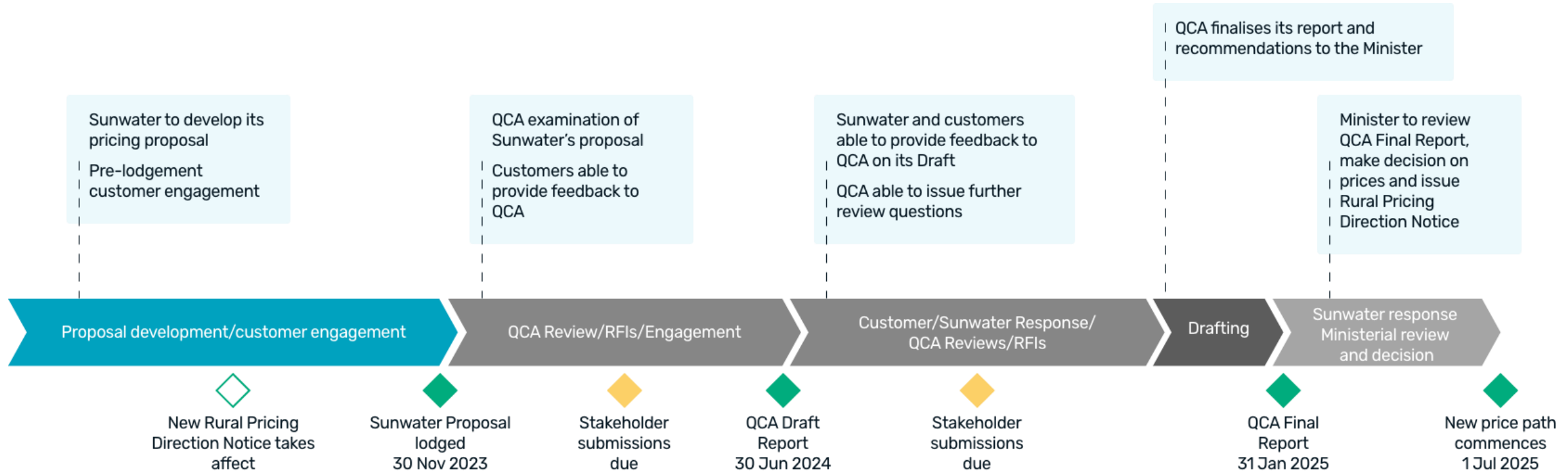
# Agenda

## Agenda items

Welcome Acknowledgement of Country	Keelie O'Sullivan/Bailey McBeth Cooper	10 mins
Overview of the price path process	Keelie O'Sullivan	10 mins
What to expect from Sunwater	Keelie O'Sullivan	10 mins
Scheme level overview: current prices	Matt Pearce	30 mins
Questions	All	30 mins

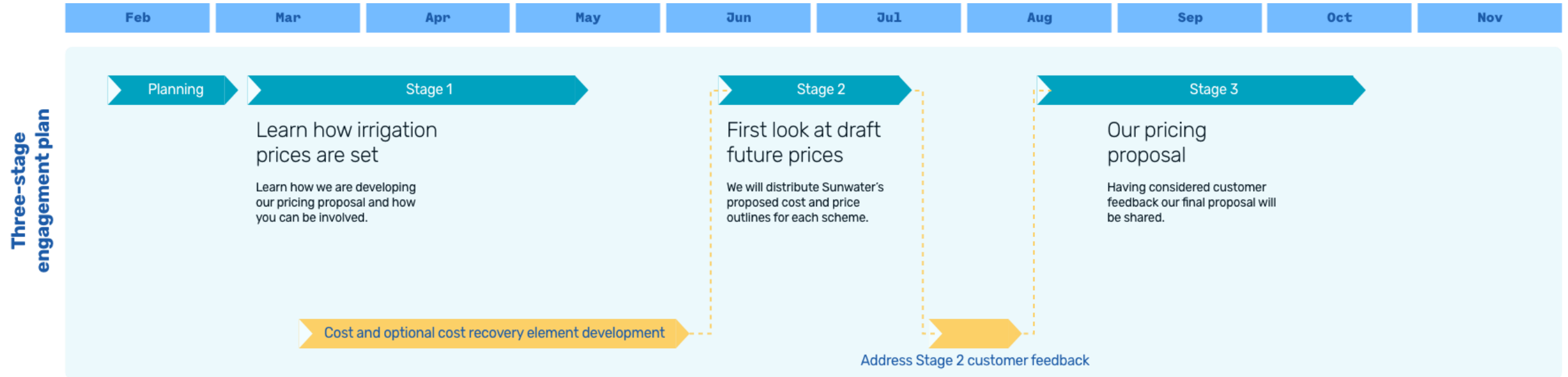
# Overview of the price path process

# Overview of the price path process



# What to expect from Sunwater

# What to expect from Sunwater



# Scheme Level Overview



# Overview of the price setting process

## Step 1

### Allocate revenue by charge type (Variable or fixed)

Includes operating expenditure, annuity contribution and revenue offset revenue building blocks.

#### Fixed (Part A/C)

- ✓ **All schemes**
- ✓ 80 percent of operations and maintenance direct costs
- ✓ all other costs (including electricity) *Large electricity using schemes*
- ✓ Varies according to scheme

#### Variable (Part B / D)

- ✓ **All schemes**
- ✓ 20 percent of operations and maintenance direct costs *Large electricity using schemes*
- ✓ Varies according to scheme

## Step 2

### Allocate fixed revenue to priority group allocation buckets

Allocation factors are relatively static, only changing when scheme operating parameters change, such as when entitlements are converted from one priority to another.

#### Fixed (Part A/C)

- ✓ **Bucket 1**  
*Allocation by entitlement percentage*
- ✓ 50 percent of operations (direct and indirect) and revenue offsets
- ✓ **Bucket 2**  
*Allocation by headworks utilization factor*
- ✓ All other categories

## Step 3

### Allocate fixed revenue to priority group

Apply the fixed revenue allocators to set the revenue requirement by Part A / Part C priority. For distribution schemes, revenue associated with customer loss entitlements are added here.

#### Fixed (Part A/C)

- ✓ **Bucket 1**  
*Allocation by entitlement percentage*
- ✓ Costs x percentage = priority group revenue
- ✓ **Bucket 2**  
*Allocation by headworks utilization factor*
- ✓ Costs x percentage = priority group revenue

## Step 4

### Calculate cost reflective prices

Cost reflective prices are set first using a assigned revenue and volumes to produce \$/ML prices.

**Part A/C High Priority (\$/ML)**  
= High priority costs (\$) / gross entitlements (ML WAE)

**Part A/C Medium Priority (\$/ML)**  
= Medium priority costs (\$) / gross entitlements (ML WAE)

**Part B / D (\$/ML)**  
= Variable costs (\$) / [Entitlements (net of losses) ML WAE x usage % (ML / ML WAE)]

## Step 5

### Calculating recommended prices

Cost reflective prices are then smoothed across the four-year price path period to set target prices. Recommended prices are set with reference to current prices, target prices and the price path principles.

# Lower Fitzroy Water Supply Scheme

## Scheme Overview

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28,621 ML in entitlements, with an average annual usage of 19,008 ML



7 irrigation customers

## Major assets

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Eden Bann Weir

## Key operations and maintenance activities

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Comprehensive weir inspections



Weir refurbishments



Outlet works

## Pricing tariffs

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Single tariff group, with fixed (Part A) charges for high and medium priority entitlements and a common variable (Part B) charge



No risk or other forms of entitlements or usage (e.g. water harvesting)

# Lower Fitzroy Water Supply Scheme

## Entitlements overview

Entitlements		Customer losses	Irrigation
High	25,520 ML	1,275 ML	0 ML
Medium	3,101 ML	0 ML	3,101 ML
<b>Total</b>	<b>28,621 ML</b>	<b>1,275 ML</b>	<b>3,101 ML</b>

## Pricing breakdown Medium priority (MP)

### Part A



### Part B



#### Legend



\*This is a breakdown of your current prices.

\*A negative (or below the line) segment reflects the amount paid by customers that was above the lower bound cost reflective price.

# Price setting process (2023-24 price example)

## Step 1

Allocate revenue by charge type

		Variable	Fixed	WAE Priority %	HUF %
Revenue offsets	0.0		100% 0.0	High 89.2%	High 90.0%
Operations - D	75.6	20% 15.12	80% 60.5	50% 30.2	50% 30.25
Operations - I	93.2		100% 93.2	50% 46.6	50% 46.61
Operations - IGEM	0.0				100% 0.00
Maintenance - D	24.8	20% 4.97	80% 19.9		100% 19.87
Maintenance - I	25.3				100% 25.26
Insurance	30.2				100% 30.18
Electricity	1.99	0.00% 0.00			100% 1.99
Annuity	152.2				100% 152.16
	403.26	20.09		76.9	306.31

Key inputs	WAE	WAE%	Usage	HUF
High priority	25,520	89.2%		90.0%
Medium priority	3,101	10.8%		10.0%
Total	28,621		66.4%	
Customer losses	1,275			
Sub-scheme splits	0			

## Step 2

Allocate fixed revenue to priority group allocation buckets

	Fixed	WAE Priority %	HUF %
High priority	89.2%	High 89.2%	High 90.0%
Medium priority	10.8%	50% 30.2	50% 30.25
Variable	4.45%	50% 46.6	50% 46.61
Losses	0.05%		
Customer losses	0.00%		
Sub-scheme splits	0.00%		
Total	76.9		

Distribution losses			
Calculated in bulk scheme and picked up in distribution system			
High priority	x	0.05	= 17.20
Medium priority	x	0.00%	= 0.00
Variable	x	4.45%	= 0.89

## Step 3

Allocate revenue to priority group

	Revenue requirement by priority group	Losses	Revenue requirement after losses conversion	Entitlements	Usage %	
Part A - HP	$89.2\% \times 76.9 + 90.0\% \times 306.31 = 344.2$	- 17.20	= 327.0	$\times 1,000 / 24,245.00$		= \$13.49
Part A - MP	$10.8\% \times 76.9 + 10.0\% \times 306.31 = 38.96$	- 0.00	= 38.96	$\times 1,000 / 3,101.00$		= \$12.56
Part B	20.09	- 0.89	= 19.20	$\times 1,000 / [ 27,346.00 \times 66.4\% ]$		= \$1.06

## Step 4

Calculate cost reflective prices

# Step 5

(worked example)

# Price setting process

Water Supply Scheme (generic) worked example using 2020-21 to 2023-24 QCA recommended costs

## Step 5a

Calculate smoothed target prices

Cost reflective prices are then smoothed across the four-year price path period to set target prices

Add QCA Fee			Target prices Unsmoothed				Target prices Smoothed			
			2020/21	2021/22	2022/23	2023/24	2020/21	2021/22	2022/23	2023/24
<b>Part A</b> HP	\$50.71/ML + \$0.47/ML = \$51.19/ML		\$45.93	\$48.18	\$50.07	<b>\$51.19</b>	\$47.19	\$48.25	\$49.33	<b>\$50.44</b>
<b>Part A</b> MP	\$21.73/ML + \$0.47/ML = \$22.21/ML		\$19.99	\$20.92	\$21.72	<b>\$22.21</b>	\$20.50	\$20.96	\$21.42	<b>\$21.90</b>
<b>Part B</b>	\$4.02/ML + \$0.00/ML = \$4.02/ML		\$3.75	\$3.83	\$3.92	<b>\$4.02</b>	\$3.75	\$3.84	\$3.92	<b>\$4.01</b>

Steps 1 through 4 apply to each year of the forecast pricing period

Smoothed revenues (or prices) are set with a defined rate of escalation (e.g. the expected inflation rate) from Year 1 to Year 4. They are calculated on the basis that the present value (PV) of smoothed revenues (or revenues arising from smoothed prices) is equivalent to the PV of the building blocks revenues.

### Step 1

Convert four years of revenue requirement (inclusive of QCA fees) into \$2019-20  
 = NPV(4.37%, (946.8; 990.9; 1,028.5; 1,051.6)) = 3,529.7 (\$ thousands) [nominal WACC]

### Step 2

Convert the denominator (WAE ML) into present value terms  
 = NPV(2.09%, (47,357; 47,357; 47,357; 47,357)) = 179,948.98 (ML WAE) [real WACC]

### Step 3

Divide step 1 result by step 2 result and multiply by 1,000  
 = 20.047 (\$/ML WAE) – the Year 0 price (in 2019-20 dollars)

### Step 4

Compound Year 0 price by forecast inflation (2.24%) for each year of the price path

Year 0	Year 1	Year 2	Year 3	Year 4
2019/20	2020/21	2021/22	2022/23	2023/24
\$20.47	$\times (1+2.24\%)^1$	$\times (1+2.24\%)^2$	$\times (1+2.24\%)^3$	$\times (1+2.24\%)^4$
	= \$20.50	= \$20.96	= \$21.42	= \$21.90

# Price setting process

Water Supply Scheme (generic) worked example using 2020-21 to 2023-24 QCA recommended costs

## Step 5b

Calculate recommended prices

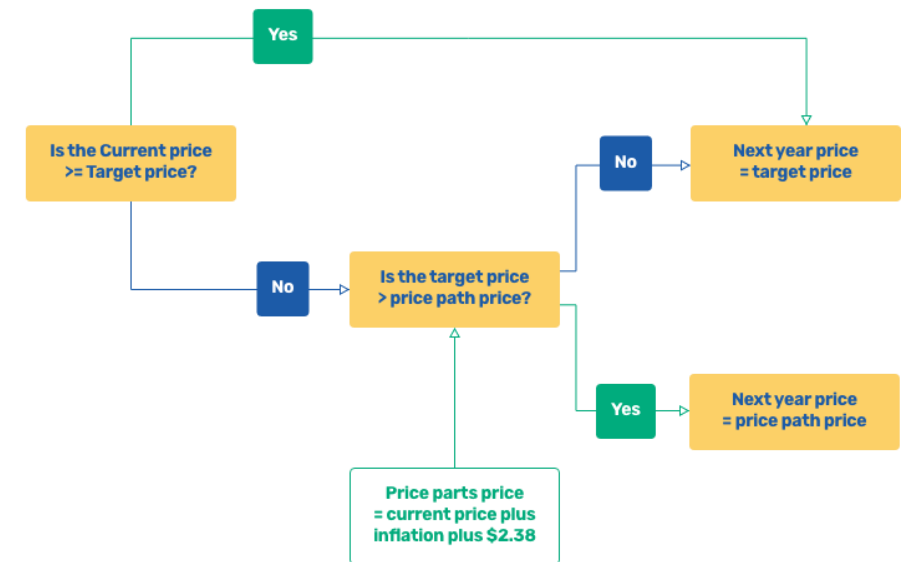
Customer prices are then set with reference to current prices, target prices and the pricing principles

	Target prices Smoothed				Transition path prices				
		2.24%	2.24%	2.24%	Actual	Price path			
	2020/21	2021/22	2022/23	2023/24	2020/21	2020/21	2021/22	2022/23	2023/24
<b>Part A</b> HP	\$47.19	\$48.25	\$49.33	<b>\$50.44</b>	Not set	Not set	Not set	Not set	Not set
<b>Part A</b> MP	\$20.50	\$20.96	\$21.42	<b>\$21.90</b>	\$14.89	\$20.50	\$20.96	\$21.42	\$21.90
<b>Part B</b>	\$3.75	\$3.84	\$3.92	<b>\$4.01</b>	\$3.13	\$3.75	\$3.84	\$3.92	\$4.01

Smoothed revenues (or prices) are set with a defined rate of escalation (e.g. the expected inflation rate) from Year 1 to Year 4. They are calculated on the basis that the present value (PV) of smoothed revenues (or revenues arising from smoothed prices) is equivalent to the PV of the building blocks revenues.

Recommended prices are set using target (smoothed) prices and applying the price path principles outlined in the referral notice.

Note the flowchart shown reflects the current (as at 21 March 2023) rural pricing direction notice where prices above lower bound immediately transition to lower bound.







**Thank you.**

**sunwater**