

VECTOR GAS DISTRIBUTION SERVICES 2023 PRICING METHODOLOGY

From 1 October 2022

Pursuant to:

The Gas Distribution Information Disclosure Determination 2012
(Consolidated April 2018)



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1 - INTRODUCTION

Vector Limited (“our”, “us” or “we”) recovers the cost of owning and operating our gas distribution network (Network) through a combination of standard (published), non-standard prices for gas distribution services, and capital contributions for new connections. We are regulated by the Commerce Commission (Commission) and are required to publish our pricing methodology for gas distribution services (Pricing Methodology).

This document sets out our Pricing Methodology to meet the requirements of the Information Disclosure Determination 2012 (ID)¹. It describes explains the consumer groups, the price categories and components within each consumer group, how prices are set and the Cost of Service Model (COSM) allocation of target revenue to consumer groups.

 Prices are set to earn the level of notional revenue we are permitted to under the Default Price Path (DPP Determination)²

 When setting prices we take into account (amongst other things) - historical price structures, minimising bill shock to consumers, minimising recovery risk, pricing principles and ensuring that prices to individual consumer groups reflect their allocation of costs

 Given network costs are largely fixed we typically apply any price increases to fixed components and price decreases to variable components. This means not all consumers will see the weighted average price change some will see more some less. We do though have discretion on the allocation approach applied providing it complies with pricing principles and for the 1 October 2022 price change we changed approach as explained on slide 6


 We typically bill gas retailers, and they will generally bundle the cost of services, such as the purchase price of wholesale gas, transmission, distribution services and metering, to provide you with one monthly bill. Retailers will choose whether, how and when the price change explained in this document is passed through to their customers. Therefore references to consumers, consumer groups and prices are in relation to how we allocate costs/revenues to retailers

Figure 1: Our gas distribution network



¹ Gas Distribution Information Disclosure Determination 2012 (consolidated April 2018), clause 8.4

The ID requires price change commentary relating to the pricing strategy³, but we do not currently have a pricing strategy as defined in the ID

² Gas Distribution Services Default Price-Quality Path Determination 2022 (DPP3)

³ A pricing strategy is a decision made by the Directors on the gas distribution business’ plans or strategy to amend or develop prices in the future, and recorded in writing






2 – CONSUMER GROUPS & PRICE CATEGORIES

Consumer groups are determined on how they use the network and the nature of the network service they receive. These consumer groups are determined at a relatively high level, due to the physical nature of gas distribution networks and the information that is available on consumer demand characteristics, as outlined below:

- There is a high degree of network meshing and interconnection of consumers;
- End consumers are not generally geographically segmented in their use of different network assets, for example, there are very few purely “industrial zones” or “residential zones”; and
- There is a mix of consumers, including a large number of consumers with relatively low individual consumption, and vice versa.

We have maintained the same four standard consumer groups as in PY22⁴, based on a measure of gas capacity and the maximum flow rate of their connection, measured in scm/h (standard cubic metres per hour) as shown in Table 2. Consumers on non-standard contracts which have met certain eligibility criteria, as outlined in Appendix 1, are included in a separate consumer group. Consumer groups are mutually exclusive so a consumer can only be in one group.

Table 2: Consumer groups and price categories

Consumer group		Max. flow rate (scm/h)	Price category code	Price category description
Mass market		≤ 10	<ul style="list-style-type: none"> ➤ GA0R ➤ GA01 	<ul style="list-style-type: none"> ➤ Residential ➤ General
Small commercial		10 to 40	<ul style="list-style-type: none"> ➤ GA02 	<ul style="list-style-type: none"> ➤ Small commercial
Large commercial		40 to 200	<ul style="list-style-type: none"> ➤ GA03 	<ul style="list-style-type: none"> ➤ Large commercial
Industrial		> 200	<ul style="list-style-type: none"> ➤ GA04 ➤ GA05 	<ul style="list-style-type: none"> ➤ Small industrial ➤ Large industrial
Non-standard		Various	<ul style="list-style-type: none"> ➤ 1G40 ➤ 1G60 	<ul style="list-style-type: none"> ➤ Non-standard

The mass market consumer group is split into two price categories: residential and general. The small and large commercial consumer groups map directly to price categories.

The industrial consumer group is split into two price categories: industrial and large industrial with the large industrial price category suitable for consumers with annual consumption greater than approximately 17,900 MWh per annum.⁵

The splits into differing price categories in some consumer groups are due to the differences in consumption usage.

⁴ Pricing year 2022 (PY22) is 1 October 2021 to 30 September 2022

⁵ MWh is a megawatt-hour, a unit of energy being the product of power in megawatts and time in hours

3 – PRICE SETTING



Our prices are subject to the DPP Determination which sets our Maximum Allowable Revenue (MAR) that can be earned from prices for the 12 months from 1 October 2022 to 30 September 2023 and states that to be compliant with the price path, notional revenue (using lagged quantities) must not exceed allowable notional revenue (price cap).

In the following three years of the regulatory period, prices are essentially only allowed to increase by: inflation, any under/over recovery from the previous year (headroom) and the recovery of costs that are largely outside of our control, known as pass-through and recoverable costs. These include council rates, statutory levies and the regulatory capex wash-up adjustment.

From 1 October 2022 (the first year of the regulatory period), Vector’s gas distribution prices are increasing by a weighted average 19.2% (19.4% for standard prices) with a breakdown shown in Figure 2.

The majority of consumers have simple meters that record total use over monthly or two-monthly meter-reading cycles and do not record time of use or maximum demand. This limits the price components to a fixed daily price (\$/day) and a variable volume price (\$/kWh), shown in Table 3.

The structure of our prices is constrained by the limitations of consumer consumption information and the price sensitivity of consumers. The level of the fixed daily price component for each price category increases with consumer capacity, i.e. the larger the consumer’s capacity requirement, the higher the daily price.

Figure 2: Percentage contribution to the PY23 price change

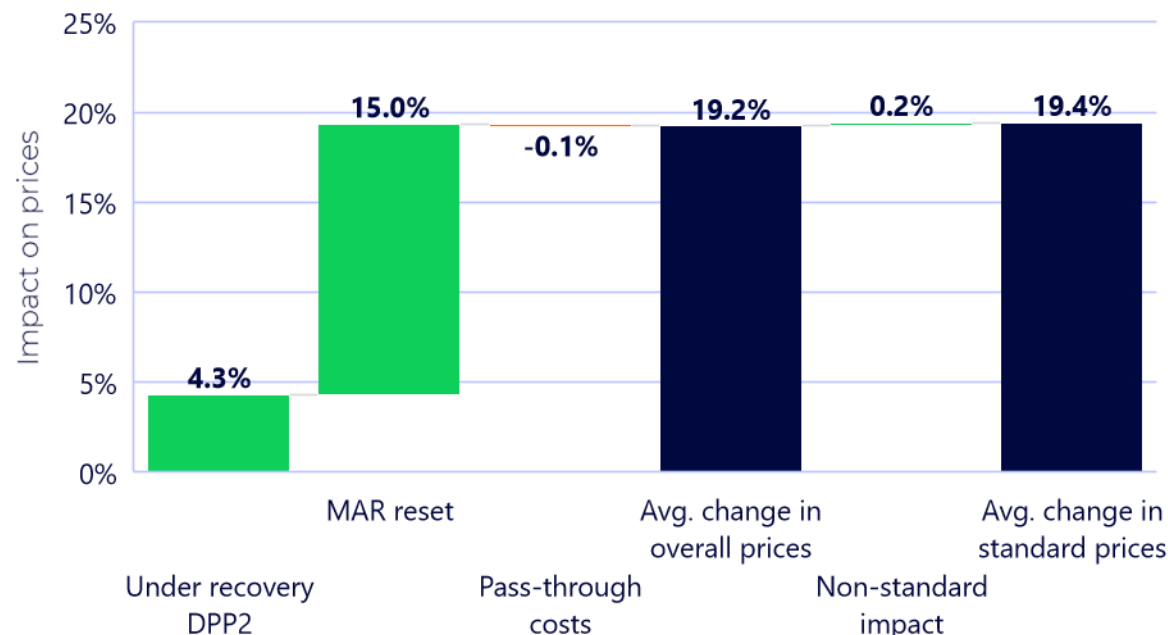


Table 3: Price components

Price component	Code	Units	Description	
Fixed	Daily	FIXD	\$/day	Applied to the number of days each consumer’s point of connection is connected to the gas distribution network
Variable	Volume	24UC	\$/kWh	Applied to all gas distributed to each consumer

4 – PRICE CHANGES



We are conscious of the effect of price changes for consumers. Our starting point for calculating prices is the corresponding price from the previous year. Historic consumer groups and price categories have been maintained.

- Residential price change to recover a higher proportion of revenue from fixed prices
 - Differing % distribution bill impacts to the weighted average price change, due to differences in individual consumption levels
- Non-residential price changes (standard and non-standard not under a set price contract) are the same across both fixed daily and variable volumetric components (19.4%)
 - Same % distribution bill impact for all to the weighted average price change

This approach above was done to better balance revenue recovery risk, and bill shock to consumers. The move towards a largely fixed pricing model for residential consumers enables us to recover our investment in gas assets while New Zealand transitions to a low carbon economy. Increasing both the fixed and variable prices for non-residential consumers, minimises the volatility of the bill shock for the larger consumers.

As New Zealand transitions to a net zero economy, revenues will be more susceptible to volume reductions. We have for many years been transitioning gas prices to more fixed. This transition takes time to avoid consumer bill shock assuming our prices are passed through by retailers. Fixed pricing better reflects our underlying costs. We plan to accelerate this transition now given the heightened revenue risk from declining volumes as consumers change behaviour in regard to climate change.

Figure 3: PY23 weighted average price change by standard price category

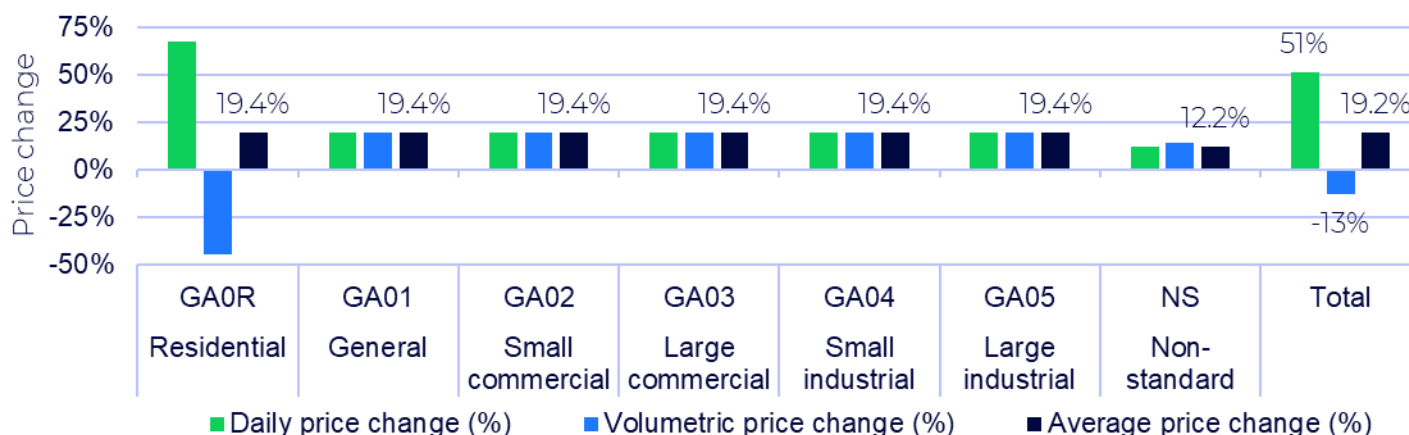


Figure 3 shows how the weighted average price change is split across the consumer groups. Our standard gas prices that apply from 1 October 2022, along with the previous prices, are set out in Table 5 in Section 8 (slide 10).⁶

We did not directly seek the views of consumers when setting prices. Rather, we consulted with retailers on behalf of consumers on the proposed price changes. Our consultation did not highlight any major concerns with our proposed price changes.

⁶ Our full price schedules are available at <https://www.vector.co.nz/personal/gas/pricing> and <https://www.vector.co.nz/business/gas/pricing>

5 – TARGET REVENUE & ITS CATEGORISATION



Our COSM is used to allocate target revenue to consumer groups using various cost drivers. The model structure is outlined in Figure 4.

Target revenue is the total revenue we expect to recover from our prices (complying with the regulated price path) and our forecasted quantities. The target revenue for PY23 is \$58.7m (\$51.9m for PY22).

The total target revenue is broken down into the key components required to cover the costs and return on investment associated with the provision of gas distribution services as shown in Figure 5. These key components are categorised by cost drivers i.e. either ‘asset’ or ‘non-asset’ (Figure 6). These categorisations determine the way that the target revenue is allocated to consumer groups.

The key components categorised as ‘asset costs’ are those associated with expenditure and return on the gas distribution network assets.

‘Non-asset costs’ can be broadly summarised as overhead costs and pass-through and recoverable costs.

Figure 4: COSM structure

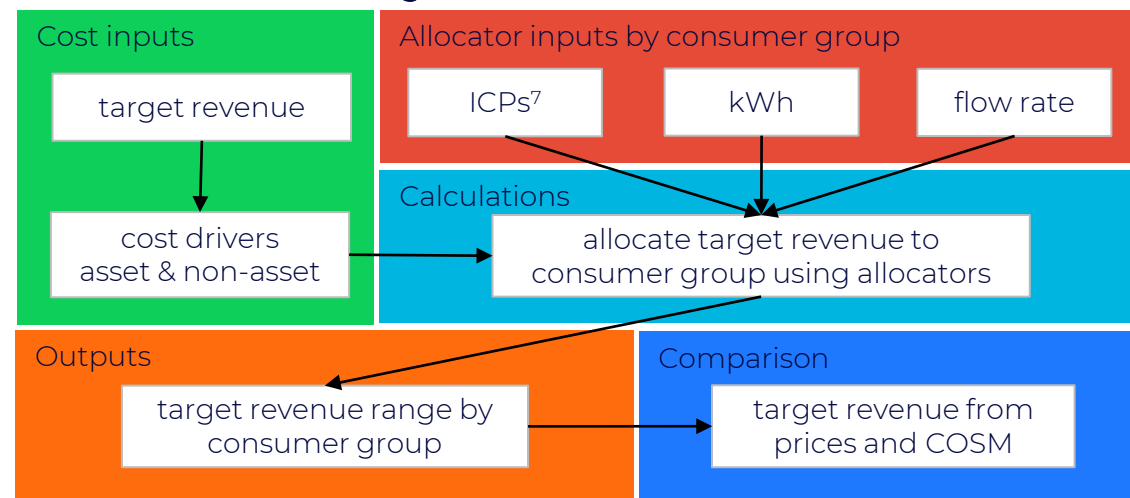


Figure 6: Target revenue by cost driver

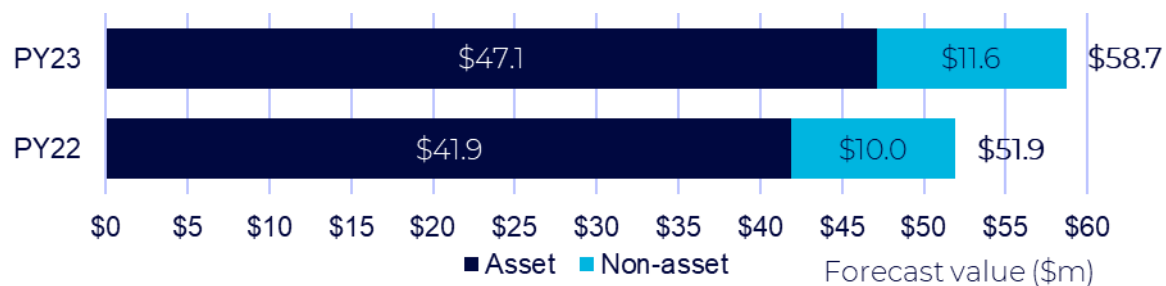
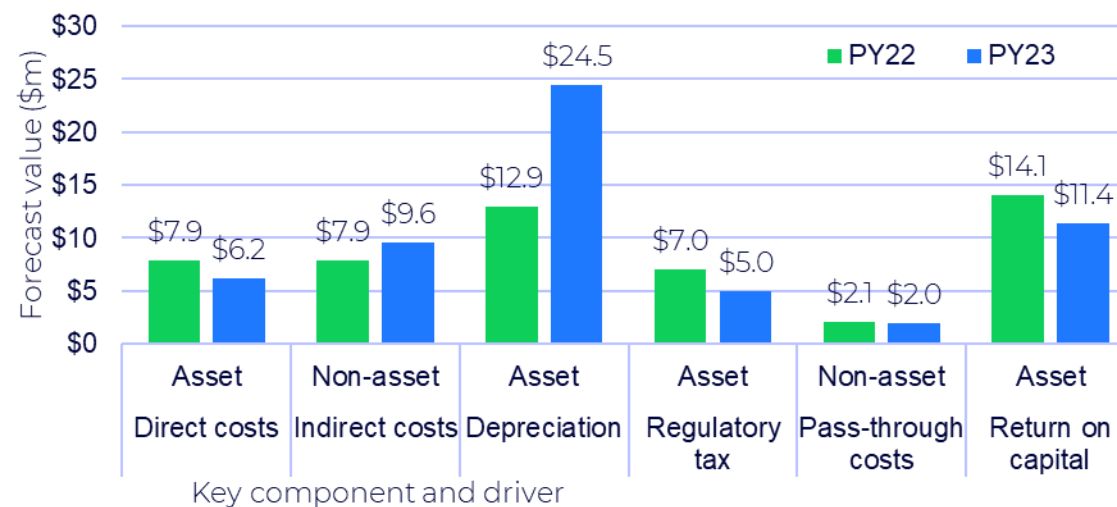


Figure 5: Target revenue by key components



⁷ An ICP is an installation control point being a physical point of connection on a local network which a distributor nominates as the point at which a retailer will be deemed to supply gas to a consumer

6 – TARGET REVENUE ALLOCATION

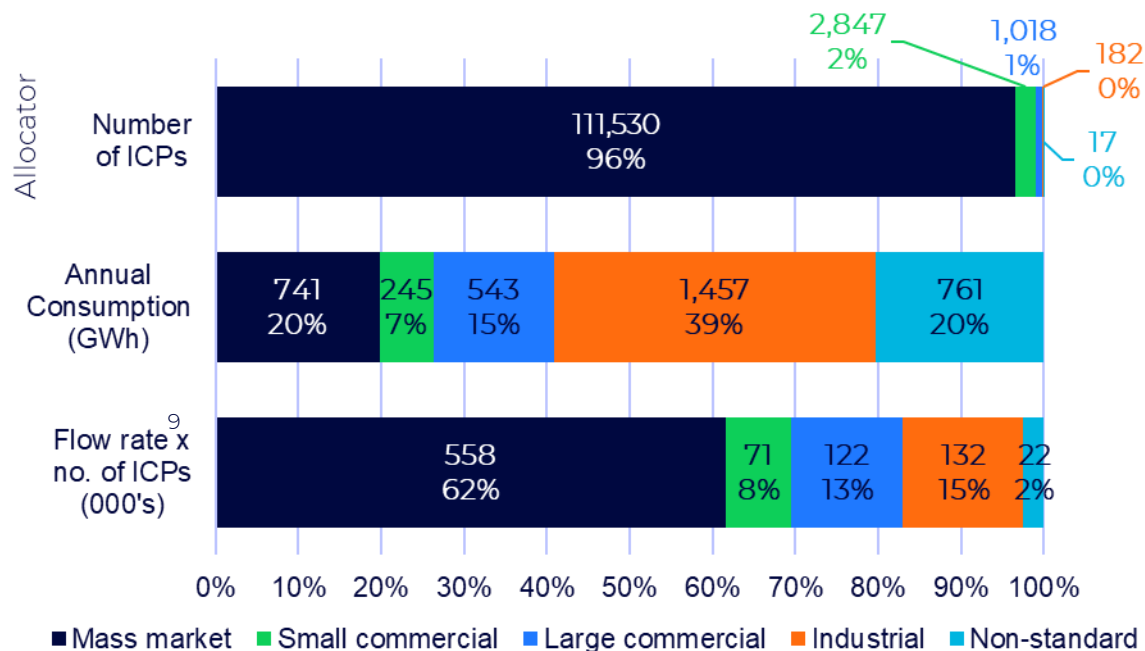


A key feature of a gas distribution network is interconnected assets. Many consumers on the network share assets and it is difficult to identify precisely who benefits from which assets. While this means that the allocation of target revenue between consumers or groups of consumers can be made in many ways, it also means that the cost of providing the network is shared widely and therefore the cost of network services is generally low for each consumer.

Table 4: Allocators used in the COSM

Cost driver	Allocator
Asset	Flow rate x number of ICPs (scm/h x ICP)
Non-asset	Number of ICPs or annual consumption (GWh)

Figure 7: PY23 COSM allocation values and percentages ⁸



‘Asset costs’ have been allocated based on the proportion of flow rate x number of ICPs (scm/h x ICPs) for each consumer group as shown in Table 4. This allocates based on the weighted average of flow rate per ICP that are in each consumer group, effectively capturing each consumer group’s utilisation of network assets. The scm/h x ICPs is an appropriate allocator for assets and direct networks costs as the required pressure of a consumer will affect capacity of the network assets.

‘Non-asset costs’ have no direct allocator so a band of cost allocations is chosen using annual consumption and the number of ICPs as the allocators.

The pricing for non-standard consumers is calculated separately from the other consumer groups, the COSM is set or calibrated to produce the forecasted target revenue of \$1.5m (2.5%) to be recovered from the 10 non-standard consumers (14 ICPs).

⁸ Weighted average of last five year’s values from the billed quantities in Schedule 8 of Vector’s annual Gas Information Disclosure (available at <https://www.vector.co.nz/about-us/regulatory/disclosures-gas/gas-financial-and-network-information>), with each year being weighted twice the previous year

⁹ For mass market and commercial consumer groups, the midpoint of the maximum flow rates from Table 2 is used. For industrial and non-standard consumer groups, the average maximum hourly quantity specified in current and previous Network Charge Agreements is used

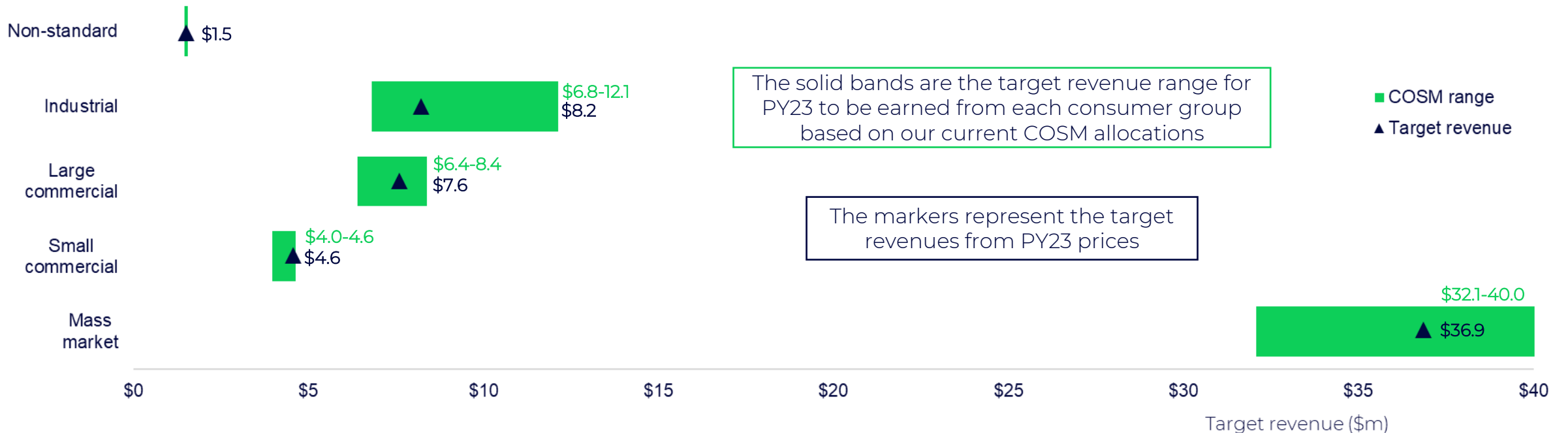
7 – PRICE COMPARISON



The result of using the different allocators creates a target revenue range by consumer group as the use of different allocators gives rise to different target revenue allocation results. The bands represent the lower and upper bounds of the different allocation approaches, as shown in Figure 8 which shows target revenue calculated from PY23 prices by consumer group compared with the COSM allocations. The result is that PY23 prices produce forecast revenues that are in or near an acceptable range when compared to target revenue allocations.

Price setting is an iterative process, where the prices are only finalised once the price path compliance is managed, bill impacts are fair and tolerable and prices deliver revenue from each consumer group consistent with their target revenue allocation.

Figure 8: PY23 target revenue from prices compared with COSM allocations



8 – PRICE & REVENUE STRUCTURE



Table 5 below shows our standard gas prices that apply from 1 October 2022, including the previous year's prices that were effective from 1 October 2021 and shows the price categories target revenue by price component. Residential, large industrial and non-standard are expected to have the majority of the revenue generated from the fixed daily component

Table 5: Standard line charge prices (*previous price, if changing*)

Consumer group	Price category description	Price category code	Max. flow rate (scm/h)	Number of ICPS (June 2022)	Fixed daily (-FIXD) \$/day	Variable volume (-24UC) \$/kWh	PY23 target revenue	PY23 target revenue by price component		PY23 % of target revenue	PY23 % of total volume
								Fixed daily	Variable volumetric		
Mass market	Residential	GA0R	< 10	111,703	0.6880 <i>(0.4101)</i>	0.010538 <i>(0.019158)</i>	\$35.1m	80%	20%	59.7%	17.6%
	General	GA01	< 10	2,247	0.8609 <i>(0.7210)</i>	0.014636 <i>(0.012257)</i>	\$1.8m	39%	61%	3.1%	2.0%
Small commercial	Small commercial	GA02	10 to 40	2,819	1.5490 <i>(1.2972)</i>	0.012422 <i>(0.010403)</i>	\$4.6m	35%	65%	7.8%	6.4%
Large commercial	Large commercial	GA03	40 to 200	1,028	6.8384 <i>(5.7270)</i>	0.009470 <i>(0.007931)</i>	\$7.6m	35%	65%	12.9%	14.1%
Industrial	Small industrial	GA04	> 200	158	21.6430 <i>(18.1250)</i>	0.006368 <i>(0.005333)</i>	\$4.4m	29%	71%	7.5%	13.3%
	Large industrial	GA05	> 200	26	267.5400 <i>(224.0500)</i>	0.001353 <i>(0.001133)</i>	\$3.8m	68%	32%	6.5%	24.4%
Non-standard			Various	14	Various	Various	\$1.5m	79%	21%	2.5%	22.2%
Total				117,995			\$58.7m	65%	35%		

APPENDIX 1 – NON-STANDARD CONTRACTS



Table 6: Criteria for non-standard contracts

Approach	Description
Criteria	<p>For any new investments required by consumers, we apply our capital contributions policy. Our policy for determining capital contributions on our gas distribution network is available at http://vector.co.nz/disclosures/gas/capital-contributions. When a new investment is recovered through capital contributions, standard pricing applies.</p> <p>Historical investments required by consumers and not recovered through capital contributions may be subject to non-standard contracts allowing for non-standard prices and tailored commercial arrangements to be applied to individual consumers.</p> <p>Non-standard contracts also allow consumers to negotiate differing levels of economic value from a service or to mitigate against uneconomic bypass.</p>
Methodology	<p>We assess whether to apply non-standard pricing and the corresponding contractual arrangements to consumers on a case-by-case basis.</p> <p>For determining prices for consumers subject to non-standard contracts, we use actual costs and/or allocated costs derived from an allocation model to determine prices. This allocation model is similar to the Cost of Service Model (COSM) used in assessing standard pricing.</p> <p>At the conclusion of a non-standard pricing contract, the consumer is required to negotiate in good faith at our request before seeking to access standard prices.</p>
Obligations & responsibilities	<p>Our obligations and responsibilities to consumers on non-standard contracts are the same as our obligations to consumers on standard contracts in the event that the supply of gas distribution services to the consumer is interrupted and has no impact on determining prices for those consumers on non-standard contracts.</p>

APPENDIX 2 – CONSISTENCY WITH PRICING PRINCIPLES



Table 7: Pricing principles¹⁰

Principle #1: Economic costs of service provision

Prices are to signal the economic costs of service provision, by -

a) being subsidy free, that is, equal to or greater than incremental costs and less than or equal to standalone costs, except where subsidies arise from compliance with legislation and/or other regulation;

The incremental cost test can be applied both for individual consumers and for groups of consumers. The incremental cost for an individual consumer is the cost of connecting that consumer to the network, and therefore excludes the cost of shared assets. The incremental cost for a group of consumers is the cost of connecting that group of consumers to the network, and includes the cost of assets shared by that group. Applying the incremental cost test at a group level is more stringent because it includes shared costs for the group. Revenues for the group must be higher than just the sum of the incremental cost for each individual consumer. Our capital contributions policy ensures that individual consumers generally pay the costs of connecting them to the network plus a contribution to the shared capital expenditure necessary for long term growth of the network.

While we monitor the cost of alternative options for consumers, it can be difficult to apply these on a consumer-specific basis. In some instances, the economic value of the service, including where that is set by the cost of an alternative form of supply, may be notified to us by the consumer. In these situations, this pricing principle is delivered through the operation of pricing principle #3, detailed on the following page.

b) having regard, to the extent practicable, to the level of available service capacity; and

c) signalling, to the extent practicable, the effect of additional usage on future investment costs.

There are no constraints on available service capacity in the gas distribution network that impact on the economic cost of service provision. Indeed, given the level of available service capacity, it is appropriate that pricing is set in a manner that encourages greater utilisation of the gas distribution network.

¹⁰ The Pricing Principles are specified in clause 2.5.2 of the Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018)

APPENDIX 2 – CONSISTENCY WITH PRICING PRINCIPLES



Principle #2: Recovery of any shortfall

Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall is made up by prices being set in a manner that has regard to consumers' demand responsiveness, to the extent practicable.-

It is generally not practicable to set standard prices in a manner that has regard to a consumers' demand responsiveness. This would require segmenting consumers into groups based on price elasticity of demand, a near impossible task except perhaps on a case-by-case basis for large consumers where the transaction costs of developing non-standard arrangements are small in relation to the value of the network service.

Principle #3: Responsive to requirements of consumers

Provided that prices satisfy (1), prices are responsive to the requirements and circumstances of consumers in order to -
a) discourage uneconomic bypass;

Discouraging uneconomic bypass is an important commercial objective for Vector. Gas distribution services must compete with alternative fuel and energy sources such as electricity, LPG and solar heating.

We consider alternative fuels that may be economically viable for each consumer group. Gas distribution prices are tested to ensure that, in general, they are both greater than the incremental cost and not so high as to provide the incentive for a consumer to switch to an alternative fuel.

We have historically sought to avoid uneconomic bypass using pricing zones based on distance from the transmission system gate stations. Competing networks need to connect to a transmission system gate station to supply downstream consumers so we previously priced consumers closer to the transmission network at a lower price to discourage bypass. The removal of pricing zones significantly simplified our gas distribution pricing, but may have increased the risk of a large consumer near the transmission network bypassing by way of an alternative network.

APPENDIX 2 – CONSISTENCY WITH PRICING PRINCIPLES



Principle #3: Responsive to requirements of consumers (continued)

Provided that prices satisfy #1, prices are responsive to the requirements and circumstances of consumers in order to -

b) allow negotiation to better reflect the economic value of services and enable consumers to make price/quality trade-offs or non-standard arrangements for services.

A standard price schedule will never be able to eliminate all opportunities for uneconomic bypass, and we believe that it is more appropriate to deal with these issues through non-standard contracts as each situation can be dealt with on a case-by-case basis where all consumer-specific factors can be considered.

We believe that the best way to allow consumers to negotiate differing levels of economic value from a service or to mitigate against uneconomic bypass is through non-standard contracts. Large consumers can negotiate with us for different terms and conditions if it is commercially viable and possible for us to provide the service and is not to the detriment of other consumers.

Contracts have been negotiated on non-standard pricing structures to allow consumers to manage their risk, including adjustment in prices to allow for atypical demand loads (e.g. seasonal use patterns) or a preference for pricing that is largely, if not wholly, fixed. We are also willing to offer different terms for contracts of varying duration.

Principle #4: Pricing process

Development of prices is transparent, promotes price stability and certainty for consumers, and changes to prices have regard to the effect on consumers

We believe that a simple pricing structure enhances transparency. Costs are clearly identified and allocated to consumer groups on a simple and transparent basis. A simple pricing structure reduces the likelihood that changes in consumer behaviour will result in significant changes to cost allocations between consumer groups. This means that prices by consumer group, based on the maximum flow rate of connection, will be more stable over time. A simple pricing structure also makes it easier for consumers to understand and estimate their likely costs.

We are particularly conscious of the effect of our pricing on consumers and seek to implement a pricing framework that provides appropriate incentives for consumers to continue to use our distribution services.

In July 2022, we consulted with gas retailers on our proposed price changes. Our formal retailer consultation did not highlight any major concerns with our proposed price changes. Our proposal did not incorporate any structural changes.

APPENDIX 3 – DIRECTORS’ CERTIFICATION



Schedule 18: Certification for Disclosures at the Beginning of a Pricing Year

Clause 2.9.2

We, Jonathan Mason and

Paula Rebstock, being directors of Vector Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

- (a) the following attached information of Vector Limited prepared for the purposes of clause 2.4.1 of the Gas Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.
- (b) the prospective financial or non-financial information included in the attached information has been forecast on a basis consistent with regulatory requirements or recognised industry standards.



Director



Director

28 September 2022
Date