

sunwater



Irrigation Price Path

1 July 2025 to 30 June 2029

Nogoa Mackenzie Water Supply Scheme

20 April 2023

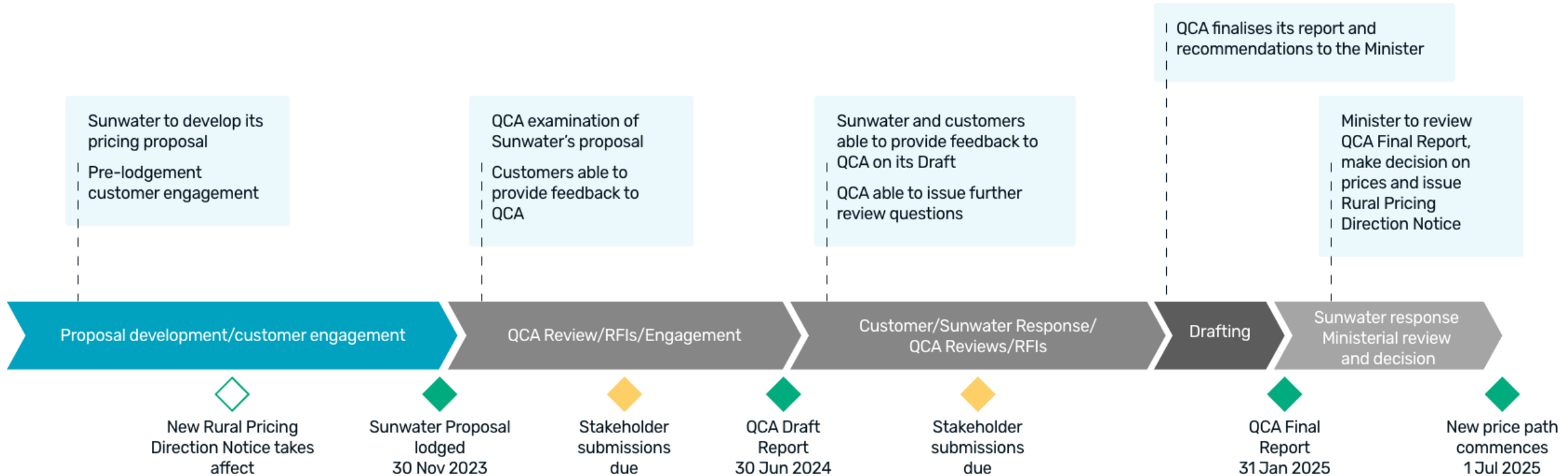
Agenda

Agenda items

Welcome Acknowledgement of Country	Keelie O'Sullivan/Bailey McBeth Cooper	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

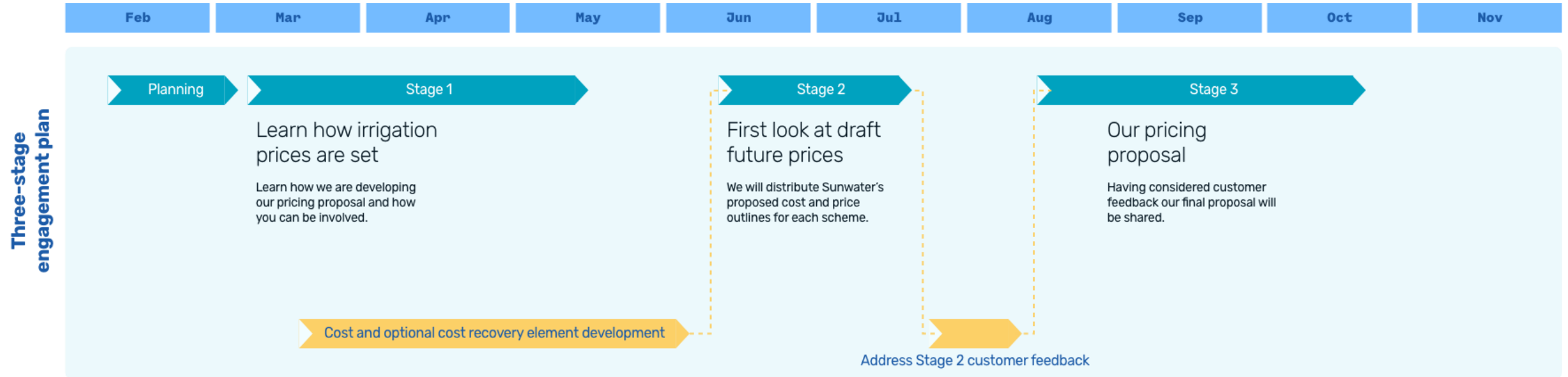
Overview of the price path process

Overview of the price path process



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.

Nogoa Mackenzie Water Supply Scheme

Scheme Overview



231,860 ML in entitlements,
with an average annual usage
of 169,611 ML



Related distribution scheme –
Nogoa Mackenzie (Emerald)



134 irrigation customers

Major assets



Fairbairn Dam / Bedford Weir /
Bingegang Weir /
Selma Weir / Tartrus Weir

Key operations and maintenance activities



Comprehensive dam and
weir inspections



Repairing/replacing river
metering to meet regulatory
compliance



Corrective maintenance due
to ageing assets

Pricing tariffs



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)

Nogoa Mackenzie Water Supply Scheme

Entitlements overview

Entitlements		Customer losses	Irrigation
High	46,127 ML	313 ML	9,349 ML
Medium	185,733 ML	0 ML	182,432 ML
Total	231,860 ML	313 ML	191,781 ML

Pricing breakdown

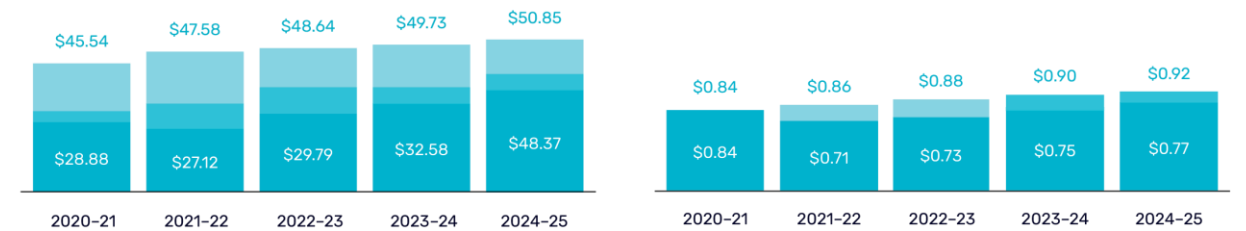
Part A

Part B

Medium priority (MP)



High priority (HP)



Legend



*This is a breakdown of 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 %	
					High	19.9%	High	72.0%
Revenue offsets	-2.2		100%	-2.2	50%	-1.1	50%	-1.11
Operations - D	543.3	20%	80%	434.6	50%	217.3	50%	217.30
Operations - I	525.6		100%	525.6	50%	262.8	50%	262.80
Operations - IGEM	107.6				100%	107.63		
Maintenance - D	215.8	20%	80%	172.7	100%	172.66	100%	172.66
Maintenance - I	206.2				100%	206.21	100%	206.21
Insurance	666.2				100%	666.15	100%	666.15
Electricity	19.77	0.00%			100%	19.77	100%	19.77
Annuity	1,405.1				100%	1,405.12	100%	1,405.12
	3,687.34					479.0		3056.54
		151.82						

Key inputs	WAE	WAE%	Usage	HUF
High priority	46,127	19.9%		72.0%
Medium priority	185,733	80.1%		28.0%
Total	231,860		72.7%	
Customer losses	313			
Sub-scheme splits	0			

Step 2

Allocate fixed revenue to priority group allocation buckets

Distribution losses
Calculated in bulk scheme and picked up in distribution system

High priority	x	0.01	=	15.58
Medium priority	x	0.00%	=	0.00
Variable	x	0.13%	=	0.20

Step 3

Allocate revenue to priority group

	Revenue requirement by priority group	Losses	Revenue requirement after losses conversion	Entitlements	Usage %
Part A - HP	$19.9\% \times 479.0 + 72.0\% \times 3,056.54 = 2,296.0$	15.58	$= 2,280.4 \times 1,000 / 45,814.00$		\$49.78
Part A - MP	$80.1\% \times 479.0 + 28.0\% \times 3,056.54 = 1,239.53$	0.00	$= 1,239.53 \times 1,000 / 185,733.00$		\$6.67
Part B	151.82	0.20	$= 151.61 \times 1,000 / [231,547.00 \times 72.7\%]$		\$0.90

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
Part A HP	\$50.71/ML + \$0.47/ML = \$51.19/ML		\$45.93	\$48.18	\$50.07	\$51.19	\$47.19	\$48.25	\$49.33	\$50.44
Part A MP	\$21.73/ML + \$0.47/ML = \$22.21/ML		\$19.99	\$20.92	\$21.72	\$22.21	\$20.50	\$20.96	\$21.42	\$21.90
Part B	\$4.02/ML + \$0.00/ML = \$4.02/ML		\$3.75	\$3.83	\$3.92	\$4.02	\$3.75	\$3.84	\$3.92	\$4.01

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

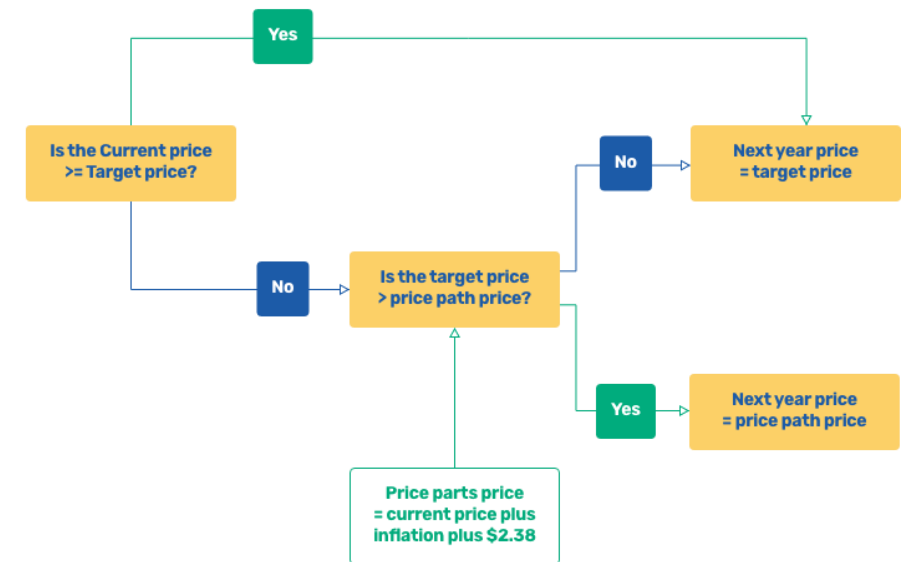
Customer prices are then set with reference to current prices, target prices and the pricing principles

	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
Part A HP	\$47.19	\$48.25	\$49.33	\$50.44	Not set	Not set	Not set	Not set	Not set
Part A MP	\$20.50	\$20.96	\$21.42	\$21.90	\$14.89	\$20.50	\$20.96	\$21.42	\$21.90
Part B	\$3.75	\$3.84	\$3.92	\$4.01	\$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.

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