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Irrigation Price Path

1 July 2025 to 30 June 2029

Lower Mary Water Supply Scheme

16 May 2023

Sunwater acknowledges Aboriginal and Torres Strait Islander peoples as the first peoples of this country and Traditional Custodians of the land and water we rely on.

The Traditional Custodians of the land on which we meet today are the Taribelang Bunda, Gooreng Gooreng, and Wakka Wakka Peoples, and we pay our respects to their Elders past, present and emerging.

We respect and value their continued sacred connection to Country, including the diverse, rich traditions, languages and customs that are the longest living in the world.

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Agenda

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

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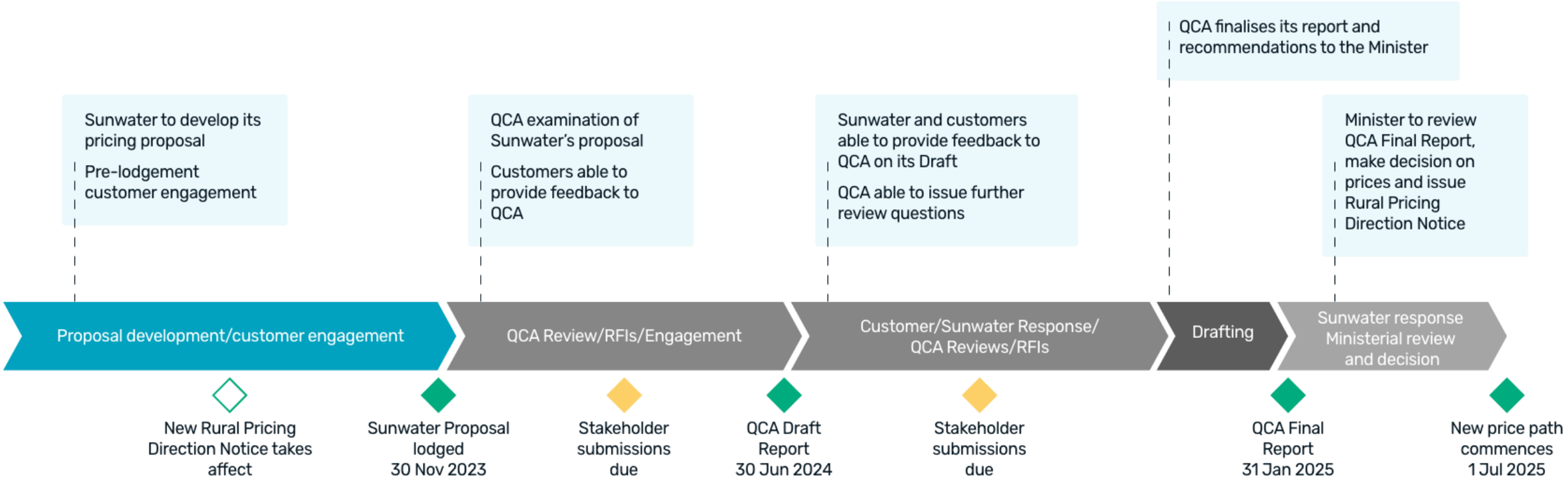
Overview of the price path process

Overview of the price path process



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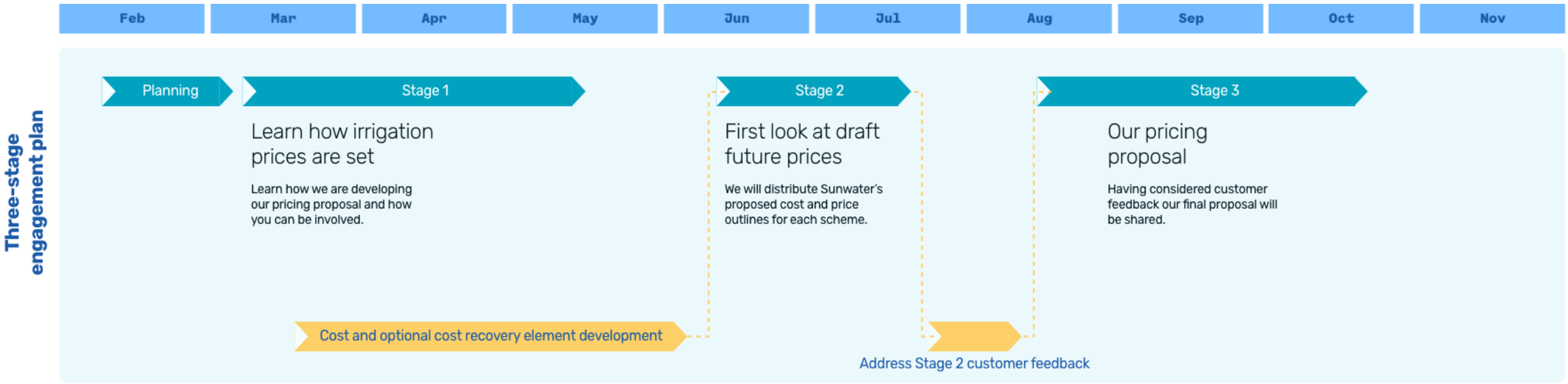
What to expect from Sunwater

What to expect from Sunwater



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Scheme Level Overview

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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Lower Mary Water Supply Scheme

Scheme Overview

34,459 ML in entitlements, with an average annual usage of 11,392 ML

86 irrigation customers

Major assets

Mary Barrage & Tinana Barrage

Key operations and maintenance activities

- Barrage pipeline refurbishments and equipment replacements
- Comprehensive barrage inspections
- Customer meter replacements

Pricing tariffs

- Two tariff group: Mary Barrage & Tinana Barrage and Teddington Weir, with fixed (Part A) charges and volumetric (Part B) charges.
- No other risk or other forms of entitlements or usage.

Lower Mary Distribution (BIC) Water Supply Scheme

Scheme Overview

15,962 ML in entitlements, with an annual average usage of 4,975

74 irrigation customers

Major assets

Owanyilla pump station / Walker Point pump station / Copenhagen Bend pump station / Main Road pump station

Key operations and maintenance activities

- Electricity - Participant in ECPT
- Pump station and main channel refurbishments and equipment replacements
- Pump station pump refurbishments, switchboard and electrical control replacements

Pricing tariffs

- Single tariff group: Lower Mary Channel with fixed (Part A and C) charges and volumetric (Part B and D charges)
- No other risk or other forms of entitlements or usage

Lower Mary
Water Supply Scheme

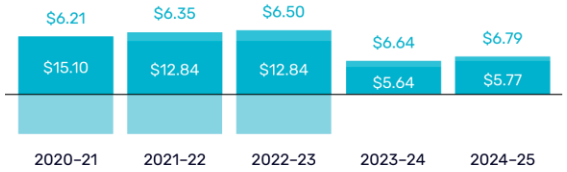
Entitlements overview

Entitlements		Customer losses	Irrigation
High	1,809 ML	324 ML	0 ML
Medium	32,650 ML	4,588 ML	22,717 ML
Total	34,459 ML	4,912 ML	22,717 ML

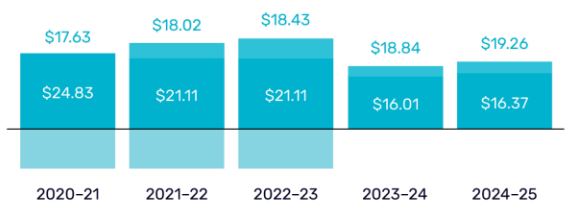
Pricing breakdown
Medium priority (MP)

Part A

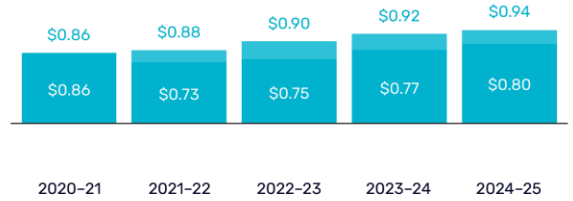
Lower Mary - Mary Barrage

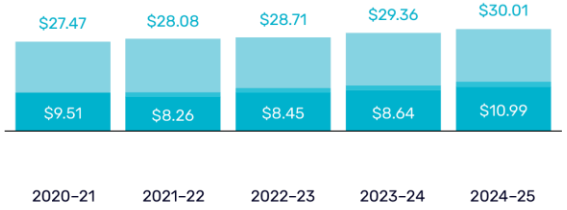


Lower Mary - Tinana & Teddington



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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Lower Mary Distribution (BIC)
Water Supply Scheme

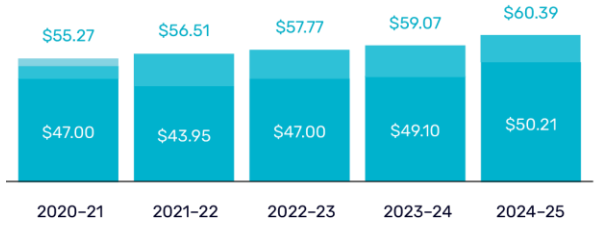
Entitlements overview

Entitlements		Customer losses	Irrigation
High	0 ML	324 ML	0 ML
Medium	15,962 ML	4,588 ML	9,962 ML
Total	15,962 ML	4,912 ML	9,962 ML

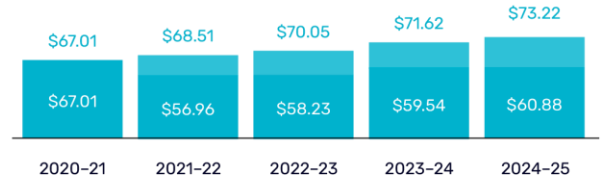
Pricing breakdown
Medium priority (MP)

Part C

Lower Mary channel



Part D



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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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

	Step 1	Variable		Fixed		WAE Priority % (High 5.2%)		HUF % (High 52.0%)	
Revenue offsets	0.0			100%	0.0	50%	0.0	50%	0.00
Operations - D	47.2	20%	9.44	80%	37.7	50%	18.9	50%	18.87
Operations - I	67.0			100%	67.0	50%	33.5	50%	33.51
Operations - IGEM	0.0							100%	0.00
Maintenance - D	5.4	20%	1.08	80%	4.3			100%	4.32
Maintenance - I	7.3							100%	7.30
Insurance	19.7							100%	19.74
Electricity	0.00	0.00%	0.00					100%	0.00
Annuity	227.7							100%	227.70
	374.35		10.52				52.4		311.45

	Calculation	= Revenue requirement by priority group	- Losses	= Revenue requirement after losses conversion	x	/ Entitlements	Usage %	=
Part A - HP	5.2% x 52.4 + 52.0% x 311.45	164.7	29.50	135.2	1,000	1,485.00		$91.05
Part A - MP	94.8% x 52.4 + 48.0% x 311.45	199.13	27.98	171.15	1,000	32,650.00		$5.24
Part B		10.52	1.50	9.02	1,000	[29,547.00	x 33.1%]	$0.92

Key inputs	WAE	WAE%	Usage	HUF
High priority	1,809	5.2%		52.0%
Medium priority	32,650	94.8%		48.0%
Total	34,459		33.1%	
Customer losses	4,912			
Sub-scheme splits	0			

Distribution losses

Calculated in bulk scheme and picked up in distribution system

High priority	x	0.18	=	29.50
Medium priority	x	14.05%	=	27.98
Variable	x	14.25%	=	1.50

Price setting process (2023-24 price example)

Step 1

Allocate revenue by charge type

		Variable		Fixed	
Revenue offsets	0.0			100%	0.0
Operations - D	145.8	20%	29.2	80%	116.6
Operations - I	176.2			100%	176.2
Operations - IGEM	0.0			100%	0.0
Maintenance - D	185.9	20%	37.2	80%	148.7
Maintenance - I	191.1			100%	191.1
Insurance	66.8	0%	0.0	100%	66.8
Electricity	327.4	90%	295.2	10%	32.2
Annuity	164.2			100%	164.2
	1,257.3		361.6		895.7

Key inputs	WAE	WAE%	Usage	HUF
High priority	0.00	0.0%		0.0%
Medium priority	15,962.00	100.0%		100.0%
Total	15,962.00		31.2%	
Customer losses	4,912.00			
Water harvesting	0.00			

Step 2

Allocate fixed revenue to priority group allocation buckets

WAE Priority %

High	0.0%

100% of fixed distribution revenue is allocated via the WAE %

HUF %

High	0.0%

Distribution revenue is not allocated via the HUF

Distribution losses

Calculated in bulk scheme

High priority	=	46.88
Medium priority	=	43.04
Variable	=	13.40

Step 3

Allocate revenue to priority group

																		Revenue requirement by priority group		*Conversion*		*Entitlements*		*Usage %*		*Water harvesting*		
Part C - HP	0.0%	x	895.74	=	0.00	+	[	46.88	+	43.04	]	x	0.0%	=	0.00	x	1,000	/	0.00								=	$0.00
Part C - MP	#####	x	895.74	=	895.74	+	[	46.88	+	43.04	]	x	100.0%	=	985.66	x	1,000	/	15,962.00								=	$61.75
Part D					361.57	+		13.40						=	374.97	x	1,000	/	[	15,962.00	x	31.2%	+	0.00	]	=	$75.37

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**

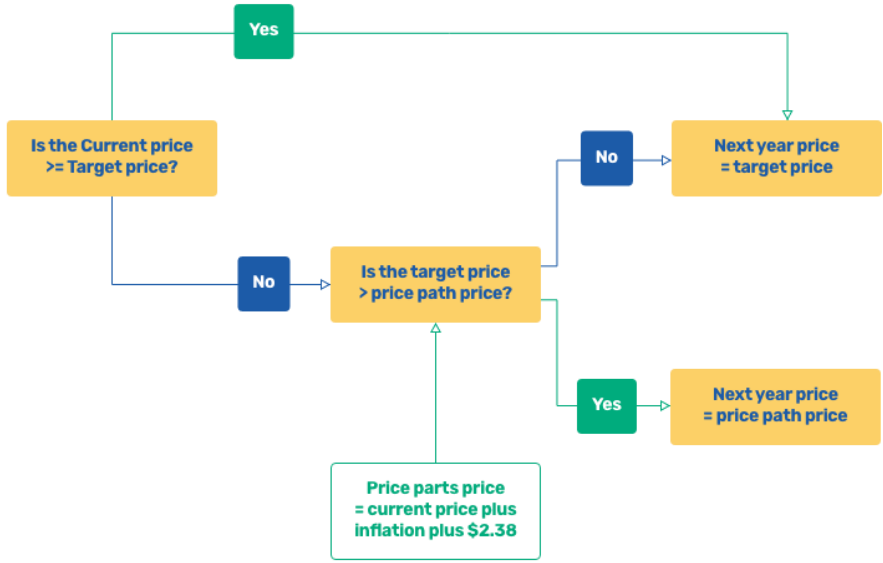
Smoothed revenues (or prices) are set with a defined rate of escalation (e.g. the expected inflation rate) from Year 1 to Year 4. They are calculated on the basis that the present value (PV) of smoothed revenues (or revenues arising from smoothed prices) is equivalent to the PV of the building blocks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

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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