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Irrigation Price Path

1 July 2025 to 30 June 2029

Proserpine River Water Supply Scheme

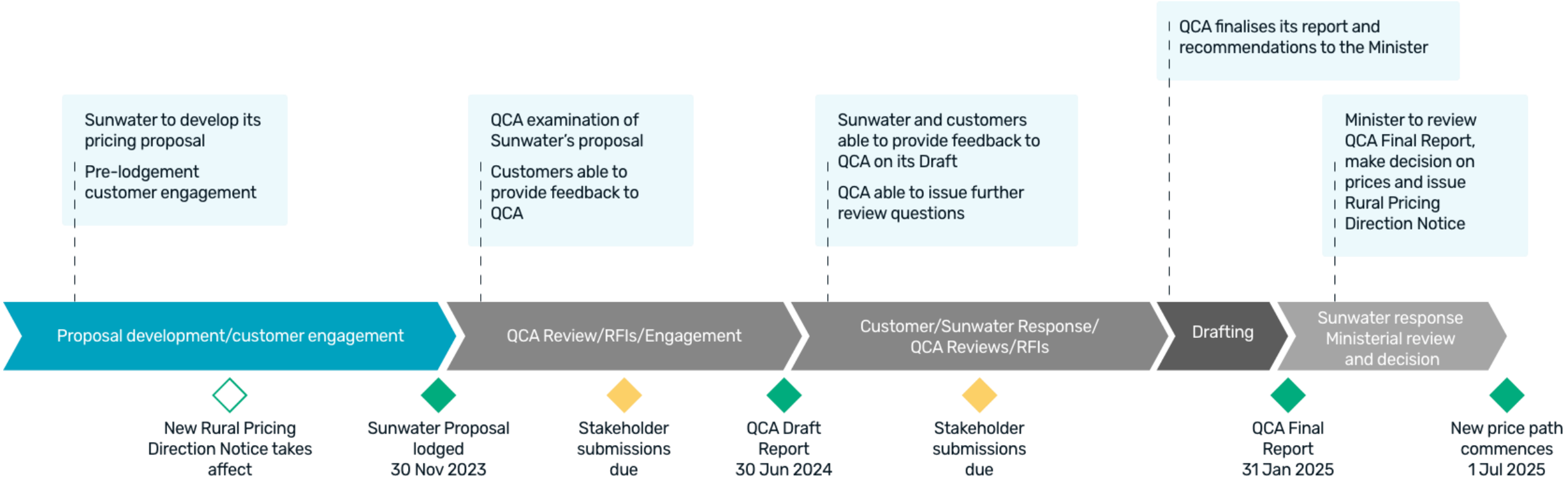
26 April 2023

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

Overview of the price path process

Overview of the price path process



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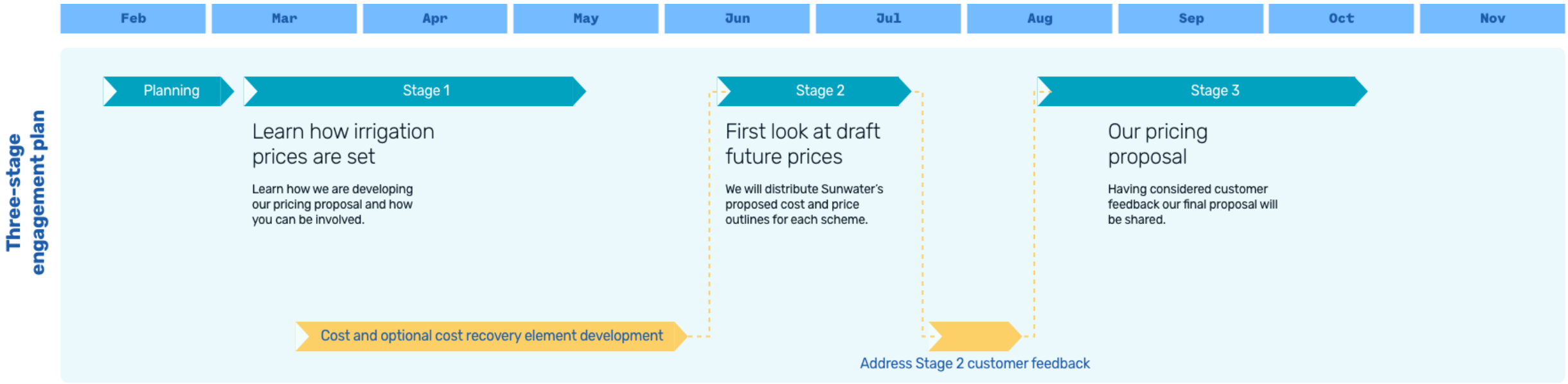
What to expect from Sunwater

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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Proserpine River Water Supply Scheme

Scheme Overview

62,876 ML in entitlements, with an average annual usage of 26,440 ML

83 irrigation customers

Major assets

Peter Faust Dam

Key operations and maintenance activities

- Dam and weir inspections
- Corrective maintenance due to ageing assets

Pricing tariffs

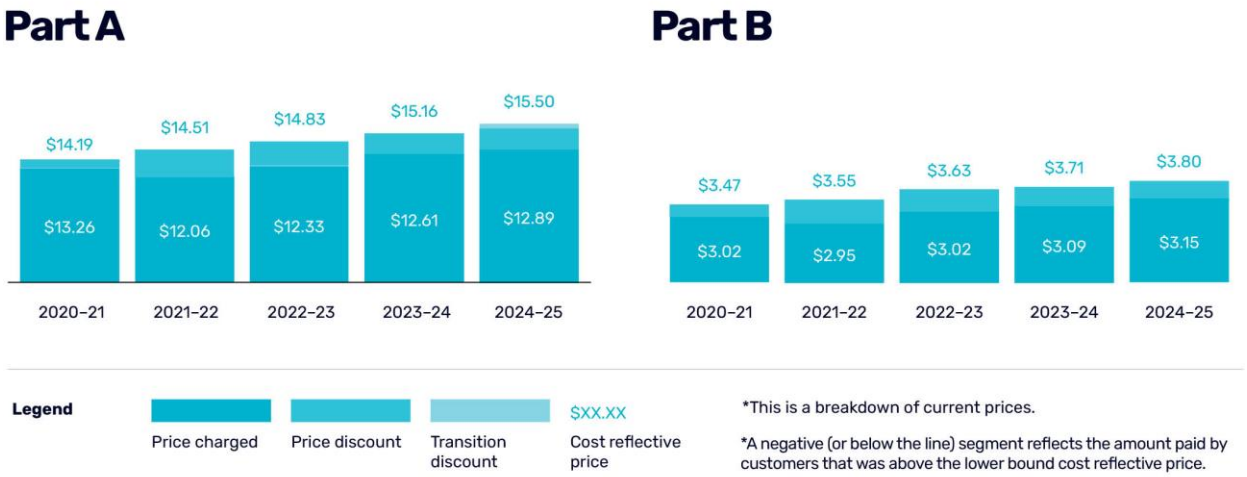
Two tariff groups - Proserpine River and Kelsey Creek Water Board - each with fixed (Part A) and variable (Part B) charges.

Proserpine River
Water Supply Scheme

Entitlements overview

Entitlements		Customer losses	Irrigation
High	22,000 ML	0 ML	0 ML
Medium	40,876 ML	0 ML	40,817 ML
Total	62,876 ML	0 ML	40,817 ML

Pricing breakdown
Medium priority (MP)



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Price setting process (2023-24 price example)

Step 1
Allocate revenue by charge type

Step 2
Allocate fixed revenue to priority group allocation buckets

Step 3
Allocate revenue to priority group

Step 4
Calculate cost reflective prices

Charge type	Total	Variable %	Variable	Fixed %	Fixed	WAE Priority % (High 35.0%)	WAE	HUF % (High 71.0%)	HUF
Revenue offsets	-2.9			100%	-2.9	50%	-1.4	50%	-1.45
Operations - D	341.9	20%	68.38	80%	273.5	50%	136.8	50%	136.76
Operations - I	322.8			100%	322.8	50%	161.4	50%	161.42
Operations - IGEM	104.0							100%	103.98
Maintenance - D	150.0	20%	29.99	80%	120.0			100%	119.97
Maintenance - I	138.8							100%	138.83
Insurance	239.9							100%	239.92
Electricity	8.42	0.00%	0.00					100%	8.42
Annuity	505.3							100%	505.31
	1,808.27		98.37				296.7		1413.16

									Revenue requirement by priority group		Losses		Revenue requirement after losses conversion				Entitlements		Usage %			
Part A - HP	35.0%	x	296.7	+	71.0%	x	1,413.16	=	1,107.2	-	0.00	=	1,107.2	x	1,000	/	22,000.00				=	$50.33
Part A - MP	65.0%	x	296.7	+	29.0%	x	1,413.16	=	602.73	-	0.00	=	602.73	x	1,000	/	40,876.00				=	$14.75
Part B									98.37	-	0.00	=	98.37	x	1,000	/ [	62,876.00	x	42.1%	]	=	$3.72

Key inputs	WAE	WAE%	Usage	HUF
High priority	22,000	35.0%		71.0%
Medium priority	40,876	65.0%		29.0%
Total	62,876		42.1%	
Customer losses	0			
Sub-scheme splits	0			

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 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**
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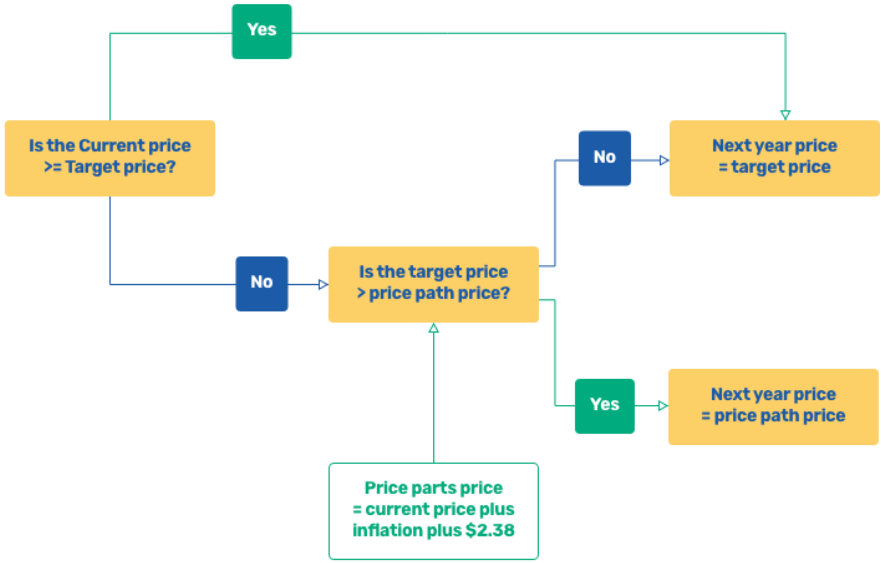
Transition path prices

	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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