Common Arrangements for Gas

Retail Alignment IT Assessment Report

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IV   References

Reference	Document Name	Version	Issue Date	Status
	Gaslink Code of Operations	2.0	Oct 2007	
	Gas Point Register Operator Procedures	3.0	Dec 2008	
	GasMaP Project Overview of Technical Solution	2.3	Aug 2007	
	Market Process Definitions (MPDs)			

	PHOENIX NATURAL GAS LIMITED DISTRIBUTION CODE		May 2008	
	LICENCE FOR THE SUPPLY OF GAS IN NORTHERN IRELAND			
	Proposed Natural Gas Supply Licence (CER)		Dec 2008	
	Discussion Paper on the future of the Gas Retail Regime in Northern Ireland and the Republic of Ireland		Oct 2008	
	Common Arrangements for Gas Project Stage Two Cost Benefit Analysis		Apr 2009	

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1. Executive Summary

Gemserv has completed a high-level review of the IT systems in Northern Ireland and the Republic of Ireland to understand and assess how they support the retail processes integral to the market. The main processes for the review were the change of supplier process, meter operation and data collection.

Our review of the systems serving Northern Ireland and the Republic of Ireland focussed on an assessment of the suitability of adapting one or both systems to serve the combined markets and to determine the important aspects of the processes and systems to be retained in the Common Arrangements for Gas (CAG) as outlined in previous Discussion Papers published by the Regulatory Authorities.

To support this review we prepared an initial technical questionnaire for the Distribution / Retail IT systems and interfaces operated by Phoenix Natural Gas in Northern Ireland and Gaslink in the Republic of Ireland. We followed this up with conference calls and site visits to attempt to fully understand the capabilities and aspirations of these organisations with regard to the development of their IT systems to support Retail alignment under the CAG. As stated in the Request for Tenders document, it is envisaged that the Northern Ireland and Republic of Ireland operational retail gas systems will require some level of integration to facilitate the introduction of an All-Island Retail Gas Market.

We also issued a questionnaire to both the active Shippers and Suppliers in the two markets as well as to those who were known to be planning entry shortly.

The above information, alongside an assessment of the differences between the Retail processes operated in the two markets and our wider experience of competitive utility markets, was used to identify a number of high level options.   These options were then assessed against a number of criteria taking into account feedback received from the industry.

These options are:

1. Adopt one system to support a single All-Island registration, meter operator and data collection supplier interface. Primary variants are:

    a. Adopt Northern Ireland's systems (**NI System**);

    b. Adopt the Republic of Ireland's systems (**RoI System**); and

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c. Adopt a completely new system that is not currently in use in Northern Ireland or the Republic of Ireland (**New System**);

2. Maintain both systems and provide high level recommendations as to how the business processes could be harmonised to support both jurisdictions within the Common Arrangements for Gas (**Process Alignment**);

3. Maintain both systems and look at compatible new technologies that would allow a single virtual system or interface to be presented at the supplier interfaces (**Retail interface**);

4. Maintain both systems in operation at present and allow Phoenix Natural Gas to enhance their systems to facilitate increased operational expectations (**NI Upgrade**).

It is important to recognise that the Options put forward for analysis are not necessarily exclusive of each other. As identified in the Potential Development Route Map (Appendix 1) there can be various stages in the development of a Retail Market and the Options support this concept. On the basis that the intention is to move to Stage 3 – Standardisation of Retail Codes and Processes then one of the Option 1 alternatives (NI System, RoI System or New System) must in time be adopted. However this does not preclude Options 2 (Process Alignment) or 3 (Retail Interface) also being adopted as potential incremental steps as a means of accelerating benefits from the Common Arrangements for Gas. Option 4 (NI Upgrade) needs to be assessed in terms of maintaining an active competitive market in NI while the CAG Retail solution is in development.

Conclusions

At this stage in the assessment process, we have highlighted a number of potential options that should be considered as viable progressions to achieve full Retail Market Alignment under Common Arrangements for Gas. Our analysis has been able to rule out three options (Adopt NI system for CAG, Completely New System and the NI upgrade for the purposes of supporting CAG) at this stage.

From a technical standpoint, the GasMaP system stands out with significant potential as a market messaging interface that would allow Suppliers/Shippers to communicate with multiple Distributors through a single system. At present, the system is operational in the Republic of Ireland and is proving successful in its intended role.

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However we believe that before any option is progressed the industry must agree the extent of the harmonisation of codes and processes that it can implement across the two jurisdictions. This is particularly important based on the small size of the overall market and the need to deliver a clear delineation between the Distribution and Retail[1] functions within an All-Island market. It must also take into account the balance between introducing significant costs through harmonisation and automation of existing processes against the benefits that may accrue from attracting more competition into an All-Island market.

For Suppliers and Shippers there was a general consensus that the major benefit for them would come from this harmonisation and alignment of the Codes and processes in the two (currently) separate markets. This was seen as more important than systems automation. Developing integrated systems ahead of this alignment would probably add to cost and complexity and offer little operational advantage to the industry.

For the Distributors, neither had done any in depth publishable work to assess what needed to be done and what the associated costs/timeframe might be for their own system to be used as a vehicle for serving the combined markets. However both expressed their concern as to the value in developing a common system to support different operational arrangements in the two jurisdictions.

It is Gemserv's opinion that:

- Before the alignment of IT systems (Retail Interface) (in whatever form) it is recommended to align the retail elements (e.g. change of supplier etc) of the Distribution Network Code and Code of Operations in the Republic of Ireland and Northern Ireland, respectively, recognising that the greater the degree of harmonisation that can be achieved, the lesser would be the cost of introducing an All-Island Retail IT system or systems:

- The Gaslink GasMaP market messaging system looks to be a sensible solution to build an All-Island approach to retail market interfaces (albeit internal systems could be different as long as the Supplier interfaces and external processes are similar) (Option 1b RoI System);

- An interim to achieving the full use of the (amended) GasMaP system could be the development of a Retail Interface (Option 3);

- Whilst outside of the direct scope for this report and recognising that it may take a number of years to complete the industry process harmonisation and a long term IT system solution, an interim arrangement for NI (Option 4 NI Upgrade) could be considered in the mean time to ensure that a competitive Retail Gas Market can be

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[1] See appendix 5 for definitions

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supported and to further encourage new (domestic) entrants. Although this initiative does not support the Common Arrangements for Gas and will likely result in stranded costs and assets the current NI system has physical limitations on the number of CoS requests it can process (Gemserv has not analysed this option) and

- Whilst outside of the direct scope for this report, it is likely that before the full Retail Market Alignment can be completed, some of the customers supplied by firmus energy will be in the competitive market. Consideration therefore needs to be given to the creation of a NI Change of Supply Agent to manage both the Phoenix and firmus supply points or, alternatively, the adoption by firmus of the harmonised Code and Processes together with the use of the aligned IT system.

2.   Introduction

2.1   Purpose

The Utility Regulator and the Commission require a review of existing and potential Gas Network Operators' IT systems in so far as they relate to the Retail Market and Supplier interfaces. This review will provide recommendations as to the systems' capabilities to support the ongoing Common Arrangements for Gas (CAG) in Ireland.

Gemserv have been tasked with delivering consultancy services requested to provide:

- a review of the existing Distribution / Retail IT systems and interfaces operated by Phoenix Natural Gas in Northern Ireland and Gaslink in the Republic of Ireland;

- potential options for the integration / standardisation of these operational systems; and

- the identification of dependencies and timelines for any options identified.

2.2   Scope

As stated in the Request for Tenders document, it is envisaged that the Northern Ireland and Republic of Ireland operational retail gas systems will require some level of integration to facilitate the introduction of an All-Island Retail Gas Market. All other systems are out of scope, although any interdependencies will need to be considered in the recommendations.

2.3   Background

The Governments from Northern Ireland and the Republic of Ireland are charged with ensuring that communities have access to safe, secure and sustainable energy obtained through competitive energy markets. The Regulatory Authorities are responsible for some strategic goals relating to natural gas and, to fulfil this crucial responsibility, they are working towards the development of Common Arrangements for Gas for Northern Ireland and the Republic of Ireland. Gemserv understand this is a high priority for the Regulatory Authorities requiring effective and efficient outcomes. (All-Island Energy Market, A Development Framework 2004).

The current Retail Markets in Northern Ireland and the Republic of Ireland are completely separate. In the Republic, Gaslink (an independent subsidiary of Bord Gáis Éireann (BGÉ))

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provides the Shipper/Supplier services to support Change of Supplier, Meter Operator activities and Data Collection. They have recently introduced a web based market messaging system (GasMaP) for the Change of Supplier (COS) process in the Non Daily Metered Market. This partly automates the COS process for both the Distributor and the Shippers and is built to allow for the volume of requests likely to be received in a competitive market. The

system also allows Shippers/Suppliers to link into it from their own systems if they see this as desirable. The Daily Metered (DM) market in the Republic operates under the Gas Transportation Management System (GTMS), which is a far more manual process for the Change of Supplier.

In Northern Ireland, whilst Phoenix Natural Gas has a reasonable level of IT support within its own organisation, commensurate with the number of consumers on its network, the COS from a Supplier perspective is manual and there are some concerns that this limits the number of COS requests that Phoenix Natural Gas could realistically handle.

firmus energy, which holds a licence to supply gas within the towns along the route of the North West and South North pipelines in Northern Ireland, was not specifically included in the review as they currently have exclusivity under their licence. However, as some of its customers are likely to enter the competitive market before the full Retail Market Alignment solution is complete, any solution should take the retail aspects of its operation into account.

For reference purposes we have included in Appendix 2 an overview of the Retail governance arrangements that currently exist in the GB gas market.

An All-Island Retail Market supported by Common Arrangements for Gas will require at least some integration of the retail IT systems in the gas markets in Ireland and Northern Ireland. The Regulatory Authorities have set out three stages to approach this project including a view of the existing retail IT systems and interfaces, options for integration and/or standardisation, and timelines and dependencies.

In our proposal, Gemserv outlined an approach to deliver a considered, quality assessment of the IT options which would represent an important initial stage towards an All-Island retail market. Our review aimed to consider the options from the perspectives of the multiple stakeholders and sought to encompass the views of Regulatory Authorities, Network Operators and Suppliers in order to come to a sustainable solution incorporating flexibility to meet future market needs.

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3. Our Approach to the Work

In line with the initial project scoping, Gemserv adopted a three stage approach for this review:

1. **Review of Systems:** a high level review of the IT systems in Northern Ireland and the Republic of Ireland to understand and assess how they support the retail processes integral to the market. Key tasks:
   - Key retail process/procedure review;
   - Network Codes (and Licence) review;
   - On-site reviews with interviews with Gaslink and Phoenix Natural Gas (following circulation of technical questionnaires); and
   - Supplier/shipper dialogue – via questionnaire to active and pending Suppliers/Shippers.

2. **Options for integration/standardisation:** identification of high level options for integration of various systems and to assess options for standardisation of interfaces. Key tasks:
   - Integration/standardisation option identification;
   - Option evaluation; and
   - Network Code/retail process comparison.

3. **Timeline and dependencies:** determine approximate implementation timelines for identified options and establish key dependencies. Key tasks:
   - Timeline and dependency assessment;
   - Factual review by Gaslink and Phoenix Natural Gas; and
   - Draft and finalise report.

Each phase was supported by regular dialogue with the Regulatory Authorities to discuss progress and highlight project issues.

While all the key tasks of each of these phases have been completed, in practice a number of the tasks were undertaken in parallel driven by the availability of key stakeholders to inform the review. Furthermore, the technical review, albeit informed by the questionnaires, focused on interviews with Gaslink and Phoenix Natural Gas personnel.

The report structure is aligned with this approach by first outlining the Options to frame the discussion followed by summaries of the information and data collated from the key tasks in stage 1, i.e. Network Code/Licence comparison, technical review and supplier questionnaires. The result of the Option analysis is then presented against a set of common

criteria from which the report recommendations are drawn. Finally, Gemserv have set out further thoughts on how the retail arrangements on an All-Island basis could evolve over time, outlining a potential development route map. The report is supported by a number of appendices providing further information on the questionnaire formats with more explanation of the results and, for comparison purposes, an overview of the GB gas market.

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4. Outline of the Options for Retail Market Alignment

At the outset of the work a number of potential options for the integration/standardisation of the operational systems were identified in conjunction with the Regulatory Authorities. An objective was to ensure a clear separation of the Distribution and Retail[2] functions within the two markets. The Options also recognised that full Retail Market Alignment at both systems and process level might not be achievable depending on the findings of a cost benefit analysis. During the assessment a further Option 4 was introduced at the request of Phoenix Natural Gas. The Options are:

1. Adopt one system to support a single All-Island registration, meter operator and data collection supplier interface. Primary variants are:

   a. Adopt Northern Ireland's systems (**NI System**);
   b. Adopt the Republic of Ireland's systems (**RoI System**);
   c. Adopt a completely new system (**New System**);

2. Maintain both systems and provide high level recommendations as to how the business processes could be harmonised to support both jurisdictions within the Common Arrangements for Gas (**Process Alignment**);

3. Maintain both systems and look at compatible new technologies that would allow a single virtual system or interface to be presented at the supplier interfaces(**Retail interface**); and

4. Maintain both systems in operation at present and allow Phoenix Natural Gas to enhance their systems to facilitate increased operational expectations (**NI Upgrade**).

These Options are described in more detail in the Options Analysis (Section 7).

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[2] See appendix 5 for definitions

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5.   Comparison of Codes and Licences

An analysis was carried out on the relevant Codes and licences covering the retail Market in the Republic of Ireland and Northern Ireland that are relevant to the Retail Administration processes – Change of Shipper, Meter Operation and Data Collection. The purpose was to identify the differences in the two jurisdictions recognising that such differences would have implications particularly for Shippers/Suppliers who would like to participate in both markets, in terms of adding complexity to their operations.   Further, where harmonisation is progressed this will have cost implications for one or both of the IT systems that have been developed to support the Retail Market in Northern Ireland and the Republic of Ireland.

5.1   Code Differences

Detail

	Ireland	Northern Ireland
Relevant Documents	Code of Operations Gas Point Register Operator Procedures BGN Meter Data Services Procedures GasMaP processes – Market Process Definitions – MPD2 COS & MPD8 Meter Read information	Phoenix Natural Gas Distribution Code
Description of the Supply point structure in the two markets	DM - Supply to one or more meters - provided curtilage and ownership etc rules apply NDM – 1 meter per supply point	Supply to a single supply meter point – does not cater for a supply point being a aggregation of meter points
Supply point classifications - NDM	Below 5.5 GWh	Below 2.2 GWh Larger – above 0.73 GWh Smaller – below 0.73 GWh
DM	LDM – above 57.5 GWh (can have more than 1 registered shipper) DM – greater than 5.5 GWh	DM – greater than 2.2 GWh
Meter	Meter fit carried out by the Operator	Provided by the Operator
Meter Reading NDM	Transporter service Over 73,000 kWh – monthly read on agreed schedule	Supplier responsibility – required to obtain at least 1 actual read pa Monthly Read – over 732,000

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	Under 73,000 kWh – 4 actual + 2 planned estimates Market Process (MPD9) for querying a Meter Read by the User	kWh Annual Read - under 732,000 kWh Operator can reject the meter read after validation
Meter Reading DM	Operator provides reads	Operator provides reads DM Check read taken annually. User has 5 days to notify Operator where it believes a read to be in error
Opening Meter Read	Provided by Supplier in COS request – has to be taken on the day of the request (1 day before COS effective date)	NDM – counts as on the transfer day if taken in a 5 day window starting 2 days before transfer day. Supplier must provide read within 7 days of the transfer date If no opening read is provided then an estimate is generated
Querying Opening Read	See Objection below	Opening Read sent to the Withdrawing User within 2 days of receipt. They have 2 days in which to reject the read. If rejected then an estimate is generated.
Reconciliation	Calculated monthly for all sites every time a valid meter reading is processed.	Daily for DM Individual for Larger NDM Aggregate for Smaller NDM
Isolation	Generally achieved via a Meter Lock rather than physical isolation/meter removal. User can apply for Isolation at any DM or NDM meter.	Existing shipper no longer responsible for any gas offtaken. User must provide a valid meter reading at the time of (or after) the isolation.
Interruption	Interruption appears to be more at the CSEP level than the supply point level.	Must be over 2.2 GWh for eligibility – requirements for contact details
Annual Quantities	Carried out every year for each Gas Point with Supply Point Capacities updated annually.	Reviewed as and when reads are processed
Change of Shipper	NDM – incoming shipper requests change and supplies opening/closing read Existing shipper notified of a COS but not informed of the identity of the incoming shipper. COS referred to in the Code of Operations and the Gas	Manual system initiated – minimum of 15 days required (Section L of the Distribution Code). Current shipper notified of transfer. Could be only 2 days before transfer date that new shipper is notified whether transfer will

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	Operations Procedures. DM – Change takes place on the 1st of the month – min 10 days notice (has to have or applied for DM Exit capacity)	happen (because of potential objection described below).
Objection	No objection facility However: If the outgoing shipper later realises that the COS was erroneous or the opening meter read incorrect then a COS Correction/Amendment Request can be submitted. Must be raised within 50 days and resolved within 60 days.	Allowed to object for non-domestic where debt is involved. (Licence prevents objection for domestic customers). Must do this within 8 days of the proposed transfer registration date. Any objection notified to proposing user within 2 days. Objection can be withdrawn within 6 days of it being raised. Objection rules contained in the Supply Meter Point Objection Code drawn up by Users.
Supply Enquiry	Not available for domestic customers. Available for all others.	No formal process
Withdrawal	As per Isolation. Once completed the shipper ceases to be the Registered User.	User can submit a withdrawal request. It becomes effective once an Isolation is carried out or if another User submits a Supply Meter Point Confirmation. Until then the User retains responsibility for Distribution charges.

Summary

There are numerous differences, however a number are considered to be particularly key if the objective is to implement common systems across the two jurisdictions. Some key areas are:

- Different classifications of supply/meter points;
- Different timescales and procedures for the Change of Shipper process;
- Different Supply Point structure;
- Objections valid in one jurisdiction but not in the other affecting the way the COS process works;
- Differences in Meter Reading responsibilities and Meter ownership rights;
- Different "windows" for Opening meter reads; and
- Different timescales for disputing a COS or opening meter read.

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5.2 Licence Differences

Whilst there a number of differences in the format of the Licences (Northern Ireland only has a Supply Licence whereas the Republic of Ireland is looking to make clear separation between the Supply and Shipping aspects via different licences) the overall requirements are similar, particularly where they may influence the design of a Retail gas market. In practice the detail that could affect design is to be found more in the Codes and Procedures developed by the Distributor(s).

Meters

There is generally far more flexibility with regard to the provision and ownership of meters in Northern Ireland than in the Republic. In the latter a Supplier must not procure or install Metering Equipment or data collection (meter reading data)/data transfer services other than from the Distributor whereas in the former, there is far more flexibility over meter ownership.

Meter Reading

In the North of Ireland Suppliers are responsible for reading meters and must attempt to take an actual meter reading at least annually whereas this is done by the Distributor in the Republic.

Markets

Northern Ireland generally differentiates between Domestic and Non-Domestic whereas the focus in the Republic is more on NDM (below 5.5 GWh per annum) and non NDM, although the Republic also has a condition solely for Domestic (Household) consumers.

Consumers

Northern Ireland and Republic both have the concept of Vulnerable customers however Northern Ireland also has special obligations relating to priority I&C consumers.

5.3 Legal System Differences

The report has not made any detailed comparison or evaluation of the legal systems that operate in both of the jurisdictions. Whilst it is understood that there may be a requirement for some legislative changes to be enacted in one or both jurisdictions in order to support the next stages of Common Arrangements for Gas, it should also be recognised that there may be other differences that will need to be assessed to ensure that any harmonisation proposals are consistent with the relevant legal obligations (for example Data Protection Act, Consumer Law regarding cooling off periods).

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6. Technical Review

The following section documents the findings related to the recent review of Phoenix Natural Gas Ltd and Bord Gáis Éireann Networks existing Distribution / Retail IT systems and interfaces.

6.1 Summary of GasMaP Systems

This section does not intend to provide a detailed analysis of the GasMaP solution in the Republic of Ireland Gas Market but merely allows the reader to understand the principles that were introduced in this market model. Competition in the Non-Daily Metered Market for Gas was evident prior to the introduction of the GasMaP solution. It was then considered necessary to augment the operational solution. In simple terms, GasMaP is a web interface that provides communication with the shippers. There is a portal at all shipper sites and one at Bord Gáis Éireann Networks.
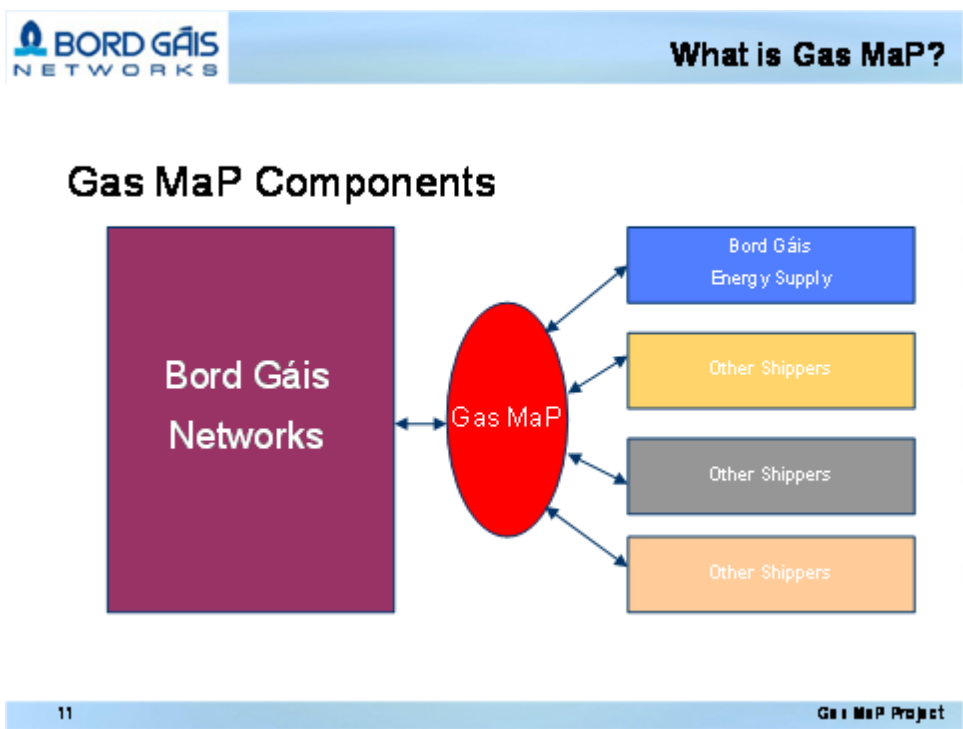

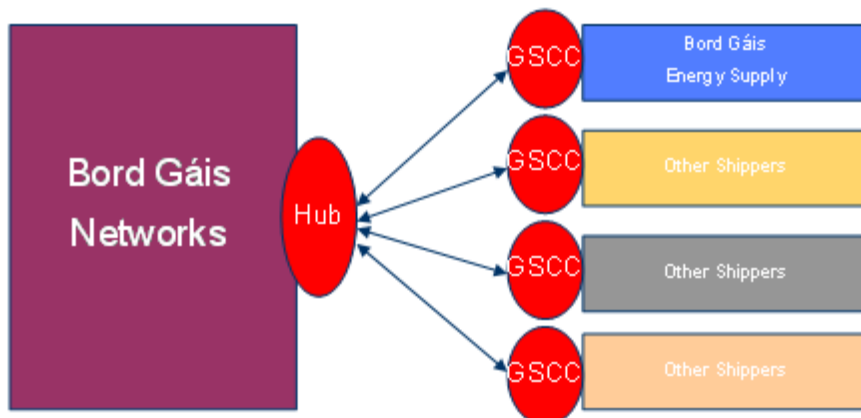*Figure 1: Bord Gáis 'What is a Gas MaP?' Diagram*

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Figure 2: Bord Gais – Gas MaP Components Diagram

Competition in the Irish gas market for industrial and commercial customers has been in place since 2004 with several shippers active in this segment. Full market opening in the Irish natural gas market occurred on 1st July 2007. Once full market opening was considered fully operational, the industry aimed to introduce a higher degree of automation surrounding the interaction between Bord Gáis Éireann Networks (BGN), as the Transporter's central system provider, and other market participants (Shippers/Suppliers). These changes are known as the "Gas Messaging and Processes Project (GasMaP). The Irish Gas Market is sub-divided into two main areas Daily Metered (DM) sites which require meter reading on a daily basis similar to Half-Hourly metering in electricity and Non-Daily Metered sites which range from domestic to small business sites who receive cyclical meter readings. Previous to the GasMaP Programme, all Shippers in both markets were able to operate the standard tasks such as change of shipper and meter changes directly into the Bord Gáis Éireann Integrated Utility System (IUS) system (supporting the distribution business). A portal was available to each shipper to update the BGN systems directly including appointment booking etc.

Due to the obvious links between Bord Gáis Éireann Transportation and Bord Gáis Éireann Energy Supply, independent shippers were uncomfortable with this situation and the potential for preferential treatment for BG Energy Supply. Included in the wish to update this design to a messaging system was the BGN Transportations requirement to remove direct access to their internal systems, although limited, by all shippers. It was decided by BG that the legislative requirement for business separation between Transportation and Supply provided the perfect opportunity to introduce the GasMaP messaging system. Business

Separation has introduced an added complication to the GasMaP programme as BG Energy Supply were tasked with introducing a completely new Billing System for Gas which would link directly to the Market Messaging System.

6.1.1 Structure of the Competitive Retail Market

The following diagram highlights the interaction between BG Networks and Shipper systems.
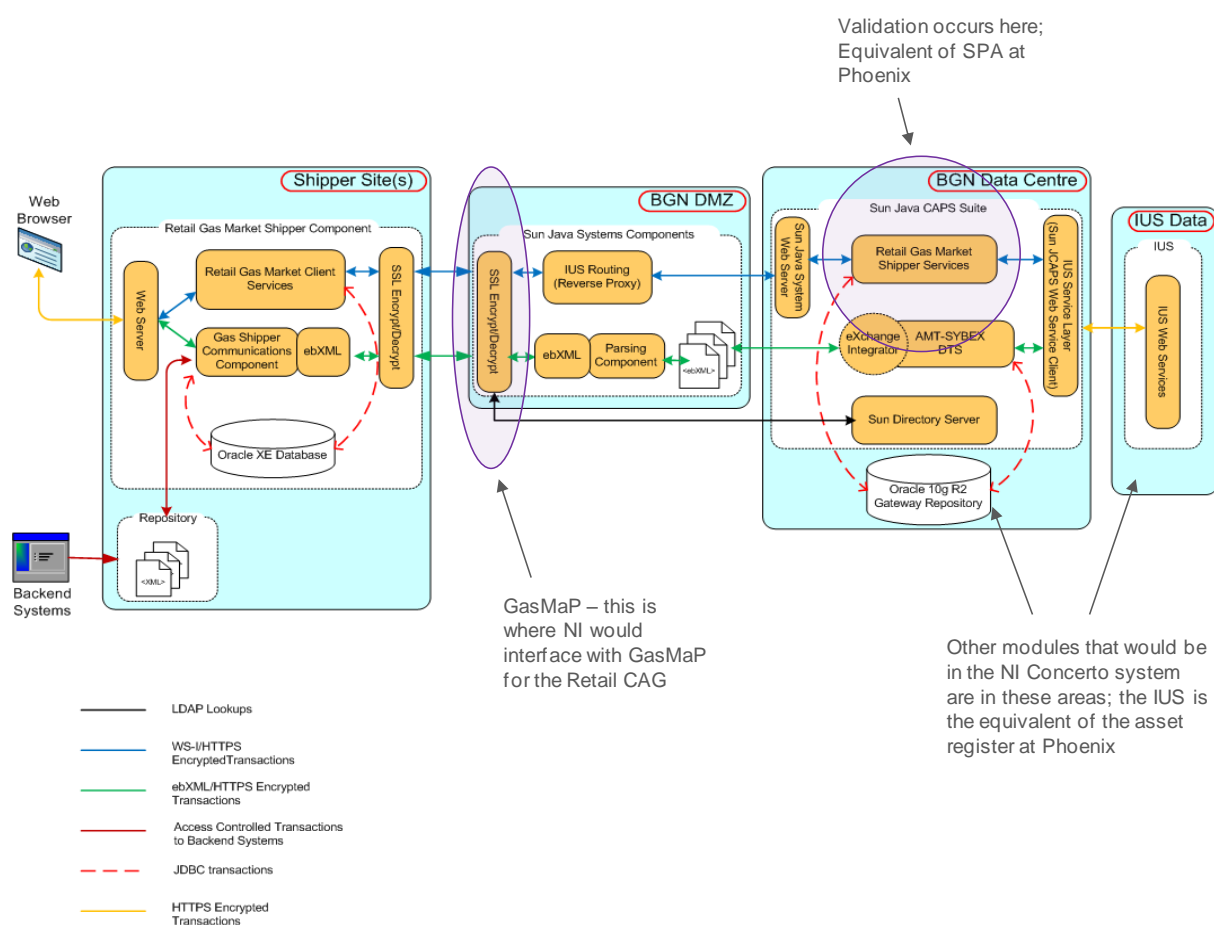

Figure 3: Interaction Between BG Networks and Shipper Systems

Prior to the introduction of GasMaP, all Shippers in the Republic of Ireland interacted with BGN through direct access to the BGN IUS system for the NDM Market. The introduction of the GasMaP changed the direct interaction by implementing a market messaging infrastructure in a similar fashion to the Republic of Ireland Electricity Market structure. The use of XML messaging using a web based solutions allowed Shippers to interact securely with BGN and allowed the potential for the integration of Shippers internal systems with the messaging solution. The removal for the need to manually update the BGN IUS system manually allows Shippers to automate their interactions directly from their internal systems

by extracting information and transmitting this in the XML format prescribed in the XML Schema and Market Message Implementation Guides published by BGN.

Included in the benefits of this system was the ability to guarantee that all Shippers' messages were processed in a logical and equitable fashion which removed any potential pre GasMaP benefits of direct access for BGE Supply.

It was realised that some Shippers would not wish to fully integrate their systems with the GasMaP solution and to reduce development costs, a manual system was supplied by BGN that would allow all Shippers the ability to produce each market message via an XML Webforms package. This allowed smaller market participants, the ability to continue to operate in the market with the security and reliability of this messaging solution but remove the requirement to develop a method of market message production.

GasMaP therefore, removed the risks associated with a number of participants accessing the BGN systems directly in terms of system reliability and security while maintaining each Shipper's ability to interact with BGN on an equitable manner. Added to this was the development capability for Shippers who harboured aspirations of high market activity that would allow for the development of automated interaction with BGN in terms of all retail market activities.

To enhance this operational position, as the ability to interact directly with the BGN IUS systems was removed, the IUS system was enhanced to automatically process the market messages received from Shippers to increase the ability for interaction. The introduction of the GasMaP Messaging solution would have added little or no benefit if BGN staff were left with the requirement to input all messaging requests into the IUS system. This would have resulted in slower interaction and more potential for user error. For this reason, it was important to introduce automated processing of market messages in the newly upgraded IUS system. This was a major part of the overall GasMaP solution and has been operating successfully since its introduction in December 2008.

6.2   Summary of Concerto Asset Register Systems and its Modules

This section does not intend to provide a detailed analysis of the Concerto solution in the Northern Ireland Gas Market but merely allows the reader to understand the principles that are introduced in this market model. Gemserv have at this stage, a limited knowledge of the systems operated by Phoenix Natural Gas Distribution. The understanding of these Distributions systems have been explained to Gemserv but it must be noted that the views stated as to the operational processes used by Phoenix Distribution cannot be verified without detailed documentation.

At present, retail activities between operational Shippers and Phoenix Distribution are completed by the transfer of forms between Participants. If a Shipper wishes to become the registered Shipper for a Gas Metering Point for example, a form is produced and sent to Phoenix Distribution. If all details have been completed correctly, Phoenix would approve the registration. At present, Phoenix has plans to introduce a system similar to the pre-GasMaP solution in the Republic of Ireland to the Northern Ireland Gas Market. If allowed to proceed with this development, Phoenix Distribution will introduce a low cost Web Front End design that would allow the Shippers to interact directly with the Phoenix Distribution Business for all Retail activities.

This diagram highlights a proposed development to provide a web based interface for the Supply Meter Point (SMP) Confirmation Process:
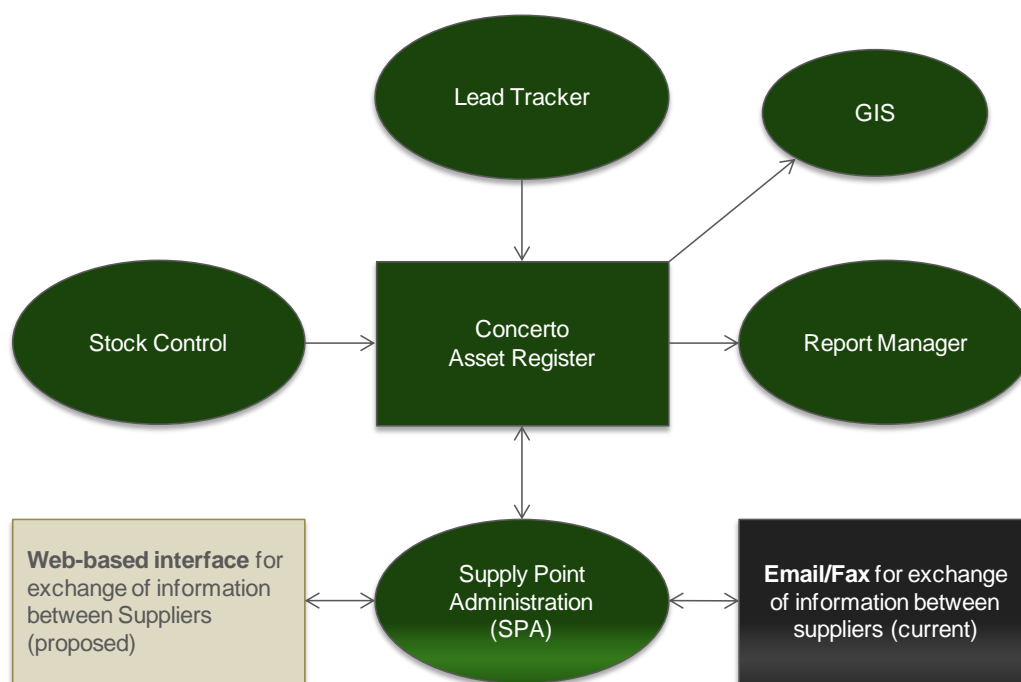
This could be GasMaP

Figure 4: web-based interface for the SMP Confirmation Process

It is clear that benefits will be introduced by this system but will not include all the benefits introduced when BGN moved their Shipper/ Distribution interaction from direct access to interactive market messaging.

It should be noted that RoI's previous systems, that were consistent with NI's current systems, were not suited to serve a market where distribution and supply were operationally separate. The issues that arose in RoI could very well occur in the current NI system.

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Phase 1 of the development would introduce some automation for the Supply Meter Point Confirmation process. Phase 2 would extend the interface to allow Suppliers to manage siteworks requests as well as (potentially) daily metered nominations and to allow Phoenix to pass Code information to Suppliers (for example – nominations; allocations; calorific values; shrinkage factors etc). However, it should be recognised that these phases address both wholesale and retail areas and there is an alternate workstream reviewing CAG wholesale.

6.3   Technical Questionnaire

The Gemserv Approach to this Technical Review was to initially publish a Technical Questionnaire which would cover the main requirements of the Phoenix Natural Gas and Bord Gáis Éireann Networks systems in terms of their suitability, adaptability and feasibility as a mechanism to support an All-Island Retail Gas Market.

The following section outlines the areas considered in this review.

Flexibility
- Scalability: Have the systems the ability to support the volumetric demands of a mature and dynamic competitive market?
- Transportability: Are the systems integrated with non retail systems? Are the systems transportable to alternative IT infrastructures or location?
- Upgrade capability: Are there major software upgrades required and do they require major systems changes (e.g. system porting)?
- Flexibility: Can the systems grow with the natural development of the CAG and can they be changed quickly and economically?
- Adaptability: Can database fields be added or dashboards built? Can a programming platform be built and/or process and procedural changes to market design be integrated?
- Validation: Do the systems and processes support adequate validation routines to maintain appropriate levels of data quality?
- External interfaces and specifications: Can the interfaces be aligned to a common set of market messages in both jurisdictions?
- Database: Can the databases support incremental data transparency and a virtual internet portal?

Sustainability

- IT systems architecture: What is the suitability of the systems architecture to support the competitive market needs?
- Software support horizons: Are the present support arrangements adequate and can they be maintained in the foreseeable future?
- Suitability for possible future developments: How limited or flexible are the systems to support future initiatives not yet envisaged? - e.g. common registration processes for gas and electricity
- Reliability: Are the systems routinely available? - e.g. what downtime is typically experienced
- Reliability: What security measures are in place for privacy, virus infection, back up, etc? Are these sustainable?
- Suppliers: What is the sustainability of the software provider(s)? What is the ability to replace them if this should become necessary and do they supply critical parts of the systems?

For the avoidance of doubt, the assessment against the above criteria will be informed by our review of:

- System architecture;
- Platforms;
- Supporting databases;
- Supplier interfaces;
- Distribution systems; and
- Meter registration systems.

6.4   Summary

Included in the deliverables of this programme of work completed by Gemserv are two individual reports related to the potential of Phoenix Natural Gas and Bord Gáis Éireann Networks existing systems and their suitability as support systems to serve the combined markets of Northern Ireland and the Republic of Ireland. This section will not provide further analysis but will summarise the conclusions of each individual report.

The Options highlighted during the initiation of this programme of work have been considered in turn as potential options for system integration. As stated earlier, these Options are not necessarily exclusive of each other. For example, whilst the overall objective may be to implement one of the Option 1 variants, it may also be considered desirable to implement another Option (say Option 4 and/or Option 3) in order to gain

advantage through an early delivery of benefits. Further, these Options may also be implemented either in serial or parallel depending on the industry enthusiasm for change.

Any comments put forward are based on discussions and answers provided in the Technical Questionnaires.

Option 1:

a) Adopt Northern Ireland's Systems (NI System)

Phoenix Natural Gas has stated that their systems are not compatible with a development of this magnitude.

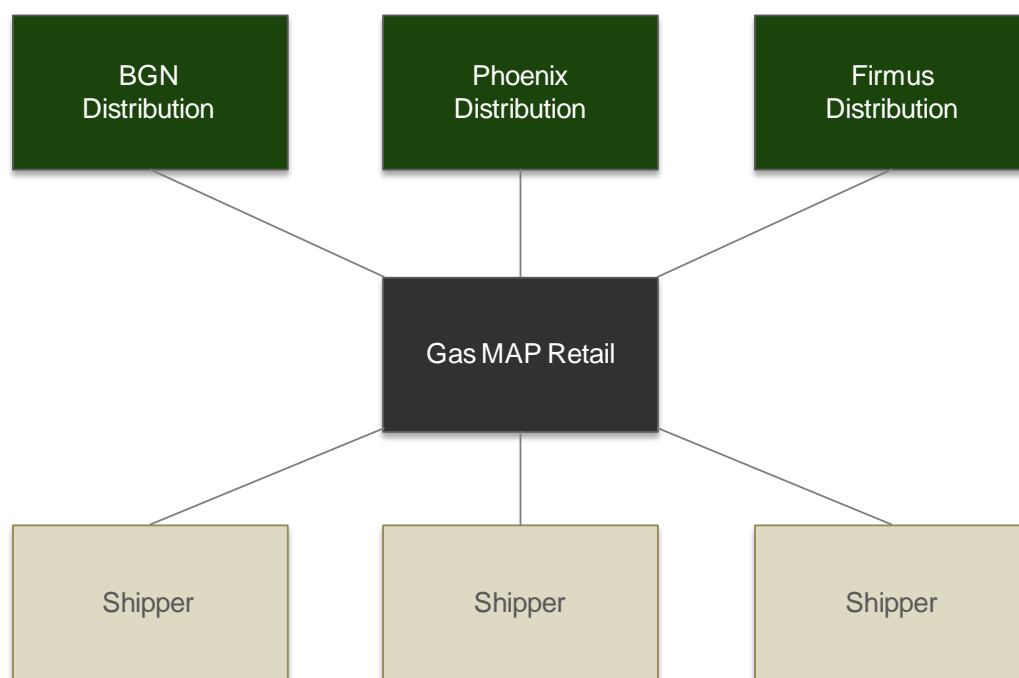**b) Adopt the Republic of Ireland's Systems (RoI System)**

Figure 5: Retail Processes Aligned

From the potential options denoted under Option 1, the Gaslink systems and the GasMaP Market Messaging components are considered as viable and suitable support systems to serve the combined markets of Northern Ireland and the Republic of Ireland. Although Gaslink and BGN have not considered their systems as potential All-Island support mechanisms, they have stated that if this was the wish of the Regulatory Authorities, they would make every endeavour to support this request.

However, although this Option does have merit as an All-Island System, a considerable amount of evaluation would be required. This evaluation must include direction from the Regulatory Authorities on the format of this market structure in terms of market process and code alignment across both jurisdictions, and the level of potential distribution business integration.

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There is the possibility that the above option could go one step further and the distribution pieces could be combined. That is detailed in the Stage 4 diagram in Appendix 1.

If the retail elements of the codes and processes were not aligned before the introduction of GasMaP across the island, the figure below represents the flow of communications that could occur.
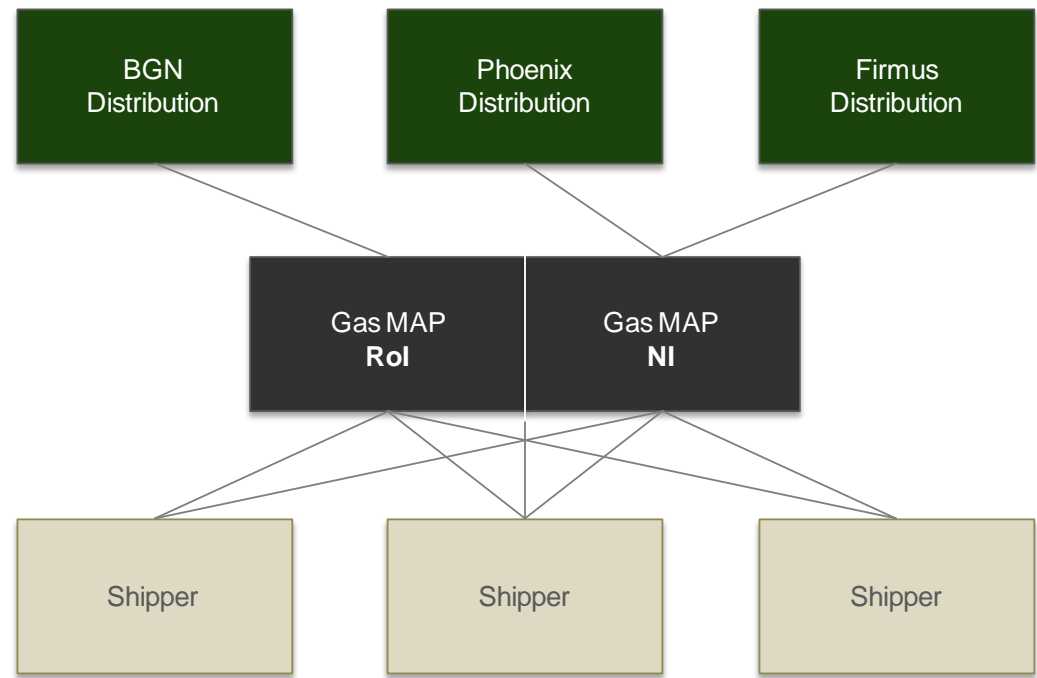

Figure 6: Retail Processes Not Aligned

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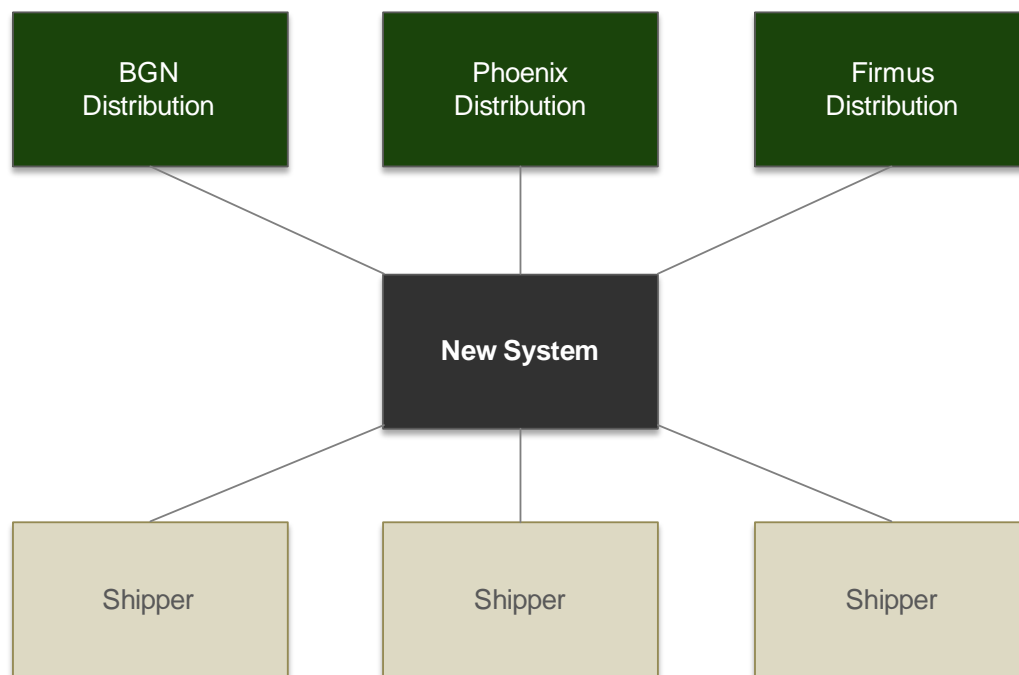**c) Adopt a Completely New System (New System)**

Figure 7: New System

The cost was viewed by all involved in discussions to be prohibitive to the development of both Northern Ireland and the Republic of Ireland Gas Markets.
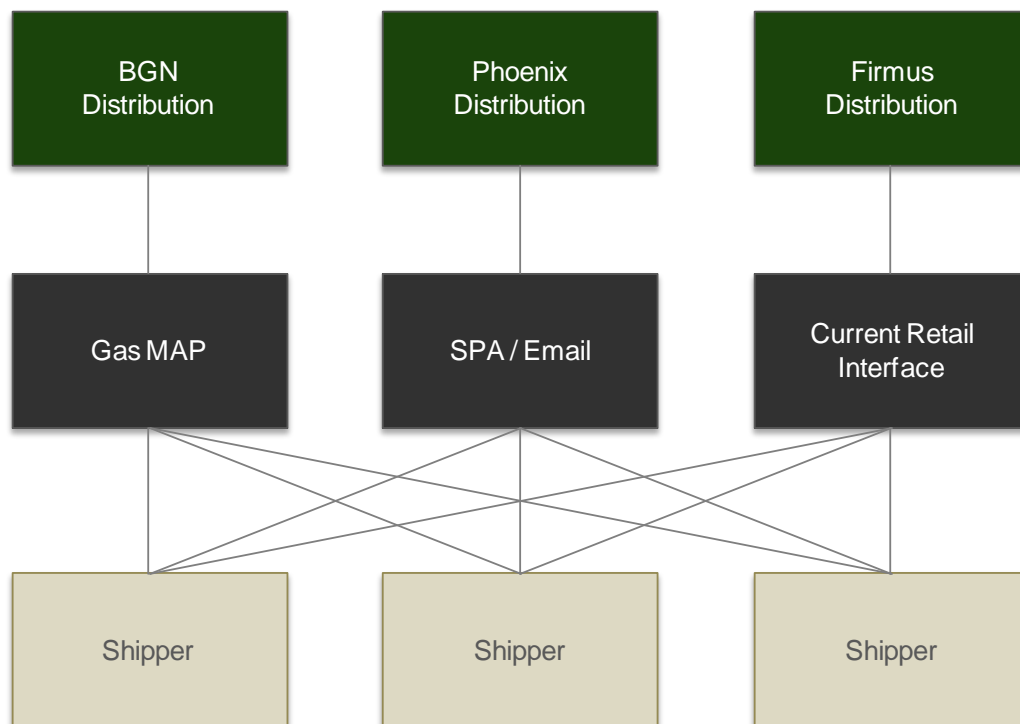
Option 2: Process Alignment

Figure 8: Process Alignment

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Maintain both systems and provide high level recommendations as to how the business processes could be harmonised to support both jurisdictions within the Common Arrangements for Gas. (It should be noted the firmus retail interface is yet to be developed.)

This would require Suppliers/Shippers to maintain separate interfaces for the COS in the Republic of Ireland and Northern Ireland. However if the business processes could be harmonised then Suppliers could (in time) operate a single registration system albeit with separate interfaces to the different jurisdictions. As perhaps one of the lower cost Options, this would have appeal to market participants who have suggested that the significant cost of any major new system/ system enhancements could be detrimental to the development of both Gas Markets.

This option could potentially push cost and complexity down to the shipper level as they would still need to interact with different technical interfaces for both the Republic of Ireland and Northern Ireland.

This Option could support a phased implementation towards full Retail Market Alignment by
- Phase 1 - Harmonising Retail Code elements of the Network Codes and changing the individual retail validation component within the Republic of Ireland and Northern Ireland systems first; and
- Phase 2 - Moving to a single Retail web based interface that does not need to have any specific distribution system knowledge as the processes will already be aligned, ie GasMaP allowing Suppliers to move to a single system for the Retail activities in both the Republic of Ireland and Northern Ireland.
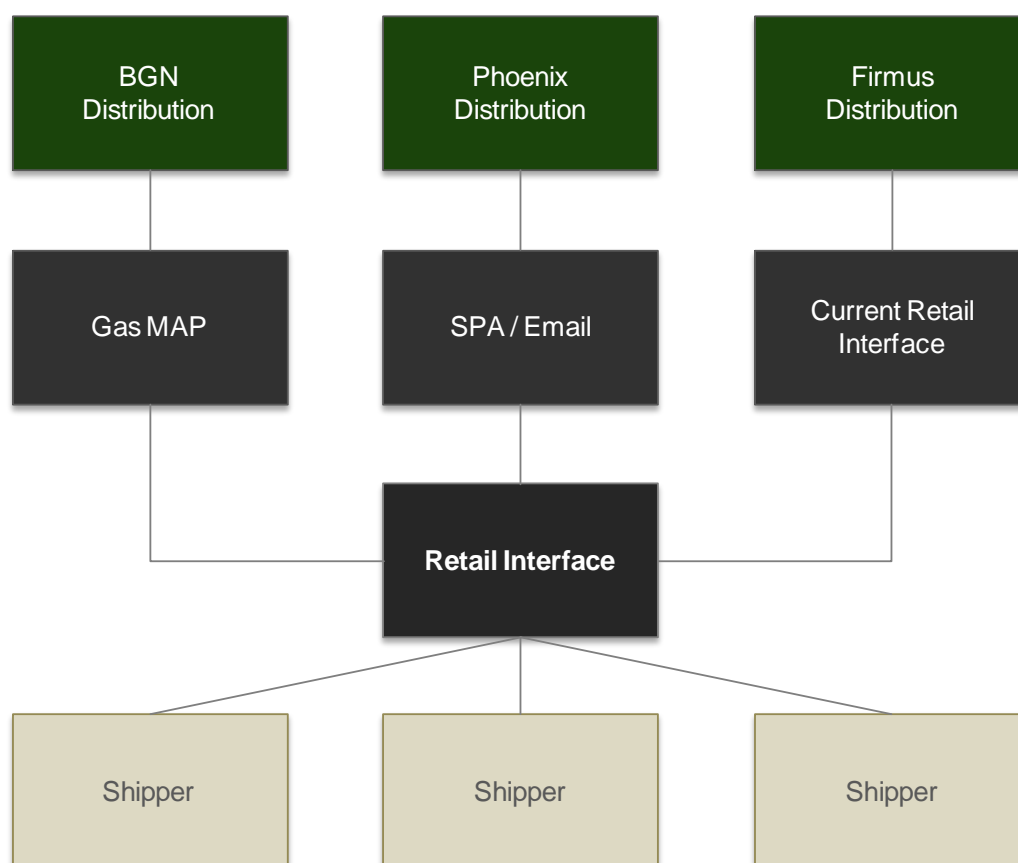
Option 3: Retail Interface

Figure 9: Retail Interface

Maintain both systems and look at compatible new technologies that would allow a single virtual system or interface to be presented at the supplier interfaces. (It should be noted the firmus retail interface is yet to be developed.)

This would allow Suppliers/ Shippers to use a single interface for the COS in both the Republic of Ireland and Northern Ireland. The Interface system would require intelligence to be able to direct traffic to and from the appropriate Distributor system, thus allowing the GasMaP (distribution system) and Concerto (distribution system, not messaging) to continue as they are. However Suppliers would still have to operate separate registration systems unless the Republic of Ireland and Northern Ireland retail aspects of the Code of Operations and the Distribution Code, respectively, were harmonised. Also the Northern Ireland system would still need enhancing to support a higher volume of COS requests. If process harmonisation is achieved prior to the retail interface then GasMaP could be this interface.

As with Option 2 this could result in higher costs at the shipper level through having to operate separate registration systems.

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This Option could support a phased implementation towards full Retail Market Alignment by

- Phase 1 - Introducing a Retail interface (which could be a modified GasMaP or another common interface that can process the messages) allowing Suppliers to use the same system for communications with both the Republic of Ireland and Northern Ireland markets; and
- Phase 2 - Harmonising retail elements of the Codes and changing the individual Distributor Retail front-ends

Option 4: NI Upgrade

Maintain both systems in operation at present and allow Phoenix Natural Gas to enhance their systems to facilitate increased operational expectations.

This is the preferred Option of Phoenix Natural Gas and in their opinion, the most viable in terms of costing and in that it would not hinder the development of the Northern Ireland Gas Market. This option was not investigated by Gemserv as it does not support Common Arrangements for Gas and one cannot state that this would solve the current change of supplier issue in NI without a proper assessment.

This Option offers no benefits to Suppliers/ Shippers other than allowing them all to compete on a more even playing field in NI, particularly if the current NI system does fundamentally restrict COS activity. Suppliers would have to continue to operate completely separate systems from a Retail perspective in the Republic of Ireland and Northern Ireland. As such it is not an option that would deliver the objectives of the Common Arrangements for Gas.

The potential also exists for the enhancement to be developed using the Retail interface technology that will be selected under one of the above options (Option 1a, 1b, 1c or 3). Whilst this could make the enhancement more expensive it would reduce the risk of the investment having to be totally replaced once the long term (CAG) solution has been agreed. Again, this option needs to take into consideration that the cost of an interim solution may outweigh the value of an interim solution due to the stranded assets and costs.

6.5   Technical Conclusion

From a technical standpoint, the GasMaP system stands out with significant potential as a market messaging interface that would allow Suppliers/Shippers to communicate with multiple Distributors through a single system. At present, the system is operational in the Republic of Ireland and appears to be proving successful in its intended role.

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7.   Shipper/Supplier Questionnaire Summary

A questionnaire was sent to Shippers/Suppliers who were either already active in the Northern Ireland and/or Republic of Ireland Markets or who were known to be considering entry into one or more markets in the near future. In all questionnaires were sent to eight companies and replies were received from seven.

Some of the key points made were that:

- Retail processes in the two jurisdictions should be similar with one arguing that they need to be identical in order for efficiencies to be achieved;

- Market processes need to be determined by business needs and not dictated by the limitations of the network operators systems;

- Common interfaces would also need common processes and jurisdictional practices;

- Greater levels of harmonisation between the two markets would lead to greater opportunities for competition and economies of scale;

- The development of IT systems and the cost associated with this must take into account the differing market sizes. In NI there is only a relatively small customer base of 125,000; and

- There should be greater alignment between Gas and Electricity markets.

Overall there was a high level of support for the introduction of the retail interfaces currently operational in the Republic of Ireland as the All-Island Model. However at the time of issuing the questionnaire all the different Options had not been developed and so Shippers and Suppliers were not asked to give their views on which (if any) of the specific Options they supported.

Sample questionnaires are contained in Appendix 3 and a more detailed analysis of the responses is contained in Appendix 4.

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8. Option Analysis

This section analyses each of the Options according to a set of common criteria and drawing on the technical review, shipper/supplier views and the comparison of the industry Codes and Licences. In performing the assessment, this has generally been done on a comparative basis between the Options rather than on an absolute basis – e.g. the Distributor Complexity of Option 1a (NI System) is noted to be High compared to that of Option 1b (RoI System) both of which would be higher than for Option 3 (Retail Interface). It has been done in this way because until further detailed analysis has been carried out it is not possible to accurately estimate the exact requirements and associated changes of each Option.

For Costs and Timescales the following guidelines are suggested for comparison purposes:

Costs (Euro)

Low – under 500,000

Medium – 500k to 5 million

High – 5 million to 20 million

Timescales

Short – less than 1 year

Medium – 1 to 2 years

Long – 3 to 5 years

The Analysis also evaluates each Option separately although in practice more than one Option may be implemented depending on the route taken towards the achievement of full Retail Market Alignment as envisaged under the CAG project.

An overall summary of the option assessment is given in Section 8.2.

Note: In the table below, the attributes have been designated as either pros or cons. As such, the comparative assessment e.g. low to high, short to long, should be considered in this context.

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8.1 Detailed Analysis of the Options

Option 1: Adopt one system to support a single All Ireland registration, meter operator and data collection Shipper/Supplier interface. Primary variants are:

a) Adopt Northern Ireland's Systems (NI System)

Overview

This would require enhancing the current Phoenix Natural Gas system to introduce a Suppliers Communications Component capable of managing the required volumes and using this to replace the current RoI system thus requiring changes to the GasMaP systems. As such the Costs are likely to be higher as the RoI already has this technology. The Option may also require changes to the current NI Concerto system if the required architecture moves significantly away from the current NI Supply Point Administration Module. It could also require changes to the Distribution Code(s) of one or both jurisdictions to harmonise the COS and other Retail processes.

Overall significant costs could, therefore be incurred for both NI and RoI systems.

Suppliers may still have to run separate registration systems for RoI and NI depending on the extent of the harmonisation in the business processes/network codes.
No Suppliers have supported this Option. Phoenix Natural Gas does not see this as a realistic Option.

Option Analysis

Attribute – Pros ☐ Cons ☐	Comment
Cost	High[3] – would require changes to NI systems to provide a supplier interface plus major change within the RoI Distribution and current Supplier interfaces and/or systems. Would be unacceptable without these changes.
Timescale	Long
Complexity – interface systems	Depends on the level of process harmonisation within the jurisdictions: the more harmonisation, the less the complexity. Would require the replacement of the current

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[3] Industry estimate 15-20 million euros to upgrade NI and replace large parts of RoI systems

	RoI Gas Shipper Communications Component (GSCC)
Complexity – Distributor systems	High – would require major changes to the RoI Distribution business
Distribution Code(s) changes	Likely to require changes to RoI codes to standardise with NI COS and metering rules (or both if the Regulators agree on rationalisation/harmonisation)
Operating Costs	Not known but likely to be high
Licence changes	Potentially depending on harmonisation requirements
Support for Shipper/Suppliers - Short Term/Long Term	Good short term regarding interfaces although RoI Suppliers may have to make significant changes Suppliers will still have to run separate registration systems unless NI and RoI Codes/processes are fully harmonised Long term - depends on long term viability of the NI system capability to support higher numbers of COS/metering data)
Ease of change of Shipper/Supplier - consumer perspective	Good (for consumers operating in both jurisdictions) Risk of increases in Consumer costs because of the development costs for the systems
Ease of change of Shipper/Supplier - supplier perspective	Good in terms of single interface but no major improvement unless the codes/processes are fully harmonised. May still have to run separate registration systems and for those already using GasMaP this would require further changes
Non - discrimination[4] between Shipper/Suppliers in the provision of services	High (Positive aspect) (assuming Phoenix Supply are fully separated from Phoenix Distribution)
Shipper/Supplier support	None
Compatibility with Electricity	Poor (although depends on how far network code changes go) Option does not help align processes across the two energy sectors.

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[4] See appendix 5: Definitions

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b) Adopt the Republic of Ireland's Systems (RoI System)

Overview

This would require enhancing the current GasMaP system and using this to introduce a Suppliers information exchange for the NI system capable of managing the required volumes. This interface would probably have to replace the current NI Supply Point Administration Module which may further result in fairly extensive changes to the interface to the NI Concerto Asset Register system.

The Retail systems in both jurisdictions are likely to require change. The level of change for the RoI systems will be dependent on how extensive the changes to the Code of Operations etc. are, in order to harmonise the COS process and other Retail processes.
Overall significant costs could therefore be incurred for the NI systems whilst the costs would not be as high for the RoI systems.

Suppliers may still have to run separate registration systems for RoI and NI depending on the extent of the harmonisation in the business processes/network codes.
Most Suppliers have supported this as a way to support Common Arrangements for Gas.

Option Analysis

Attribute – Pros ☐ Cons ☐	Comment
Cost	Medium to High[5] – would require some changes to NI systems to replace the current Retail interface with GasMaP together with some changes to GasMaP itself. Current NI Shipper/Supplier interfaces/systems would also require some change. Regarding costs - Medium if GasMaP could be interfaced into the existing Concerto system, High if Concerto would also need to be replaced, or substantially updated.
Timescale	Medium
Complexity – interface systems	Depends on level of process harmonisation within the jurisdictions: the more harmonisation, the less the complexity. Would require the replacement of the NI

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[5] Industry estimate 1-5 million euros depending on the extent of the changes required to GasMaP to meet the NI systems and processes

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	Supply Point Administration Module
Complexity – Distributor systems	Medium – would require some changes to the NI Distribution business
Distribution Code(s) changes	Likely to require changes to NI codes to standardise with RoI COS and metering rules (or both if the Regulators agree on rationalisation/harmonisation)
Operating Costs	Probably higher than current due to a more complicated system
Licence changes	Potentially depending on harmonisation requirements
Support for Shipper/Suppliers - Short Term/Long Term	Good short term regarding interfaces although NI Shipper/Suppliers may have to make significant changes Shipper/Suppliers will still have to run separate registration systems unless NI and RoI Codes/processes are fully harmonised Long term- GasMaP system should allow flexibility to move towards full retail harmonisation if this is the agreed approach
Ease of change of Shipper/Supplier - consumer perspective	Good (for consumers operating in both jurisdictions) Consumer costs could be significant depending on how system costs are recovered
Ease of change of Shipper/Supplier - supplier perspective	Good in terms of single interface but no major improvement unless the codes/processes are fully harmonised
Non - discrimination between Shipper/Suppliers in the provision of services	High
Shipper/Supplier support	Supported by the majority particularly new entrants
Compatibility with Electricity	Poor (although depends on how far network code changes go) Option does not help align processes across the two energy sectors.

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c) Adopt a Completely New System (New System)

Overview

This would require replacing both the current GasMaP COS etc modules and the NI Supply Point Administration Module to introduce a single Suppliers information exchange system capable of interfacing to both the RoI and NI Distribution systems. It is also likely to require changes to the Distributor systems in both RoI and NI depending on the degree of integration of the currently COS systems. Potentially it could be built to support different COS business processes in the RoI as in NI but this would probably add significantly to its cost. Otherwise it would require changes to the Retail elements of the Network Code(s) of one or both jurisdictions to harmonise the COS process.

Overall significant costs could, therefore be incurred for both the NI and RoI systems as the Retail interfaces for both would be replaced. It is therefore likely that this would be the highest cost Option.

Shipper/Suppliers may still have to run separate registration systems for RoI and NI depending on the extent of the harmonisation in the business processes/network codes. No Suppliers have supported this Option.

Option Analysis

Attribute – Pros ▭ Cons ▭	Comment
Cost	High[6] – would require changes to NI systems to change the interface with the Asset Register plus major changes within the RoI Distribution and current Supplier interfaces and/or systems. (GasMaP would also be replaced)
Timescale	Long
Complexity – interface systems	Depends on the level of process harmonisation within the jurisdictions: the more harmonisation, the less the complexity – would probably require replacement of any existing interfaces
Complexity – Distributor systems	High – could require major changes to the RoI and NI Distribution business
Distribution Code(s) changes	Likely to require changes to RoI and/or NI

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[6] Industry estimate – up to 20 million euros to replace both RoI and NI systems

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	codes to standardise with COS and metering rules. Otherwise likely to make the new system more complex.
Operating Costs	Not known but likely to be high
Licence changes	Potentially depending on harmonisation requirements
Support for Shipper/Suppliers - Short Term/Long Term	Shippers already using GasMaP likely to have to make changes Long term- depends on long term viability of the NI system capability to support higher numbers of COS/metering data)
Ease of change of Shipper/Supplier - consumer perspective	Good (for consumers operating in both jurisdictions) Consumer costs could be significant depending on how system costs are recovered and how the GasMaP investment is treated
Ease of change of Shipper/Supplier - supplier perspective	Good in terms of single interface but no major improvement unless the codes/processes are fully harmonised
Non - discrimination between Shipper/Suppliers in the provision of services	High
Shipper/Supplier support	None
Compatibility with Electricity	Poor (although depends on how far network code changes go) Option does not help align processes across the two energy sectors.

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Option 2: Maintain both systems and provide high level recommendations as to how the business processes could be harmonised to support both jurisdictions within the Common Arrangements for Gas (Process Alignment)

Overview

This would require Suppliers and Distributors to maintain separate interfaces for the COS in the RoI and NI. However if the business processes could be harmonised then Suppliers could (in time) operate a single customer administration system for the single set of codes albeit with separate interfaces to the different jurisdictions.

Not commented on by Suppliers but the main feature of this Option is that whilst the Distributors still run their own separate systems, as the processes are now the same, a Supplier can develop its own common registration system if there is benefit in this. As perhaps one of the lower cost (and lower risk) Options, this would have appeal to market participants who have suggested that the cost of any new system/ system enhancements could be significantly detrimental to the development of both Gas Markets and in particular the Northern Ireland Market.

Costs are low for both the NI and the RoI systems dependent on the individual level of change that has to be made in order to implement any agreed business process harmonisation. NI may still have to expend costs to improve its systems in order to handle higher numbers of COS requests.

Overall this Option could be implemented standalone should it be agreed that the priority was for harmonisation of processes as opposed to systems. Alternatively it could be implemented as a first step towards the bigger goal of full Retail Alignment.

Option Analysis

Attribute – Pros ▢ Cons ▢	Comment
Cost	Low – initial system costs would be avoided until a review of the codes with a view to harmonisation had been completed. At this stage this would (hopefully) result in lower systems development costs
Timescale	Medium – new supplier systems could only be introduced once the business processes had been reviewed
Complexity – interface systems	Low – This Option does not demand alignment for the interface between the

	Shipper/Supplier and the Distributor
Complexity – Distributor systems	Medium – would require some changes to one or both of the RoI and NI Distribution business once the business processes had been reviewed
Distribution Code(s) changes	Likely to require changes to RoI and/or NI codes to standardise with COS and metering rules. Otherwise the shippers will be unable to operate a single system
Operating Costs	Low
Licence changes	Potentially depending on harmonisation requirements
Support for Shipper/Suppliers - Short Term/Long Term	Short term – no advantages Long Term – may reduce supplier development costs by avoiding the need for maintaining separate registration systems once process harmonisation has been agreed.
Ease of change of Shipper/Supplier - consumer perspective	Minimal impact - may restrict benefits from potential Supplier automation until process harmonisation had been agreed. Could also limit COS in NI if the current systems do actually restrict the numbers that can transfer.
Ease of change of Shipper/Supplier - supplier perspective	No change short term. Would support Suppliers who believe business process harmonisation is more important that systems at this stage
Non - discrimination between Shipper/Suppliers in the provision of services	Neutral - may be preferred by incumbents as a least change Option
Shipper/Supplier support	No-one directly expressed support for this but meets those views that believed the main problem was different processes in the RoI and NI.
Compatibility with Electricity	No impact

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Option 3: Maintain both systems and look at compatible new technologies that would allow a single virtual system or interface to be presented at the Shipper/Supplier interfaces (Retail Interface)

Overview

This would allow Suppliers to use a single interface for the COS in both the RoI and NI. The Interface system would then direct traffic to the appropriate Distributor system, thus allowing the GasMaP and the SPA element of the Concerto systems to continue as they are. However Suppliers would still have to operate separate registration systems unless and until the Retail elements of the RoI and NI network codes were harmonised. Also the NI system would still need enhancing to support a higher volume of COS requests. This interface system could probably be based on the RoI interface Gas Shipper Communications Component (GSCC) which was developed for the GasMaP messaging system as the basis for all interactions which could reduce development costs for all parties.
Costs are likely to be higher for the NI systems as, regardless of whether or not the RoI interface is selected, they will have to make significant improvements in this area to handle a realistic number of COS requests in a fully competitive market.

Overall this Option could be implemented standalone should it be agreed that the priority was for a consistent interface between Shipper/Supplier and Distributor systems as opposed to business process harmonisation. Alternatively it could be implemented as a first step towards the bigger goal of full Retail Alignment.

Not commented on directly by Suppliers although a number supported common retail interfaces.

Option Analysis

Attribute – Pros ▭ Cons ▭	Comment
Cost	Low to Medium[7] – if GasMaP/GSCC was used then it would require some additional messages to be added. However most Suppliers are already set up to use GasMaP.
Timescale	Short to Medium
Complexity – interface systems	Low as the system need not have significant validation to provide a basic interface
Complexity – Distributor systems	Low – would require some work for the NI Supply Point Administration module if it was

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[7] Industry estimate – order of half a million euros to extend GasMaP

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	required to automate the processing of the messages.
Distribution Code(s) changes	Current Codes could still continue as is
Operating Costs	Low depending on who pays for the interface
Licence changes	Unlikely
Support for Shipper/Suppliers - Short Term/Long Term	Shippers already using GasMaP (if this is selected) could also then enter the NI requests via the same system Long term - if integration into existing systems is required because of COS Volumes then this might need additional validation if the RoI and NI Codes are still different.
Ease of change of Shipper/Supplier - consumer perspective	Consumer costs for the interface should be low but it would not provide great benefit to Suppliers in terms of automating their process and hence reducing transaction costs.
Ease of change of Shipper/Supplier - supplier perspective	Some marginal benefit in terms of better confidence in messages being received. Also might allow some automation with supplier systems. However it would not by itself allow increased numbers of COS (particularly in NI).
Non - discrimination between Shipper/Suppliers in the provision of services	High
Shipper/Supplier support	None directly but fits in with expressed support for the Gas Map technology
Compatibility with Electricity	No impact

Option 4: Maintain both systems and enhance the NI system to support a viable number of Change of Supply requests (NI Upgrade)

Overview

This Option offers no benefits to Suppliers/ Shippers other than allowing them all to compete on a more even playing field in NI, particularly if the current NI system does fundamentally restrict COS activity. Suppliers would have to continue to operate completely separate systems from a Retail perspective in the Republic of Ireland and Northern Ireland. As such it is not an option that would deliver the objectives of the Common Arrangements for Gas.

The potential also exists for the enhancement to be developed using the Retail interface technology that will be selected under one of the above Options (Option 1a, 1b, 1c or 3). Whilst this could make the enhancement more expensive it would reduce the risk of the investment having to be totally replaced once the long term (CAG) solution has been agreed.

Overall, this Option could be implemented standalone ahead of any decision being made for the wider Retail Market Alignment but it may be more cost advantageous if it was implemented as part of the larger CAG Retail Market Alignment project. If the goal is CAG for an All-Island market then this can only be considered as an incremental step and does not guarantee support to the Common Arrangements for Gas as this solution was not assessed on that basis or on any other basis being outside the scope / remit of the project. As such, there is a high potential for both stranded systems and cost. The benefits of this solution have not been confirmed nor examined. Again, process alignment may in be required between the two operators in NI which, if they are not, would limit the potential for a fully competitive market for NI.

Not commented on directly by Suppliers directly although the need to upgrade the current manual switching arrangements was referenced.

Option Analysis

Attribute – Pros ▭ Cons ▭	Comment
Cost	Low[8] – would require changes to NI systems to change the interface with the Asset Register; however the cost would most likely

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[8] Industry estimate – 150,000 euros to add enhanced COS functionality

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	be stranded along with the systems as new ones would need to be put in place to support CAG
Timescale	Short
Complexity – interface systems	Medium – will require NI Shippers/Suppliers to use a "web-based" front end for inputting COS requests and other messages
Complexity – Distributor systems	Low – only affects the Supply Point Administration module of the NI system
Distribution Code(s) changes	None
Operating Costs	Not known but should be low
Licence changes	None
Support for Shipper/Suppliers - Short Term/Long Term	Short term – Shippers may prefer this as it would give more confidence in the COS process over Fax/email. However Shippers will have to continue to use separate processes for the two markets. This could also make harmonisation more difficult as the Option does not take any cognisance of harmonisation. Long term - prevents any benefits from using a single interface for an all Ireland Retail Gas Market.
Ease of change of Shipper/Supplier - consumer perspective	Medium – may encourage more supplier activity if greater COS requests can be processed. Should minimise any impact from systems costs on consumers
Ease of change of Shipper/Supplier - supplier perspective	Low – no significant impact – will still need to run separate systems for RoI and NI
Non - discrimination between Shipper/Suppliers in the provision of services	High (assuming Phoenix Supply are fully separated from Phoenix Distribution) RoI changed from this system exactly for this reason (or the one below)
Shipper/Supplier support	View that NI system must be improved to meet higher numbers of COS requests
Compatibility with Electricity	Poor - Option does not help align processes across the two energy sectors.

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8.2   Summary of Analysis of the Options

We were not asked to do any form of detailed Cost/Benefit Analysis as part of the project. In practice this would not be possible at this time as there would need to be more detail provided to the Distributors in order for them to assess the extent of development required to implement each of the Options.

However it is clear that each of the Options has particular characteristics that suggest it may be better or worse than the other Options and we feel that it is important to try and capture this. It may also be of assistance in deciding whether to approach the Retail Market Alignment objective as envisaged under CAG in a "big bang" (Option 1a, 1b or 1c) approach or via a phased progression (Option 4 followed by Option 2 then by Option 3 etc).

The diagram overleaf therefore visually represents the various Options against the assessment criteria identified in the Tender. The colour coding simplistically indicates the strength of an Option assessed against a particular factor compared to the "as is" situation. For example Implementation Cost – green implies low cost and red implies high cost whereas for Ease of COS (supplier view), green suggests the Option is particularly advantageous whereas red suggests the Option adds little or nothing.

Options/Factors	Implemtn Cost	Timescale	Interface Complexity	Distributor Complexity	Code Changes	Operating Costs	Support for Shipper & Supplier Systems	Ease of COS (consumer View)	Ease of COS (supplier view)	Non-Discrimin'n	Shipper/ Supplier Support Qustnnre	Electricity Fit
	Costs						Benefits					
Option 1a (NI)	Red	Red	Yellow	Red	Red	Red	Yellow	Green	Yellow	Green	Red	Red
1b (RoI)	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Green	Green	Green	Green	Green	Red
1c (New)	Red	Red	Red	Red	Red	Red	Yellow	Green	Green	Green	Red	Red
2 (Process)	Green	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Green	Green	Yellow	Yellow	Red
3 (Interface)	Yellow	Yellow	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Yellow	Red
4 (NI Upgrade)	Green	Green	Red	Green	Green	Yellow	Red	Yellow	Red	Green	Yellow	Red

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9. Assessment

9.1 Timelines

One would ideally complete (or run in parallel) Option 2 then Option 3 or Option 1B
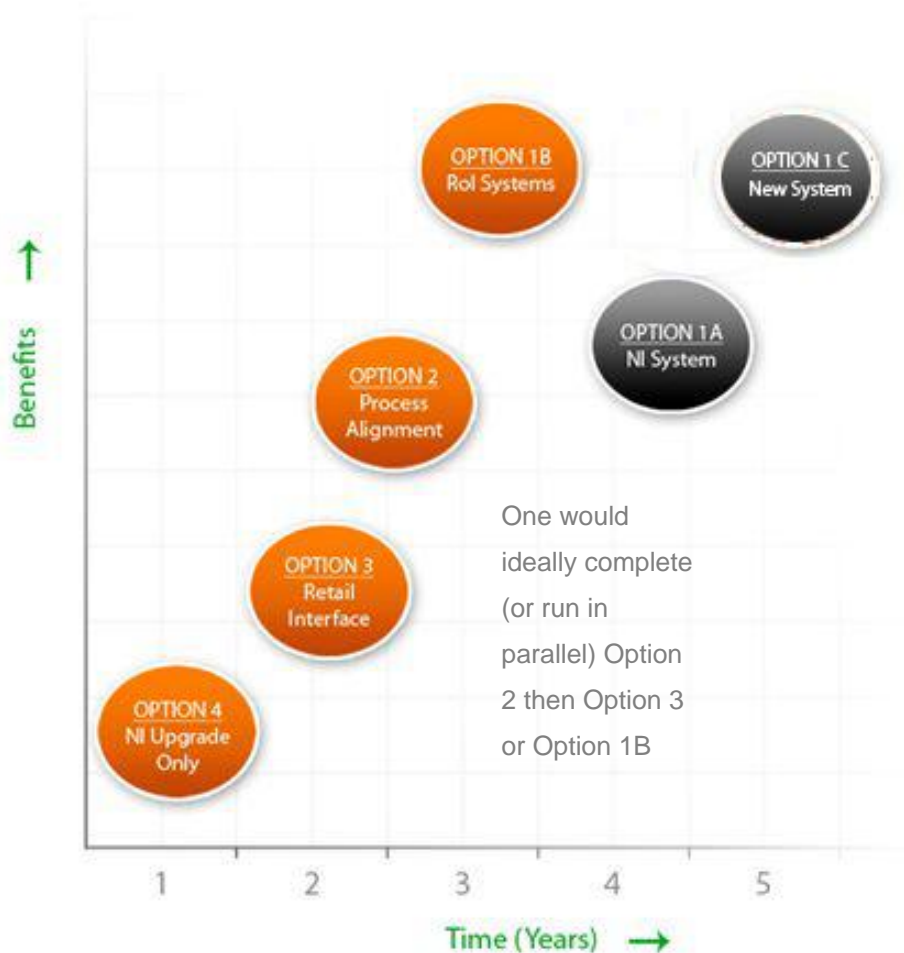
Figure 10: Timescales vs. Benefits

9.2 Dependencies

Options 1 (a), (b) and (c) (NI System, RoI System and New System respectively) all require the industry to agree a common set of retail arrangements in order to allow any system design to be specified. Only at this stage can the full assessment be carried out in order to complete the technical assessment and system design of a common Retail interface.

Option 2 (Process Alignment) is not dependent directly on any other activity. Once the industry has agreed what the retail arrangements are to be to support the common arrangements for gas, the Shippers/Suppliers can take individual decisions to harmonise their own administration arrangements in order to operate a single market.

Option 3 (Retail Interface) is not dependent on any other activity in order to specify an interface system to direct messages between Suppliers and Distributors.

Option 4 (NI Upgrade) is not dependent on any other activity.

10. Next Stage/Recommendations

Following this assessment, various roadmaps as outlined could be pursued to reach the goal of an All-Island solution in line with the remit of Common Arrangements for Gas. Within the Comparison of Codes and Licences (Section 5) and Option Analysis (Section 8) we have identified key areas that need to be recognised and aligned in order for the All-Island solution to deliver maximum benefits. However, key stakeholders should be required to engage at a more detailed level in order to ensure that a holistic view is taken for the way forward.

Recommendations

1. We recommend a wider industry consultative process leading to a decision by the RAs on market structure issues such as data collection and meter installation and a decision on the retail process alignment and code alignment. This could be carried out within the current Retail Market Alignment workstream.

   The driver for Alignment should be to facilitate the greatest efficiencies of an All-Island market system, recognising that the greater the degree of harmonisation that can be achieved, the lesser would be the cost of introducing an All-Island Retail IT system or systems.

As we have detailed previously, there are numerous differences that need to be addressed but a number are considered to be particularly key if the objective is to implement common systems across the two jurisdictions. Key areas are:

- Different classifications of supply/meter points between Domestic/Non-Domestic and DM/NDM;
- Different timescales and procedures for the Change of Shipper process;
- Different Supply point structure (supply point in the RoI, supply meter point in NI);
- Objections valid in one jurisdiction but not in the other affecting the way the COS process works;
- Differences in Meter Reading responsibilities and Meter ownership rights;
- Different "windows" for Opening meter reads; and
- Different timescales for disputing a COS or opening meter read.

2. Alongside the work on code and process alignment, the workstream should also address the refinement of the IT options that have been identified by this assessment.

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Our recommendation for consideration is:

- The Gaslink GasMap market messaging system looks to be a sensible solution to build an All-Island approach to Retail Market interfaces (albeit internal systems could be different as long as the Supplier interfaces and external processes are similar) (Option 1b RoI system);

- An interim to achieving the full use of the (amended) GasMaP system could be the development of a Retail Interface (Option 3); and

- Recognising that it may take a number of years to complete the industry process harmonisation and a long term IT system solution, a low cost interim arrangement for NI (Option 4 NI Upgrade) could be considered in the mean time to ensure that a competitive Retail Gas Market can be supported and to further encourage new (domestic) entrants, although it should be noted that there is a high likelihood for stranded systems and costs

3. It may also be necessary to consider any such code and process alignment alongside the processes that are operated in electricity as dual fuel is seen as increasingly important in a competitive market.

4. As it is likely that before the full Retail Market Alignment can be completed some of the customers supplied by firmus energy will be in the competitive market, whilst this is outside of the direct scope for this report, consideration needs to be given to the creation of a NI Change of Supply Agent to manage both the Phoenix and firmus supply points or, alternatively, the adoption by firmus of the harmonised Code and Processes together with the use of the aligned IT system.

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Appendix 1: Potential Development Route Map

Evolution Diagram of Potential Ways Forward (Dependent on Route Taken)

These diagrams illustrate the ways in which a competitive Retail Market could develop as it becomes more mature. The evolution is generally driven by the need for both higher levels of automation and streamlining of communications to manage the increase in Change of Supplier activity based on both numbers of customers in the competitive market and the propensity for customers to switch supplier. Automation is also required to ensure that all Suppliers are treated in a similar even handed manner and normally requires the adoption of appropriate Governance mechanisms to handle proposed change and the management of standards and associated codes of practice. Where multiple Distributors exist then the increased automation also allows Suppliers to minimise their internal costs by standardising the communications across Distributors.

It should also be noted that the evolutionary path does not have to be from Stage 1 through to Stage 5. Stages may themselves develop concurrently or in a different order. For example Stage 2 may occur before Stage 1 or Stages 2 and 3 may take place together.
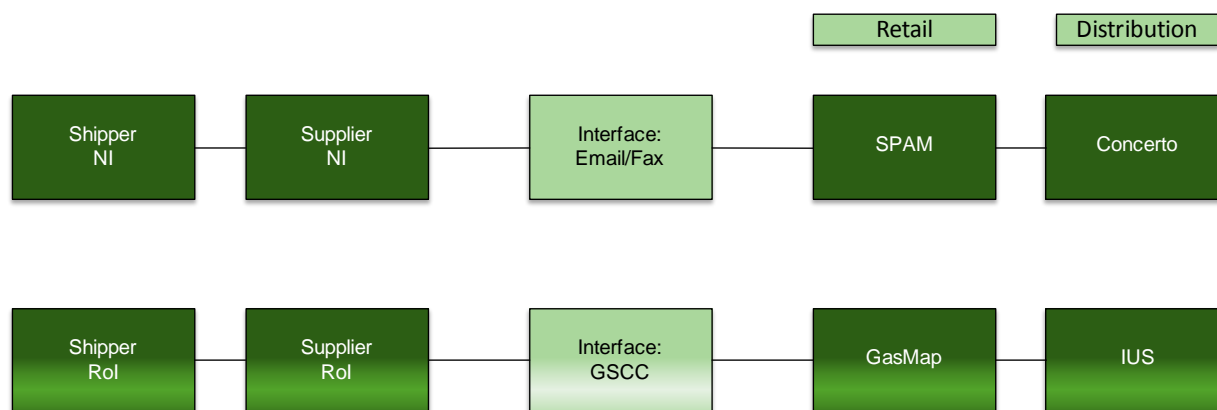
Current

Figure 11: Current

Current - The existing markets in Northern Ireland and the Republic of Ireland are completely separate across the whole chain from Shipper/Supplier to Distributor. As such there is no opportunity for integration at any point.

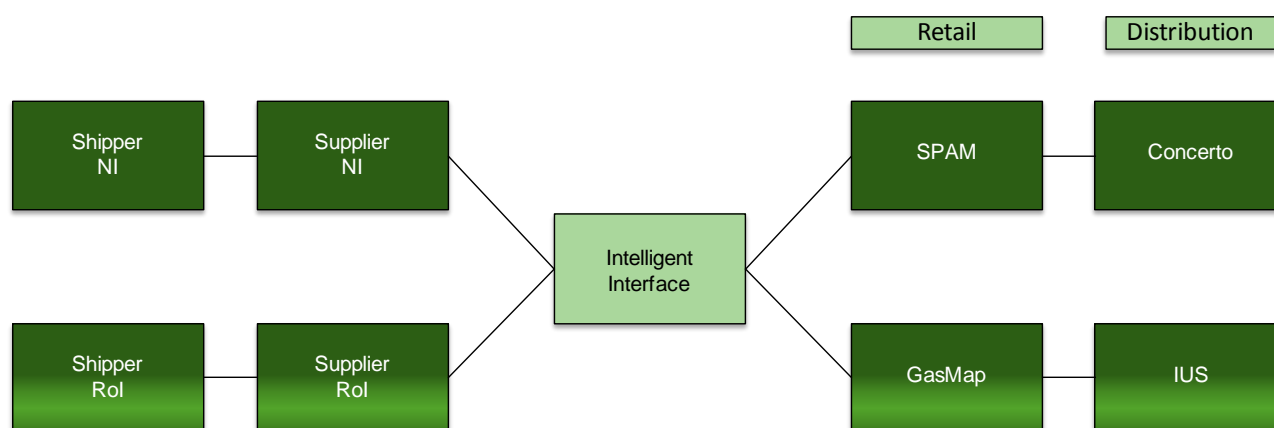Gemserv

Stage 1: Introduce Intelligent Interface

Figure 12: Stage 1 – Introduction of (Intelligent) Interface

Stage 1 – Introduce an (intelligent) interface that handles traffic between Suppliers and Distributors, recognising whether a supplier message is for Phoenix Natural Gas or GasLink and whether a Phoenix Natural Gas message is for Supplier 1 or Supplier 2 etc. Effectively an upgrade of the RoI Interface GSSC that has recently been introduced for RoI shippers.

Benefits: low cost, requires little change for Suppliers or Distributors; for Suppliers means messages can be sent via a standard route.

Cons: – means Suppliers still have to run separate registration systems for customers because of different rules and possibly operate separate shipper systems because of different meter etc data formats; Distributors will still run separate retail systems due to the codes and processes not being aligned (all retail aspects will still have to be run separately because NI and ROI retail processes are not aligned).

In terms of the Option Analysis this stage could be analogous to the implementation of Option 3 (Retail Interface).

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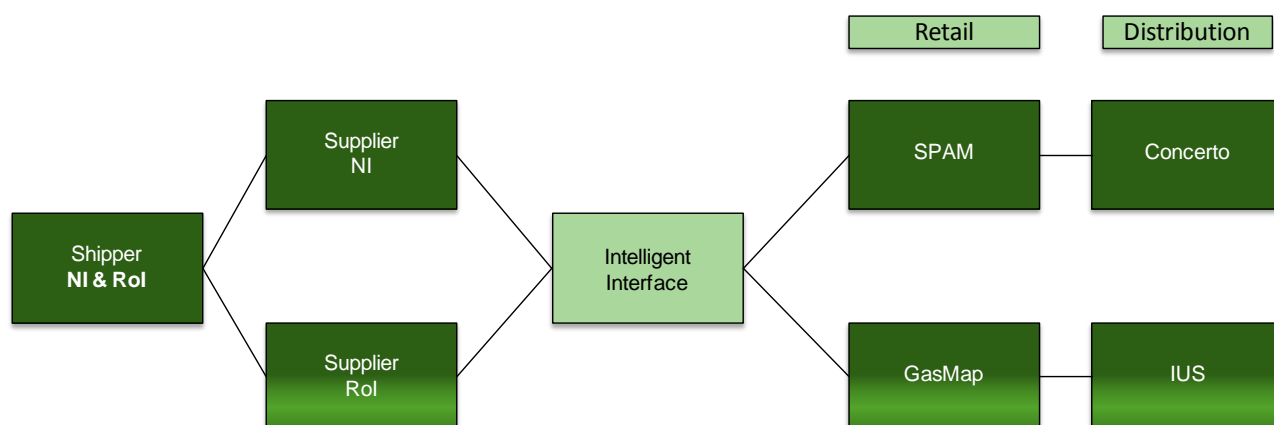**Stage 2: Standardisation of Data Catalogue**

Figure 13: Stage 2 - Standardise the Data Catalogue

This stage is seen as an interim step towards retail systems integration

All data formats and structures (in terms of how they are interpreted by an IT system) are the same across the Phoenix Natural Gas and Gaslink systems.

Benefits: allows Suppliers to use the same databases for consumer information and potentially a single shipper system to manage gas allocations and demand across both Ireland and Northern Ireland.

Cons: means Suppliers still have to run separate registration systems because of different business process rules; Distributors still run separate retail systems.

In terms of the Option Analysis this stage could be analogous to the implementation of some elements of Option 2 (Process Alignment) and Option 3 (Retail Interface).

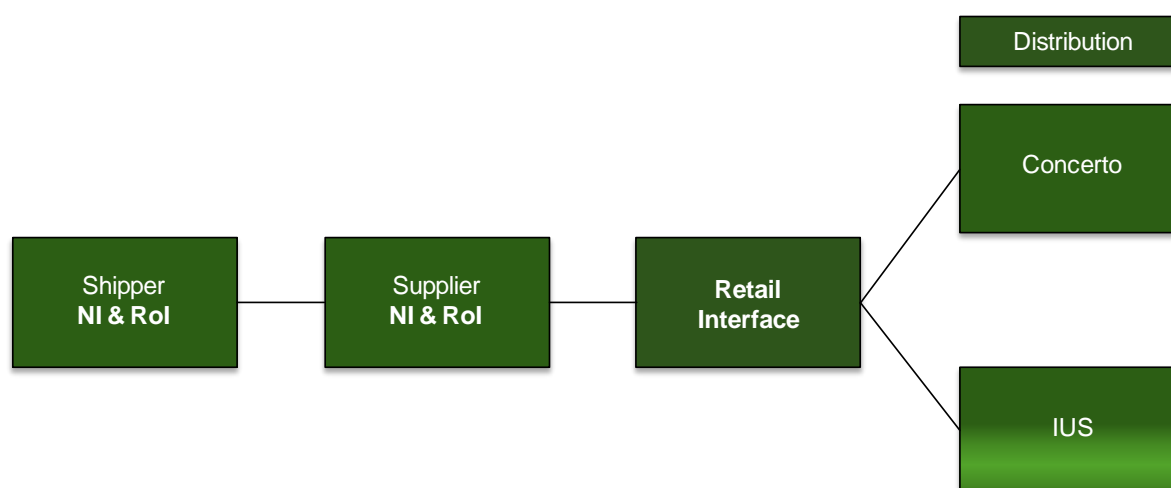## Stage 3: Standardisation of Network Codes and Processes

Figure 14: Stage 3 – Standardisation of Network Codes/Processes

The Change of Shipper (and metering) processes are the same (or very similar) for both jurisdictions. Therefore an intelligent interface is not needed in addition to the retail interface. The retail interface could be GasMaP.

Benefits: Suppliers can run a single registration system for all consumers regardless of whether they are in the Republic of Ireland or Northern Ireland; Phoenix Natural Gas and Gaslink can run the same retail system; Suppliers only have to monitor and respond to changes to a "single" Retail Code.

The Stage also retains the ability for Phoenix Natural Gas and Gaslink to continue to operate their own distinct Distribution Systems.

Stage 3 would have higher running costs in the long term versus stage 4 due to requiring two strands of communications with the separate distribution systems.

In terms of the Option Analysis this stage could be analogous to the implementation of any of the Option 1 variations – NI System, RoI System or New System.
This is probably the stage that the CAG Retail Market Alignment would want to attain taking into account the recognition that a decision has already been made that Distribution will not be done on an All-Island basis.

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Stage 4: Common Arrangements for Gas – Full Retail and Distribution Alignment

```
┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│   Shipper    │   │   Supplier   │   │    Retail    │   │ Distribution │
│   NI & RoI   │───│   NI & RoI   │───│  Interface   │───│   RoI & NI   │
└──────────────┘   └──────────────┘   └──────────────┘   └──────────────┘
```
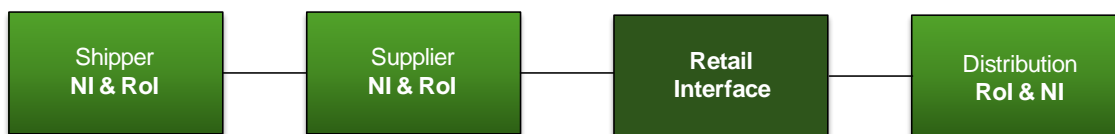
Figure 15: Stage 4 – Common arrangements for Gas – All-Island

This stage supports the operation of a single "All-Island" distribution system if this is required. Whilst this could provide some additional benefits from an integrated Distribution operation, it could also reduce the potential for innovation in the Distribution businesses, particularly if these are to continue as monopoly businesses.

For Suppliers and Shippers Stage 3 can also be sufficient as long as all elements relating to the Retail codes and processes are aligned or removed from the Code of Operations and the Distribution Code for Republic of Ireland and Northern Ireland, respectively.

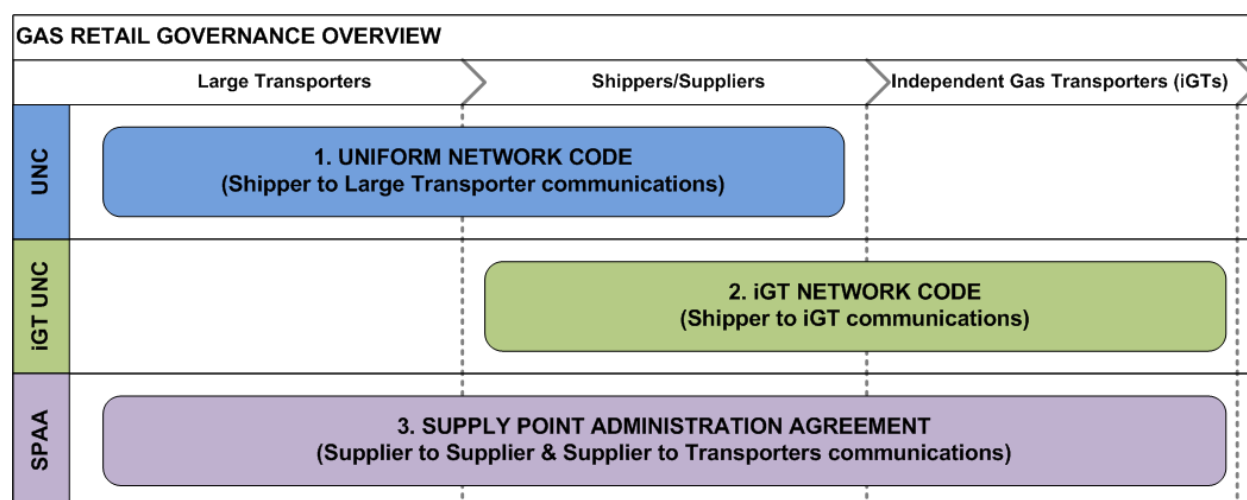# Appendix 2: Retail Procedures in the GB Gas Market

Figure 16: Gas Retail Governance Overview

In GB there are three distinct areas associated with the Retail processes in the GB Gas Market and associated governance/systems arrangements.
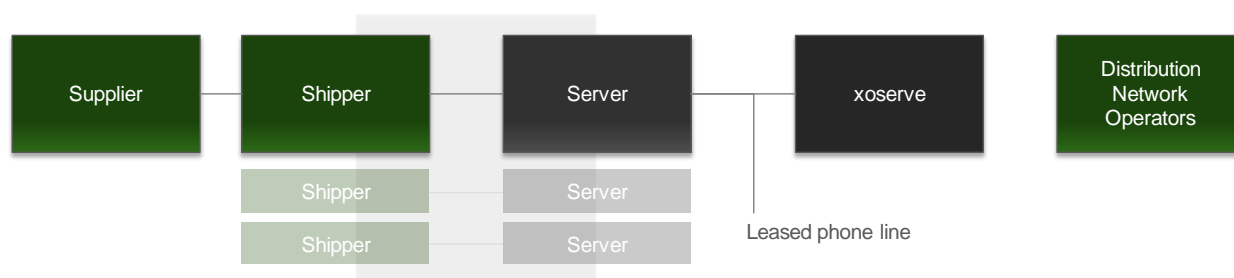
Uniform Network Code

Figure 17: UNC – Change of Supply Process etc.

Shippers communicate with the Large Transporters for a number of reasons including registration of customers; provision of meter readings; metering requests (isolations, Siteworks); receipt of demand information; management of gas nominations for balancing; capacity booking; gas trades; operational and invoice queries; receipt and payment of invoices etc.

For the Retail market, whilst the Supplier contracts with the customer, information is then passed to the Shipper in order to register the supply with the relevant Transporter. The processes to be followed are detailed in the Uniform Network Code with technical information being set out in the UK Link Manual. All communications are managed by

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xoserve who act as the central agency appointed by the Large Transporters, as required under the Transporter's licence. Xoserve also run a number of computer systems on behalf of the Transporters.

Specifically, Xoserve manage the central Supply Point Register which holds details of all supply points and associated meters in the GB market. When a Change of Shipper request is received for a supply point on a Large Transporter's Network, xoserve validate this and if valid, they inform the incumbent shipper of the proposed change. They then continue to manage the process through to the point when the customer transfer occurs; including informing the Transporters so that gas allocation is made to the appropriate shipper. Xoserve also run other processes such as AQ calculations and meter validations on behalf of the Transporters.

The Transporters then take information as required form the xoserve systems into their own systems to support activities involved in the management of the distribution and transmission networks as they continue to manage the asset information.

Whilst xoserve is owned by the Large Transporters, in theory there is no reason why any organisation could not operate as the Agency as long as the Transporters had an obligation to release the Supply Point Register information to that agent. Independence from a Transporter(s) could also facilitate the agent handling information from multiple transporters, in effect managing a number of Supply Point Registers as a single entity. Assuming the Legislation (and subordinate licenses) supported it, this could extend to managing Supply Point Registers across a number of different jurisdictions.

xoserve communications with shippers are handled over a direct land line connection to a server in the shipper's premises. In theory, the GB systems could potentially operate Change of Shipper, etc. processes for other parties on an All-Island basis. This may have advantages for those shippers operating in Ireland who already have GB licences as they will be familiar with the GB procedure.
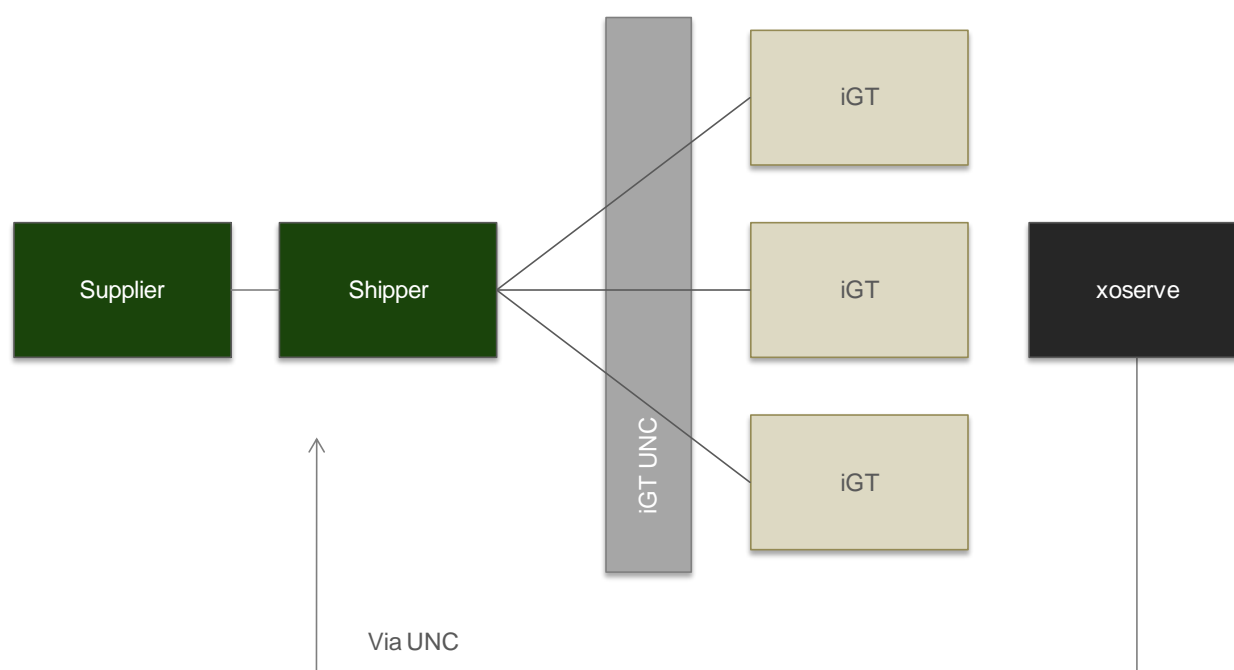
iGT Uniform Network Code

Figure 18: iGT UNC

There are a number of Independent Gas Transporters (iGTs) in GB who provide gas connections to end consumers and who manage the associated pipelines. These pipelines connect into the main gas network generally within a Distribution Network company (Large Transporter) at a connected system exit point. When these were first set up each iGT had its own Network Code and arrangements for managing customer administration arrangements with Gas Suppliers including customer transfers and transportation costs for use of the iGT network. The iGT is also responsible for confirming with the Large Transporter details of sites that are supplied by each Shipper so that the necessary gas nominations and allocations can be made and so that the Large Transporter can correctly invoice for use of their part of the network.

Initially these arrangements worked reasonably well whilst the number of iGT Supply points was relatively small, albeit Shippers/Suppliers had to manage each iGT under separate systems from its main system (used for the Large Transporter supply points). However, over the last few years the number of iGT supply points has increased significantly to a current level of around 1 million. At this level of activity GB domestic Suppliers found the need to operate separate systems was becoming particularly troublesome and adding cost to the retail administration process, particularly when taken alongside the associated reconciliation problems between the iGT and Large Transporters systems.

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Therefore there has been a lot of activity to attempt to rationalise and improve the iGT arrangements with Suppliers. The first priority for the Suppliers was to try and ensure that the commercial arrangements between themselves and the iGTs were similar if not identical. To this end the iGT Network Codes have been rationalised and an iGT UNC has been developed. This has provided certainty for the Suppliers that they can operate the same procedures with each iGT irrespective of the iGT. Until this was complete it was felt that the potential to reduce costs via systems improvement would be limited.

The next stage for the industry is to streamline the system communications and a project is currently underway to identify potential alternatives. These range from introducing a common gateway administered by an independent agent who will:

- Direct files sent to it to the correct recipient be it supplier or iGT. Additionally such files could be sent and received in a consistent format by the supplier with the agent carrying out any necessary conversion to meet with the format supported by an individual iGT and vice versa;

through to appointing an independent agent who will:

- Operate the change of supplier process on behalf of the iGT (or Suppliers) and inform the iGTs, Suppliers and Large Transporters of the outcome. iGTs would be able to receive data from the agent in order for them to manage their invoicing and handle various queries raised by Suppliers or alternatively the agent could also perform these activities on behalf of the iGT(s).

The main issues associated with the options relate not only to complexity but also who should be responsible for funding particularly for those iGTs who have already made significant investments in systems to handle the customer transfer processes.

Supply Point Administration Agreement

The Supply Point Administration Agreement (SPAA) was set up in 2004 to facilitate a number of existing arrangements that require direct communications - supplier to supplier and supplier to transporter such as Metering data flows and Industry agreements, such as Domestic Codes of Practice (DCoP) and BISCUIT (Internet methods of communication between Suppliers). Domestic Suppliers and Transporters are required by licence to become a party to SPAA and it has its own governance arrangements to agree changes. It is a longer term ambition for both the GB Regulator and many of the Suppliers to also take the Change of Supplier processes out of the Uniform Network Code and move them into the SPAA.

Whilst the original Phoenix Distribution Code was heavily based on the relevant elements of the GB Network Code,the Codes have subsequently diverged and therefore potentially there would need to be an (extensive) exercise to bring the Phoenix Code back into line.

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Appendix 3: Supplier Questionnaires

Blank Supplier/Shipper Questionnaires – RoI

Questionnaire

For Shippers Operating in the Republic of Ireland Gas Market

1. Are you currently supplying to Gas Customers in the:	Yes	No
Domestic Market	☐	☐
Non-Daily Metered Market (up to 5,550,000 kWh)	☐	☐
Daily Metered Market (up to 57,500,000 kWh)	☐	☐
Large Daily Metered Market (over 57,500,000 kWh)	☐	☐

2. If you do not currently supply, do you intend to supply:	Yes	No
Within the next 12 months	☐	☐
Within the next 1- 3 years	☐	☐

3. What are the 5 key aspects (in order of priority) of the Network Operator's IT systems for Change of Supply, Meter Operation and Data Collection that are most important to you?

   1.

   2.

   3.

   4.

   5.

4. For each of these, please describe whether you are satisfied with the current systems provided by the Operator and/or what improvements are required.

   1.

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2.	
3.	
4.	
5.	

5. What would be your preferred solution for the Retail Systems required to support the Common Arrangements for Gas project?

	Please tick one
The development of a new design for this All-Island Retail Market.	☐
The introduction of the retail interfaces currently operational in Northern Ireland as the All-Island Model.	☐
The introduction of the retail interfaces currently operational in the Republic of Ireland as the All-Island Model.	☐
The adaptation of both individual market infrastructures to introduce a joint design model.	☐
Other:	

6. Please explain why you have chosen the selected option in Question 5.

7. How important is it for you to have common retail interfaces from your systems for the Republic of Ireland and Northern Ireland markets and why?

8. Any other comments

Please provide your contact details:

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Name	
Position	
Telephone No.	
Email	

Would it be alright for us to follow up via phone or email if there are any further questions in connection with your response? **Yes** ☐ **No** ☐

If not sent electronically, completed questionnaire to be returned to:

Mr. Steve Ladle
7th Floor, Centurion House
24 Monument Street
London
EC3R 8AJ

Blank Supplier/Shipper Questionnaires – NI

Questionnaire

For Shippers Operating in the Northern Ireland Gas Market

9. Are you currently supplying to Gas Customers in the:	Yes	No
Domestic Market	☐	☐
Smaller NDM Market (up to 732,000 kWh)	☐	☐
Larger NDM Market (up to 2,196,000 kWh)	☐	☐
Daily Metered Market (over 2,196,000 kWh)	☐	☐

10. If you do not currently supply, do you intend to supply:	Yes	No
Within the next 12 months	☐	☐
Within the next 1- 3 years	☐	☐

11. What are the 5 key aspects (in order of priority) of the Network Operator's IT systems

---

for Change of Supply, Meter Operation and Data Collection that are most important to you?

6.

7.

8.

9.

10.

12. For each of these, please describe whether you are satisfied with the current systems provided by the Operator and/or what improvements are required.

6.

7.

8.

9.

10.

13. What would be your preferred solution for the Retail Systems required to support the Common Arrangements for Gas project?

	Please tick one
The development of a new design for this All-Island Retail Market.	☐
The introduction of the retail interfaces currently operational in Northern Ireland as the All-Island Model.	☐
The introduction of the retail interfaces currently operational in the Republic of Ireland as the All-Island Model.	☐
The adaptation of both individual market infrastructures to introduce a joint design model.	☐
Other:	

14. Please explain why you have chosen the selected option in Question 5.

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15. How important is it for you to have common retail interfaces from your systems for the Republic of Ireland and Northern Ireland markets and why?

16. Any other comments

Please provide your contact details:

Name	
Position	
Telephone No.	
Email	

Would it be alright for us to follow up via phone or email if there are any further questions in connection with your response? **Yes** ☐ **No** ☐

If not sent electronically, completed questionnaire to be returned to:

Mr. Steve Ladle
7th Floor, Centurion House
24 Monument Street
London
EC3R 8AJ

Appendix 4: Summary of Responses from the Shipper/Supplier Questionnaires

Shipper/Supplier Questionnaires for the Retail Market Alignment Consultancy Support

This document represents a very high level summary of the responses received from market participants to the questionnaires sent out as of the 13th/14th May 2009. This document by no means represents an exhaustive or in-depth analysis of the views held by the market participants, this serves as an overview of the current and future market participants and the issues that they feel hold great importance with regards to market operations.

Northern Ireland

1)

	Firmus	Viridian	Phoenix
Dom	X		X
SNDM	X		X
LNDM	X		X
DMM	X	X	X

2) Vayu and Airtricity do not currently supply any markets in Northern Ireland, but intend to begin within the next three years, with Vayu intending to begin providing services in Northern Ireland within the next 12 months.

3) The current key aspects that are most important with regards to the network operator's system, include;
   - There should be identical (not similar) arrangements in NI and RoI;
   - Quality and validity of reads provided and accepted – data transparency;
   - Market processes need to be determined by business needs and not dictated by the limitations of the network operators systems;
   - Efficient and effective market decision making and change management processes;
   - Common design practices (in terms of interfaces) between domestic and business users;
   - System limitations should not be hindering essential practices such as switching;
   - All Suppliers should benefit from the same level of performance, regardless of their size;
   - SMP confirmation templates;
   - Notification of successful allocations and meter exchanges;

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- Concerto for booking of customer meter exchanges; and
- 24/7 access to systems.

4) Possible improvements identified include;
   - A wider window for meter read processing;
   - Accurate data with a fast turnaround of messages;
   - Automating key aspects of the SMP confirmation process would facilitate a greater number of transfers;
   - Automated processes and interactions;
   - An upgrade to the current manual switching arrangements, which prevents gas consumers fully benefiting from switching;
   - Investment in an IT upgrade in order to entice new entrants to the NI gas market; and
   - Market arrangements decided by participants not the network operator.

5) The common choice of solution for the CAG project was "The introduction of the retail interfaces currently operational in the Republic of Ireland as the All-Island Model"; however one respondent advocated the development of separate systems which are appropriate for the market scale along the lines currently developed in both markets.

6) Reasons for selecting the RoI arrangements for the CAG project include:
   - The RoI system works well and can facilitate competition;
   - Developing two separate systems does not make economic sense;
   - The systems used in RoI have already been developed and tested; and
   - No need to re-invent the wheel.

7) The importance of common retail system interfaces between RoI and NI included:
   - It will help to keep market rules and costs in check;
   - It would be easier, more efficient, more reliable and more practical to use one system;
   - Common interfaces would also need common processes and jurisdictional practices; and
   - Greater levels of harmonisation between the two markets would lead to greater opportunities for competition and economies of scale.

   It was also noted that a common interface was not important, as the two systems were developed in order to facilitate the operation of the Network Code and their associated process.
   - There are key differences between the Network Codes in ROI and NI which would make the achievement of a single retail interface almost impossible.

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8) Other issues

- An updated cost-benefit analysis is needed prior to implementation;

- There must be transparency in the design and implementation;

- Harmonisation with electricity is needed with identical processes in order to avoid additional costs;

- Implementation should be carried out in such a way as to minimise disruption to existing systems;

- Consumers could benefit from All-Island harmonised retail arrangements; and

- The development of IT systems and the cost associated with this must take into account the differing market sizes. In NI there is only a relatively small customer base of 125,000.

Republic of Ireland

1)

	BGES	Vayu	Viridian	Flogas	Airtricity
Dom	X			X	
SNDM	X	X	X	X	
LNDM	X	X	X		
DMM	X	X	X		X

2) Phoenix Supply, Flogas and Airtricity intend to enter new markets within 12 months with Flogas aiming to enter the DM and LDM Markets and Airtricity aiming to enter the Dom and NDM Markets.

3) The current key aspects that are most important with regards to the network operator's system, include:

- Market processes should be automated;

- Systems must be capable of supporting all processes efficiently;

- Accuracy, validity, transparency and ease of reconciliation of data provided and accepted;

- Arrangements should be identical (not similar) in NI and RoI, in both gas and electricity;

- Market processes need to be determined by business needs and not dictated by the limitations of the network operators systems;

- Efficient and effective market decision making and change management processes;

- All Suppliers should benefit from the same level of performance, regardless of their size;

- 24/7 access to the system;

- Extranet; and
- Messages and system responses must be turned around in a short timeframe.

4) Possible improvements identified include:
- GSCC and GTMS data could be reconciled against other data;
- Access to GSCC should be available on the same basis as GTMS;
- Data accuracy is paramount as it is the basis for a number of important activities;
- Diverse arrangements between RoI and NI markets represent a barrier to market entry;
- The introduction of market process automation;
- Change of some ineffective processes such as customer switching;
- Greater alignment between Gas and Electricity markets;
- Integration of the business and domestic market interfaces; and
- The further development of the extranet to make it more user-friendly.

5) The unanimous choice for the CAG project was "The introduction of the retail interfaces currently operational in the Republic of Ireland as the All-Island Model"

6) Reasons for selecting the RoI arrangements for the CAG project include:
- The RoI system works well and can facilitate competition;
- The system is modern with necessary interface support;
- The system has a fully functioning automated market messaging system;
- Developing two separate systems does not make economic sense;
- The systems used in RoI have already been developed and tested; and
- No need to re-invent the wheel.

7) The importance of common system interfaces
- Will help to facilitate doing business on an All-Island basis;
- the integration of systems will help the market to develop;
- It would be easier, more efficient, more reliable and more practical to use one system;
- Common interfaces would also need common processes and jurisdictional practices which would lead to lower costs; and
- Greater levels of harmonisation between the two markets would lead to greater opportunities for competition and economies of scale.

8) Other Issues

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- An updated Cost Benefit Analysis is needed prior to implementation;
- Harmonisation with electricity is needed with identical processes in order to avoid additional costs;
- Implementation should be carried out in such a way as to minimise disruption to existing systems; and
- Consumers could benefit from All-Island harmonised retail arrangements.

Appendix 5: Definitions

Retail Code – the retail elements of the Distribution Network Code and the Code of Operations in Northern Ireland and Republic of Ireland, respectively. This includes activities such as change of shipper, meter reading, classification of meter points, etc.

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Distribution Code - the elements of the above codes that are not directly part of the retail market and which relate to shipping of gas through the pipeline system

GSCC – Gas Shipper Communications Component, at the Shippers site, facilitates communication with GasMaP at BGN

GTMS – Gas Transportation Management System – used in the Republic of Ireland for the management of the Daily Metered sites

Intelligent Interface – this is used to indicate that the interface would have to do more than merely direct messages to the relevant Distribution business. The interface would also have to build different messages using different message formats according to which business the messages were intended for (validation) due to the retail codes and processes not being aligned. If the retail codes and processes were aligned it could simply be an interface.

IUS – integrated utility system, runs distribution at BGN for all non-daily metered (NDM) sites – equivalent to the Asset Register at Phoenix in Concerto

Network Code – this is used as a generic term to reference the contract that operates between Transporters and Shippers. In the Republic of Ireland this is more specifically referred to as the Code of Operations which is also supported by various procedures such as the Gas Point Register Operator procedures. In Northern Ireland this is the Distribution Code for Phoenix Natural Gas.

Non – Discrimination – all market participants treated in an equal manner in relation to the processing of market related business transactions

Retail Interface – general concept of interface between all shippers and distributors. This would need to be intelligent if the retail codes and processes were not aligned. If they are aligned, then it does not need to be intelligent. The retail interface could be GasMaP.

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