VECTOR GAS DISTRIBUTION SERVICES 2024 PRICING METHODOLOGY

From 1 October 2023

Pursuant to:

The Gas Distribution Information Disclosure Determination 2012

(Consolidated April 2018)

vector

Contents

1 - INTRODUCTION

Vector Limited (“our”, “us” or “we”) recovers the cost of owning and operating our gas distribution network (Network) through a combination of published standard and non-standard prices for gas distribution services, as well as 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 Pricing Methodology is to meet the requirements of the Commission’s Information Disclosure Determination 2012 (ID)[1]. It describes and explains; consumer groups, price categories, 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 Commission’s 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 when prices change, some will see more some less. We do have discretion on the allocation approach we apply, providing it complies with pricing principles. The 1 October 2023 price change is explained on page 6.

We typically bill gas retailers. Gas retailers then generally bundle the cost of our services with other costs such as the purchase price of gas, transmission services, and metering. They then typically provide their customers with one monthly bill. Retailers choose how and when the price changes explained in this document are passed through to their customers. Therefore, references to consumers, consumer groups and prices are therefore mainly referring to how we allocate costs/revenues to gas 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 strategy, but we do not currently have a pricing strategy as defined in the ID. 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] Gas Distribution Services Default Price-Quality Path Determination 2022 (DPP3)

2 - CONSUMER GROUPS & PRICE CATEGORIES

Consumer groups are determined on how consumers use the network and the nature of the network service they receive. 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 many consumers with relatively low individual consumption, and vice versa.

We have maintained the same four standard consumer groups as in PY23[3], based on a measure of gas capacity and the maximum flow rate of the consumer connection, measured in scm/h (standard cubic metres per hour) as shown in Table 1. 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 1: Consumer groups and price categories

Consumer group	Max flow rate (scm/h)	Price category code	Price description
Mass Market	≤ 10	➢ GA0R ➢ GA01	➢ Residential ➢ General
Small commercial	10 to 40	➢ GA02	➢ Small commercial
Large commercial	40 to 200	➢ GA03	➢ Large commercial
Industrial	> 200	➢ GA04 ➢ GA05	➢ Small industrial ➢ Large industrial
Non-standard	Various	➢ 1G40 ➢ 1G60	➢ 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 in to two price categories: industrial and large industrial, with the large industrial price category suitable for consumers with annual consumption greater than approximately 22,100 MWh per annum.[4]

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

[3] Pricing year 2023 (PY23) is 1 October 2022 to 30 September 2023

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

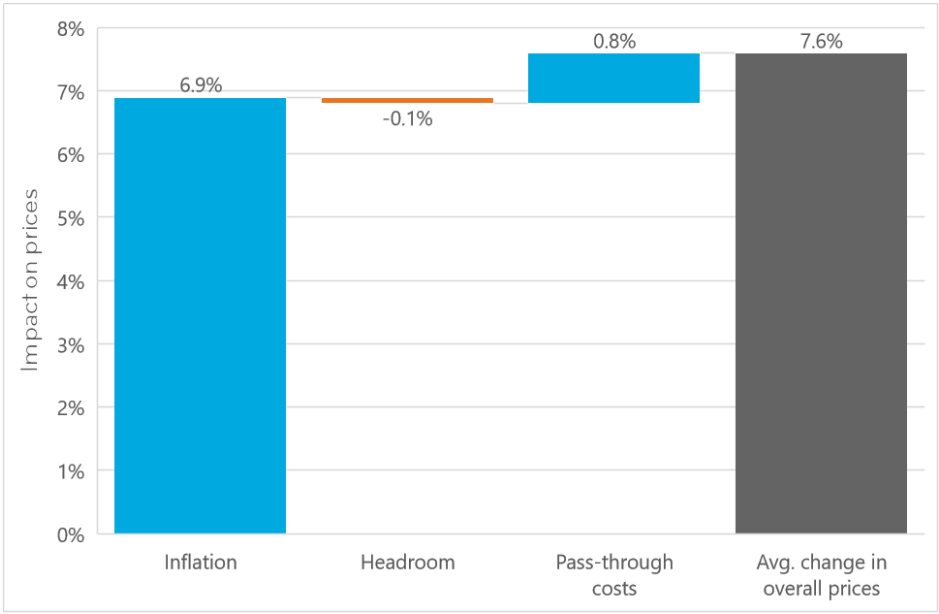
3 - PRICE SETTING

Our prices are subject to the DPP Determination. This sets our Maximum Allowable Revenue (MAR) that can be earned from prices for the 12 months commencing 1 October 2022. The DPP Determination 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 (i.e. from 1 October 2023) of the regulatory period, prices are essentially only allowed to increase by: 1) inflation, 2) any under/over recovery of revenue from the previous year (headroom) and 3) the recovery of costs that are largely outside of our control, known as pass-through and recoverable costs (examples are council rates, statutory levies and the regulatory capex wash-up adjustment).

From 1 October 2023 (the second year of the regulatory period), Vector's gas distribution prices are increasing by a weighted average change of 7.6%, a breakdown is shown in Figure 2.

Figure 2: Percentage contribution to the PY24 price change



Most consumers have simple meters that record total usage over monthly or two-monthly meter-reading cycles. These simple meters do not record time of use or maximum demand. This limits the components of our prices to a fixed daily price ($/day) and a variable volumetric price ($/kWh), shown in Table 2.

The structure of our prices is constrained by the limitations of consumer consumption information. 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.

Table 2: 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 impact our price changes have. Our starting point for calculating prices is the corresponding price from the previous year. Historic consumer groups and price categories are the same as the previous year.

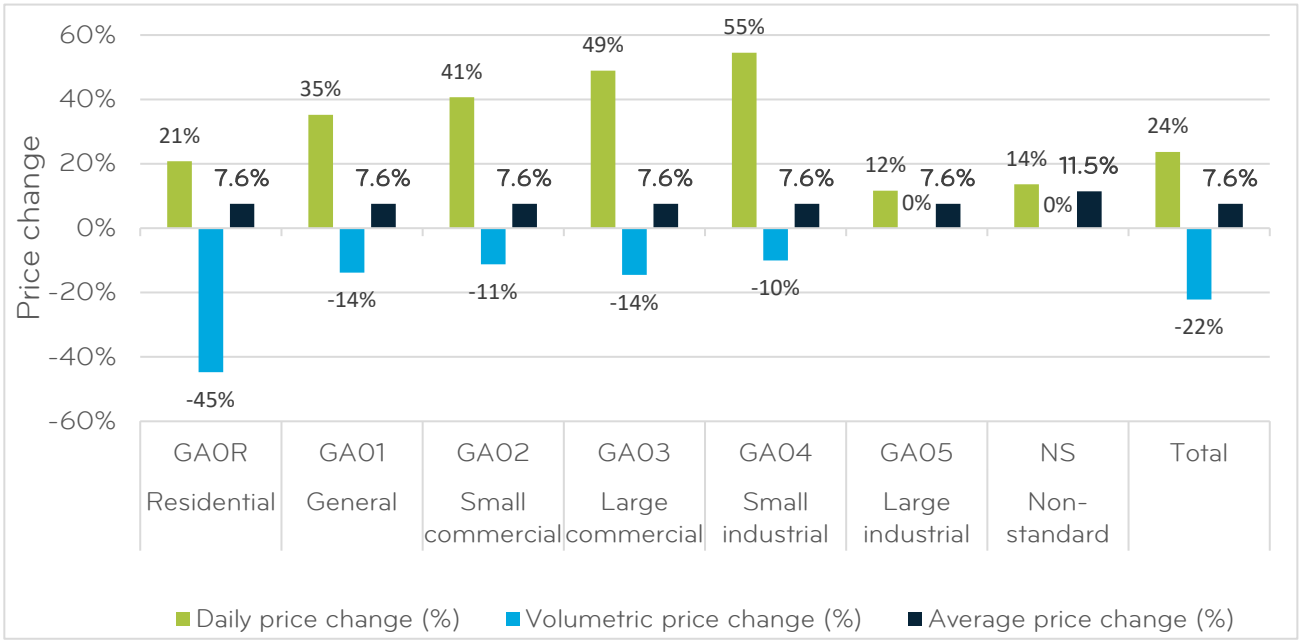
This year we have targeted to recover a higher proportion of revenue from fixed prices. This will be largely achieved by increasing the fixed daily price component and lowering the variable price component. This may result in the price change impact for an individual ICP being different to the weighted average price change due to differences in individual consumption levels. We are moving our pricing to be more fixed to better manage revenue recovery risk. The move towards a largely fixed pricing approach, better enables us to recover our investment in gas assets while New Zealand transitions to a low carbon economy. As New Zealand transitions to a net zero economy, revenues will be more at risk due to unforeseen volume reductions. The Commission recently declined to move gas distribution businesses on to a revenue cap. Without a revenue cap, (like that applied to electricity distributors), gas distributors are exposed to volume risk at a time of greater gas volume uncertainty. This uncertainty is being driven by businesses and households transitioning away from natural gas in response to the move to net zero 2050.

We have in fact, for many years, been moving our gas prices to be more fixed. This is because fixed pricing better reflects our underlying costs, which are mainly fixed. We consider that a move to more fixed pricing needs to be carried out over time to avoid consumer bill shock, assuming our prices are passed through by retailers. We are now accelerating this transition to some extent given the heightened revenue risk from declining volumes as consumers change behaviour in response to meeting climate change objectives.

Figure 3 shows how the weighted average price change is split across consumer groups. Our standard gas prices that apply from 1 October 2023, along with the previous prices, are set out in Table 4 on page 10.[5]

We do not directly seek the views of consumers when setting prices, as we usually bill retailers our charges. We consulted with retailers on our price changes. We also offer to retailers assistance in explaining our price changes to their customers, if they require. Our consultation with retailers did not highlight any major concerns with our price changes.

Figure 3: PY24 weighted average price change by standard price category



[5] 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[6] 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 PY24 is $63.0m ($58.7m for PY23).

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

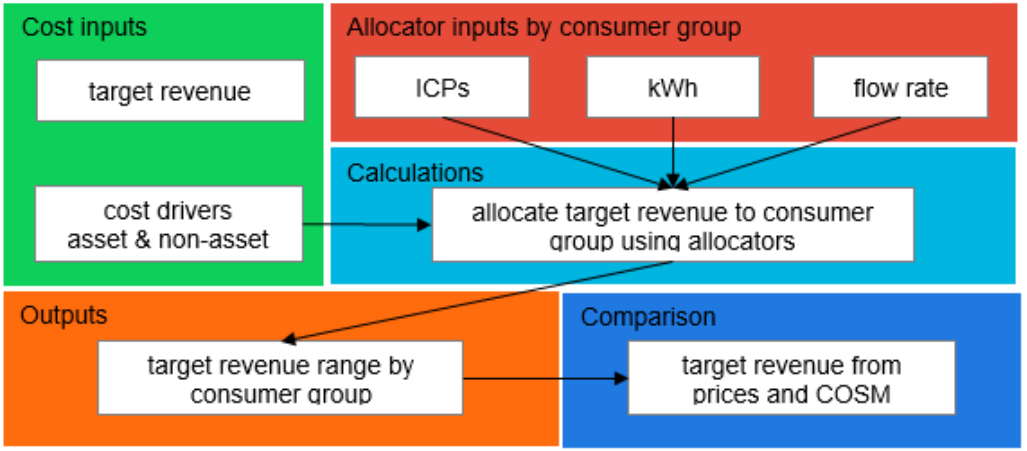


Figure 5 Target revenue by key components

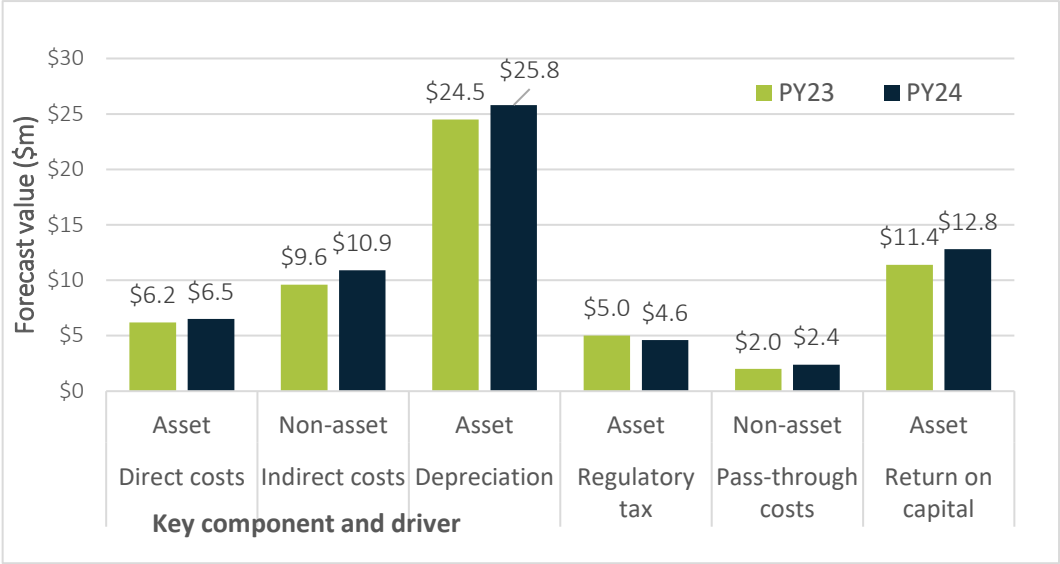
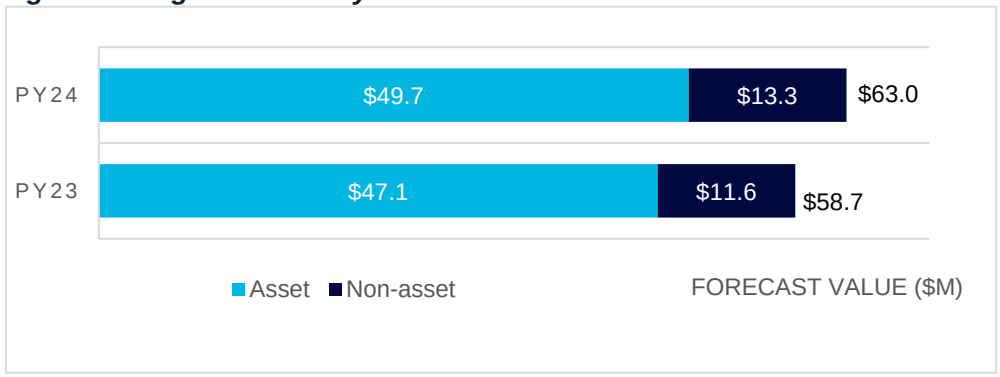


Figure 6: Target revenue by cost driver



[6] ICP, an allocator used in the COSM model, 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

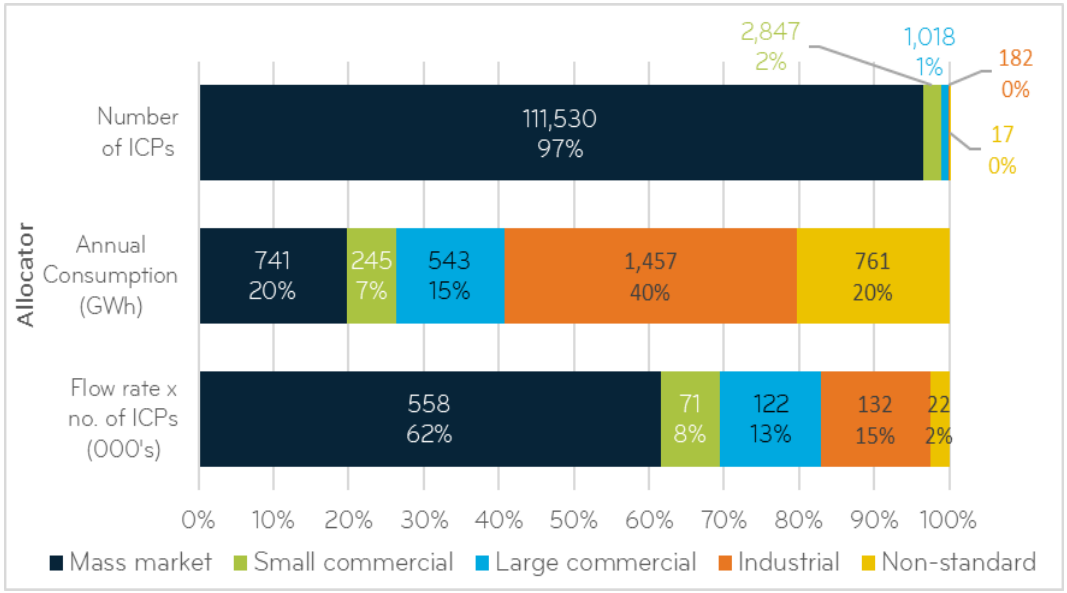
6 - TARGET REVENUE ALLOCATION

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 3: 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: PY24 COSM allocation values and percentages



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 3. This allocates based on the weighted average 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 network 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 determined 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 $1.6m (2.6%) to be recovered from the nine non-standard consumers (11 ICPs).

Figure 7 demonstrates the COSM allocations - value and percentages. The weighted average of last five year's of billed quantities, in Schedule 8 of Vector's annual Gas Information Disclosure[7] is used to determine the percentages.

To determine the flow rate, for mass market and commercial consumer groups, the midpoint of the maximum flow rates from Table 1 is used. For industrial and non-standard consumer groups, the average maximum hourly quantity specified in current and previous Network Charge Agreements is used.

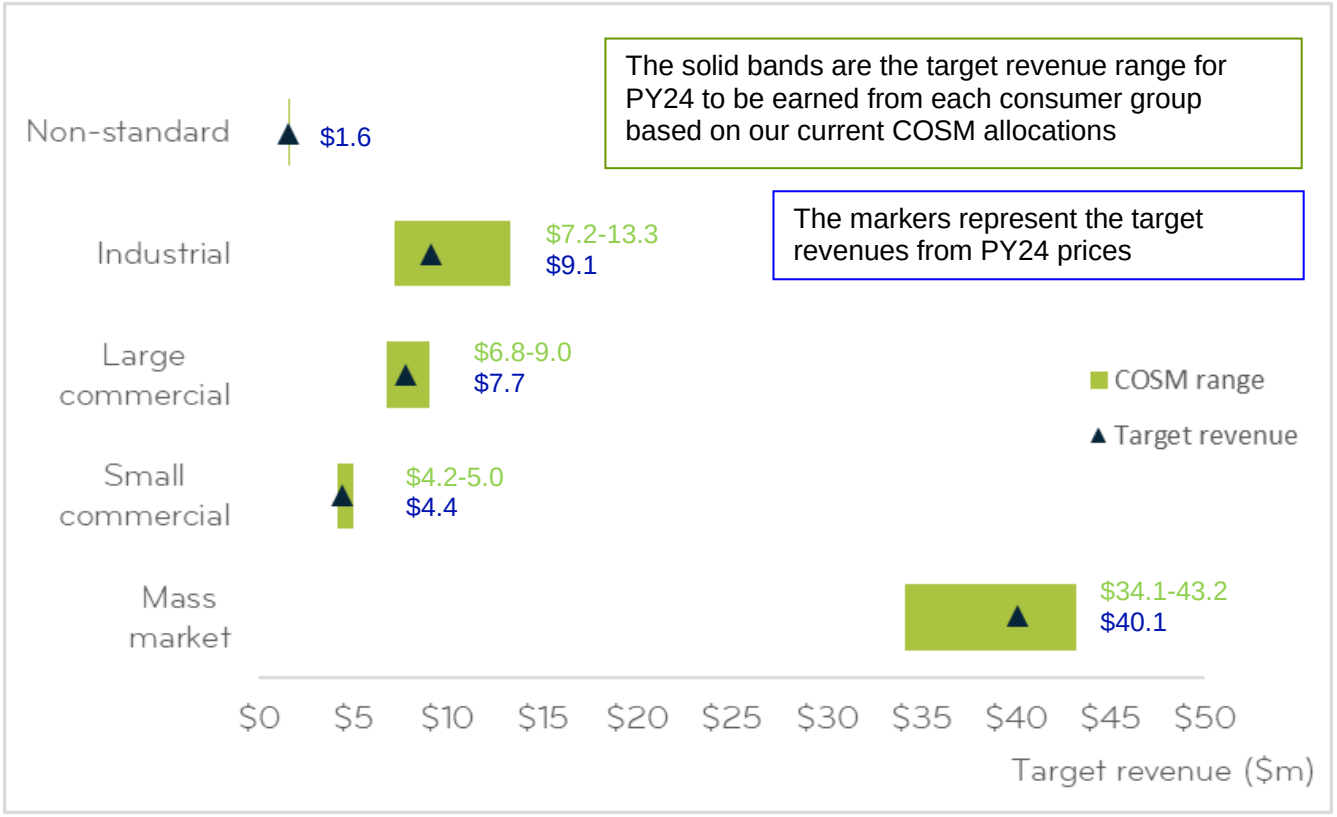
[7] Available at https://www.vector.co.nz/ about-us/regulatory/disclosures-gas/gas-financial-and-network-information, with each year being weighted twice the previous year

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. Figure 8 shows the target revenue calculated from PY24 prices by consumer group compared with the COSM allocations. The result is that PY24 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 considered and prices deliver revenue from each consumer group consistent with their target revenue allocation.

Figure 8: PY24 target revenue from prices compared with COSM allocations

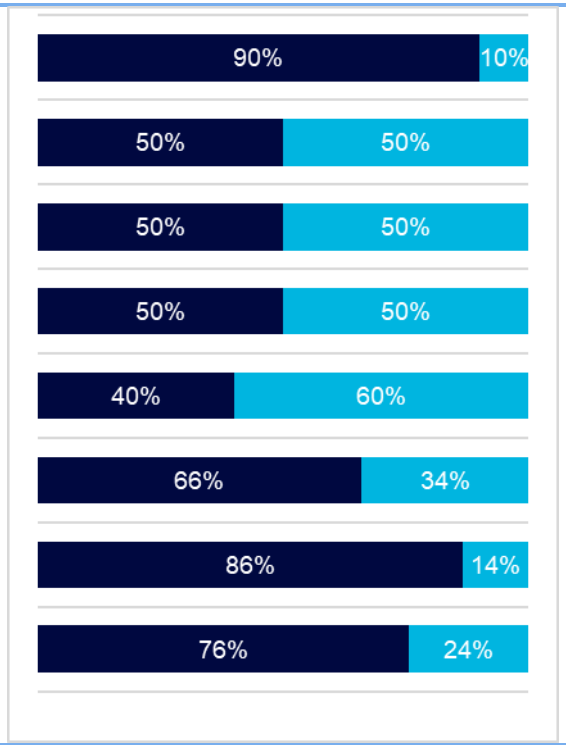


8 – PRICE & REVENUE STRUCTURE

Table 4 below shows our standard gas prices that apply from 1 October 2023, including the previous year's prices that were effective from 1 October 2022. The table also shows the price categories target revenue by price component. Residential, large industrial and non-standard are expected to have much of the revenue generated from the fixed daily component.

***Table 4: 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 2023)	Fixed daily (-FIXD) $/day	Variable volume (-24UC) $/kWh	PY24 target revenue ($m)	PY24 target revenue by price component	PY24 % of target revenue	PY24 % of total volume
Mass market	Residential	GA0R	< 10	113,420	0.8308 *(0.6880)*	0.005824 *(0.010538)*	38.2		60.7	17.8
	General	GA01	< 10	2,209	1.1640 *(0.8609)*	0.012619 *(0.014636)*	1.9		3.0	2.0
Small commercial	Small commercial	GA02	10 to 40	2,785	2.1796 *(1.5490)*	0.011030 *(0.012422)*	4.4		7.0	5.4
Large commercial	Large commercial	GA03	40 to 200	1,018	10.1830 *(6.8384)*	0.008099 *(0.009470)*	7.7		12.3	12.9
Industrial	Small industrial	GA04	> 200	159	33.4500 *(21.6430)*	0.005727 *(0.006368)*	4.9		7.7	13.8
	Large industrial	GA05	> 200	26	298.8200 *(267.5400)*	0.001353	4.3		6.8	29.2
Non-standard			Various	14			1.6		2.6	18.9
Total				119,631			63.0		100	100



APPENDIX 1 – NON-STANDARD CONTRACTS

Table 5: Criteria for non-standard contracts

Approach	Description
Criteria	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. 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. Non-standard contracts also allow consumers to negotiate differing levels of economic value from a service or enable Vector to mitigate against uneconomic bypass.
Methodology	We assess whether to apply non-standard pricing and the corresponding contractual arrangements to consumers on a case-by-case basis. 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 COSM used for standard pricing. 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.
Obligations & responsibilities	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 COSM used for standard pricing.

APPENDIX 2 – CONSISTENCY WITH PRICING PRINCIPLES

Table 6: 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 that consumer's individual connection to the network, and therefore excludes the shared costs. The incremental cost for a group of consumers is the cost of all the connections of that group of consumers and includes shared costs for 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 capital expenditure necessary to ensure shared assets grow as the network grows. 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. In these situations, this pricing principle is delivered through the operation of pricing principle #3, detailed below.
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 impacts on the economic cost of service provision. Indeed, given the level of available service capacity there is no need to presently signal through prices the impact additional usage has on future investment.

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.

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, this assumes that retailers pass our prices through to consumers.

We are particularly conscious of the effect of our pricing on consumers, assuming that gas retailers pass our prices through to end users. We seek to implement a pricing framework that provides appropriate incentives for consumers to continue to use our distribution services.

In July 2023, 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

24 August 2023

Date