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Irrigation Price Path

1 July 2025 to 30 June 2029

Upper Condamine Water Supply Scheme

24 May 2023

Agenda

Agenda items		
Welcome Acknowledgement of Country	Craig Cahill	10 mins
Overview of the price path process	Matt Pearce / Bob Telford	10 mins
What to expect from Sunwater	Keelie O'Sullivan	10 mins
Scheme level overview: current prices	Matt Pearce / Bob Telford	30 mins
Questions	All	30 mins

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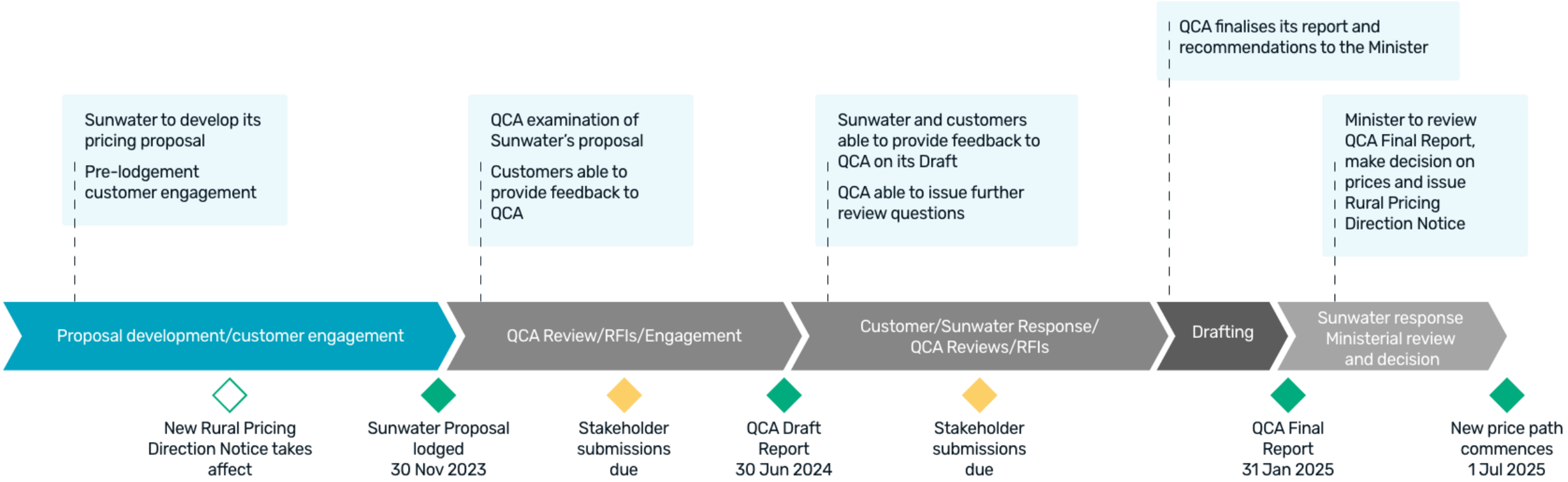
Overview of the price path process

Overview of the price path process



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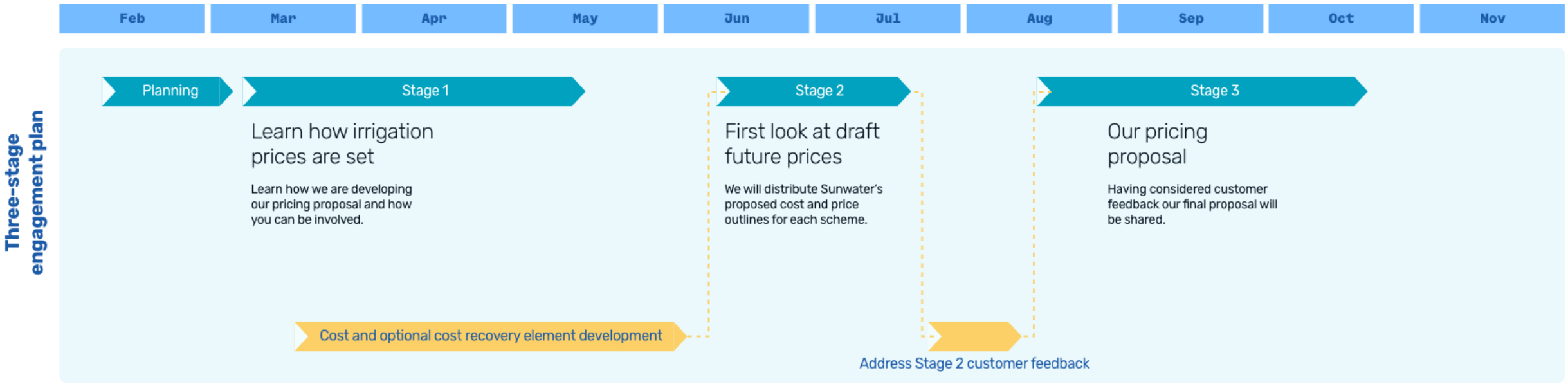
What to expect from Sunwater

What to expect from Sunwater



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Scheme Level Overview

Upper Condamine Water Supply Scheme

Scheme Overview

33,960 ML in entitlements, with average annual usage of 15,270 ML

112 irrigation customers

Major assets

Leslie Dam

Lemon Tree Weir / Talgai Weir / Cecil Plains Weir / Yarramalong Weir / Wando Weir / Melrose Weir / Nangwee Weir

Yarramalong Pump Station

Key operations and maintenance activities

- Planned corrective maintenance
- Comprehensive dam and weir inspections
- Electricity - Participant in electricity cost pass-through trial
- Infrastructure refurbishment e.g. gate valves

Pricing tariffs

- Three tariff groups, each with fixed (Part A) charges for high and medium priority entitlements and a common variable (Part B) charge
- Risk A entitlements do not contribute to renewals expenditure cost recovery

Upper Condamine
Water Supply Scheme

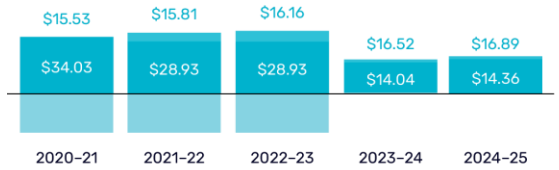
Entitlements overview

Entitlements		Customer losses	Irrigation
High	3,387 ML	25 ML	0 ML
Medium	30,573 ML	0 ML	30,363 ML
Total	33,960 ML	25 ML	30,363 ML

Pricing breakdown
Medium priority (MP)

Part A

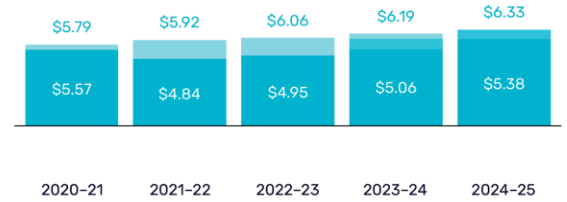
Sandy Creek – Condamine River

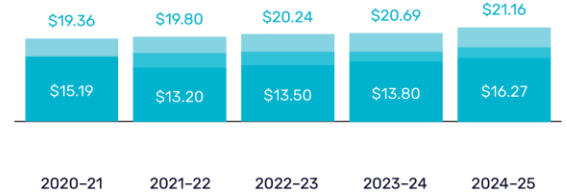


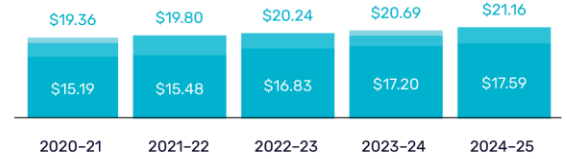
North Branch Relift

North Branch Risk A

Part B







Legend

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

*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.

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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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Price setting process

Upper Condamine Water Supply Scheme worked example using 2023-24 QCA recommended costs

Tarrif group	**Opex** Other	**Opex** Electricity	**Renewals Annuity**	Price
Sandy creek/ Condamine river	✓	✗	✓	Base + Annuity
North Branch Relift	✓	✓	✓	Base + Electricity + Annuity
North Branch Relift	✓	✓	✗	Base + Electricity
Relevant entitlements volume for pricing	All entitlements	North Branch entitlements	All entitlements otherthan Risk A	
	33,960 ML	**14,885 ML**	**26, 640 ML**	
Price building blocks	**Base**	**Electricity**	**Annuity**	

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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	338.9	20%	67.78
Operations - I	468.7		
Operations - IGEM	106.8		
Maintenance - D	135.5	20%	27.10
Maintenance - I	183.4		
Insurance	175.7		
Electricity	0.0	0%	0.0
Annuity	0.0		
	1,407.9		94.9

Key inputs	WAE	WAE%	Usage	HUF
High priority	3,387	10.0%		92.0%
Medium priority	30,573	90.0%		8.0%
Total	33,960		45.0%	
Customer losses	25			
Sub-scheme splits	0			

Step 2

Allocate fixed revenue to priority group allocation buckets

	Fixed		WAE Priority % High 10.0%		HUF % High 92.0%	
Revenue offsets	100%	-1.1	50%	-0.6	50%	-0.6
Operations - D	80%	271.1	50%	135.6	50%	135.6
Operations - I	100%	468.7	50%	234.3	50%	234.3
Operations - IGEM					100%	106.8
Maintenance - D	80%	108.4			100%	108.4
Maintenance - I					100%	183.4
Insurance					100%	175.7
Electricity					100%	0.0
Annuity					100%	0.0
			369.3		943.7	

Distribution losses

Calculated in bulk scheme and picked up in distribution system

High priority	x	0.74%	=	6.68
Medium priority	x	0.00%	=	0.00
Variable	x	0.07%	=	0.07

Step 3

Allocate revenue to priority group

		Revenue requirement by priority group		Losses		Revenue requirement after losses conversion			Entitlements		Usage %	
Part A - HP	10.0% x 369.3 + 92.0% x 943.7	= 905.0	-	6.68	=	898.3	x	1,000 /	3,362.00		=	$267.20
Part A - MP	90.0% x 369.3 + 8.0% x 943.7	= 408.0	-	0.00	=	408.0	x	1,000 /	30,573.00		=	$13.34
Part B		94.9	-	0.07	=	94.8	x	1,000 / [	33,935.00	x 45.0%]	=	$6.21

Step 4

Calculate cost reflective prices

Price setting process

Upper Condamine Water Supply Scheme worked example using 2023-24 QCA recommended costs

Step 1

Allocate revenue by charge type

Electricity

		Variable	
Electricity	97.23	98.88%	96.14
	97.23		96.14

*All values shown are in thousands

Key inputs	WAE	WAE%	Usage	HUF
High priority	0	10.0%		0.0%
Medium priority	14,885	90.0%		100.0%
Total	14,885		45.0%	
Customer losses	0			
Sub-scheme splits	14,885			

Annuity

		Variable	
Annuity	791.1		
	791.06		0

*All values shown are in thousands

Key inputs	WAE	WAE%	Usage	HUF
High priority	3,387	10.0%		92.0%
Medium priority	30,573	90.0%		8.0%
Total	33,960		0.0%	
Customer losses	25			
Sub-scheme splits	23,253			

Step 2

Allocate fixed revenue to priority group allocation buckets

Electricity

	Fixed	WAE Priority %		HUF %	
		High	10.0%	High	0.0%
Electricity				1.12%	1.08
		0.0			1.08

Annuity

	Fixed	WAE Priority %		HUF %	
		High	10.0%	High	0.0%
Annuity				100%	791.06
		0			791.06

Step 3

Allocate revenue to priority group

Electricity

													Revenue requirement by priority group		Conversion		Entitlements		Usage %	
Part A - MP	90.0%	x	0.0	+	100.0%	x	1.08	=	1.08	x	1,000	/	14,885.00	=	$0.07					
Part B									96.14	x	1,000	/	[14,885.00	x	45.0%	] =	$14.37			

Annuity

													Revenue requirement by priority group		Conversion		Entitlements	
Part A - HP	10.0%	x	0.0	+	92.0%	x	791.06	=	727.8	x	1,000	/	3,362.00	=	$214.87			
Part A - MP	90.0%	x	0.0	+	8.0%	x	791.06	=	63.28	x	1,000	/	30,573.00	=	$2.07			

Step 4

Calculate cost reflective prices

Price setting process

Upper Condamine Water Supply Scheme worked example using 2023-24 QCA recommended costs

Tarrif group	Opex Other	Opex Electricity	Renewals Annuity	Price	Part A – MP example of price construction			
Sandy creek/ Condamine river	✓	✗	✓	Base + Annuity	13.82		2.72	$16.54/ML
North Branch Relift	✓	✓	✓	Base + Electricity + Annuity	13.82	0.07	2.72	$16.61/ML
North Branch Relift	✓	✓	✗	Base + Electricity	13.82	0.07		$13.89/ML
Relevant entitlements volume for pricing	All entitlements	North Branch entitlements	All entitlements other than Risk A					
	33,960 ML	14,885 ML	26, 640 ML					
Price building blocks	Base	Electricity	Annuity					
Part A – MP	$13.82/ML (Inclusive of $0.47/ML QCA fee)	$0.07/ML	$2.72/ML					
Part B	$6.21/ML	$14.37/ML	$0/ML					

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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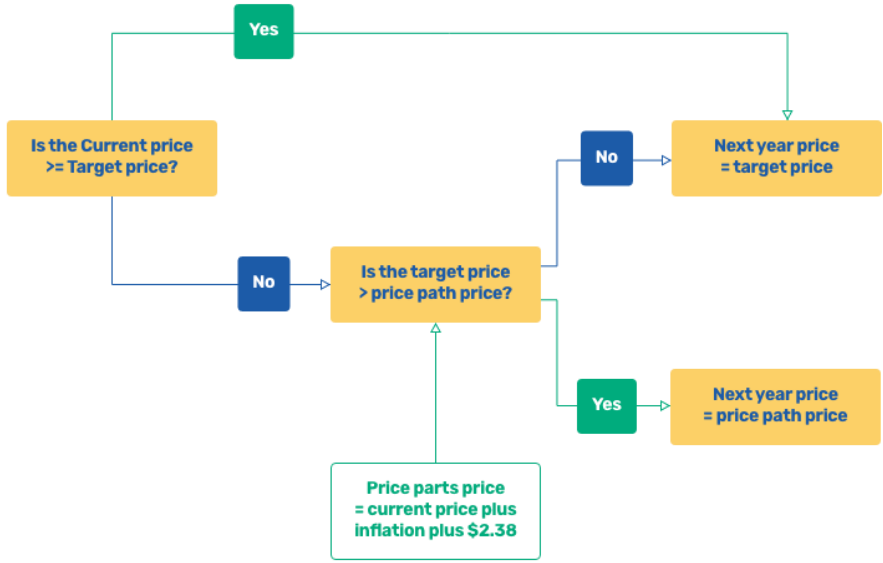
Transition path prices

	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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