Advanced Gas Metering Infrastructure - Issues Assessment

24 September 2021

GAS INDUSTRY COMPANY LIMITED

Executive Summary

In 2017, Gas Industry Co undertook a review into gas metering, conducting consultation on the following two papers it commissioned as part of the review (2017 Gas Metering Review):

- review of metering service provider arrangements; and
- review of advanced metering technology.

Submissions on those papers highlighted three consistent themes: first, that advanced gas metering infrastructure (AGMI) was, at the time, in the early stages of development, with no settled view on the right technical solution for the market (the technology trial phase); second, that the market should be allowed to develop without regulatory intervention to ensure that innovation was not hampered; and third, determining some minimum standards would be a pragmatic step to ensure a common understanding of what market participants want from advanced metering.

In response to the third theme, Gas Industry Co set up a technical advisory group (the Technical Advanced Metering Advisory Committee or TArMAC) to provide advice on specific AGMI issues, in preparation for the deployment of AGMI.

TArMAC was tasked with focussing on:

- the development of a set of minimum standards that will allow for the consistent collection and treatment of AGMI data; and
- the identification of any registry changes or rules amendments needed to accommodate the uptake of AGMI.

AGMI has now moved to the deployment phase, with advanced gas meters being deployed to one retailer's natural gas consumers.

Given this deployment, and the gas metering-related objectives and outcomes which Gas Industry Co is expected to pursue under the Government Policy Statement on Gas Governance (April 2008) (GPS), Gas Industry Co considers it appropriate to conduct a review of how AGMI is being deployed to the market, and to assess whether any new gas market rules, regulations or non-regulatory arrangements are required to deliver on the GPS objectives and outcomes.

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1. Introduction and Purpose

1.1 Introduction

Gas Industry Co has started a new workstream to assess the impact of the deployment of AGMI to residential and small business customers in the gas market.

Gas Industry Co has had initial informal discussions with several gas market stakeholders to understand the current state of AGMI in the gas market, and to develop a list of potential issues arising from the deployment of AGMI.

1.2 Purpose

The purpose of this paper is to identify potential issues associated with the deployment of AGMI that might affect any of the gas metering-related outcomes and objectives which Gas Industry Company is expected to pursue under the GPS.

We welcome stakeholders' submissions on the issues raised in this paper.

These stakeholder submissions will be used by Gas Industry Co in making recommendations on any new gas market rules, regulations, or non-regulatory arrangements to address identified issues.

1.3 Implementation

The means of implementing any relevant recommendations will be consulted on separately.

2. Background

2.1 Advanced Gas Metering Infrastructure Defined

Advanced Gas Metering Infrastructure is made up of three key components:

- Metering equipment: Advanced (or "smart") meter equipment is installed at a customer's premises and measures the amount of gas being delivered (and other related data) on a near real time basis. The installed equipment can store and transfer recorded consumption data back to third parties. This equipment may also enable remote disconnection and reconnection of supply to the customer, fault detection and other advanced features.
- Communications equipment: Communications equipment installed with the metering equipment enables secure two-way communications between the meter and designated third parties. Different communications methods are available and have different costs and benefits.
- Meter management systems: These systems create the communications for sending to the advanced meters, and they collect, securely store, analyse, and process the data received and forward this to relevant third parties.

References to AGMI in this paper include all of these component parts, as applicable to the gas market.

2.2 Gas Metering overview

2.2.1 Current market state

Gas metering is installed at the ICPs on all of New Zealand's natural gas and LPG distribution networks.

2.2.2 Reticulated natural gas system

The North Island's reticulated natural gas market is made up of around 300,000 consumers, with 285,000 of those residential consumers, 10,000 small business users and 5,000 larger commercial and industrial consumers.[1]

The vast majority of these consumers are connected to one of ninety open-access gas distribution networks and have their natural gas consumption measured by a gas meter. These networks are owned by First Gas Limited (First Gas), Vector Limited (Vector), Powerco Limited (Powerco) and GasNet Limited (GasNet).

[1] https://www.gasindustry.co.nz/work-programmes/switching-and-registry/current-arrangements/reports/.

2.2.4 Reticulated LPG systems

The reticulated LPG market is predominantly based in the South Island. These networks are not 'open' access, meaning only the network owner is able to sell LPG on the network. Consumer numbers on the networks are not publicly available.

These gas (natural gas or LPG) distribution networks terminate at the various gas measurement systems (GMS) located at end-user premises. The GMS owner may be a distributor, a retailer, or another party.

2.2.5 Meters

Residential and small business consumer gas meters are traditionally flow meter devices that measure the amount of gas delivered to the consumer's premises.

Mechanical diaphragm meters are common in New Zealand for residential and small business consumers. Rotary, turbine, and ultrasonic meters are generally considered more suitable for measuring larger volumes of gas and higher pressures and have been used for larger commercial and industrial sites.

Each meter has a set of indicators on its front (analogue or digital) which record gas volumes delivered through the meter. These measured volumes are separately converted to energy in compliance with New Zealand Standard 5259[2], with appropriate adjustments made for gas temperature and pressure.

Residential and small business customer gas meters are typically read once every one or two months by a customer's retailer (by a contracted meter reader attending the customer's property to 'read' the meter).

2.2.6 Gas pricing

Gas tariffs generally comprise fixed and variable charges. The fixed component contributes to network and metering fixed costs. Variable charges are calculated purely on gas volume, with no pricing based on the time of delivery or peak system demand. This volumetric component aligns with the wholesale volumetric pricing basis on which retailers purchase gas from wholesalers and transportation services from infrastructure owners.

2.2.7 Gas metering services

Gas metering services are provided under industry contracts known as gas metering services agreements (GMSAs). GMSAs are entered into between natural gas retailers (Retailers) and the gas metering service provider (MSP). In the current market, the MSP is also the owner of the gas metering infrastructure, but separation of these roles is not prohibited.

A Retailer's GMSA is commonly combined with its network access agreement. There is no standardised industry GMSA.

Five market participants currently provide gas metering services to Retailers - Vector Metering, Powerco, GasNet, Nova Energy, and Intellihub (which purchased Metrix in 2019).

Gas Industry Co's 2017 gas metering review found limited competition in the gas metering market, due to retailers generally selecting the relevant distribution network owner's MSP

[2] Rule 27 Gas (Downstream Reconciliation) Rules 2008.

(owned by the network owner) as the metering service provider.[3] Gas Industry Co's 2017 Gas Metering Review also found limited to no differentiation between the service levels or costs between the different MSPs.

The acquisition by First Gas of the Vector Gas Limited gas distribution networks in Whangarei, Hamilton, Rotorua, Taupo, Whakatane, Gisborne, Tauranga, Wanganui, Palmerston North, Hastings, and the Kapiti Coast has seen the share of non-network owner owned metering infrastructure increase, with Vector Metering owning virtually all of the 66,000 gas meters on these First Gas distribution networks. Vector Metering now also owns over 45,000 meters on the Powerco distribution networks. However, virtually all new ICPs added to the system since 2016 have their meter owned by the incumbent meter owner on the network to which the ICP is connected.[4]

Gas metering is currently subject to safety and technical regulation only, as set out in the Gas (Safety and Measurement) Regulations 2010, Gas (Downstream Reconciliation) Rules 2008 (Reconciliation Rules) and NZS 5259.[5]

Gas Industry Co's Retail Gas Contract Benchmarks (restated on 8 June 2011) also prescribe certain minimum requirements relating to gas metering provisions to be included in a customer's gas supply arrangement with its Retailer.

2.2.8 Commerce Act 1986

Gas metering services are excluded from the definition of gas pipeline services under Part 4 of the Commerce Act 1986 (Commerce Act) and are therefore not subject to price, quality regulation under the Commerce Act.

LPG distribution networks are not regulated under Part 4 of the Commerce Act and are not 'open access'.

The Commerce Commission conducted a preliminary assessment of the costs and benefits of regulating gas metering services. On 1 April 2016 it decided against conducting a Part 4 inquiry into gas metering services:

> "While the Commission remains concerned about the level of competition in the market for the supply of gas metering services, the likelihood of the benefits of regulation materially outweighing the costs was not sufficient to justify an inquiry.
>
> Our initial findings suggested the benefits of regulation would be modest for consumers – possibly saving between 63 cents to $1 on a monthly bill. Our indicative analysis did not yield sufficiently high benefits when balancing against the cost of an inquiry and any subsequent regulation.
>
> Our remaining concerns about the scope Vector and Powerco have to raise their prices mean that we will continue to pay attention to the pricing of gas metering services in

[3] Analysis of 17 months of registry data up to May 2016 confirms ~100% (> 99.9%) alignment between the MSP chosen by retailers and the related network owner. Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

[4] Gas registry statistics dashboard https://www.gasindustry.co.nz/work-programmes/switching-and-registry/current-arrangements/reports/.

[5] New Zealand Standard. Gas Measurement. NZS 5259:2015.

future, as we do with pricing in any infrastructure sector where competition concerns have been identified." [6]

2.3 Current State of AGMI in the Gas Market

AGMI trials have reportedly been taking place in New Zealand since 2014.[7]

The technology has now moved to the deployment phase.

Recently, Genesis Energy Limited (Genesis) started deploying advanced gas meters to its natural gas customers (residential and small business) in collaboration with Vector Limited's metering business, Vector Metering.

Genesis is planning to deploy advanced gas meters to its residential and small business customers over the next 2.5 years.

Gas Industry Co notes the following features of the deployment:

- The parties are deploying advanced gas meters[8], similar to those meters deployed in the UK gas market. The current meters being deployed have capacity to measure gas deliveries up to 10m^3 per hour.
- The meters record half-hourly data and complete an overnight register read, communicating 48 interval reads to Vector Metering's metering information system, which validates the data and distributes it to the Retailer clients.
- Gas temperature and pressure adjustments may be carried out through Vector Metering's metering information system (and not in the meter itself) or the Retailer's systems.
- The meters have an integrated communications system, communicating over the 4G mobile network using Cat-M1 (a low-power wide area network (LPWAN) mobile technology intended for 'internet of things' devices).
- The meters being deployed have remote disconnection and reconnection capability. Vector Metering and Genesis are not immediately enabling this service.
- Vector Metering is working with contracting partners to install the AGMI equipment on customer premises. Vector Metering is using the meter installation opportunity to also upgrade venting regulators, where required, to more efficient, lower greenhouse gas emitting overpressure regulators.

2.4 Current State of Advanced Electricity Metering Infrastructure in the New Zealand Market

Advanced meters were first deployed into the electricity market in 2005.[9]

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[6] Commerce Commission website https://comcom.govt.nz/regulated-industries/part-4/inquiries/gas-metering-preliminary-assessment.

[7] Energy News reported in December 2014 that several existing meter owners had commenced trials in New Zealand of the fully functional EDMI Helios D152A (0-10 scmh) ultrasonic meter which includes an integrated valve, tamper detect and alarms, and is suitable for residential consumers. Energy News also reported that EDMI was about to launch a 0-20 scmh model which would be suitable for most SME consumers – see p 7 Gas Metering Review - Review of advanced metering technology, 1 March 2017.

[8] EDMI or EDMI Limited is a global advanced metering provider, owned by Osaki Electric Co., Ltd., a Japanese metering solutions provider listed on the First Section of the Tokyo Stock Exchange.

[9] Arc Innovations advanced meter pilot in Central Hawke's Bay.

Penetration rates are now very high, with over 87% of residential and small business customers having an advanced electricity meter. There will be over 2 million advanced meters installed in the New Zealand electricity market by the end of 2021.

The deployment of advanced electricity meters is a 'market-led', unregulated deployment.

The Electricity Commission (subsequently the Electricity Authority or EA) developed an Advanced Metering Policy (AM Policy) and voluntary Guidelines on Advanced Metering Infrastructure (AM Guidelines) intended to give direction to the industry on the Commission's and the Government's policy expectations of the deployment of advanced meters.[10]

The AM Policy set out a set of objectives and benefits for advanced electricity metering.

Key AM Policy objectives were ensuring open and accessible infrastructure to allow multiple service provider access, and an appropriate minimum set of features to encourage the development of meaningful and effective pricing and load control services over the long term, were key objectives.

The following potential benefits were identified in the AM Policy:

- progressively increased demand side participation in the electricity market;
- more cost reflective pricing from all electricity supply side participants;
- increased security of supply due to more sophisticated emergency response capability distributed throughout the system;
- increased standardisation of systems and data interchange over time;
- improved accuracy of market settlement;
- increased transparency in electricity end use leading to more efficient utilisation; and
- downward pressure on operating costs.[11]

Consistent with the AM Policy, the AM Guidelines suggested a number of minimum advanced meter infrastructure system attributes, including for:

- Data collection;
- Meter installation requirements;
- Data storage;
- Remote load control and disconnection/reconnection;
- Tamper detection;
- Meter volume register requirements;
- Future-proofing of metering device; and
- Open access requirements.

Part 10 of the Code was introduced in 2013. This regulates processes and procedures for testing, calibrating, and certifying metering installations. It also regulates (amongst other things):

- requirements for the access to, security, and permitted use, of metering data;

[10] See Advanced Metering Policy and the Guidelines on Advanced Metering Infrastructure v2.0, May 2008, updated in 2010 to account for transition to the Electricity Authority. See also The Government Policy Statement, May 2009.

[11] Electricity Authority Advanced Metering Policy, Version 1.1.

- meter data formats, with a provision enabling the EA to specify meter data formats, including a participant opt out provision;
- changes to MSPs (known as metering equipment owners or MEPs under the Code) at an ICP (including compensation payments made by a gaining MSP to a losing MSP, for a proportion of meter certification and calibration costs, where the losing MSP's meter equipment is not replaced, removed, or recertified by the gaining MSP within a set time period); and
- procedures for installing, maintaining, repairing, and modifying metering equipment, including a distribution network consultation requirement.

There are a number of advanced electricity metering service providers in the electricity market, with electricity distribution companies the principal advanced meter owners (there is one independent provider in the market – Intellihub). Vector Metering holds significant electricity meter market share.[12]

It is understood that the advanced electricity MSPs have deployed a variety of technological solutions, offering largely similar functionality but on a variety of contract terms, and using a variety of data file formats. Stakeholders have advised Gas Industry Co that this lack of standardisation of file formats in particular creates inter-operability complexity and inefficiency for retailers with customers across different MSPs.

2.5 International Advanced Gas Metering Experience

2.5.1 Australia

Gas meters in Australia are typically owned by the distribution network owner. Gas Industry Co is not aware of advanced gas meters being deployed to residential and small business customers in Australia.

However, the Australian experience of advanced meters in the electricity market is instructive.

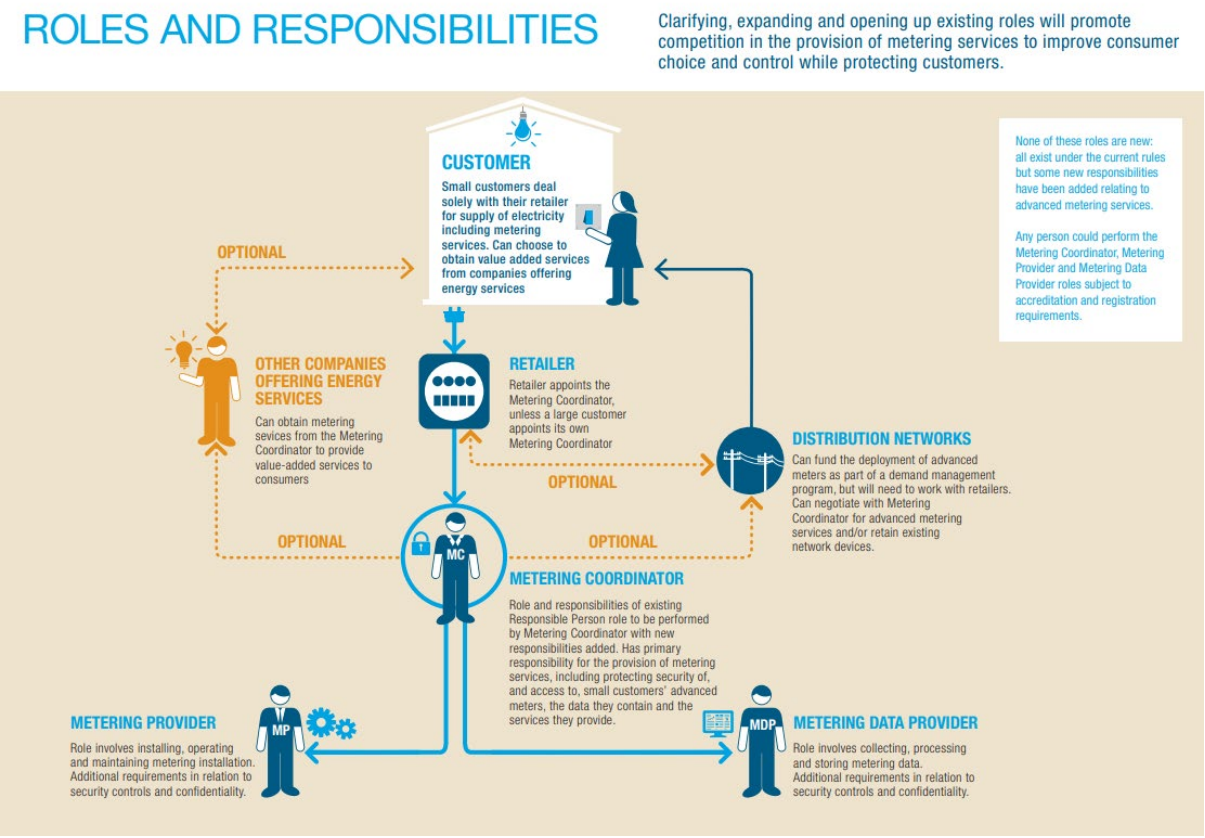
The energy market rule maker and expert energy policy adviser to Australian governments, the Australian Energy Market Commission (AMEC), amended the National Electricity Rules (NER) in 2017 to enable a market-led deployment of advanced electricity meters, within specified regulatory parameters.

The electricity market NER rule change took a high-level prescriptive approach to certain key elements of the advanced electricity meter deployment, aimed at facilitating competition in the provision of electricity metering and related services, within defined parameters. These parameters specify (amongst other things):

- The roles and responsibilities of and registration requirements of "metering coordinators" (the suppliers of metering services to retailers);
- the minimum services that an advanced meter must be capable of providing;
- the circumstances in which small customers may opt out of having a new meter installed at their premises;

[12] Over 61%, including Arc Innovations - Electricity Authority, EMI, Metering snapshot data.

- the entitlement of parties to access energy data and access or receive metering data to reflect the changes to roles and responsibilities of parties providing metering services; and
- circumstances in which a retailer may arrange for an approved metering coordinator to remotely disconnect or reconnect a small customer's premises.



All electricity and water meters used in trade in Australia must be approved as being fit for purpose and verified to comply with certain measurement standards. Gas meters are not required to have these approvals.[13]

2.5.2 United Kingdom

The UK gas and electricity industry is deploying advanced electricity and gas meters through a nationwide, Government-facilitated rollout to 53 million homes and small businesses.

The UK Government developed a regulatory framework comprising licence conditions (in supply licences, network operator licences, and smart meter communication licences) and a new industry code called the Smart Energy Code (the SEC). Together, these establish the rights and obligations for all aspects of advanced metering design, development, installation, and operation, as well as monitoring and reporting.

Independent energy retailers are responsible for supplying and fitting advanced meters. They need to abide by the rules and regulations set out in the Smart Metering Installation Code of

[13] Australian Government – Department of Industry, Science, Energy and Resources https://www.industry.gov.au/regulations-and-standards/utility-meters.

Practice (SMICOP), including making sure people know how advanced meters work and how to control their data. They also have to make sure that the advanced meters they supply meet Government standards – the Smart Metering Technical Standards (SMETS).

Central to the operation of advanced metering is the activity of communicating to and from advanced metering systems. The national smart meter communication service is provided by a national smart meter communication and data service provider called the Data and Communications Company (DCC).[14]

The UK energy regulator, OFGEM, is responsible for ensuring energy suppliers and the DCC comply with the terms of the SEC and the SIMCOP.

Smart Energy GB is a not-for-profit, government-backed campaign helping everyone in Britain understand the importance of smart meters and their benefits to people and the environment.

[14] Explanatory Notes to the UK Smart Meters Act 2018. https://www.legislation.gov.uk/ukpga/2018/14/notes/division/3/index.htm.

3. Assessment Framework

3.1 Introduction

In this section we set out the framework we have used to assess the relevance of identified advanced gas metering issues.

3.2 Assessment methodology

To understand the relevance of each identified issue, we assess each against relevant Government policy objectives for the sector. These objectives are identified in the Gas Act and the GPS. We have concluded that the following assessment criteria are relevant:

Table 1 – Assessment Criteria

Criterion	Objective	Text
1	Gas Act s43ZN(a)	The principal objective is to ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner.
2	Gas Act s43ZN(b)(i)	Facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements.
3	Gas Act s43ZN(b)(ii)	Barriers to competition in the gas industry are minimised.
4	Gas Act s43ZN(b)(iv)	Delivered gas costs and prices are subject to sustained downward pressure.
5	Gas Act s43ZN(b)(vi)	Consistency with the Government's gas safety regime is maintained.
6	GPS Item 12(a)	Energy and other resources used to deliver gas to consumers are used efficiently.
7	GPS Item 12(b)	Competition is facilitated in upstream and downstream gas markets by minimising barriers to access to essential infrastructure to the long-term benefit of end-users.
8	GPS Item 12(c)	The full costs of producing and transporting gas are signalled to consumers.
9	GPS Item 12(d)	The quality of gas services where those services include a trade-off between quality and price, as far as possible, reflect customers' preferences.
10	GPS Item 12(e)	The gas sector contributes to achieving the Government's climate change objectives as set out in the New Zealand Energy Strategy, or any other document the Minister of Energy

Criterion	Objective	Text
		may specify from time to time, by minimising gas losses and promoting demand-side management and energy efficiency.
11	GPS Item 9	It is also the Government's objective that GIC takes account of fairness and environmental sustainability in all its recommendations. To this end, the Government's objective for the entire gas industry is as follows: To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable, and environmentally sustainable manner.
12	GPS Item 13	Pursue and report against the following outcomes: • Contractual arrangements between gas retailers and small consumers adequately protect the long-term interests of small consumers. • Effective and efficient customer switching arrangements that minimise barriers to customer switching. • Accurate, efficient, and timely arrangements for the allocation and reconciliation of downstream gas quantities. • An efficient market structure for the provision of gas metering, pipeline, and energy services. • The respective roles of gas metering, pipeline and gas retail participants are able to be clearly understood. • Accurate, efficient, and timely arrangements for the allocation and reconciliation of upstream gas quantities. • Gas industry participants and new entrants are able to access gas processing facilities, transmission pipelines and distribution pipelines on reasonable terms. • Consistent standards and protocols apply to the operations relating to access to all distribution pipelines. • Sound arrangements for the management of critical gas contingencies. • Gas governance arrangements are supported by appropriate compliance and dispute resolution processes. • Good information is publicly available on the performance and present state of the gas sector.

These criteria are then mapped against the five outcomes listed in Table 2.

Table 2 – Assessment Outcomes

	Efficiency	Fairness	Reliability	Environment	Safety
Gas Act	Criterion 1 Criterion 2 Criterion 3 Criterion 4		Criterion 1 Criterion 2		Criterion 1 Criterion 5
GPS Objective	Criterion 6 Criterion 7 Criterion 8 Criterion 9	Criterion 11		Criterion 6 Criterion 10 Criterion 11	
GPS Outcome	Criterion 12	Criterion 12	Criterion 10		Criterion 12

Gas industry Co uses these five outcomes as the screen for determining the 'in-principle' relevance of each of the identified advanced gas metering issues to the gas industry.

3.3 Gas Governance Regulations

Section 43G of the Gas Act sets out the purposes for which gas governance regulations may be made in respect of Gas market retail and consumer issues, on the recommendation of the Minister (on the basis of recommendations made by the industry body, the Gas Industry Co).

The "purposes" potentially relevant to advanced gas metering are as follows:

Table 3 – Gas Governance Regulation Purposes

Gas Act Ref	Purpose	Description
43G(2)(b)	Prepayment meters	Requiring gas retailers to offer prepayment meters to domestic consumers at a reasonable cost, and prescribing conditions on which those meters must be offered, with the objective of ensuring that all domestic consumers who wish to pay for gas in advance have the option to do so at reasonable cost.
43G(2)(c)	Ability of consumers to choose preferred gas retailer	Providing for arrangements to enable consumers to switch gas retailers.
43G(2)(e)	Disclosure of information	Providing for the disclosure of information by gas transmitters, distributors, and retailers on tariff and other charges.
43G(2)(f)	Terms and conditions of access	Providing for terms and conditions of access to gas meters by gas retailers.
43G(2)(g)	Information on customer accounts	Providing for information on customer accounts.

Gas Act Ref	Purpose	Description
43G(2)(h)	Consumer contracts	Providing for minimum terms and conditions in contracts between domestic consumers and gas distributors or gas retailers.
43G(2)(k)	Enforcement of gas governance regulations	Providing for compliance with gas governance regulations and rules to be monitored and enforced by the industry body or the Commission or any other person or court, and the powers and procedures of that person or court.
43G(2)(l)	Processes	Providing for processes for settling particular issues within the gas industry that may result in recommendations for gas governance regulations or rules, and requiring compliance by industry participants, the industry body, and the Commission with those processes, including compliance with requirements to produce documents as part of those processes.

Section 43F of the Gas Act also enables the making of regulations relating to the provision and disclosure of data and information by any industry participant or consumer (other than a domestic consumer – but including small business consumers, which is of relevance to this Gas Industry Co workstream).

Gas Industry Co is to "have regard" to the GPS objectives and outcomes when making recommendations for regulations under Part 4 of the Act (section 43ZO(4) of the Gas Act).

4. Gas Industry Co Analysis

4.1 AGMI issues

Set out below is the list of issues identified by Gas Industry Co through its recent informal discussions with industry stakeholders. We have also included issues identified in the 2017 Gas Review findings, the work of TArMAC, and Gas Industry Co's own analysis.

Gas Industry Co gives some initial commentary below around the merits of each issue, and makes an initial assessment of the priority to be afforded to the issue, classifying each issue into one of the following 'priority groups':

Table 4 – Issue Priority Groups Description

Priority Groups	Issue Key
Issues that likely require priority Gas Industry Co consideration. Note, priority may be given to an issue either due to its potential materiality to the outcomes and objectives that Gas Industry Co is expected to pursue under the GPS and the Gas Act and/or due to timing considerations – that is, the nascent state of advanced gas metering in New Zealand enables some shaping of market outcomes now, with change becoming more difficult or costly to achieve over time, as market penetration of AGMI increases.	Type A
Issues that likely allow a 'watching brief' and/or lower priority Gas Industry Co consideration either due to timing considerations or materiality to the outcomes and objectives which Gas Industry Co is expected to pursue under the GPS and the Gas Act.	Type B
Issues that Gas Industry Co does not consider to be relevant to delivering on the outcomes and objectives which Gas Industry Co is expected to pursue under the GPS and the Gas Act.	Type C

Table 5 – Initial Issues Assessment

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
High priority issues			
1	**Costs and benefits to consumers** • Stakeholders have raised concerns about the future costs and benefits of advanced gas metering to end consumers. • Will the cost to a Retailer of an advanced gas metering service be higher than a legacy service, and will those increased costs be passed on to consumers?	• It is important that the deployment of advanced gas meters increase market efficiency and that the benefits of deployment outweigh the costs to end consumers. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	• Will any increased costs to end consumers outweigh the likely benefits to these consumers? • Stakeholders have highlighted the following potential benefits, suggesting that these benefits more than outweigh the additional metering costs, meaning that end consumers will not pay more for metering services, despite potentially receiving an enhanced service: *End consumer benefits:* o increased gas consumption data availability meaning improved Retailer service and improved data for consumer decision making (e.g., switching between fuels); o more accurate gas consumption data (no estimated bills); o avoiding the inconvenience of meter readers entering onto a consumer's property; o more accurate consumer billing. *Retailer benefits:* o avoided physical meter reading costs; o avoided HSE risks associated with physical meter reads; o more accurate wholesale gas and network charge reconciliation; o more accurate annual UFG allocation; o the potential to remotely disconnect and reconnect GMSs (subject to future certification and approval of associated disconnection/reconnection equipment and procedures).		

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
2	**Minimum data standards and file formats** • The 2017 Gas Review found that "A baseline of common terms and standards should also help to ensure that all retailers' systems work with all meter owners' systems. A couple of submissions suggested that the gas industry should learn from the experience of the electricity advanced metering roll out, where a lack of minimum standards resulted in misalignment between metering data and retailer requirements in some cases and in poor outcomes for some customers." [15] • Several stakeholders spoken to by Gas Industry Co also support the idea of agreed minimum data standards and file formats. • TArMAC produced a draft paper: Advanced Gas Metering – Minimum Standards in September 2017. • That paper set out potential areas for the development of advanced gas metering minimum standards. ***Recording of consumption data:*** • Minimum time period for measuring? (hourly, half hourly, other?). • Metering system should include a visual indicating device that is able to be read manually (accumulating register?). • Record gas temperature and meter pressure? Faults and alarms? • Conversion of metering data: o Should the advanced meter convert gas flows into volume at standard temperature and pressure?	• Gas Industry Co is supportive in principle of the market efficiency benefits this might deliver. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

[15] Gas Industry Company Analysis of submissions and metering review, September 2017, page 2.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	• As per Appendix B of NZS 5259, time should be recorded in New Zealand Standard Time (NZST); and the Reconciliation Rules require days defined by NZST. Given this, is there any need to convert to daylight saving time (DST)? ***Access to metering data:*** • It is possible that the advanced metering services market will evolve such that one service provider will provide the metering assets, and a different service provider will remotely collect the consumption information and provide it to the retailer. Advanced meters should be configured in a way that allows third-party access. • To the extent that the advanced meter records information that could be useful for network management or reconciliation, such as gas temperature, meter pressure, faults, and alarms, those data should be able to be made available separately. • Able to provide remote operation diagnostics? For example, should a customer service representative (CSR) be able to remotely check on the status of a customer's meter? • What protocols are needed regarding access to data and protection of consumer data? ***Provision of consumption data:*** • Should have the option of providing a single monthly consumption number for Retailers with legacy systems. • Should be able to provide daily consumption data to the allocation agent for D+1 allocations. • Should be able to provide consumption data to consumers in a format that can be readily understood. Data should be supplied in the units for which the		

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	consumer is billed; e.g., kWh for mass market consumers. *Cybersecurity* • Particularly an issue with regard to meters that can remotely disconnect and reconnect. What protocols and protections are needed to ensure no unauthorised access of AGMI functionality?		
3	**Access to, ownership, use and security of, customer data** • Advanced gas meters being deployed into the market record and report 48 data points per day (half-hourly recording). • Terms of access to, ownership, use and security of this increased volume of data (including information and insights capable of being derived from this data), are important stakeholder and consumer concerns. • The 2017 Gas Review's Metering Services Paper noted "Submitters generally agreed that consumers own their own consumption data and should be able to access the information easily. Some submissions highlighted that advanced metering data could be useful to third parties – to network owners, for instance, for network management purposes; or to service providers, to help develop their service offerings – and that there should be clarity around data access and protection." [16] • Reference in the 2017 Gas Review was made to the open letter from the Privacy Commissioner regarding the bulk disclosure of metering data - saying that consumers must be able to trust	• Gas Industry Co expects all market participants to comply with their obligations under the Privacy Act 2020 and have regard to relevant guidance from the Privacy Commissioner. • The effects of the proposed new consumer data right (CDR) being established by the Government also needs to be considered in relation to this issue.[18] • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

[16] Gas Industry Company Analysis of submissions and metering review, September 2017, page 3.

[18] https://www.mbie.govt.nz/business-and-employment/business/competition-regulation-and-policy/consumer-data-right/.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	that their data are not being used for purposes they have not permitted.[17] • Some stakeholders have expressed concerns about the uses that half-hourly consumption data may be used for, by different market participants and suggest this is managed. • Stakeholders also report that Retailers are currently the 'gatekeepers' to this information and terms of access can be challenging.		
4	**Potential process and registry changes (including switching procedures)** • Gas Industry Co concluded from the 2017 Gas Review that it did not intend to pursue any immediate changes to either the gas registry or the Gas (Switching Arrangements) Rules 2008 (Switching Rules) in relation to advanced metering. • It proposed to monitor this area with the assistance of TArMAC. • Stakeholders have suggested that Gas Industry Co should relook at these issues, with the deployment of advanced gas meters. • Potential affected registry areas identified by Gas Industry Co are: ○ The addition of meter make and model data to the registry.	• A draft minimum metering standards document was produced by TArMAC dated September 2017. Gas Industry Co has not received any further advice from TArMAC on this issue. • Gas Industry Co notes there may be market efficiencies from updating current gas registry and switching requirements to take account of the additional functionality offered by advanced metering. Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

[17] "Public statement about bulk disclosure of smart meter data", dated 26 May 2017. Available at https://www.privacy.org.nz/assets/Uploads/Open-letter-to-retailers-and-distributors-re-smart-meters-A504260.pdf.

The letter states that:

"Bulk disclosure of individual household level smart meter data risks infringing individual privacy and damaging public trust in how the sector handles customer data.

In order to avoid these risks, New Zealand electricity distributors should, in summary:

- Review their privacy statements and consider updating them to include assurances regarding the use of smart meter data;
- Review whether the individual household level data currently being provided by retailers could be aggregated and still meet network planning needs;
- Ensure that personal information is not collected unnecessarily, or held for longer than necessary; and
- Aggregate meter data where individual household level data is not required to meet network planning needs e.g., through amalgamating half-hourly data from small groups of households, or by receiving the half-hourly data at the street level."

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	○ Additional registry fields to better distinguish legacy meters from advanced meters (the 2015 amendments to the Switching Rules added a definition and a registry field for advanced meters). ○ Additional registry fields for a meter's data collection capability status (is the meter communicating or not). ○ Additional registry fields for meter disconnection/reconnection capability status (is the remote disconnection and reconnection functionality operational or not). ○ Agreed meter recording intervals. Is half hourly data required? ○ Number of files created - should two files be created, one for the daily read and one for half hourly reads?		
5	**Downstream Reconciliation Rules** • TArMAC's Advanced Gas Metering – Minimum Standards paper noted "The Gas (Downstream Reconciliation) Rules 2008 (Reconciliation Rules) require that all metering equipment used to collect gas volume information complies with New Zealand Standard - Gas Measurement, NZS 5259. As well, there are requirements in the Reconciliation Rules regarding the accuracy and handling of volume information. Some of these requirements seem particularly relevant to the attributes of advanced gas meters." [19] • Gas Industry Co notes the following additional potential areas for the development of advanced gas metering minimum standards: ○ Unaccounted for Gas (UFG) calculations:	• Gas Industry Co notes that there may be market efficiencies delivered by the development of advanced gas metering minimum standards relating to the market's downstream reconciliation requirements. • There may also be other benefits delivered by advanced gas metering that might justify or require changes to the Reconciliation Rules. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

[19] Advanced Gas Metering – Minimum Standards, initial draft for discussion. September 2017.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	○ How should UFG calculations in the Reconciliation Rules be affected by the availability of increased consumption data for residential and small business consumers? ○ Allocation Groups: There is some uncertainty in the Reconciliation Rules in terms of which allocation group residential and small business ICPs with advanced metering installations should be assigned to. Rule 6.2 of the Reconciliation Rules suggests allocation groups are determined by reference to the presence or not of a TOU meter (being a gas meter with an associated datalogger allowing register readings or gas consumption to be recorded automatically at pre-determined intervals; advanced gas meters would fall within this definition), while rule 29 suggests it is determined by reference to natural gas consumption volumes at an ICP.		
6	**Alignment of GMSAs** • Should GMSA terms be standardised, particularly in light of the deployment and utilisation of new metering technology? • The 2017 Gas Review's review of metering service provider arrangements noted: "Given the material alignment of core terms, and noting the Vector AMS template and Powerco standard GMSAs include terms, service definitions and performance standards expected in today's market for gas metering services, it does not appear necessary or desirable for Gas Industry Co to prescribe more standardised arrangements through development of a model GMSA, benchmark terms or contracting principles. In any event,	• The alignment of GMSAs can, in principle, help to enhance market efficiency by lowering the cost of entering into these agreements and reducing the prevalence of contract provisions that might reduce market competition or adversely affect other GPS objectives. • Any such benefits must be offset against any impact this might have on market innovation/other costs. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	standardisation of non-core terms, service definitions and performance standards, reduces the opportunity for service differentiation which promotes competition." [20] • Gas Industry Co concluded in its Analysis of Submissions on Gas Metering Review that "Rather than a model GMSA, nearly all submitters agreed that developing some minimum standards and a dataset would be a pragmatic step."		
7	**GMSA payment provisions** • Gas Industry Co understands from stakeholders that currently, on the disconnection of a gas customer's ICP, the retailer's obligation to pay for gas metering services at that ICP is typically suspended until the ICP is reconnected. • Gas Industry Co understands that in the electricity market a retailer's payment obligations to pay for advanced metering services may not be suspended on disconnection of that customer's electricity supply, exposing the retailer to these charges. • There is gas industry stakeholder concern that these electricity market arrangements will be extended to the supply of advanced gas metering services to the gas market.	• The presence of these provisions in GMSAs for the deployment of AGMI needs to be understood along with the costs and benefits and the potential effects on market efficiency and fairness. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A
8	**AGMI redundancy risk** • Stakeholders have raised concerns that AGMI being deployed now will become redundant before the end of the useful economic life of that equipment, due to Government policy settings aimed at phasing-out of fossil-fuel derived gas as a fuel source in NZ. • Who will bear this AGMI redundancy risk, and will end-consumers be exposed	• It is important that the deployment of advanced gas meters increases market efficiency and that the benefits of deployment outweigh the costs to end consumers. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A

[20] Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	to any increased costs as a consequence of this risk?		
9	**Centralised data provider** • There is no centralised metering data service provider in either the NZ gas or electricity markets. • In electricity, consumption data is collected by an MSP and made available to a Retailer, with the Retailer having responsibility to allowing the end consumer and any third-party access to the data. • The UK gas and electricity industry is deploying advanced electricity meters through a centralised, Government rollout to 53 million homes and small businesses. • For efficiency purposes, the UK system is using a centralised data communications company (the Data Communications Company or DCC) incorporating a centralised advanced metering Data Service Provider (DSP). The DCC operates an end-to-end data collection and management system that provides data service to third party service users such as retailers, network operators and other customer authorised parties. • Stakeholders have questioned whether or not the NZ gas market should consider implementing a centralised DSP equivalent as part of the deployment of advanced gas meters. This could have the potential in future to extend to electricity advanced meter consumption data.	• There may be market efficiencies associated with a centralised metering data service provider in the NZ gas market. More work is needed to understand the potential benefits and costs of this issue. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type A
10	**Advanced meter displacement** • Stakeholders questioned whether there should be regulation of the displacement of advanced gas meters. • There is no regulation in either the electricity or gas markets that prevent	• There is a potential trade-off here around return on investment certainty and increased competition enabled by the unregulated (free) displacement of AGMI.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	one MSP's metering installation being displaced by another MSP's metering installation, at an ICP. • The retailer trading at the relevant ICP is the person who appoints the MSP to collect consumption data on its behalf at the ICP, by the installation of a meter. • Thus, for example, if a retailer wins a new customer, it may decide to remove the incumbent MSP's meter from the ICP, and replace it with the meter of its preferred MSP. Or if a retailer decides to change MSP across its customer base, the incoming MSP may be entitled to replace the incumbent MSP's meter with the incoming MSP's meter. In both cases, subject only to any contractual arrangements that the retailer has with the incumbent MSP. • This unregulated approach might enable increased competition for metering services at ICPs, allowing for competition on price, service levels, metering functionality, etc. • However, the efficiencies and benefits that derive from increased competition are offset to some extent by the economic inefficiency of replacing functional advanced metering equipment (with remaining economic life), with replacement advanced metering equipment.	• Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	
11	**Open access AGMI systems** • Some stakeholders have raised concerns that AGMI systems being developed in the NZ market may not offer 'open access' to all advanced gas meter types. • Should all MSP systems be required to be open access at the Retailer *and* the GMS end, meaning: ○ all Retailers can efficiently provide services to all gas consumers, irrespective of the MSP at the	• Open access AGMI systems have the potential to deliver increased efficiency to the deployment of advanced gas meters. However, there are likely commercial considerations for MSPs to consider when developing their systems further to enable access to third party advanced gas meters.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	consumer's ICP and the type of gas meter installed at the ICP; and ○ all advanced gas meters (regardless of manufacturer) certified in accordance with the Reconciliation Rules can interface with all GMS communications and meter management and data processing systems.	• Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	
12	**Technology standards** • Different advanced metering solutions exist, offering different functions, costs, and benefits. The two principal types are: ○ standalone advanced meter with integrated volume recording and communications technology (including other advanced features like remote disconnection and reconnection functionality); and ○ a device for attachment to a legacy gas meter which records volume data recorded by the legacy meter, including integrated communications technology (but which cannot offer remote disconnection and reconnection functionality as it is not plumbed into the GMS). • Stakeholders have questioned whether standardised advanced gas meter technology specifications and functions should be developed. • Also: ○ should there be minimum standards for a gas meter to be classified as an advanced gas meter? ○ should advanced gas meters be required to be future-proofed to allow changes to the make-up of natural gas and LPG over time, with the potential future blending of biogas and hydrogen with fossil-fuel derived gases?	• The specification of advanced gas meter technology specifications and functions can, in principle, help to enhance market efficiency, through standardisation and future-proofing. However, these benefits must be offset against any impact this might have on market innovation. • The fitness for purpose of current technical regulation should also be analysed based on the introduction of new metering technology and functionality. • Gas Industry Co is supportive in principle of more analysis of these issues being undertaken.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	○ is NZS 5259 sufficient for the technical and safety certification of advanced gas meters with their enhanced functionality relative to legacy gas meters?		
13	**GMS ownership and works** • Gas meters form part of a wider GMS or gas measurement system (which is defined as a system for measuring the quantity of any gas or the energy content of any gas, whether by actual measurement or by estimation; and includes any equipment that forms part of, or is ancillary to, any such system).[21] • A GMS may include regulators to reduce the pipeline pressure to a metering pressure (but a downstream regulator reducing the metering pressure to a delivery pressure, does not form part of a GMS).[22] • Gas Industry Co understands that there may be a preference for some distribution network companies to have ownership of the entire GMS at all ICPs on their networks, as a single point of control might deliver efficiency and safety benefits. Thus, in the case of advanced gas meters deployed on these networks by a third-party MSP, the network company would wish to become the advanced meter owner, to ensure the entire GMS remains under the control of a single party. (On open access gas distribution networks, the Retailer at an ICP has the ability to select its own MSP for the ICP, in some cases resulting in split ownership GMSs, with the MSP owning the meter and potentially the regulator, and the network company owning the balance of the GMS equipment).	• Gas Industry Co is supportive of market settings that encourage increased competition, helping it to deliver on its GPS efficiency objectives. • The effects on market competition and associated efficiency effects of these different GMS ownership issues need to be understood. • Gas Industry Co is supportive in principle of more analysis of these issues being undertaken.	Type A

[21] The Gas Act 1992.

[22] https://www.gasindustry.co.nz/about-the-industry/requirements-and-procedures-documents/document/5067, page 15.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	• Gas Industry Co understand that an MSP might carry out non-meter GMS work at an ICP, at the same time as it replaces the legacy meter with an advanced gas meter. This might for example include upgrading inefficient gas venting valves with more efficient gas overpressure valves, or making necessary safety modifications. There is obvious efficiency in making any necessary changes (whether required for safety or efficiency) to a GMS at the same time as the installation of a new advanced gas meter is carried out. The GMS owner's consent might be required for this work to proceed. • Stakeholders have questioned whether a standardised industry approach to making these non-meter GMS changes on third party distribution networks should be agreed, covering in particular responsibility for the costs of these changes, determining who will have ownership of the modified GMS, any reasonable exchange of value between MSPs for legacy GMS equipment (when an incumbent MSP's GMS equipment is being displaced), and determining when changes to a GMS are able to be made (to ensure a distribution network owner's return on investment in a GMS is not unnecessarily affected). • Stakeholders have also raised concerns over the preference of some distribution network companies to have ownership of the entire GMS (including new advanced gas metering) at all ICPs on their networks.		
14	**Advanced metering consumer education** • One stakeholder questioned whether the gas industry should prepare a set of consumer educational materials on	• Gas Industry Co supports in principle the provision of independent advice on AGMI to gas market consumers.	Type A

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	AGMI, highlighting the benefits and addressing frequently asked questions. • The independence of these educational materials will be important. This may be a role for Gas Industry Co. • Gas Industry Co notes the EA has a consumer education section on its website, devoted to electricity "smart meters", addressing commonly-asked questions about the technology https://www.ea.govt.nz/consumers/what-are-electricity-meters/ and also that the UK advanced gas and electricity meter deployment ran a public information campaign helping the public understand the importance of smart meters and their benefits to people and the environment.		
Lower priority issues			
15	**Market competition** • The 2017 Gas Review found limited competition in the gas metering market, due to retailers generally selecting the relevant distribution network owner's MSP (owned by the network owner) as the metering service provider.[23] • The 2017 Gas Review also noted there seem to be limited incentives on parties to contract separately for distribution and metering services, as there is no real service differentiation between metering providers, and there were efficiencies associated with combining the relationships.[24] • The acquisition by First Gas of the Vector Gas Limited gas distribution networks in Whangarei, Hamilton, Rotorua, Taupo, Whakatane, Gisborne, Tauranga, Wanganui, Palmerston North,	• Gas Industry Co is supportive of market settings that encourage increased competition, as these are consistent with its GPS efficiency and fairness objectives. • Decisions on the regulation of GMS providers under part 4 of the Commerce Act is a question for Parliament and the Commerce Commission, not Gas Industry Co. • Gas Industry Co notes that the Commerce Commission conducted a preliminary assessment of the costs and benefits of regulating gas metering services in 2016, deciding against conducting a Part 4 inquiry into gas metering services on the basis "the likelihood of the benefits of	Type B

[23] Analysis of 17 months of registry data up to May 2016 confirms ~100% (> 99.9%) alignment between the MSP chosen by retailers and the related network owner. Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

[24] Gas Industry Company Analysis of submissions and metering review, September 2017, page 1.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	Hastings, and the Kapiti Coast has seen the share of non-network owner owned metering infrastructure increase, with Vector Metering owning virtually all of the 66,000 gas meters on these First Gas Networks. Vector Metering now also owns over 45,000 meters on the Powerco distribution networks. • However, virtually all new ICPs added to the system since 2016 have their meter owned by the incumbent meter owner on the network to which the ICP is connected.[25] • Some stakeholders have suggested that advanced gas metering should be subject to price/quality regulation under part 4 of the Commerce Act, as once metering is deployed, it becomes an effective monopoly.	regulation materially outweighing the costs was not sufficient to justify an inquiry." • Gas Industry Co proposes to keep a 'watching brief' on these issues.	
16	**Preferred Supplier Provisions in legacy GMSAs** • The 2017 Gas Review noted the presence of "preferred supplier status and/or first right of refusal" provisions in one GMSA extended to retailer-initiated third party meter replacements and upgrades. Raising concerns over whether this provision can be invoked (or was amended so it could be invoked) for each ICP with a third party meter included in an advanced gas metering mass deployment agreement. • These provisions oblige a retailer to choose a particular MSP for retailer-initiated third party meter replacements and upgrades. • There is concern that these provisions will lead to further aggregation in the gas metering services market, reducing market competition.[26]	• The terms and conditions of access to gas meters by gas retailers is a purpose for which gas governance regulations may be made in respect of gas market retail and consumer issues, on the recommendation of the Minister (on the basis of recommendations made by Gas Industry Co (section 43G(2)(f) of the Gas Act). • Thus, preferred supplier provisions in GSMAs are of interest to Gas Industry Co and the prevalence of these provisions in legacy GMSAs needs, in Gas Industry Co's view, to be better understood, including the associated implications for an advanced gas metering deployment.	Type B

[25] Gas registry statistics dashboard https://www.gasindustry.co.nz/work-programmes/switching-and-registry/current-arrangements/reports/.

[26] Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
		○ Gas Industry Co is supportive of more analysis of this issue being undertaken.	
17	**Streamlined process for customer requests for consumption data (Electricity Price Review (EPR) Recommendation, C3)** • Gas Industry Co has consulted on this issue through its EPR workstream. • There is broad submitter support to the workstream for the development of guidelines enabling streamlined access to customer gas consumption data, made available in the context of AGMI deployment.	• Gas Industry Co supports in principle the development of an agreed approach to processing customer requests for consumption data. Although it notes that the lack of dynamic gas pricing in the gas market means the demand for customer consumption data is likely to be lower than the demand for customer electricity consumption data, potentially reducing the priority of this issue in the gas market. • The EA is commencing a workstream on this recommendation, in respect of electricity. • Gas industry Co proposes to liaise with the EA in the EA's development of these new electricity market guidelines and assess the extent to which these should be extended to the gas market. • The proposed new CDR being established by the Government (see issue 3 in Table 5 above) should also be considered in relation to this issue.	Type B
18	**Ensure distributors have access to smart meter data on reasonable terms (EPR Recommendation, E3)** • It is widely accepted that electricity network companies having access to advanced electricity metering data will allow improved management of electricity distribution networks, improving market efficiency. The Electricity Authority has already begun	• Gas Industry Co supports in principle further work being done to understand the costs and benefits of giving gas distribution networks access to advanced meter gas consumption data, including the terms and means of gaining access. • However, Gas Industry Co notes that the lack of a need for dynamic gas pricing in the gas	Type B

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	work to address this issue in the electricity market. • There may be similar benefits to gas distribution network owners of getting access to advanced gas metering data. • Currently a consumer's gas Retailer is responsible for granting third parties access to a consumer's gas consumption data. Some stakeholders have suggested that these access arrangements can be difficult and challenging.	market, and the different physical management of peak demand related distribution capacity constraints, meaning customer consumption data is likely to have lower value for gas network companies than the value of equivalent electricity consumption data for electricity network companies. • The EA is commencing a workstream on this recommendation, in respect of electricity. Gas industry Co proposes to liaise with the EA in the EA's development of these new electricity market guidelines and assess the extent to which these should be extended to the gas market. • Privacy issues and the proposed new CDR being established by the Government will need to be considered in relation to this issue.	
19	**Remote disconnections and reconnections** • Stakeholders have asked whether standard processes should be developed and agreed by market participants (MSPs, Retailers, Network Owners) for the safe disconnection and reconnection of gas ICPs, through the remote disconnection and reconnection functions in advanced gas metering. • Gas Industry Co is already consulting on Gas Consumer Care Guidelines which seek to manage the processes around safe disconnection and reconnection of ICPs. These draft Guidelines provide that "Remote Gas reconnections should only occur if the Retailer can reasonably satisfy itself that the reconnection can be completed safely."	• There may be market efficiencies associated with remote disconnection and reconnection of residential and small business customers. • More work is needed to understand the potential benefits and costs of this issue, and also the associated safety and fairness issues. • Gas Industry Co understands that Genesis and Vector Metering do not intend to enable this functionality in the near term; should these plans change and/or if other advanced meters were deployed with this functionality enabled, then Gas Industry Co	Type B

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
		would reclassify this as a Type A issue.	
20	**D+1** • D+1 allocation is a process that allocates gas on the day following gas flow. Gas Industry Co is trialling D+1 allocation as a means of providing more timely information to Retailers about their customers' gas usage. • Through the Daily Allocation Working Group, Gas Industry Co is considering whether to incorporate D+1 allocations formally into the Reconciliation Rules. • At an operational level, incorporating daily advanced meter data into the D+1 model is likely to increase allocation accuracy.	• There may be downstream reconciliation benefits delivered by advanced gas metering that might justify or require changes to the Reconciliation Rules. • Gas Industry Co's D+1 workstream is more advanced than Gas Industry Co's advanced gas metering workstream. This means that changes to the Reconciliation Rules consequent on Gas Industry Co's advanced gas metering workstream will likely occur after changes made consequent on Gas Industry Co's D+1 workstream. • Gas Industry Co is supportive in principle of more analysis of this issue being undertaken.	Type B
Non-relevant issues			
21	**Multiple trading relationships** • In 2017 the EA consulted on whether barriers exist that inefficiently limit a consumer's ability to consume electricity or electricity services provided by more than one party at the same time, at the same location. • If there are potential gas market benefits for enabling a consumer to have a relationship with more than one natural gas retailer at the same premises, changes would likely be needed to a consumer's gas meter which advanced gas metering may be well-placed to provide (change would likely also be needed to the gas registry and associated switching arrangements and gas reconciliation processes). • The EA's Additional Consumer Choice of Electricity Services (ACCES) project did not proceed with changes to enable	• Gas Industry Co notes that the use case for multiple trader relationships in the electricity market is likely stronger than that for the gas market, due to features in the electricity market not present in the gas market, such as: ○ markets existing for a variety of electricity services (e.g., time of use electricity pricing, ancillary services such as instantaneous reserve, interruptible load); ○ the prevalence of distributed electricity generation and the potential for trading between ICPs; and ○ the potential for new energy services such as electric vehicle charging, energy	Type C

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	multiple trader relationships per ICP but focussed instead on enabling more effective sharing of consumer historic consumption data.	storage and energy management solutions, etc. • Gas Industry Co also notes that the EA is not pursuing the electricity market rule changes necessary to enable multiple trader relationships. • Gas Industry Co acknowledges that some major gas users may have supply contracts with multiple producers/ wholesalers, but these are addressed via contracts rather than downstream gas governance arrangements. • Gas Industry Co needs to better understand the potential gas market benefits of such a proposal.	
22	• Critical Contingency Regulations. • Stakeholders have questioned whether or not the remote disconnection and reconnection capability of advanced gas meters may have value under the Gas Governance (Critical Contingency Management) Regulations 2008 (CCM Regulations). • The purpose of the CCM Regulations is to achieve the effective management of critical gas outages and other security of supply contingencies without compromising long-term security of supply. • The CCM Regulations achieve this principally through the appointment of a Critical Contingency Operator (CCO) which has a range of powers, particularly to curtail gas consumption during critical contingencies. • Curtailment bands are set out in Schedule 3 to the CCM Regulations - small commercial ICPs fall within Band 6 of the CCM Regulations, meaning these	• Given domestic (residential) consumers are not covered by the CCM Regulations and hence cannot be directed to curtail, Gas Industry Co considers the very small market efficiencies that may be associated with remote curtailment of small business consumers using advanced metering functionality, would likely be outweighed by the associated development and implementation costs.	Type C

Issue #	Issue Description	Gas Industry Co Initial Commentary	Initial Priority Rating
	consumers are amongst the last gas consumers curtailed in a critical contingency event. Domestic gas consumers are not covered by the CCM Regulations.		

4.2 Question for Stakeholders

Q1	*Do you agree with the Gas industry Co's conclusions from the 2017 Review that the advanced gas metering market should be allowed to develop without regulatory intervention, to ensure that innovation is not hampered, while also determining that some minimum standards would be a pragmatic step toward ensuring a common understanding of what market participants want from advanced metering?*
Q2	*Do you agree with the above list of identified issues, and Gas Industry Co's priority categorisation of the same? Please identify and explain any issues not identified, and explain your reasons for disagreeing with any of the issues raised or priorities assigned.*
Q3	*Is the TArMAC group the appropriate working group to work with Gas Industry Co to develop solutions for AGMI issues identified through this workstream?*
Q4	*Do the objectives of the TArMAC group need to be revised (extended or reduced) and if so, how?*
Q5	*Does the TArMAC group membership need to be revised and if so how (noting (a) the efflux of time since its establishment in 2017 and (b) any changes to its objectives necessary to address issues identified through this workstream)?*

4.3 Initial Issues Assessment

Gas Industry Co has completed an initial assessment of these issues against the five GPS assessment outcomes listed on Table 2 above.

Table 6 – Issues Assessed Against GPS Outcomes

Issue #	Issue	GPS Assessment Outcome
1	Costs and benefits to consumers	Efficiency, Fairness
2	Minimum standards and file formats	Efficiency
3	Access to, use and security of, customer data	Efficiency, Fairness
4	Potential process and registry changes (including switching procedures)	Efficiency
5	Downstream Reconciliation Rules	Efficiency
6	Alignment of GMSAs	Efficiency
7	GMSA payment provisions	Efficiency, Fairness
8	AGMI Redundancy risk	Efficiency, Fairness
9	Centralised data provider	Efficiency
10	Advanced meter displacement	Efficiency, Fairness
11	Open access AGMI systems	Efficiency
12	Technology standards	Efficiency, Safety
13	GMS Ownership	Efficiency, Fairness, Safety
14	Advanced gas metering consumer education	Efficiency, Fairness
15	Market competition	Efficiency, Fairness
16	Preferred Supplier Provisions in GMSAs	Efficiency
17	Streamlined process for customer requests for consumption data (Electricity Price Review (EPR) Recommendation, C3)	Efficiency, Fairness
18	Ensure distributors have access to smart meter data on reasonable terms (EPR Recommendation, E3)	Efficiency, Fairness
19	Remote disconnections and reconnections	Efficiency, Fairness, Safety
20	D+1	Efficiency, Fairness
21	Multiple trading relationships	Efficiency
22	Critical Contingency Regulations	Efficiency, Safety

Glossary

AGMI	Advance Gas Metering Infrastructure
CDR	Consumer Data Right
Commerce Act	Commerce Act 1986
EA	Electricity Authority
EPR	Electricity Price Review
Gas Act	Gas Act 1992
GIC	Gas Industry Co
GMS	Gas Measurement System
GMSA	Gas Metering Service Agreement
GPS	Government Policy Statement on Gas Governance 2008
ICP	Installation Control Point
LPG	Liquified Petroleum Gas
MBIE	Ministry of Business Innovation and Employment
MSP	Metering Service Provider
Reconciliation Rules	Gas (Downstream Reconciliation) Rules 2008
UFG	Unaccounted For Gas

Questions

Advanced Gas Metering Infrastructure - Issues Assessment

Submission prepared by: <company name and contact>

Question		Comment
Q1	Do you agree with the Gas industry Co's conclusions from the 2017 Review that the advanced gas metering market should be allowed to develop without regulatory intervention, to ensure that innovation is not hampered, while also determining that some minimum standards would be a pragmatic step toward ensuring a common understanding of what market participants want from advanced metering?	
Q2	Do you agree with the above list of identified issues, and Gas Industry Co's priority categorisation of the same? Please identify and explain any issues not identified, and explain your reasons for disagreeing with any of the issues raised or priorities assigned.	
Q3	Is the TArMAC group the appropriate working group to work with Gas Industry Co to develop solutions for AGMI issues identified through this workstream?	
Q4	Do the objectives of the TArMAC group need to be revised (extended or reduced) and if so, how?	

Question		Comment
Q5	Does the TArMAC group membership need to be revised and if so how (noting (a) the efflux of time since its establishment in 2017 and (b) any changes to its objectives necessary to address issues identified through this workstream?	

ABOUT GAS INDUSTRY CO

Gas Industry Co is the gas industry body and co-regulator under the Gas Act. Its role is to:

- develop arrangements, including regulations where appropriate, which improve:
  - the operation of gas markets;
  - access to infrastructure; and
  - consumer outcomes;
- develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair and environmentally sustainable manner; and
- oversee compliance with, and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.

SUBMISSIONS CLOSE:
29 OCTOBER 2021 AT 5PM.

SUBMIT TO:
consultations@gasindustry.co.nz

ENQUIRIES:
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