WAIRARAPA 3X COUNCILS – WATER NETWORK ECONOMIC MODEL

COMPARISON TO THE REGIONAL MODEL

OUTPUT SUMMARY

24 September 2024

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INTRODUCTION

- This slide pack has been prepared for Council officers to support their individual analysis and preparation of briefing materials.

- To facilitate informed decision-making, Gravelroad have been engaged to progressively develop a regional economic model. The level of detail in the model will increase with each phase of the programme, providing increasingly refined insights to support the critical decisions at the required milestones.

- We are currently in Phase 1, with modelling at a strategic level of analysis to support this phase of Council decision-making.

- Using the model, we have completed a high-level comparator of local Council and regional water service variables.

- This is indicative only – input assumptions will continue to be developed and refined over time.

KEY ASSUMPTIONS AND CAVEATS

- **Comparison**: this council model scenario has been compared to the latest regional model scenario.

- To ensure an "**apples for apples**" comparison, key data inputs for models have been aligned for consistency (interest rates, compliance, 22-year network recovery period, price rise rate, etc.)

- **Data inputs** have been confirmed with Council officers.

- **Uninflated values** have been used. All prices and costs are in $FY24.

- In addition to existing **council overhead** for water service delivery, it should be noted that:
  - additional overhead would be required to comply with economic regulation; and
  - additional capital is likely required for metering so that network quality can be measured, if not already included.

- **Efficiencies**: the regional model has not made any assumptions or allowance for efficiency gains at this phase.

- **The calculated price** is modelled based on assumptions and is an average per connection – it is illustrative only and is not intended as an accurate estimate of actual price increases.

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MODELING OBSERVATIONS

- 26.7% of assets in the categories of poor and very poor condition is worse than the average for the region. This is notably better than DIA's assessment of the assets, being Masterton 34%, Carterton 29%, and SW 14%.

- The high proportion of assets assessed in the categories of good or excellent condition (55.8%) means that bulk renewal of these assets will probably not be necessary over the next 20-30 years.

- The combined Wairarapa councils have the highest average water prices for the region, which means self-funding of the network remediation occurs earlier than for the regional option.

- An additional cost of ~$6m pa to run a council owned CCO is included in the input costs. With 26.7% of assets classed as worn-out, the regulator will expect to see a plan for their renewal, and monitoring equipment to measure network performance. It is important these are fully costed in this +$6m pa increment.

- While the Debt-to-Revenue ratio is within the LGFA 5% limit, the FFO to Debt ratio, which is likely the actual criteria for CCO funding, falls outside of the required max FFO ratio of 9% in the initial years.

- Pricing for the combined Wairarapa councils is higher than for a regional model, both for network remediation and for long term sustainability. Indicative pricing summary:

Average Price ($FY24)	Council Model (v3.14)	Regional Model (v3.14)
Starting Price (FY25)	$1,909	$1,711
Peak Price (~2036-2050)	$5,017	$4,288
Long Term Sustainable Price	$3,305	$2,622

INPUT DATA FOR MODEL

3x Council specific model

LTP Lead in - yrs 1-3 uninflated (FY24m)	Yr0 (23/24)	Yr1 (24/25)	Yr2 (25/26)	Yr3 (26/27)
Operating Revenue ($m)		34.85	38.10	41.72
Opex inc CCO O/Hs, faults and interest but ex depreciation ($m)		37.84	38.39	41.16
FFO ex faults ($m)		-2.98	-0.29	0.57
Interest ($m)		3.85	4.25	5.30
Faults Cost ($m)		3.33	3.47	3.57
EBITDA ex faults ($m)		4.19	7.43	9.43
Total Network Capex ($m)		29.25	35.19	46.50
Growth Costs ($m)		3.02	5.47	6.69
Compliance Costs ($m)		7.31	10.85	19.22
Properties Served	18,005	18,257	18,513	18,772
Average price per connection ($/year)	-	1,909	2,058	2,223
Closing Debt ($m)		74.7	89.9	117.6
LTP Price rise		#DIV/0!	7.8%	8.0%

Excellent	27.5%
Good	28.3%
Medium	17.5%
Poor	18.2%
Very poor	8.5%
	100%
Opening total network replacement value ($m)	1,237
Opening properties served (yr 4)	19,035
Properties served organic growth rate	1.40%
Average initial network value per connection ($)	65,003
Initial growth cost per property before DC's ($)	38,308
Proportion of growth costs per property met by DC's	38%
Real DC % on 15 year average recovery of DC	32%
Network marginal organic capex growth	59%
Network marginal organic opex growth	25%
Interest rate	6.00%
Peak funds from operations permitted above sustainability	150%
Year 3 Revenue ($m)	42
Initial Annual Price increase from year 3	9.0%
Subsequent annual price increase	9.0%
Year 4 Overheads excluding interest and faults ($m)	36
Overheads growth pa	1%
Year 3 EBITDA ex Faults ($m)	9
Total estimated compliance cost ($m)	160
Lead in compliance capital spend as proportion of network investment	5.0%
Minimum fixed compliance capital pa ($m)	1.60
Minimum FFO to Debt funding ratio	9%
Maximum Debt to revenue funding ratio	5.0
Residual debt to revenue ratio target	1.5

Initial Annual Price increase from year 3: until year 6

Regional model

	Yr0 (23/24)	Yr1 (24/25)	Yr2 (25/26)	Yr3 (26/27)
Operating Revenue ($m)	379	443	485	554
Opex...		347	352	377
FFO ex faults ($m)		96	133	177
Interest ($m)		82	86	97
Faults Cost ($m)		41	41	41
EBITDA ex faults ($m)		219	260	315
Total Network Capex ($m)		622	590	522
Growth Costs ($m)		118	135	112
Compliance Costs ($m)		61	86	115
Properties Served	256,307	258,951	261,956	264,161
Average price per connection ($/year)	1,479	1,711	1,851	2,097
Closing Debt ($m)		1,823	2,076	2,284
LTP Price rise		15.7%	8.2%	13.3%

Excellent	28.0%
Good	28.4%
Medium	18.9%
Poor	11.3%
Very poor	13.3%
	100%
Opening total network replacement value ($m)	19,710
Opening properties served (yr 4)	267,595
Properties served organic growth rate	1.30%
Average initial network value per connection ($)	73,656
Initial growth cost per property before DC's ($)	38,308
Proportion of growth costs per property met by DC's	38%
Real DC % on 15 year average recovery of DC	32%
Network marginal organic capex growth	52%
Network marginal organic opex growth	25%
Interest rate	6.00%
Peak funds from operations permitted above sustainability	150%
Year 3 Revenue ($m)	554
Initial Annual Price increase from year 3	9.0%
Subsequent annual price increase	9.0%
Year 4 Overheads excluding interest and faults ($m)	290
Overheads growth pa	1%
Year 3 EBITDA ex Faults ($m)	315
Total estimated compliance cost ($m)	2,000
Lead in compliance capital spend as proportion of network investment	5.0%
Minimum fixed compliance capital pa ($m)	20
Minimum FFO to Debt funding ratio	9%
Maximum Debt to revenue funding ratio	5.0
Residual debt to revenue ratio target	1.5

Initial Annual Price increase from year 3: until year 6

CASH USE

3x Council Water Entity
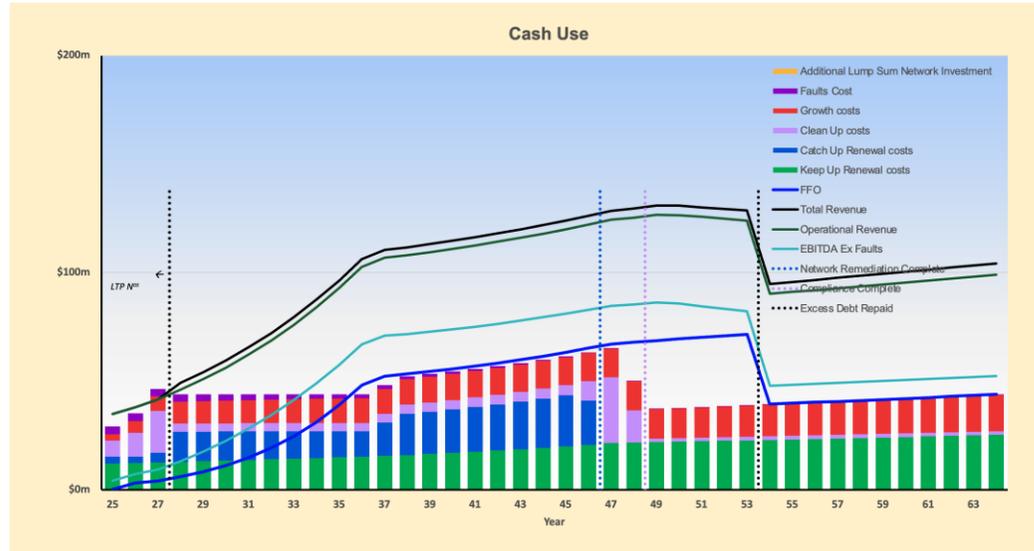
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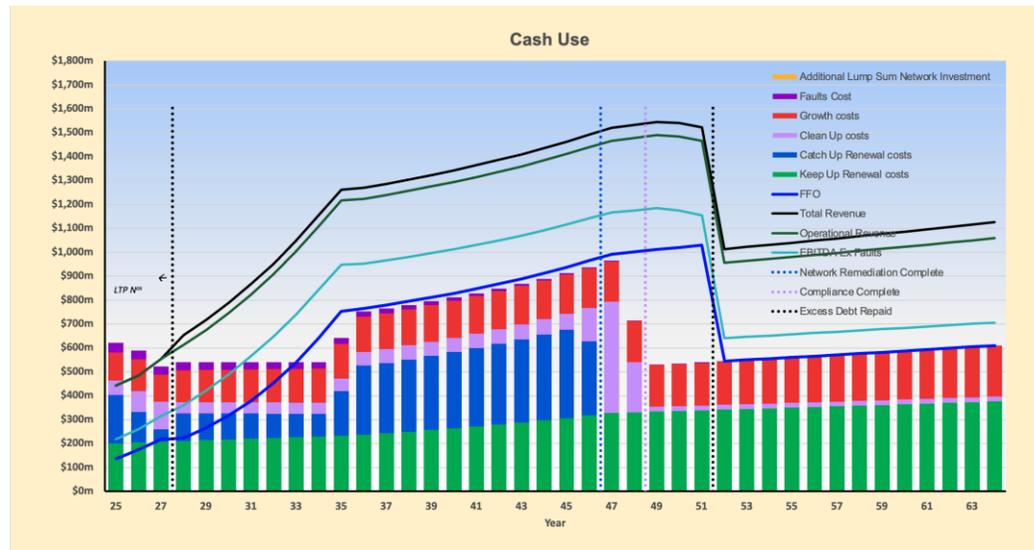
PRICING

3x Council Water Entity

Regional Water Entity

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DEBT

Council Water Entity
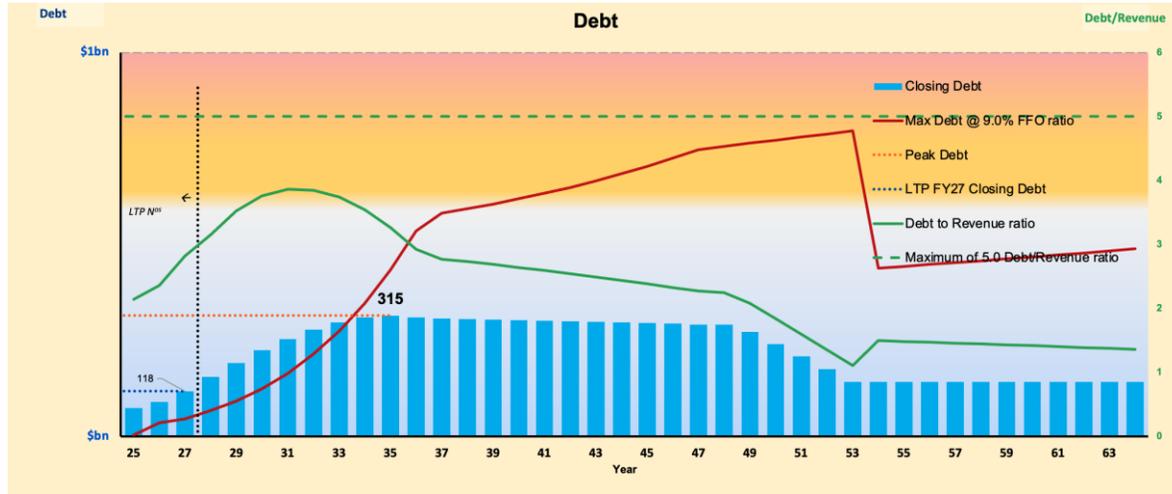
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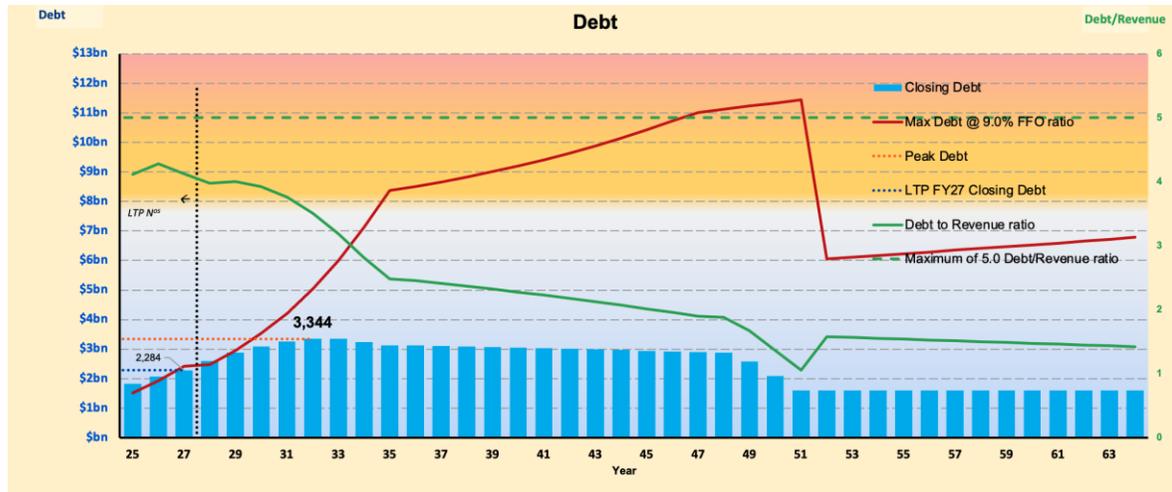
STARTING ASSET CONDITION

3x Council Water Entity

Initial Cumulative Asset Service Life

Legend: Excellent, Good, Medium, Poor, Very poor, EoSL

Equiv asset age (yrs)

Regional Water Entity

Initial Cumulative Asset Service Life

Legend: Excellent, Good, Medium, Poor, Very poor, EoSL

Equiv asset age (yrs)

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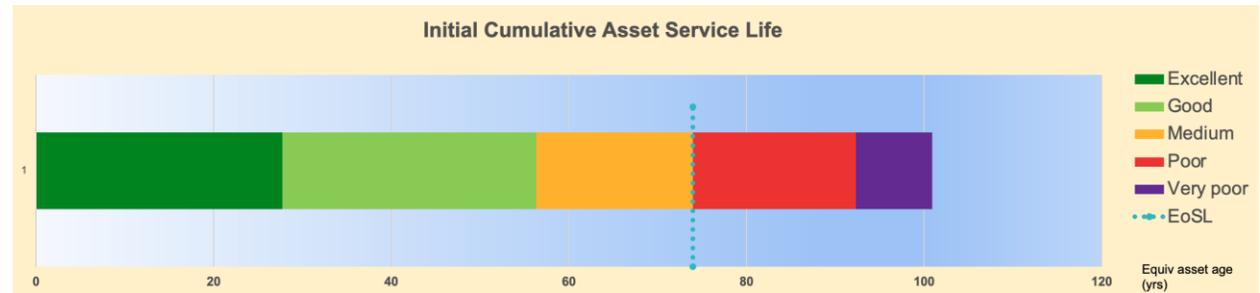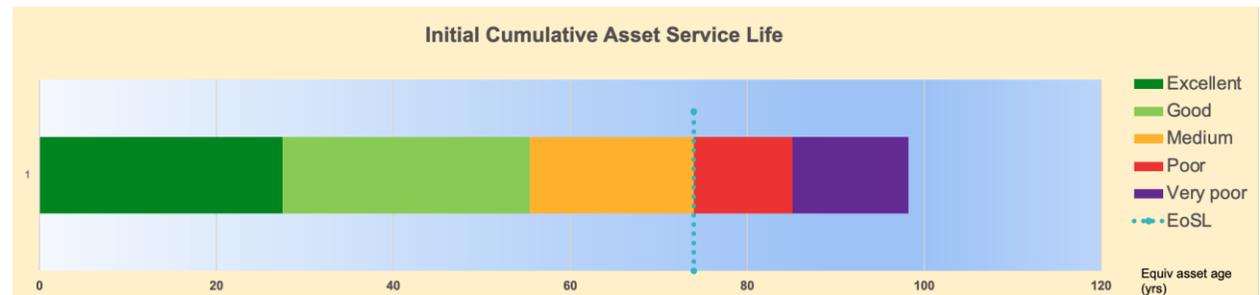
WORN-OUT ASSETS

Council Water Entity

Poor and Very Poor Condition Assets - Average age beyond EoSL
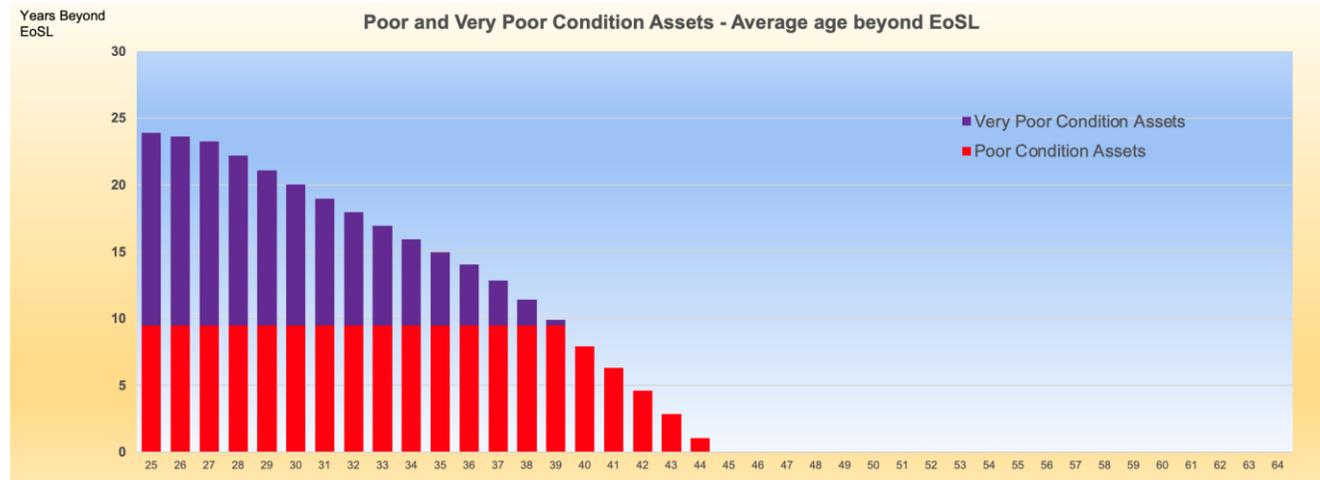
Regional Water Entity
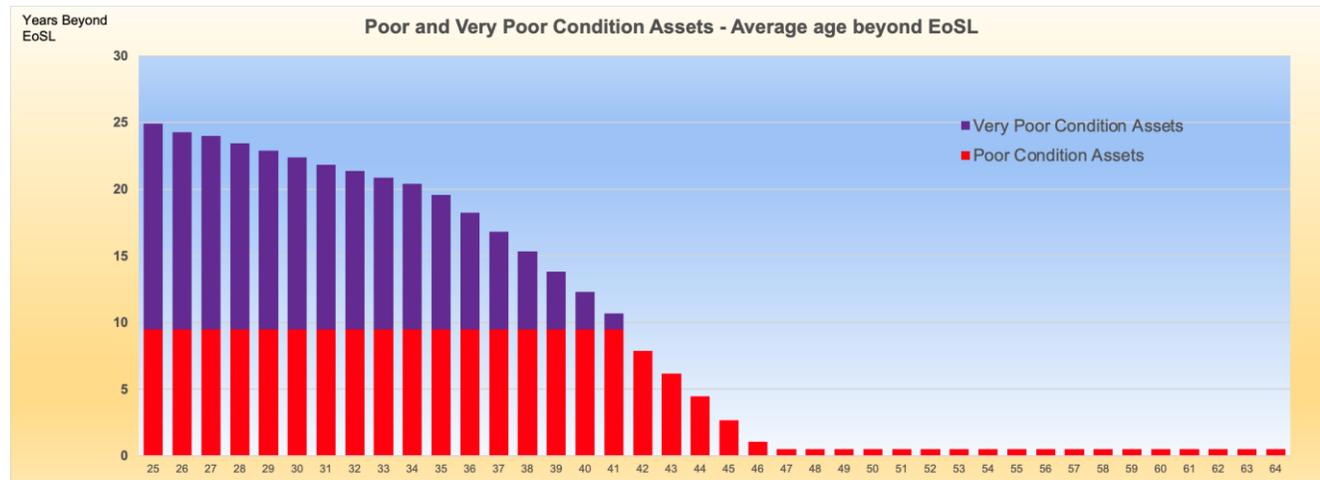
ESTIMATE FAULTS COST FROM WORN-OUT ASSETS

3x Council Water Entity

Regional Water Entity

CHANCE OF NETWORK CRITICAL FAILURE

3x Council Water Entity

Cumulative probability of one or more critical (1in200yr) failures over remediation period

60.1%

—— Cumulative probability of one or more critical (1in200yr) failures with wornout assets

– – Baseline cumulative probability of one or more critical (1in200yr) failures without worn-out assets

······ End of Remediation

10.4%

Regional Water Entity

Cumulative probability of one or more critical (1in200yr) failures over remediation period

55.2%

—— Cumulative probability of one or more critical (1in200yr) failures with wornout assets

– – Baseline cumulative probability of one or more critical (1in200yr) failures without worn-out assets

······ End of Remediation

10.4%

OUTPUT DATA FR0M MODEL

3x Council specific model | Regional model

	3x Council specific model		Regional model	
Network Inputs				
Expected Average Asset Service Life (yrs)	74.0		74.0	
Initial annual fault cost ($m)	4		41	
Total annual capital investment after LTP lead in until remediation is complete ($m)	44		540	
Initial Annual funds from operations ($m)	9		315	
Failure rate index (bathtub curve) (1-linear, 2=square law, 3=cubic etc)	2		2	
Failure rate curve begins at x% of EoSL	75%		75%	
Consolidated Input Costs and Metrics				
Proportion of network	100%		100%	
Opening replacement value of network ($m)	1,237		19,710	
Initial Annual Sustainable Replacement Cost ($m)	16.7		266.4	
Proportion of network over EoSL	27%		25%	
Equivalent maximum asset age (yrs)	101.0		98.2	
Initial backlog period (yrs)	27.0		24.2	
Initial Value of network over EoSL ($m)	330		4,861	
Network Economics during Network Remediation period				
Total cost of Catch Up renewal during network remediation ($m)	330		4,861	
Remediation period (yrs)	22	2046	22	2046
Total cost of compliance during network remediation ($m)	120		1,394	
Compliance backlog period (yrs)	24	2048	24	2048
Net Growth Costs during Remediation ($m)	157		2,190	
Keep Up costs during remediation ($m)	344		5,406	
Total period fault cost ($m)	42		479	
Total interest cost ($m)	430		4,523	
Total costs over remediation period ($m)	1,422		18,854	
Total Network Cost over remediation period ($m)	993		14,331	
Remaining Compliance cost after remediation ($m)	45		675	
Funding				
Peak Debt ($m)	315		3,344	
Peak debt occurs at (yr)	11	2035	8	2032
Debt repaid at (yr)	29	2053	27	2051
Maximum FFO funding gap ($m)	100		301	
Occurs in yr	6	2030	1	2025
Total Interest cost over remedial period ($m)	430		4,523	
Proportion of investment spent on network	47%		54%	
Proportion of investment spent on interest	30%		24%	
Proportion of investment spent on compliance	8%		7%	
Proportion of investment spent on net growth costs	11%		12%	
Proportion of investment spent on faults	3%		3%	
	100%		100%	
Peak to FY25 price ratio during catch up	263%		251%	
Price rise peaks in year	23	2047	23	2047
Sustainable price to FY25 price ratio after network remediation	173%		153%	
10 Year average from start of entity ($m)				
Network Capex	44		594	
Spent on: Keep-up	14		226	
Catch-up	13		150	
Growth	11		141	
Compliance	4		50	
Faults	2		28	
Interest from opening debt	7		137	
Interest from incremental debt	8		45	
Reliability calcs				
Cumulative risk of Critical Failure before Network Remediation	60%		55%	
Baseline Cumulative risk of Critical Failure before Network Remediation (no worn out assets)	10%		10%	

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