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Irrigation Price Path

1 July 2025 to 30 June 2029

Callide Valley Water Supply Scheme

18 April 2023

Agenda

Agenda items		
Welcome Acknowledgement of Country	Daryl Conway	10 mins
Overview of the price path process	Matt Pearce	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

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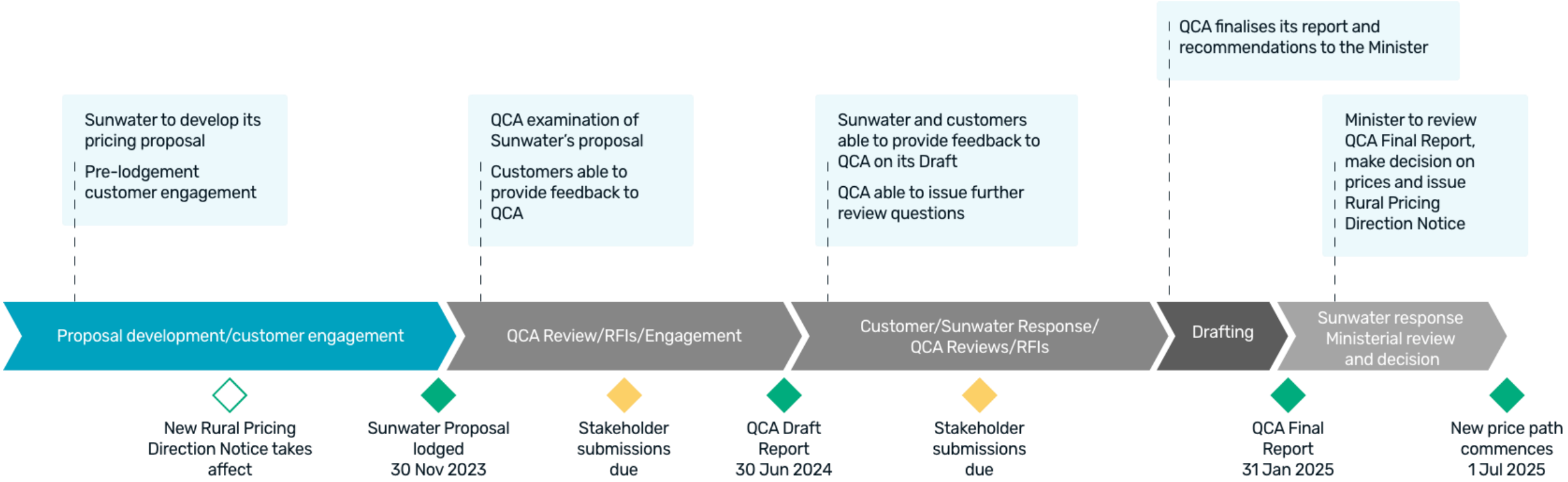
Overview of the price path process

Overview of the price path process



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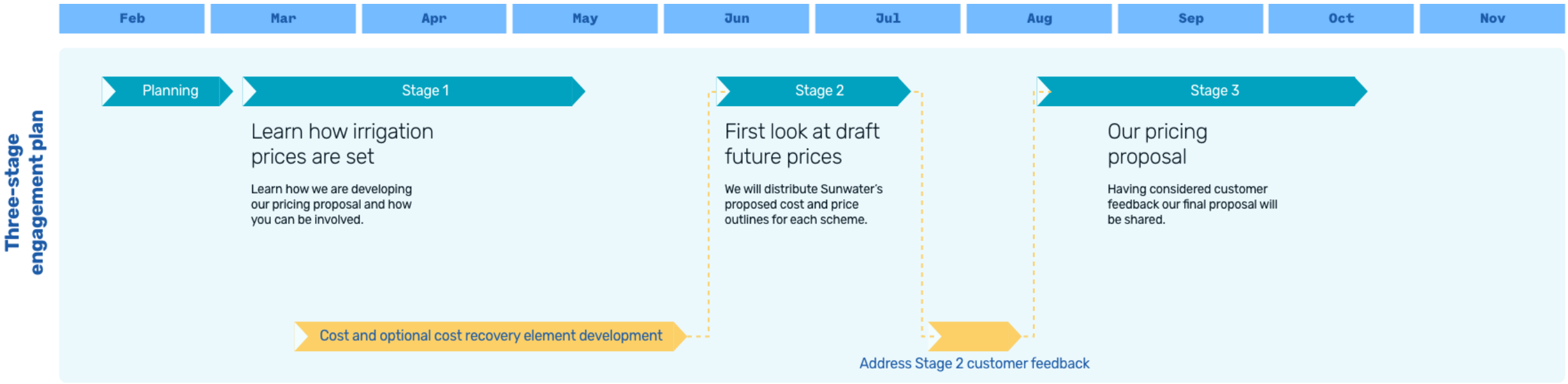
What to expect from Sunwater

What to expect from Sunwater



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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 ssigned 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.

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Callide Valley Water Supply Scheme

Scheme Overview

19,449 ML in entitlements, with an average annual usage of 12,133 ML

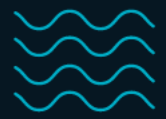
127 irrigation customers

Major assets

Callide Dam

Kroombit Dam

Callide Creek Weir



Called Diversion Channel

Key operations and maintenance activities

- Comprehensive dam inspections
- Infrastructure security
- Infrastructure refurbishments e.g. weir structure and guard valves

Pricing tariffs

- Historically two tariff groups – Surface Water Callide & Kroombit Creek & Callide Benefited Groundwater Area – which are now the same price with fixed (Part A) charges and variable (Part B) charges.
- No risk or other forms of entitlement

Callide Valley
Water Supply Scheme

Entitlements overview

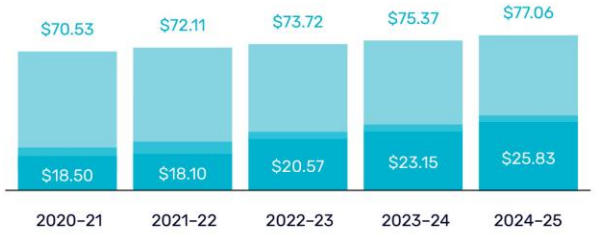
Entitlements		Customer losses	Irrigation
High	5,377 ML	0 ML	79 ML
Medium	14,072 ML	0 ML	13,384 ML
Total	19,449 ML	0 ML	13,463 ML

Pricing breakdown
Medium priority (MP)

Part A

Callide and Kroombit Creek

Callide - Benefited Groundwater Area



Part B

Legend

Price charged | Price discount | Transition discount | $XX.XX Cost reflective price

*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.

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Price setting process (2023-24 price example)

Step 1

Allocate revenue by charge type

		Variable	
Revenue offsets	-1.1		
Operations - D	374.1	20%	74.83
Operations - I	360.0		
Operations - IGEM	298.1		
Maintenance - D	203.2	20%	40.63
Maintenance - I	239.5		
Insurance	434.1		
Electricity	4.97	0.00%	0.00
Annuity	1,982.8		
	3,895.54		115.46

Key inputs	WAE	WAE%	Usage	HUF
High priority	5,377	27.6%		73.0%
Medium priority	14,072	72.4%		27.0%
Total	19,449		62.4%	
Customer losses	0			
Sub-scheme splits	0			

Step 2

Allocate fixed revenue to priority group allocation buckets

	Fixed		WAE Priority %		HUF %	
			High	27.6%	High	73.0%
Revenue offsets	100%	-1.1	50%	-0.6	50%	-0.56
Operations - D	80%	299.3	50%	149.7	50%	149.65
Operations - I	100%	360.0	50%	180.0	50%	179.98
Operations - IGEM					100%	298.06
Maintenance - D	80%	162.5			100%	162.53
Maintenance - I					100%	239.48
Insurance					100%	434.12
Electricity					100%	4.97
Annuity					100%	1,982.76
				329.1		3451.01

Distribution losses

Calculated in bulk scheme and picked up in distribution system

High priority	x	0.00	=	0.00
Medium priority	x	0.00%	=	0.00
Variable	x	0.00%	=	0.00

Step 3

Allocate revenue to priority group

		Revenue requirement by priority group	*Losses*	*Revenue requirement after losses conversion*	*Entitlements*	*Usage %*	
Part A - HP	27.6% x 329.1 + 73.0% x 3,451.01 =	2,610.2 -	0.00 =	2,610.2 x 1,000 /	5,377.00	=	$485.44
Part A - MP	72.4% x 329.1 + 27.0% x 3,451.01 =	1,169.87 -	0.00 =	1,169.87 x 1,000 /	14,072.00	=	$83.13
Part B		115.46 -	0.00 =	115.46 x 1,000 / [	19,449.00 x 62.4%]	=	$9.52

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

Part A HP	$50.71/ML	+	$0.47/ML	=	$51.19/ML
Part A MP	$21.73/ML	+	$0.47/ML	=	$22.21/ML
Part B	$4.02/ML	+	$0.00/ML	=	$4.02/ML

Target prices Unsmoothed

	2020/21	2021/22	2022/23	2023/24
Part A HP	$45.93	$48.18	$50.07	**$51.19**
Part A MP	$19.99	$20.92	$21.72	**$22.21**
Part B	$3.75	$3.83	$3.92	**$4.02**

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

Target prices Smoothed

	2020/21	2021/22	2022/23	2023/24
Part A HP	$47.19	$48.25	$49.33	**$50.44**
Part A MP	$20.50	$20.96	$21.42	**$21.90**
Part B	$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.

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	x $(1+2.24\%)^1$	x $(1+2.24\%)^2$	x $(1+2.24\%)^3$	x $(1+2.24\%)^4$
	=$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

		2.24%	2.24%	2.24%
	2020/21	2021/22	2022/23	2023/24
Part A HP	$47.19	$48.25	$49.33	**$50.44**
Part A MP	$20.50	$20.96	$21.42	**$21.90**
Part B	$3.75	$3.84	$3.92	**$4.01**

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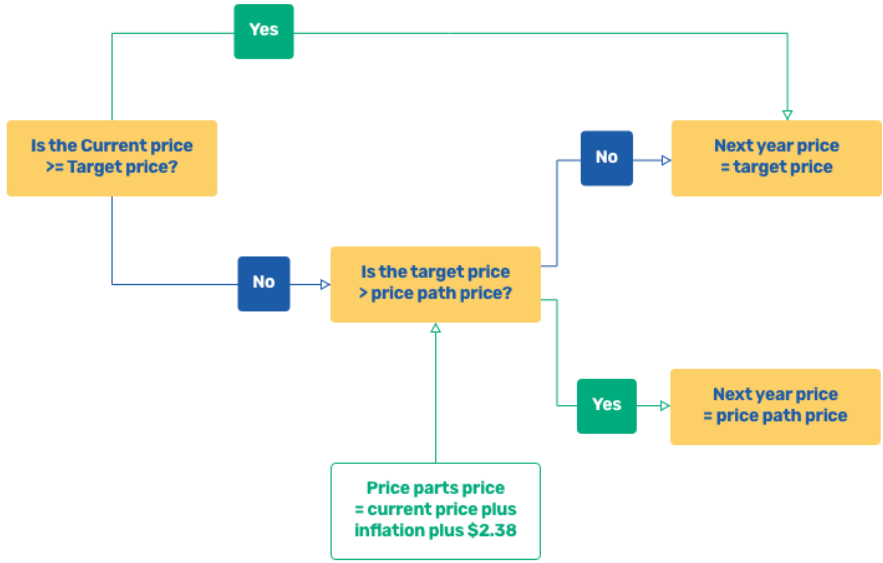
Transition path prices

	Actual	Price path			
	2020/21	2020/21	2021/22	2022/23	2023/24
Part A HP	Not set	Not set	Not set	Not set	Not set
Part A MP	$14.89	$20.50	$20.96	$21.42	$21.90
Part B	$3.13	$3.75	$3.84	$3.92	$4.01

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.



Note 1 QCA (2014) *Financial Capital Maintenance and Price Smoothing – Information Paper*


Thank you.
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