

An aerial photograph of Auckland, New Zealand, featuring the Sky Tower prominently in the center. The image is overlaid with a semi-transparent green filter and a series of white, wavy, horizontal lines that create a sense of motion or flow across the top half of the page.

Advanced Gas Metering Infrastructure – Submissions Review and Recommendations

17 December 2021



Gas Industry Co.



Executive Summary

Advanced gas metering infrastructure (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 is conducting a review of how AGMI is being deployed to the market, and assessing whether any new gas market rules, regulations or non-regulatory arrangements are required to deliver on the GPS objectives and outcomes.

Gas Industry Co issued an AGMI issues assessment paper dated 24 September 2021, following 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.

Gas Industry Co received five submissions on its issues assessment paper. Two from gas distribution network companies, two from gas metering service providers (MSPs) and one from a consumer solutions service provider. No submissions were received from gas retailers or gas consumers.

Gas Industry Co has identified several AGMI-related issues that it considers need priority analysis. A description of these issues and Gas Industry Co's initial recommendations on how analysis of these issues should be progressed, is set out in this paper.

Gas Industry Co also sets out in this paper the issues that it proposes to maintain a 'watching brief' over – postponing any further work on these issues, pending market developments.

Submissions on this paper close on Monday, 14 February 2022 at 5.00 pm
(consultations@gasindustry.co.nz).



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1. Purpose and Process Update

1.1. Purpose

This paper assesses the submissions received by Gas Industry Co on its AGMI issues list, as set out in the Advanced Gas Metering Infrastructure - Issues Assessment paper dated 24 September 2021 (Issues Paper).

1.2. Process Update

Gas Industry Co has analysed submissions received on the Issues Paper.

1.3. Submissions Overview

Gas Industry Co received submissions from:

- Energy Solutions Providers Limited (ESP), a sustainability solutions service provider;
- FirstGas Limited (FirstGas), a gas network distribution company;
- Powerco Limited (Powerco), a gas network distribution company;
- Intellihub Limited (Intellihub), a metering services provider or MSP; and
- Vector Metering Limited (Vector), a metering services provider or MSP.

No submissions were received from gas retailers or gas consumers.



2. Submissions summary

A summary of all submissions received on AGMI issues assessment paper is set out in Appendix A.



3. Submissions Assessment

Gas Industry Co has reviewed and analyzed all submissions.

3.1. Gas Industry Co Recommendations

Following its review and analysis of all submissions, Gas Industry Co has the following initial recommendations:

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?*

- There are mixed views from submitters on whether the market should be left to develop without regulatory intervention.
- Both ESP and Intellihub support limited intervention focussed on, in the case of ESP, data access, and in the case of Intellihub, prescribing minimum standards and advanced metering guidelines (based on experiences from the deployment of advanced meters into the New Zealand electricity market).
- Gas Industry Co considers it prudent to create a set of 'minimum standard' guidelines to better ensure the effective deployment of AGMI technology to consumers in a safe, efficient, fair, reliable, and environmentally sustainable manner, and better ensure the delivery of an efficient, competitive market structure for the provision of gas metering services (AGMI Guidelines).¹
- Compliance with these AGMI Guidelines will be voluntary. However, Gas Industry Co will survey market participants to monitor compliance with the AGMI Minimum Standards. Regulatory change recommendations will be considered if this voluntary compliance approach proves unsuccessful.
- This non-regulatory, 'minimum standards' guidelines approach is recommended by Gas Industry Co for a number of reasons:
 - It replicates the approach taken to the deployment of advanced electricity meters in the electricity market²;
 - the AGMI Minimum Standards can be updated easily to keep abreast of technology and market developments (unlike a less flexible, regulatory approach);
 - the less prescriptive and flexible nature of the proposed guidelines enables AGMI system developers and operators the freedom to find the best technical and economic solutions, enabling participants to innovate without the requirement for regulatory change;

¹ GPS Items 9 and 13.

² <https://www.ea.govt.nz/assets/dms-assets/8/8573Guidelines-on-Advanced-Metering-Infrastructure.pdf>

- the approach will help to ensure that the AGMI systems deployed become open access systems, open to all system users, thereby enhancing the efficiency and future competitiveness of the AGMI market (in Gas Industry Co's view, there is a risk that by their nature AGMI deployments can be inefficient and reduce competition, as AGMI systems typically require mass deployment in a concentrated area, relying on economies of scale for their deployment viability; this means that first-movers establishing an AGMI system in a given area will most likely preclude the deployment of any subsequent competing systems in that same area, as they would be unlikely to also reach the volumes or densities required for commercial viability).³
- This approach is consistent with the approach Gas Industry Co is taking on its Electricity Price Review workstream.

Q2: *Do you agree with the 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.*

- Please see Gas Industry Co's analysis of these issues in section 2.2.2 below.

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?*

- There is broad submitter support for continuing to use the TArMAC industry group, to work with Gas Industry Co to develop solutions for AGMI issues identified through this workstream.
- Intellihub submitted that the use of such a technical working group is important to ensure Gas Industry Co's proposals are technically sound and evidence-based.
- Vector encouraged the 'reactivation' of the TArMAC group as soon as possible, to consider the issues falling under the 'minimum standards umbrella' proposed by Vector (see Q4 below for Vector's suggested minimum standards contents).
- Gas Industry Co agrees that an industry group, based on the TArMAC group and its original terms of reference, is an efficient and effective way of developing the AGMI Minimum Standards, leveraging the skills, insights and experiences of market participants.
- Gas Industry Co proposes to change the name of the TArMAC group to become the 'AGMI Group', to reflect the proposed changes to both the group's terms of reference and membership (as discussed below).

Q4: *Do the objectives of the TArMAC group need to be revised (extended or reduced) and if so, how?*

³ Electricity Authority – Advanced Metering Policy V1.1, page 6.

- There is broad submitter support for 'refreshing' the TArMAC objectives.
- Intellihub and Powerco both suggest this refresh should be completed based on the outcomes of this issues assessment process.
- Vector suggests the TArMAC objectives refresh is limited to the development of a set of 'minimum standards' that will allow for the consistent collection and treatment of advanced metering data; and to identify any registry changes or rules amendments needed to accommodate the uptake of advanced metering.
- Gas Industry Co supports refreshing the TArMAC (now the AGMI Group) objectives and agrees that revised terms of reference should be informed by the outcomes of this issues assessment process being run by Gas Industry Co.
- Gas Industry Co has attached draft, revised terms of reference **for the AGMI Group** (see Appendix B to this paper).

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)?*

- There is broad submitter support for also 'refreshing' the TArMAC membership.
- ESP would like to see a broader range of stakeholders included on TArMAC.
- Intellihub thinks a membership 'refresh' is needed to account for organisational churn that might have occurred since TArMAC was constituted, but that care needs to be taken to ensure TArMAC remains an effective 'working group'.
- Gas Industry Co supports refreshing the TArMAC (now the AGMI Group) membership, to first, account for changes in the industry since TArMAC was originally constituted, and second, take account of a wider range of gas market views, extending membership to include consumer and consumer service provider representation.
- The revised terms of reference for the AGMI Group (see Appendix B to this paper) include updated membership criteria to expand the skills, insights and experiences set of the working group.

3.2. Issues Analysis and Initial Gas Industry Co Recommendations

Following its review and analysis, Gas Industry Co has revised its priority assessment of each of the AGMI issues, and provided an initial recommendation on how these issues should be progressed.

The development of recommended solutions to each of these issues must align the advanced gas metering-related outcomes and objectives which Gas Industry Co is expected to pursue under the GPS.

Set out below is the tool used by Gas Industry Co in classifying the different AGMI issues by priority.

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

3.3. Updated Issues Priority Assessment and Initial Gas Industry Co Recommendations

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
High priority issues			
1	<p>Costs and benefits to consumers</p> <ul style="list-style-type: none"> 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? 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: <p><i>End consumer benefits:</i></p> <ul style="list-style-type: none"> increased gas consumption data availability meaning improved Retailer service and improved data for consumer decision making (e.g., switching between fuels); 	<ul style="list-style-type: none"> Submitters do not consider this to be a priority issue. The contestable nature of the market means that AGMI uptake will only become ubiquitous if it lowers overall costs or adds significant benefits for retailers or their customers, according to Intellihub. Vector essentially agrees, noting "In the competitive gas metering market, it is up to retailers to make their business case work for their customers' benefit". Vector also notes that "[Vector Metering] does not intend to charge a higher lease fee for advanced gas meters over existing meters where there is no data service". Gas Industry Co agrees broadly with these submissions. However, Gas Industry Co considers it important to ensure that the increased benefits to end consumers related to the deployment of AGMI, outweigh any increased costs to these consumers (in practice). Gas Industry Co will therefore keep a 'watching brief' on the deployment of AGMI, monitoring the relative costs and benefits to consumers. 	<p>Type A</p> <p>Type B</p>

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> more accurate bills (no estimated bills); avoiding the inconvenience of meter readers entering onto a consumer's property. <p><i>Retailer benefits:</i></p> <ul style="list-style-type: none"> avoided physical meter reading costs; avoided HSE risks associated with physical meter reads; more accurate wholesale gas and network charge reconciliation; more accurate annual UFG allocation; more efficient balancing; the potential to remotely disconnect and reconnect GMSs (subject to future certification and approval of associated disconnection/reconnection equipment and procedures). 		
2	<p>Minimum data standards and file formats</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> ESP and Intellihub are in favour of some level of 'minimum data standards' and file formats. Submitters did not identify additional areas where standardisation should be considered. Vector is against a standardisation approach. It is concerned that standardisation will stifle competition and innovation. Rather, what Vector wants to see is the use of common design principles, common design standards, and common security standards that enable data providers and access seekers (including smaller parties and new market entrants) to 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>requirements in some cases and in poor outcomes for some customers." ⁴</p> <ul style="list-style-type: none"> 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. ⁵ 	<p>benefit from interoperability and efficiency gains without limiting innovation.</p> <ul style="list-style-type: none"> Gas Industry Co considers that some level of specification or minimum standards for data and file formats can, in principle, help to enhance market efficiency, and potentially competition, without necessarily having any significant adverse effect on innovation. The development of minimum standards for data and file formats was one of the strongest themes identified by Gas Industry Co in its stakeholder discussions, prior to the publication of its issues identification paper. Gas Industry Co recommends therefore that the AGMI Group be tasked with developing appropriate recommended minimum data standards and file formats. These may take the form of either 'input' or 'output' based specifications or standards. 	
3	<p>Access to, ownership, use and security of, customer data</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> ESP would like to see broader access to metering data, not necessarily limited to the MSP and the retailer. Consumers choose who receives their data. Vector supports TArMAC considering customer data issues, including issues around data access, ownership, use and security. Vector notes the potential value of this data to gas distribution businesses including in making decisions around the transition to a low carbon future. It also notes the value of this data in understanding the role of gas in energy hardship, and supporting customers experiencing this. 	Type A

⁴ Gas Industry Company Analysis of submissions and metering review, September 2017, page 2.

⁵ <https://www.gasindustry.co.nz/work-programmes/gas-metering/technical-advanced-metering-advisory-committee-tarmac/document/5717>

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> 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." ⁶ 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 that their data is not being used for purposes they have not permitted.⁷ Some stakeholders have expressed concerns about the uses that half-hourly consumption data may be 	<ul style="list-style-type: none"> Gas Industry Co recommends that the AGMI Group be tasked with recommending appropriate minimum requirements around access to, ownership, use and security of, customer data (including costs of access). 	

⁶ Gas Industry Company Analysis of submissions and metering review, September 2017, page 3.

⁷ "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 Recommendation	Revised Priority Rating
	<p>used for, by different market participants, and suggest this is managed.</p> <ul style="list-style-type: none"> Stakeholders also report that Retailers are currently the 'gatekeepers' to this information and terms of access can be challenging. 		
4	<p>Potential process and registry changes (including switching procedures)</p> <ul style="list-style-type: none"> 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. 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: <ul style="list-style-type: none"> The addition of meter make and model data to the registry. 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). 	<ul style="list-style-type: none"> There is broad support from submitters for registry changes to take account of the impacts of AGMI. Vector supports TArMAC's consideration of changes to the Gas Registry to efficiently integrate services enabled by advanced gas meters into the market. Both Intellihub and Vector are wary of including meter make and model data on the registry. Intellihub has security concerns given the public nature of this information. Vector notes that "meter make and model are not necessarily reflective of the age of the ICP as Vector Metering circulates equipment across sites either through planned maintenance activities or the reuse of removed assets – provided they remain fit for use". Both Vector and Intellihub are supportive of adding registry fields to indicate the communication status of an advanced meter. Gas Industry Co recommends that the AGMI Group be tasked with recommending appropriate process and registry changes (including switching procedures) to integrate services enabled by advanced gas meters into the market. 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> ○ 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	<p>Downstream Reconciliation Rules</p> <ul style="list-style-type: none"> • 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." ⁸ 	<ul style="list-style-type: none"> • There is strong support from submitters to consider the changes necessary to the Reconciliation Rules and other relevant rules and regulations necessary to effectively and efficiently integrate advanced meters into the market. • Gas industry Co recommends that the AGMI Group be tasked with recommending the changes necessary to the Reconciliation Rules and other relevant rules and regulations necessary to integrate advanced meters into the market. 	Type A

⁸ Advanced Gas Metering – Minimum Standards, initial draft for discussion. September 2017.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> Gas Industry Co notes the following additional potential areas for the development of advanced gas metering minimum standards: <ul style="list-style-type: none"> Unaccounted for Gas (UFG) calculations: 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 <ul style="list-style-type: none"> Should GMSA terms be standardised, particularly in light of the deployment and utilisation of new metering technology? 	<ul style="list-style-type: none"> Submitters do not support alignment of GMSAs. Intellihub considers that GMSA content is best left to commercial negotiation, with this 'free' approach better enabling market innovation. 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> 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, standardisation of non-core terms, service definitions and performance standards, reduces the opportunity for service differentiation which promotes competition."⁹ 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." 	<ul style="list-style-type: none"> Vector also has concerns that GMSA alignment may suppress market innovation. Vector does not believe it is appropriate for Gas Industry Co to focus on developing a 'one-size-fits-all' GMSA for emerging services. Intellihub does note that "[Gas Industry Co] may wish to consider signalling its expectations in the form of guidelines or benchmarks as it has done previously for retail contracts and distribution use of system agreements". Gas Industry Co has not received any submissions from retailers or consumers on this issue. Gas Industry Co notes that there are potential market efficiencies to be derived from GMSA minimum standards or alignment, lowering transaction costs for retailers and MSPs alike. Also, GMSA minimum standards or alignment can be effective in reducing any concentration of MSP market power which may emerge in this market, for the potential benefit of consumers. Gas Industry Co recommends that the AGMI Group be tasked with reviewing MSPs' template GMSAs, prior to recommending either a template agreement or a set of GMSA minimum standards (consistent with the approach taken by Gas industry Co with the Retail Gas Contracts benchmark scheme), to help enable the integration of advanced gas meters into the market. 	
7	GMSA payment provisions <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Both Intellihub and Vector consider that these types of GMSA risk allocation issues should be left to commercial negotiation. Gas Industry Co has not received any submissions from retailers or consumers on this issue. 	Type A

⁹ Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>services at that ICP is typically suspended until the ICP is reconnected.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Gas Industry Co has concerns about how these GMSA payment provisions may impact the costs borne by consumers in relation to advanced metering. 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 recommends that the AGMI Group be tasked with considering this issue as part of its work on issue 6 above, by initially investigating the prevalence of these payment provisions in MSP GMSAs. 	
8	<p>AGMI redundancy risk</p> <ul style="list-style-type: none"> 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 to any increased costs as a consequence of this risk? 	<ul style="list-style-type: none"> Both Intellihub and Vector consider this issue should be solved by a competitive advanced gas meter market. Gas Industry Co has not received any submissions from retailers or consumers on this issue. Gas Industry Co has concerns about how AGMI redundancy risk may impact the costs borne by consumers in relation to advanced metering. 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 considers that consumers should not bear the risk of AGMI redundancy. Gas Industry Co recommends that the AGMI Group be tasked with considering this issue as part of its work on issue 6 above, by initially investigating how AGMI redundancy risk is managed in MSP GMSAs. 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
9	<p>Centralised data provider</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> There was no support for a centralised data provider amongst submitters. Intellihub has concerns about the potential high costs of such a model in the NZ gas market, and the potential negative effects a centralised model will have on innovation. Vector also has strong concerns about a centralised data provider: <ul style="list-style-type: none"> Costs: a centralised data provider would unnecessarily duplicate functionality already built by some providers, increasing costs for industry participants and consumers; Reduce competition: Moving the data-related functions to a regulated monopoly or centralised entity will curtail competition between metering businesses, impacting competitive outcomes (price) and effectively 'downgrading' the value of these businesses; Reduce innovation: Contestable metering providers are more responsive to their customers' needs; Decentralised model: A centralised approach is not conducive to an energy future of decentralised services. Vector instead supports the development of application programming interfaces (APIs) "that enable greater data access and authorised sharing, and interoperability between market participants". Gas Industry Co has not received any submissions from retailers or consumers on this issue. Gas Industry Co has concerns about the costs and complexity of developing a centralised data provider model but considers there are likely efficiency and competition benefits available from ensuring interoperability between different MSPs' data collection and storage 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
		<p>systems. Efficient access to data is key to enabling many of the benefits of advanced gas metering to be realised.</p> <ul style="list-style-type: none"> Gas Industry Co recommends that the AGMI Group be tasked with recommending minimum standards that can form the basis of a data access framework that can be put in place to enable efficient data access and authorised data sharing, between different MSPs' data collection and storage systems, without moving to a centralised provider model. 	
10	<p>Advanced meter displacement</p> <ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> Gas Industry Co received only one submission on this issue. It received no retailer or consumer submissions on this issue. Intellihub consider this issue is best dealt with by commercial negotiation. Whilst Gas industry Co notes the unregulated approach to this issue in the electricity market, and the potential competition benefits of such an approach, Gas Industry Co remains concerned about the economic inefficiency of replacing functional advanced metering equipment (with remaining economic life), with replacement advanced metering equipment. Gas Industry Co notes that there is currently only one provider of (deployed) advanced metering in the New Zealand market – accordingly, this is not presently a material issue. Gas industry Co proposes to keep a 'watching brief' on advanced meter displacement activity in the gas metering market. 	<p>Type A Type B</p>

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>to any contractual arrangements that the retailer has with the incumbent MSP.</p> <ul style="list-style-type: none"> • 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 may flow from increased competition are arguably offset to some extent by the economic inefficiency of replacing functional advanced metering equipment (with remaining economic life), with replacement advanced metering equipment. 		
11	<p>Open access AGMI systems</p> <ul style="list-style-type: none"> • 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 <i>and</i> GMS ends, meaning: <ul style="list-style-type: none"> ○ all Retailers can efficiently provide services to all gas consumers, irrespective of the MSP at the 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 	<ul style="list-style-type: none"> • There was no support for open access AGMI systems amongst submitters – although Gas industry Co notes it only received MSP submissions on this issue, and no retailer or consumer submissions. • Intellihub submitted that open access systems may cause costly data and system security issues. • Vector submitted that data standards should be allowed to evolve and develop through industry-based approaches, rather than through prescription, so as not to stifle innovation. • Gas Industry Co remains of the view that open access AGMI systems have the potential to deliver increased efficiency and competition to the deployment of advanced gas meters. However, such an approach may increase cost and security risk for MSPs. • Gas Industry Co recommends that, alongside the work recommended in item 9 above, the AGMI Group be tasked with considering the key 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	communications and meter management and data processing systems.	attributes of a data access framework that can be put in place to ensure interoperability between different MSPs' data collection and storage systems.	
12	<p>Technology standards</p> <ul style="list-style-type: none"> Different advanced metering solutions exist, offering different functions, costs, and benefits. The two principal types are: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> There was no support for standardised advanced gas meter technical and/or functional specifications – although Gas industry Co notes it only received MSP submissions on this issue, and no retailer or consumer submissions. Intellihub submitted that standardisation creates risks in the small New Zealand market, and that a market-based approach should be preferred. Vector's submission was consistent with the Intellihub submission – arguing solutions to this issue should be market-driven, save for standards in relation to "safety, measurement, and market reconciliation and related processes". Vector considers that mandating technology standards is likely to impose a series of limits and costs: <ul style="list-style-type: none"> Restricting market competition; Increasing MSP compliance costs; Encouraging over-investment by MSPs; Hampering innovation; and Encouraging a compliance rather than a service focus by MSPs. Gas Industry Co considers that some level of technology or functionality specification can, in principle, help to enhance market efficiency and competition, through standardisation and futureproofing. Australia's National Electricity Rules (ANER) set out minimum services specifications that are intended to balance the trade-off between the cost of an electricity smart meter and providing an appropriate level of 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>of natural gas and LPG over time, with the potential future blending of biogas and hydrogen with fossil-fuel derived gases?</p> <ul style="list-style-type: none"> ○ is NZS 5259 sufficient for the technical and safety certification of advanced gas meters with their enhanced functionality relative to legacy gas meters? 	<p>services. This approach means that the capability of the base model meter (i.e. a meter that meets but does not exceed the minimum specification) would be sufficiently high, and the incremental cost of any additional services will be modest when compared to requiring meters to be capable of providing all services.</p> <ul style="list-style-type: none"> • Gas Industry Co considers that this ANER service or 'output' based approach to prescribing minimum advanced gas meter functionality could help to enhance market efficiency and competition, through standardisation and futureproofing, without impacting innovation, and without prescription as the technical solutions adopted by MSPs. • Gas Industry Co recommends that the AGMI Group be tasked with considering: <ul style="list-style-type: none"> ○ the fitness for purpose of current technical regulations around gas metering, in the context of advanced gas metering; and ○ the key attributes of a set of advanced gas meter minimum service specifications, referencing those in use under the ANER. 	
13	<p>GMS ownership and works</p> <ul style="list-style-type: none"> • 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).¹⁰ • A GMS may include regulators to reduce the pipeline pressure to a metering pressure (but a downstream 	<ul style="list-style-type: none"> • Intellihub does not support gas distribution network companies owning all of the GMSs on ICPs on their networks. If this was to occur, Intellihub considers the MSPs concerned ought to be the subject of monopoly regulation. Intellihub also does not support a regime that would compensate MSPs whose metering equipment is replaced by another MSP – it considers this issue should be resolved by the market. • Vector considers that Gas Industry Co should not be assessing GMS ownership issues, due to the competitive market which exists in respect of 	<p>Type A Type B</p>

¹⁰ The Gas Act 1992.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>regulator reducing the metering pressure to a delivery pressure, does not form part of a GMS).¹¹</p> <ul style="list-style-type: none"> Gas Industry Co understands that there may be a preference for some distribution network companies to have ownership of the <i>entire</i> 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 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 	<p>these assets. Vector does not support monopoly ownership of GMSs by distribution network companies.</p> <ul style="list-style-type: none"> Gas Industry Co has not received any submissions from distribution networks, retailers or consumers on this issue. Gas Industry Co is supportive of market settings that encourage increased market competition, helping it to deliver on its GPS efficiency objectives. Gas Industry Co proposes to keep a 'watching brief' on the deployment of AGMI, monitoring competition in the market, the costs and benefits to consumers and the impact on the same on GMS ownership issues. 	

¹¹ <https://www.gasindustry.co.nz/about-the-industry/requirements-and-procedures-documents/document/5067>, page 15.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<p>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.</p> <ul style="list-style-type: none"> 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	<p>Advanced metering consumer education</p> <ul style="list-style-type: none"> One stakeholder questioned whether the gas industry should prepare a set of consumer educational materials on AGMI, highlighting the benefits and addressing frequently asked questions. 	<ul style="list-style-type: none"> Submitters supported consumer education in respect of the benefits of advanced gas metering. Intellihub considers this is likely a role for Gas Industry Co while Vector considers retailers and industry associations such as Gas NZ should perform this role. 	Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Gas Industry Co has not received any submissions from retailers or consumers on this issue. Gas Industry Co supports in principle the provision of accurate advice on AGMI to gas market consumers. Whilst Gas Industry Co considers that the provision of such advice forms part of its function (see GPS Item 13 requiring Gas Industry Co to pursue outcomes where "The respective roles of gas metering, pipeline and gas retail participants are able to be clearly understood" and "Good information is publicly available on the performance and present state of the gas sector"), it considers that retailers and industry associations such as Gas NZ are well-placed to perform this role. Gas Industry Co proposes that retailers and industry associations such as Gas NZ should be encouraged to provide this information to consumers. Gas Industry Co will monitor the provision of this information to satisfy itself whether or not the costs and benefits of advanced gas metering are being accurately and clearly communicated to consumers. 	
Lower priority issues			
15	Market competition <ul style="list-style-type: none"> 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.¹² 	<ul style="list-style-type: none"> Intellihub acknowledges Gas Industry Co's concerns in respect of low levels of competition in the gas meter market. However, it considers that this issue should be resolved by the market. Vector sees no role for Gas Industry Co in relation to this issue. Gas Industry Co reiterates that is supportive of market settings that encourage increased competition, as these are consistent with its GPS 	Type B

¹² 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.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> 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.¹³ 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 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.¹⁴ 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. 	<p>efficiency and fairness objectives. It also notes 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.</p> <ul style="list-style-type: none"> Gas Industry Co proposes to keep a 'watching brief' on these market competition issues. 	

¹³ Gas Industry Company Analysis of submissions and metering review, September 2017, page 1.

¹⁴ Gas registry statistics dashboard <https://www.gasindustry.co.nz/work-programmes/switching-and-registry/current-arrangements/reports/>.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
16	<p>Preferred Supplier Provisions in legacy GMSAs</p> <ul style="list-style-type: none"> 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.¹⁵ 	<ul style="list-style-type: none"> Whilst Intellihub is not in favour of GMSAs being regulated, it submits that “there is scope for GIC to develop a set of expectations regarding GMSAs, including its views on preferred supplier provisions”. Vector considers that preferred supplier provisions have little effect and do not restrain retailers from using other metering providers. The terms and conditions of access to gas meters by gas retailers is a purpose for which gas governance regulations may be made on the recommendation of the Minister (on the basis of recommendations made by Gas Industry Co (section 43G(2)(f) of the Gas Act). Gas Industry Co recommends that the AGMI Group be tasked with considering this issue as part of its work on issue 6 above, including by investigating the prevalence of these preferred supplier provisions in MSP GMSAs. 	<p>Type B Type A</p>
17	<p>Streamlined process for customer requests for consumption data (Electricity Price Review (EPR) Recommendation, C3)</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Intellihub considers that this issue should be considered by retailers and their consumers. Vector submits that the design and implementation of a streamlined process for customer requests for consumption data in the gas market be referred to TarMAC in the first instance. 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. 	<p>Type B Type A</p>

¹⁵ Gas Metering Review – review of metering service provider arrangements, 1 March 2017, page 5.

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	data, made available in the context of AGMI deployment.	<ul style="list-style-type: none"> 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. Gas Industry Co recommends that the AGMI Group be tasked with considering the development of guidelines enabling streamlined access to customer gas consumption data, made available in the context of AGMI deployment, as part of its work on issue 3 above. 	
18	<p>Ensure distributors have access to smart meter data on reasonable terms (EPR Recommendation, E3)</p> <ul style="list-style-type: none"> 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 amended the Code to address this issue in the electricity market. A new data template gives distributors access to smart meter data on reasonable terms to develop more efficient distribution prices and plans and manage their network, with associated data protections. 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 	<ul style="list-style-type: none"> FirstGas strongly supports smart meter data access rights for third parties, including gas distributors. Intellihub considers that terms of access to this sort of data can be commercially negotiated by the relevant parties – and that the existence of Gas Industry Co 'guidelines' could be used to help inform these negotiations. Vector considers there are likely benefits associated with giving gas distributors access to consumption data – these benefits may ultimately flow to consumers. Vector supports incentives for gas distribution businesses to procure data. Gas Industry Co has not received any submissions from retailers or consumers on this issue. 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. The EA's new data template model should be reviewed to determine whether or not elements of it can be adopted by the gas industry. Privacy issues and the proposed new CDR being established by the Government will need to be considered in relation to this issue. 	<p>Type B</p> <p>Type A</p>

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	suggested that these access arrangements can be difficult and challenging.	<ul style="list-style-type: none"> Gas Industry Co recommends that the AGMI Group be tasked with considering any steps that should be taken in the gas market to ensure distributors have access to smart meter data, as part of its work on issue 3 above. 	
19	Remote disconnections and reconnections <ul style="list-style-type: none"> 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." 	<ul style="list-style-type: none"> Submitters agree that issues connected with remote disconnections and reconnections, including safety issues, need to be considered by industry. Intellihub considers that there may be consumer benefits flowing from remote disconnection and reconnection technology and supports leadership from Gas Industry Co on opening the way for its implementation. Vector supports this issue being considered as part of a consumer switching discussion, and that TArMAC could be tasked with considering these issues. Gas Industry Co recommends that the AGMI Group be tasked with considering what measures should be implemented to allow the safe deployment of remote disconnection and reconnection technology, in advance of its deployment, to help facilitate the timeous delivery of the benefits which may flow from this technology. 	Type-B Type A
20	D+1 <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Submitters support the consideration of issues around the potential use of AGMI data in D+1 allocation process. Vector supports the DAWG and TArMAC working together to assess how AGMI data should be integrated into the D+1 allocation process. Gas Industry Co acknowledges that at an operational level, incorporating daily advanced meter data into the D+1 model is likely to increase allocation accuracy, and also improve forecasting accuracy, with the potential to reduce balancing gas costs. 	Type-B Type A

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Gas Industry Co recommends that the AGMI Group be tasked with working with the DAWG to consider what steps are required to incorporate daily advanced meter data into the D+1 allocation model. 	
Non-relevant issues			
21	Multiple trading relationships <ul style="list-style-type: none"> 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 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 multiple trader relationships per ICP but focussed instead on enabling more effective sharing of consumer historic consumption data. 	<ul style="list-style-type: none"> The potential benefits of enabling multiple trading relationships in the retail gas market are not clear to Gas Industry Co. No further action proposed by Gas Industry Co. 	Type C

Issue #	Issue Description	Gas Industry Co Initial Recommendation	Revised Priority Rating
22	<p>Critical Contingency Regulations.</p> <ul style="list-style-type: none"> Stakeholders have questioned whether 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 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 consumers are amongst the last gas consumers curtailed in a critical contingency event. Domestic gas consumers are not covered by the CCM Regulations. 	<ul style="list-style-type: none"> No further action proposed by Gas Industry Co. 	Type C



4. Issues Overview – Revised Ratings

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



Appendix A – Submissions Summary

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?

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
Supports limited regulatory intervention, targeted early on at the data access. This is identified as issue 2 however noting that more than one party may access the metering data at the same time. This is a very similar model that banking has had to follow with open banking standards. Innovation is enabled, but data access is "regulated".	-	The conclusions of the 2017 review in respect of the lack of competition in the metering space remain true today. The issues paper notes that the share of metering owned by organisations other than the network owner has increased. However, that change has not come about because of any change in the metering market, it is simply a side-effect of Vector divesting networks to First Gas, whilst retaining ownership of the meters. The 2017 conclusions in relation to advanced metering were	Yes. Our 2017 submission supported the conclusion that the market should be allowed to develop without intervention. We continue to agree as we've not seen evidence presented to the contrary.	Yes.

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
		<p>reasonable given the nascent state of AGMI in the NZ gas industry at that time. However, now that advanced meters are beginning to be deployed in significant numbers it is important to review the minimum standards from 2017 and develop a set of metering guidelines that are more appropriate. Given that recommending regulation is a less preferred option for Gas Industry Co, it is also essential that the desired policy settings are identified and published promptly to make the regulator's views transparent and create a benchmark against which the introduction of AGMI can be measured. It would be useful to build on the experience from the roll out of advanced metering in the electricity sector. For example, as most gas</p>		

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
		retailers also retail electricity there will likely be efficiencies in aligning file formats wherever practical.		

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.

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
High priority issues					
1. Cost and benefits to consumers	-	-	Lower priority issue. While GIC correctly notes some stakeholders' concerns regarding the costs of AGMI, the countervailing issue is that the market is contestable with numerous retailers and AGMI will only become ubiquitous if it lowers overall costs, or adds significant benefit for retailers and their	We're comfortable with the general approach: - The number and scope of Priority A issues will require a prioritisation exercise. This could be done at a qualitative level first, and place a high value on the ability and cost of responding to concerns or issues if they arise in future.	Vector does not necessarily agree that all the issues identified for "high priority" and "lower priority" categorisation in the Issues Assessment Paper should be considered further by Gas Industry Co and/or TArMAC. The benefits from services enabled by advanced metering are now widely recognised. Vector broadly agrees

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			<p>customers. If GIC were considering regulations to mandate installation of AGMI then this would be a high priority issue. But, as the roll out of AGMI is a commercial decision for retailers this issue warrants a lesser priority. It is also important to understand that, once a significant proportion of meters are 'smart', the ability to capture and process more detailed information can provide benefits to market participants beyond retailers and their customers.</p>	<p>This will help focus on the priorities over time.</p> <ul style="list-style-type: none"> - Suggest combining Priority B and C issues to one group. - An assessment mechanism will allow issues to be demoted/promoted if assumptions or the operating context changes. - The benefit of the Priority A issues being assessed at the same time is that interactions between issues can more easily be accommodated. 	<p>with the benefits to end consumers and retailers identified in the Issues Assessment Paper, to which benefits to gas distribution networks can also be added.</p> <p>In the competitive gas metering market, it is up to retailers to make their business case work for their customers' benefit. Retailers' direct interface with end customers makes them best placed to determine the service offerings enabled by advanced gas meters that could work best for their customers.</p> <p>In terms of costs, Vector's advanced metering provider (Vector Metering) does not intend to charge a higher lease fee for advanced gas meters over existing meters</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					where there is no data service. Our customers will therefore only pay for what they get.
2. Minimum data standards and file formats	Electricity Retailers are required by the authority to provide a consistent file format for data. The vast majority don't comply, nor have processes to operationalise the delivery – this means errors and delays for clients and their third-party service providers working on their behalf. This must be regulated early on.	-	The key word here is "minimum". Retailers can always request other file formats from their meter owners, but there should be a small set of standard formats that meets most needs (e.g. half-hourly data for easy alignment with existing systems for electricity, and daily reads for retailers who don't require greater granularity). Given that the gas transmission codes are based on NZ Standard Time year round it would also make sense for the metering data to match that convention as this would enable them to easily take advantage of the same data when		In general, we prefer that data standards be allowed to evolve and developed through industry-based approaches so as not to stifle innovation. We do not agree that there is a need to develop a standard construct for advanced gas metering services and a minimum dataset. Standardising file formats for a technology that is only being introduced at a mass scale will stand in the way of market competition and innovation. We agree with the sentiment that 'as long as the desired information is available, it can be reported in

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			<p>consolidated. Having a product that runs in NZ local time (NZDT and NZST where appropriate) also makes the solutions that generate and process the data more complicated, adding cost to the businesses using them. We are not convinced that minimum standards should extend to converting measured volumes to standard conditions as not all advanced meters will have the necessary pressure and temperature transducers to support that. Where the metering infrastructure has the necessary data (pressure, temperature, flow rates) a meter owner will be incentivised to offer more advanced</p>		<p>any format required by each retailer’.</p> <p>We do not agree with the mandatory implementation of specific data formats, transmission method, and timeframe for exchange, particularly for new and emerging services. What we want to see encouraged is the use of common design principles, common design standards, and common security standards that enable data providers and access seekers (including smaller parties and new market entrants) to benefit from interoperability and efficiency gains without limiting innovation.</p> <p>As indicated above, we suggest that standards relating to safety, measurement, and</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			<p>services. A number of other suggestions, e.g. CSR interrogation of meter status, should be approached cautiously given that, unlike electricity, AGMI is battery-powered and battery life will be reduced as the frequency of communications rises. Similarly, provision of daily data to the allocation agent for D+1 should be under the control of the retailer so as to ensure conversions are accurate (pressure, temperature, CV, etc) and the D+1 algorithm correctly accounts for ICPs with actual data as well as those for which it must estimate. A key reason for communications access sitting solely with the meter owner is the fact that the meter owner</p>		<p>market reconciliation and related processes be referred to TArMAC for consideration, in conjunction with industry participants.</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			will have SLAs with its customers (retailers and, possibly, network owners) and nothing can be allowed to interfere with the provision of those services. We agree that access to AGMI must be highly secure and suggest that restricting access to only the meter owner may be the best way to ensure that security. Where other industry participants, e.g. network owners, may have uses for that data they can obtain it on commercial terms from the retailer and/or the meter owner, subject to satisfying any privacy obligations (it is possible that the network owners will be most interested in capturing data on		

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			events relating to network performance).		
3. Access to, ownership, use and security of, customer data	Make access to the data from the MEP open to foster choice. Security etc can be dealt with, however the interests of the supply side mean this is hard to retrofit – as per both electricity and water. Consumers should have the choice who receives their data – and this may be more than the MSP or retailer.	-	Agree that this issue needs further analysis, particularly with regard to customer privacy. The model used in the electricity industry recognises that the consumption data is owned by the consumer, but the data is retained by the MEP, available to retailers for their respective periods of ICP ownership, and the MEP has commercial incentives to make metering data available to network owners if they seek it. It is also worth noting that no network owner, who is generally also the metering owner, has initiated replacement of legacy meters with smart meters for the purposes of capturing		<p>We suggest that TArMAC consider customer data issues, including issues around data access, ownership, use and security.</p> <p>At present, electricity consumers can access their consumption data, for example, via an app developed by their retailer. We expect gas consumers using advanced meters to have a similar level of access to their consumption information.</p> <p>For gas distribution businesses, having a better line of sight across gas consumption can help them plan and make more informed choices about investments in their</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			non consumption meter data.		long-lived pipeline assets. These choices could have significant implications for their transition to a low carbon future. Data is also key to understanding the role of gas in supporting customers experiencing energy hardship. As Gas Industry Co noted during its consultation on extending the Electricity Price Review recommendations to the gas sector, the role of gas in energy hardship is not well understood. We are supportive of a cross sector, collaborative, data-based investigation of this issue.
4. Potential process and registry changes	Support issue 4 as the registry is also a source of the data needed for innovation,	-	Agree that some registry changes will likely be required. An example of that may be		Potential changes to the Gas Registry to efficiently integrate services enabled by

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
(including switching procedures)	providing the ability for approve participants to automate information gathering and establish digital processes.		the need for a flag to indicate whether an advanced meter is/isn't communicating (and we would favour an additional flag rather than, as was done in electricity registry, repurposing the existing flag). We question the wisdom of adding certain data to the registry given the public nature of the gas registry (anyone can search for ICP details via GIC's website). Identifying make, model, and remote disco/reco functionality could enable more accurate targeting of cybersecurity attacks.		<p>advanced gas meters into the market are another set of issues that TARMAC should consider as a matter of priority.</p> <p>For example, an advanced meter should be considered a ToU meter in the Gas Registry. The existing ToU definition needs to be broadened to indicate whether the device corrects for temperature only, pressure only, both pressure and temperature, or does not correct and records actual volume only.</p> <p>We agree with Rod Crone Consulting's suggestion in its 2017 Review of Advanced Metering Technology that the Gas Registry distinguish between communicating and</p>

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					<p>non-communicating meters. While an advanced meter may be installed with communications, the communications may not work, or may have initially worked but signal was lost or became intermittent. A code could indicate whether communications exist which will alert the retailer of the potential need for manual meter reading.</p> <p>Additional metering provider codes may also be required in the Gas Registry. This will inform metering providers and other parties (including retailers) whether a metering installation is fitted with a legacy or advanced meter.</p> <p>We do not believe there is significant benefit</p>

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					<p>from including the meter make and model in the Gas Registry. Vector Metering provides metering services in different volume capacities using various meter types. The meter make and model are not necessarily reflective of the age of the ICP as Vector Metering circulates equipment across sites either through planned maintenance activities or the reuse of removed assets – provided they remain fit for use.</p> <p>A switching issue that could be considered by TARMAC is the recovery of any remaining value of a metering asset which a displaced metering provider has invested in.</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
5. Downstream Reconciliation Rules	-	-	Agree that the apparent uncertainty in the DR rules regarding allocation groups should be clarified. In addition, as allocation group 5 is unused there may be value in allowing retailers to use that group to submit daily data for sites that would otherwise be in allocation group 6. Such a change would ensure that daily consumption data from advanced meters was correctly allocated across the month (rather than using the gas gate residual profile).		<p>Vector considers that potential changes to the Gas (Downstream Reconciliation) Rules 2008 and other relevant rules and regulations should be considered by TArMAC and/or the Daily Allocation Working Group (DAWG) as a matter of priority.</p> <p>The introduction of advanced gas metering will require Gas Industry Co – as a co-regulator and industry body – and industry participants to consider how new and non-traditional entrants would be efficiently integrated into the market without imposing onerous costs on industry participants and consumers. This would require considering, among others:</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<ul style="list-style-type: none"> • appropriate changes to the existing rules on downstream reconciliation, switching, compliance, and other relevant rules and regulations; • how information about new products and services may be accessed by Gas Industry Co and other market participants; and • the impact of any regulatory changes on costs to market participants and consumers, including how those costs will be recovered in a fair and efficient manner, and ensuring the benefits significantly exceed the costs.
6. Alignment of GMSAs	-	-	We don't support alignment of GMSAs,		Vector does not believe that alignment of Gas

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			<p>considering that the content of those contracts is best left to the parties to address in their commercial negotiations. That freedom allows for innovation and, given that retailers typically have GMSAs with all meter owners, such innovation is likely to spread if valued more broadly. However, GIC may wish to consider signalling its expectations in the form of guidelines or benchmarks as it has done previously for retail contracts and distribution use of system agreements.</p>		<p>Market Service Agreements (GMSAs) are required, particularly at this stage of market development. We see no purpose in standardisation with no apparent, or very minimal, benefits but could do great harm to innovation. We do not believe it is appropriate for Gas Industry Co to focus on developing a 'one-size-fits-all' GMSA for emerging services. This could diminish opportunities for developing points of difference (e.g. in product and service offerings) between various providers. It could result in prolonged negotiations that would delay further deployment. We note that Australian regulators have departed from centrally</p>

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					<p>set arrangements to commercially negotiated agreements, having learned the harsh lessons of cost overruns and consumer backlash from the regulated/mandated approach to the deployment of advanced electricity meters in the state of Victoria.</p> <p>In our view, the findings of Rod Crone Consulting's review of GMSAs in 2017 remain relevant. The report from that review notes that:</p> <p>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</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>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, standardisation of non-core terms, service definitions and performance standards, reduces the opportunity for service differentiation which promotes competition.</p> <p>It is reasonable to expect that retailers prefer a 'single supplier arrangement' for advanced metering as they will only want to have one, not two or three data collection arrangements. We cannot, however,</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>discount the emergence of new business models in the energy sector that provide further benefits to consumers.</p> <p>Vector Metering has a template GMSA that serves as a starting point for negotiation with retailers. We recognise that this template will need to be updated to reflect future developments, and we consider it inappropriate and imprudent to attempt to future proof the template GMSA. We cannot say for certain whether future GMSAs for advanced metering will broadly align between providers – that is the nature of innovation. While the GMSAs will need to comply with technical standards (e.g. for</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>safety and measurement), we prefer and expect new and innovative arrangements to emerge from commercial negotiations.</p> <p>A more prescriptive approach would also increase the regulatory burden. It would require greater monitoring by Gas Industry Co of compliance with benchmark terms, increasing costs for the industry and consumers. In a rapidly evolving market, it is in consumers' interest that service providers focus on providing innovative and improved products/services to consumers rather than on complying with new regulatory requirements.</p>

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7. GMSA payment provisions	-	-	More analysis of this issue is required to identify the appropriate allocation of risk. For the residential sector gas can be seen as a discretionary fuel and, unlike electricity, disconnections can become permanent. If charges automatically cease on disconnection, meter owners may be more reluctant to install such devices. At a practical level, the responsible retailer retains the obligation to monitor for unauthorised gas use and, unless removed, the meter is the means of providing that information reliably. Even if data is only being gathered intermittently in such a case, batteries have a finite life and we see no good reason for charges		Vector believes that GMSA payment provisions are a matter for commercial arrangements for the same reasons stated in our response to Issue 6: Alignment of GMSAs.

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			to be waived. This is likely to be an area best left to the parties to negotiate mutually acceptable arrangements.		
8. AGMI redundancy risk	-	-	We consider this falls into the same category as issue 1. Retailers will only be contracting for AGMI installations if there is a net benefit to them. In addition, meter owners need to ensure that the services they provide meet the needs of retailers or risk those retailers looking elsewhere.		Vector does not recommend that Gas Industry Co consider AGMI redundancy risks further. In a competitive metering market, meter owners take investment risks and suffer from the consequences of bad business decisions or technology choices, not consumers or taxpayers.
9. Centralised data provider	-	-	Whilst we are not opposed to this in principle, any move towards a centralised data provider needs careful analysis so as to ensure that such an approach yields clear net benefits. The paper cites the UK example,		Vector does not support the establishment of a centralised data provider or centralised data store/repository. What we support is the development of application programming interfaces (APIs) that enable

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			<p>and we note that the revenue for the UK provider (Smart DCC) for the year ended March 2020 was over £430 million. Given the economies of scale that organisation should be achieving, the costs per ICP would likely be much higher in NZ. Note that, as a monopoly provider, Smart DCC is also subject to economic regulation. Separate from the cost of a centralised data provider, the creation of such an entity risks stifling innovation, potentially reducing the pace of change to that of the slowest member(s). While it is possible that those who wish to move faster will enter into separate, bilateral arrangements, that requires them, effectively, to be paying</p>		<p>greater data access and authorised sharing, and interoperability between market participants. Flexible arrangements, such as the use of APIs, better enable innovation than a centralised approach. The development and day-to-day maintenance of a centralised data provider/store and associated compliance costs, particularly for a small market, are likely to be very costly. There are risks of over-building and asset stranding (i.e. sunk costs), and consumers could pay for what they do not need or desire. Competitive gas metering businesses, which collect and process data from their own meters, have made and are making</p>

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			<p>twice. Given that the gas market is relatively small (in terms of both numbers of customers and retailers), we believe that the data collection and delivery risks are best managed at a commercial level between the parties.</p>		<p>significant investments in IT systems to do these tasks. A centralised data provider would unnecessarily duplicate some of these functions which will increase costs for industry participants and consumers.</p> <p>A centralised data provider would also undermine metering competition, 'squeezing out' other providers by virtue of its appointment to the role. Retailers are charged by metering service providers an annual fee for the provision of meter data; the meter is effectively installed for free. Moving the data-related functions to a regulated monopoly or centralised entity will curtail competition between metering businesses, impacting</p>

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					<p>competitive outcomes (price) and effectively 'downgrading' the value of these businesses. This represents a serious sovereign risk for contestable metering businesses and undermines the competitive metering framework in New Zealand.</p> <p>Importantly, a centralised data provider would stifle innovation. Contestable metering providers are responsive to their customers' needs. In electricity metering, customers/retailers have requested bespoke services for meter data delivery, e.g. intra-day delivery, which leverage their data functions. It would not be cost effective to provide these sorts of services if</p>

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					<p>the metering providers were confined to a role of only installing and maintaining advanced meters.</p> <p>A centralised approach is not conducive to an energy future of decentralised services, e.g. peer-to-peer trading, Consumer Data Right, etc. The proposed model for the energy Consumer Data Right in Australia has shifted from the "Australian Energy Market Operator (AEMO) gateway model" towards a more decentralised peer-to-peer model (akin to Open Banking). This was driven by the need for more interoperability and extensibility of energy data within and across sectors.</p>

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10. Advanced meter displacement	-	-	We consider this issue is best managed via the commercial agreements between the parties. It is also hard to see why retailers would sanction such inefficient behaviour as it confers no advantage to them.		
11. Open access AGMI systems	-	-	We are opposed to such a move due to the associated cybersecurity risks and the increased costs associated with requiring "...all advanced gas meters [to] interface with all GMS communications and meter management ... systems". The increased efficiencies would need to be identified and certain before embarking on further analysis in this area. It is also worth noting that such a move may increase the risk of		Vector does not view open access AGMI systems as warranting further consideration by Gas Industry Co. Data standards should be allowed to evolve and develop through industry-based approaches, rather than through prescription, so as not to stifle innovation. Greater data access and interoperability could be enabled, for example, by using APIs.

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			consumer data being collected by someone other than the responsible retailer and any such open access regime would need to have highly secure arrangements to ensure access to data was only granted to the responsible retailer for an ICP (and only for periods corresponding with their ownership of that ICP). Similar to our response to issue 2, open access also impinges on the ability of the meter owner to be able to meet its SLA commitments.		
12. Technology standards	-	-	Standardising has significant risks in a small market such as New Zealand. We consider that retailers and meter owners are well placed to compare the benefits and costs of		The uptake of and transition to new technologies are driven by market outcomes and positive consumer outcomes, rather than by regulatory or technical prescription. It

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			<p>available systems and make choices that suit their customers and their business model. The mandated roll out of advanced electricity meters in the state of Victoria is a salutary lesson on the risks of imposing outcomes rather than allowing the market to find solutions. Similarly, the mandated rollout of smart meters in the UK has been beset with problems, with many first-generation meters losing functionality when customers switch suppliers. We would prefer to see guidelines developed as noted in our response to issue 2. With regard to future-proofing meters to allow for changes to the constituents of the gas stream, that seems unrealistic given the</p>		<p>is important for new technologies to be tested or installed to meet the changing requirements of the industry and consumers, rather than stifled through greater prescription. We therefore do not see the need for Gas Industry Co to consider technology or technical standards further (except for those relating to safety, measurement, and market reconciliation and related processes that we suggest TArMAC should consider).</p> <p>Mandating technology standards is likely to impose the following limits and costs:</p> <ul style="list-style-type: none"> • Market competition is limited by locking out existing and

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			<p>future uncertainties. The gas will still need to meet the gas specification to avoid triggering a mass upgrading or replacement of appliances and other equipment, suggesting that meters designed for the current standard will continue to be useful for some time to come. If there were to be a switch to, say, reticulating pure hydrogen rather than natural gas/biomethane, that would require significant changes, including changes to metering technology.</p>		<p>potential market participants who are not currently using the required technology standards or who believe that better standards or technologies are available or could become available. This effectively becomes a barrier to market entry that could stifle market competition and innovation. Where barriers to entry are created, consumers will not benefit from lower cost service provision or the choice of better services that meet their specific needs.</p> <ul style="list-style-type: none"> • Mandating technology standards makes service providers compliance or regulator focused, rather than focusing on introducing new

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					<p>offerings to the market in a timely manner. This does not provide strong incentives for market participants to become effective competitors and innovators that keep striving to meet rising consumer expectations.</p> <ul style="list-style-type: none"> • Mandating specific technology standards before they are used (or widely used) creates the risk of 'gold plating' services. This generates unnecessary costs for consumers who do not want or need some of the mandated functionalities. • In the future, new technical functionalities may not be able to be delivered using today's technology.

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					<p>It would not benefit consumers if market participants do not have ample flexibility to upgrade or alter technical specifications in a timely manner. This could lead to outcomes where the delivery of services is not keeping pace with technological changes or what consumers value.</p> <ul style="list-style-type: none"> • Mandating technology standards is likely to increase the regulatory burden (for both regulators and industry participants), increase costs for consumers, require substantial resources, and usually takes time.
13. GMS ownership and works	-	-	Any change allowing distribution network companies "to have		Vector does not consider an assessment by Gas Industry Co of

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			ownership of the entire GMS at all ICPs on their networks" would need to be matched with economic regulation of those metering assets (because of the monopoly created). This would seem to be a retrograde step from the current arrangements. Also, the suggestion that an incumbent MSP should receive compensation for legacy GMS equipment being replaced risks reducing competition. All MSPs have the opportunity to offer competitive pricing, including those whose equipment may be being displaced. The issues paper put forward a view from distribution network companies that owning "... the entire GMS at all ICPs on their network ...		GMS ownership and works, which are owned by competitive metering providers, to be warranted. Advanced meters in the electricity sector in New Zealand were successfully deployed by competitive providers – a model emulated by multiple Australian jurisdictions. Changing this ownership model, e.g. monopoly ownership by distribution networks, would be a step backwards.

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			<p>might deliver ... safety benefits." We find that view surprising given the requirement to use qualified personnel for installation/removal/maintenance of GMS components and that different meter owners are often outsourcing field work to the same contractors. If there really are efficiency gains of any significance that would suggest that the party who stands to receive those benefits would be well placed to make a commercial offer for the asset(s) it wished to acquire. Given the Gas Act and GPS objectives of efficiency and reducing barriers to competition, it makes sense to pursue an ownership model that is most likely to result in a vibrant, competitive</p>		

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			market that, in turn, will flow through to better retail competition. Having all meters owned by the distributor may mean there is no incentive for the meter owner to innovate as all its customers are captive. It is worth noting that no network owner has installed advanced metering of its own volition, that change has been driven by retailers.		
14. Advanced metering consumer education	-	-	Agree this is likely a role for GIC, although retailers may also have preferences in this area.		Consumer education could facilitate greater understanding of the benefits of services enabled by advanced meters, and eventually greater uptake. We believe retailers, who have the direct relationships with end customers, are best placed to provide the necessary information

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					to improve consumer awareness. Industry associations such as GasNZ (formerly the Gas Association of New Zealand and the LPG Association of New Zealand) could also perform this role.
Lower priority issues					
15. Market competition	-	-	We acknowledge GIC's concerns about apparent low levels of competition in the gas metering space. To a large extent that outcome simply reflects that the gas industry has developed from vertically integrated monopolies. However, with the availability of gas smart meters there is the opportunity for retailers to make different choices for smart meter deployment and, thereby, reduce the		<p>While noting that Gas Industry Co already considers market competition to be a "lower priority" issue, Vector does not see the need for further work by Gas Industry Co on this area at all.</p> <p>Vector Metering currently offers new gas metering services on gas distribution networks owned by Vector, Powerco and Firstgas.</p> <p>Other metering service providers can deliver</p>

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			<p>level of market concentration. The comment regarding price/quality regulation for meters ignores the fact that the metering market is, at least, contestable. In the event that one or more meter owners choose to extract monopoly rents, retailers always have the option of choosing a different meter owner. Incumbents would recognise that and would not want to price in a manner that risks their assets being displaced.</p>		<p>services on Vector's gas distribution network. Vector's network allows any metering provider to have its name added to the list of available providers, from which the retailer nominates a metering provider.</p> <p>As indicated in the covering letter of this submission, the Commerce Commission's preliminary assessment of the gas metering market in 2017 concluded that regulating this market "does not yield sufficiently high benefits when balancing against the cost of an inquiry and any subsequent regulation".</p> <p>Gas Industry Co's own Gas Metering Review in 2017, while stating that developing a set of</p>

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					<p>minimum standards for advanced metering would help ensure consistent collection and treatment of metering data, envisaged that the standards would not be regulated requirements. We believe the above findings still hold today, and consider that arguments against regulation are stronger now, given the following considerations:</p> <ul style="list-style-type: none"> • Regulation could disincentivise further movements in the gas metering market. The entry of new gas metering providers (Firstgas and Intellihub) and displacement of meters by other parties are expected to change the dynamics of the gas metering market.

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<ul style="list-style-type: none"> • The deployment of advanced gas meters which can enable innovation and differentiation of services, and potential provision of advanced metering by other parties, should not be stifled by regulation. • The gas metering market remains very small even today; it is a challenger industry. • New Zealand's transition to a low carbon future implies reductions in gas supply and consumption over time, and potential contraction of the size of the already very small gas metering market. The benefits from any future regulation will not be expected to significantly override the costs.

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
16. Preferred Supplier Provisions in legacy GMSAs	-	-	GIC is right to be concerned about contractual arrangements that appear to be aimed at lessening competition. Although we are opposed to arrangements that inhibit competition or limit retailers' rights to choose suppliers, we are also not in favour of GMSAs being regulated and, as noted in our response to issue 6, there is scope for GIC to develop a set of expectations regarding GMSAs, including its views on preferred supplier provisions.		<p>Vector does not believe preferred supplier provisions have any significant impact on the gas metering market. These provisions do not restrain retailers from using other metering providers.</p> <p>The metering provider does not have visibility of ICPs (while still in the network system) until such time that the metering provider is selected by the retailer.</p>
17. Streamlined process for customer requests for consumption data (Electricity)	-	-	We consider this is an issue for retailers and their consumers and note that the EA has already considered this issue.		Vector notes that Gas Industry Co has made a recommendation to the Minister of Energy and Resources to extend this EPR recommendation to the gas sector. We

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Price Review (EPR) Recommendation, C3)					further note that electricity consumers can already request access to their consumption data. We suggest that the design and implementation of a streamlined process for customer requests for consumption data in the gas market be referred to TarMAC in the first instance.
18. Ensure distributors have access to smart meter data on reasonable terms (EPR Recommendation, E3)	-	Firstgas is particularly interested in data access, so that parties, such as gas distributors, can utilise AGM data to assist with the efficient operation of the network. We strongly believe that this is in the best interests of gas consumer.	The paper doesn't define the data to which distributors seek access. If consumption data, then that is best dealt with between the distributor and the retailer who has the relationship with the customer(s). If, however, distributors are seeking information on events recorded by the meter then that information may, more appropriately, be		The provision of data on reasonable terms has the potential to add benefit to gas distributors and ultimately to consumers. For example, data on pressure and flow helps gas distributors improve their network models and avoid duplicating similar equipment that they need to install at various locations (much smaller coverage). Depending on the type

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			obtained from the meter owner. We expect that mutually reasonable terms can be negotiated, and the existence of guidelines may help to inform those discussions. (refer to responses to issues 2 and 6). Additionally, the EA has already canvassed this issue with stakeholders and that model may be able to be adopted in a suitably modified form.		<p>of data, it may also provide improved customer notifications during outages.</p> <p>We would support incentives for gas distribution businesses to procure data, for example, by providing them with allowances under the Commerce Act Part 4 regime. Metering service providers need greater certainty to make the appropriate investments and develop the right services for gas distribution networks.</p>
19. Remote disconnections and reconnections	-	We also have questions about the ability of AGM to remotely disconnect customers from a safety perspective, how such disconnections will be managed operationally, and how they may	Intellihub would welcome leadership from the GIC to work with all relevant parties to open the way for implementation of remote disconnection and reconnection technology for the		We consider that issues around remote disconnections and reconnections are more appropriately considered as part of a wider discussion on switching. These issues could be considered by TArMAC, including how

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		<p>impact other gas market arrangements.</p>	<p>benefit of retailers and their customers.</p> <p>The existing protocol that governs disconnection and reconnection of consumer installations does not allow for these to be completed remotely. However, the existence of such functionality could confer benefits for customers who may require temporary disconnections (e.g. during building works) or in emergency situations such as leaks following an earthquake (provided the communications facility still works).</p> <p>It would seem that this is an area in which GIC could liaise with retailers, distribution system owners, GANZ, WorkSafe, etc to</p>		<p>remote reading enabled by advanced gas meters works with switching.</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			explore the feasibility of implementing remote disconnection/reconnection and what changes would be required to the existing protocol and any standards, regulations, or related documents. Given the existence of smart prepayment meters in other jurisdictions, it would appear that the safety issues associated with electronically interrupting and restarting the flow of gas safely have already been addressed by smart meter suppliers.		
20. D+1	-	-	If there is any intention to use AGMI data for the D+1 system it would be useful to clarify the timing arrangements for delivery of such data by retailers to the allocation agent (as		Vector considers D+1 to be highly relevant in the context of the introduction of advanced metering in the gas market. D+1 should be considered urgently by the DAWG,

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
			that will impact when meter data needs to be delivered to the retailer). This would likely be a task for TArMAC (or possibly the daily allocation working group).		<p>in close coordination with TArMAC. As indicated in our submission on Gas Industry Co's Work Programme and Levy for FY2022, dated 5 February 2021:</p> <p>Vector strongly supports the integration of the pilot D+1 processes into the Gas Downstream Reconciliation Rules. While we understand that this work has been delayed pending changes to the transmission code, the importance of providing more timely data – enabled by daily allocations – has become more urgent with the introduction of advanced gas meters and the increased price volatility in the market.</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>As further indicated in our February 2021 submission:</p> <p>In our view, issues that need to be considered by Gas Industry Co, potentially in conjunction with the DAWG, in implementing a formal D+1 system include, among others:</p> <ul style="list-style-type: none"> a. reviewing AG1 and AG2 meters and start moving AG2 meters to AG1 on a phased basis, or consider establishing a separate allocation group for advanced gas meters; b. determining who is going to implement D+1, e.g. the Allocation Agent; c. building into the Allocation Agent service agreement, which expires on 31 December 2021, the

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>necessary provisions to accommodate data generated by advanced gas meters;</p> <p>d. identifying additional information relating to advanced gas meters that needs to be captured in the Gas Registry;</p> <p>e. developing the appropriate provisions relating to advanced gas meters in the Gas Downstream Reconciliation Rules (e.g. reporting requirements), the Switching Rules, and other relevant rules and regulations for the gas sector; and</p> <p>f. identifying any necessary updates to Gas Industry Co's Gas Measurement and Procedures Document and Gas Quality</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>Requirements and Procedures Document. Potential improvements to the D+1 allocation outcomes, following the review of the above points, will provide more accurate data that helps promote competitive market outcomes. It will also result in fairer outcomes for shippers that are adversely impacted by fluctuations in allocation results from D+1 allocations to interim allocations. The impact of these fluctuations on shippers is magnified by the gas price volatility that has been a feature of the market since 2018. The increased cost of gas balancing is having, and will</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					<p>have, adverse cost impact on downstream gas users and could erode the confidence of gas traders and consumers in the gas market.</p> <p>The DAWG is progressing a number of the above issues, following its meetings in August and September 2021. Vector would, however, urge Gas Industry Co to include the above AGMI issues as part of the DAWG's work programme. The resolution of these issues will have an impact on, and will require changes to, the Gas Downstream Reconciliation Rules. Given Gas Industry Co's proposal is to send an updated version of these Rules to the Minister of Energy and</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
					Resources in the second quarter of 2022, we believe it will be more efficient to include the resolution to all of the above issues in a single Rules update.
Non-relevant issues					
21. Multiple trading relationships	-	-	-		<p>Vector agrees with Gas Industry Co that multiple trading relationships (MTR), which provide a customer with the option to contract with more than one supplier at a premise, are not relevant for the purposes of this consultation.</p> <p>We note that MTR for the electricity sector is still being trialled by Ara Ake in an 'off market' environment, in conjunction with the Electricity Authority.</p>

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
22. Critical Contingency Regulations	-	-	-		Vector agrees with Gas Industry Co that the Gas Critical Contingency Management Regulations (CCM Regulations) are not relevant for the purposes of this consultation.
23. Other issues identified	<p>A wider range of stakeholders have interest in gas metering outcomes.</p> <p>The supply side have specific needs and goals, however they don't always align with "customers". Service providers such as ESP exist because there is a gap that is not being bridged.</p> <p>Wider stakeholder parties are fostering more innovation that retailers and therefore should also be</p>	N/A	N/A		

Issue	Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
	included [rights to access data].				

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?

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
-	Supportive of TArMAC. Firstgas believes that these issues are best fleshed out and resolved through the continued use of a sector working group, involving parties from across the gas market. We would welcome the chance to progress the discussion with this working group.	We would favour such a group being used to assist GIC to evaluate the issues and to work through solutions. It is important that GIC's proposals are technically sound and evidence-based.	Yes, as a starting point. Part of that process should involve flagging any issues that the group and/or GIC assesses as needing an alternative approach to address eg consultation, engagement with other regulatory bodies.	Yes, Vector believes the TArMAC generally remains an appropriate working group to develop solutions for AGMI issues.

Q4: Do the objectives of the TArMAC group need to be revised (extended or reduced) and if so, how?

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
-	-	The "scope of work" needs to be reviewed in light of the number of issues identified in the consultation paper,	This would be best assessed when there is some clarity of the work programme that follows this paper.	Vector considers that the objectives of TArMAC, as set out on the Gas Industry Co website and reproduced below, remain

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
		particularly as AGMI is already being deployed. Broadly speaking TArMAC should be used to assist GIC to assess the issues with a view to identifying those that need to be addressed, developing practical solutions, and supporting GIC with any further consultation on solution design.		broadly appropriate and relevant. We suggest that this statement and/or TArMAC's terms of reference be refreshed to reflect the issues falling under the 'minimum standards umbrella' identified in our response to Q2.

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?

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
Given the limited set of participants and needs identified in the document we recommend that TArMAC does get revised to potentially include other participants & stakeholders.	-	The group membership needs to be refreshed to ensure that members are the right people from their respective organisations (i.e. have the technical knowledge to provide meaningful input) and to ensure that members are able to commit time to the group. Also, a significant number of the original	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?	Given the limited set of participants and needs identified in the document we recommend that TArMAC does get revised to potentially include other participants & stakeholders.

Energy Solutions Providers (ESP)	Firstgas Limited	Intellihub Limited	Powerco Limited	Vector Limited
		members have moved to other positions or have left the gas industry.		



Appendix B – AGMI Group Draft Terms of Reference

Advanced Gas Metering Infrastructure (AGMI) Group

Background

Gas Industry Co wishes to re-convene the advanced gas metering working group to provide advice on issues related to the deployment of advanced gas metering infrastructure (AGMI) into the New Zealand retail gas market.

The group was formerly known as the Technical Advanced Metering Advisory Committee (TArMAC).

The group will now be known as the AGMI Group.

Purpose

The purpose of the AGMI Group is to develop and recommend to Gas industry Co a set of minimum standard guidelines (AGMI Guidelines) for the deployment of advanced gas meters into the New Zealand retail gas market, relating to each of the issues set out below.

In carrying out this work, the AGMI Group shall have regard to (amongst other things) Gas Industry Co's recommendations and observations set out in this paper, and the outcomes and objectives which Gas Industry Co is expected to pursue under the GPS:

Scope of Work

	Issue	Work scope
1	Minimum data standards and file formats	Develop appropriate minimum data standards and file formats recommendations, using TArMAC's Advanced Gas Metering – Minimum Standards draft paper dated September 2017 as a start point.
2	Access to, use and security of, customer data	Develop recommendations for minimum standards for access to, ownership, use and security of, customer advanced gas meter data. Consideration of the following issues shall be included in this work: <ul style="list-style-type: none">- development of guidelines enabling streamlined access to customer gas consumption data, made available in the context of AGMI deployment (having regard to the EA's electricity consumer equivalent workstream);- development of guidelines enabling distributors to have access to smart meter data.
3	Potential process and registry changes (including switching procedures)	Develop appropriate process and gas registry change recommendations (including switching procedures).

	Issue	Work scope
4	Downstream Reconciliation Rules	Develop appropriate changes to the Gas (Downstream Reconciliation) Rules 2008 and other relevant rules and regulations.
5	Alignment of GMSAs	<p>Review MSPs' template gas metering service agreements (GMSAs) and develop either a template GMSA, or a set of GMSA minimum standards, consistent with the approach taken by Gas Industry Co with the Retail Gas Contracts benchmark scheme. Consideration of the following issues shall be included in this work:</p> <ul style="list-style-type: none"> - GMSA payment provisions: Consider whether a gas retailer's payment obligations to pay for advanced metering services should be suspended on disconnection of a customer's gas supply; - AGMI Redundancy risk: Consider the allocation of risk between MSPs, gas retailers and consumers for AGMI redundancy risk; - Preferred Supplier Provisions: Consider the allowance of provisions that oblige a retailer to choose a particular MSP for retailer-initiated third-party meter replacements and upgrades.
6	Centralized data provider	Develop a recommended set of minimum standards to enable secure and efficient data access and authorised data sharing, between different MSPs' data collection and storage systems, without moving to a centralised provider model.
7	Open access AGMI systems	Develop a set of minimum standards, alongside the work recommended in item 1 above, to enable secure and efficient interoperability between different MSPs' data collection and storage systems.
8	Technology standards	Develop recommended 'fitness for purpose' changes needed to current technical regulations around gas metering, and develop a set of recommended advanced gas meter 'minimum service standards', referencing, for example, those in use under Australia's National Electricity Rules.
9	Remote disconnections and reconnections	Develop a recommended set of minimum standards to enable the safe and fair deployment and use of remote disconnection and reconnection technology, in advance of its deployment.
10	D+1	Work with the DAWG to consider what steps are required to incorporate daily advanced meter data into the D+1 allocation model.

Membership

Members of the AGMI Group will be drawn from the gas market, with the following representation:

- gas consumers (residential and small business);
- gas advanced metering service providers;
- gas network distributors;
- gas retailers; and
- gas consumer service providers.

Gas Industry Co will oversee an independent and fair election of members to the AGMI Group.

Gas Industry Co will chair the Group and provide secretariat support.

Operation of the AGMI group

- Membership in AGMI Group constitutes a commitment to attend meetings and participate in the work of the Group. There may be times, however, when schedules clash and a AGMI Group member cannot attend: in these circumstances, an alternate person can be sent to a AGMI Group meeting.
- In participating, AGMI Group members are acting as company representatives. In some cases, this may mean that decisions will need to be held until the next meeting, so that AGMI Group members can canvass their colleagues' views about a particular issue.
- At times, it may be appropriate for an AGMI Group member to bring along a person from their company who has expertise or interest in a particular matter under consideration. If a AGMI Group member is sending an alternate or bringing an extra person, they should let the Group know in advance.
- Any AGMI Group member can propose an agenda item or issue for the Group to consider.
- Members may attend meetings in person or remotely.
- Minutes of the meetings will highlight the discussions and conclusions but will not record the who-said-what play-by-play.
- Meeting papers, minutes, etc., will be published on the Gas Industry Co website.



Glossary

AGMI	Advanced Gas Metering Infrastructure
EA	Electricity Authority
CDR Consumer Data Right	CDR Consumer Data Right
Commerce Act Commerce Act 1986	Commerce Act Commerce Act 1986
Gas	Natural gas and LPG
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	ICP Installation Control Point
LPG	Liquefied Petroleum Gas
MSP Metering Service Provider	MSP Metering Service Provider
Reconciliation Rules	Reconciliation Rules Gas (Downstream Reconciliation) Rules 2008
Switching Rules	Gas (Switching Arrangements) Rules 2008



Questions

Submission prepared by: <company name and contact>

Question		Comment
Do you agree with the recommendations made by Gas Industry Co set out in this report? Please address your comments to each relevant recommendation separately (as set out below).		
Recommendation 1	Recommended development of a set of 'minimum standard' guidelines to better ensure the effective deployment of AGMI technology to consumers in a safe, efficient, fair, reliable, and environmentally sustainable manner, and better ensure the delivery of an efficient, competitive market structure for the provision of gas metering services (AGMI Guidelines).	
Recommendation 2	Recommended list of identified AGMI issues, and Gas Industry Co's priority categorisation of the same.	
Recommendation 3	Recommended utilisation of an updated TArMAC group as the appropriate working group to work with Gas Industry Co to develop solutions for AGMI issues identified through this workstream.	
Recommendation 4	Recommended updated terms of reference for the TArMAC group (to be renamed the AGMI Group).	
Recommendation 5	Recommended changes to the TArMAC group membership group (to be renamed the AGMI Group).	

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.

