Gas to the West

Operational Business Plan Strictly Private & Confidential

May 2014









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firmus energy at a glance

- Initial Licence award March 2005.
- 4 Regulatory Licences:
 - Distribution (Ten Towns);
 - Gas Supply (Ten Towns);
 - o Gas Supply (Northern Ireland); and
 - Electricity Supply.
- Overall c.70,000 customers in Northern Ireland;
- To date within our (next door) Ten Towns Licence area we have surpassed our initial licence targets by:
 - Building 870km of gas mains;
 - Connecting 4,250 customers per annum, with 22,000 Customers connected overall;
 - o Awarded eight licence extensions by the Utility Regulator; and
 - Maintained competitive pricing to encourage conversion to natural gas.
- Trusted safety and build record. No Health and Safety Executive NI or DRD Road Authority fines in 9 years of operation;
- Excellent Customer Service. Since 2005, we have received the lowest number
 of Stage 2 Consumer Council NI complaints of any regulated network company;
- Chair of the DSD thematic group on Fuel Poverty Prevention and member of the Northern Ireland Fuel Poverty Coalition;
- Professional, well trained, and motivated staff base. firmus energy is the only
 utility company to ensure <u>all</u> staff are trained to City and Guilds Level to provide
 energy efficiency advice. firmus energy has been awarded Best Places to Work
 award, Investors in People (Silver Standard) and CORE: Business in the
 Community's Standard for Responsible Business;
- Strong Regulatory Performance. In the last price control (PCR02), firmus energy:
 - Was 8% underspent on operating expenditure;
 - Has exceeded volume targets; and
 - Achieved 49% more connections to our distribution network than our regulatory target.
- Grown our existing business in an economically viable and responsible manner; and
- All of this in line with our brand values of Clarity, Empathy, Integrity and Teamwork.

1. Business Plan Overview

- A project Weighted Average Cost of Capital (WACC) for Gas to the West (GTTW) of 5.47%:
- An overall positive Net Present Value (NPV) of c.£147m for the GTTW Project.
- **Building on Proven Track Record** in building a provincial greenfield gas distribution network in Northern Ireland;
- A background of bringing innovative solutions to the development of gas distribution networks in Northern Ireland;
- Unique position to offer support from firmus energy's competitive supply business to ensure gas supply in GTTW towns from day one;
- Ability to develop and build on existing and positive customer and stakeholder relationships; and
- Extremely confident in our ability to deliver GTTW.

1.1 Purpose of business plan

The purpose of this business plan is to set out firmus energy's ability to finance, develop, construct and operate a new gas distribution network in the 8¹ key towns that will make up the Gas to the West (GTTW) network.

In this business plan we will build on the evidence of firmus energy's track record of surpassing regulatory volume, connection and property passed targets whilst maintaining a tight control of both Capex and Opex costs in the successful build out and safe operation of a new 'greenfield' gas distribution network in the "Ten Towns" licence area which runs from Derry/Londonderry, via Antrim to Warrenpoint.

Overall, the GTTW project will have a Net Present Value (NPV) as per Published Criteria 3.15 Applicant Determined Cost of c.£147m over the 40 year licence term, based on a Weighted Average Cost of Capital (WACC) of 5.47%, mobilisation costs of c.£0.9m and operating costs over the first 10 years of c.£21.2m.

1.2 Executive Summary

1. High Level Business Operational Objectives

Since our initial licence was awarded in 2005, firmus energy has been committed to working with the Utility Regulator (UR), Department of Enterprise, Trade and Investment (DETI), the Consumer Council for Northern Ireland (CCNI) and other stakeholders to maximise the benefits of natural gas to consumers and the local economy in Northern Ireland, in a socially responsible and consumer focused manner. This business plan therefore builds upon this legacy in order to highlight that firmus energy can competently meet the challenges of developing a natural gas distribution network in a sustainable manner and in a way that customers can afford and are willing to pay for.

2. <u>Ability To Manage All The Process and Resources Necessary to Build and Operate the Low Pressure Network in a Timely, Efficient and Safe Manner.</u>

firmus energy has installed over 870km of mains and over 22,000 Industrial & Commercial (I&C) and domestic services since construction began in the Ten Towns network. During this time we have implemented processes and procedures to ensure the highest standards with regard to safety, quality and environmental considerations.

We have managed our existing contract operations in an economic manner and continue to work closely with our contractors to ensure we meet our targets with respect to customers connected, response to emergencies and maintenance requirements of the gas network (see Sections 2.1.2, 2.1.3, and 5.2.1). There are a number of external parties that we propose to use to manage the processes and resources necessary to construct the

¹ Strabane, Magherafelt, Cookstown, Dungannon, Coalisland, Omagh, Enniskillen and Derrylin Page | 2

GTTW lower pressure network. These external parties will supply services in relation to network construction, commissioning services and competent authority sign off procedures (see Sections 2.2.1 & 3.1.1).

Since our initial distribution network licence award in the Ten Towns, firmus energy has developed procedures and processes to monitor the system and to respond effectively to incidents ensuring the safety of the general public, our personnel and maintaining security of supply (see Section 5.5). In addition, there are a number of external parties that we propose to use to ensure the effective operation of the gas network, such as McNicholas Construction, Scotia Gas Networks etc., who will provide services in relation to emergency call handling, maintenance activities and competent authority sign off procedures (see Sections 2.2.1 and 3.1.1).

firmus energy already operates a very similar network in the Ten Towns to the proposed GTTW network. The Ten Towns network was developed through a similar mobilisation process to that envisaged in this licence application and with the similarities in the two networks firmus energy is well placed to extend its experience from Ten Towns to the resources required for the efficient construction, operation and maintenance of GTTW (Section 3.1 sets out our proposals as to securing and managing mobilisation resources and Section 2 details our overall proposals for securing and managing internal and external resources).

Building on our success of achieving gas connections in the Ten Towns, firmus energy will apply its already successful marketing and sales strategy (as set out in Section 7.2.2) which outlines how the trade will be developed and our approach to achieving connections in each market sector. Over and above the manpower resource set out in Section 7.2.2, firmus energy will employ an industrial engineering gas consultant on a temporary basis, via an industry recognised employment agency, (e.g. Wilcock Consulting) for 2 years, to specifically work closely with the Commercial Development Manager (CDM) in providing conversion project management to Large Industrial users, ensuring customers convert as quickly as possible.

firmus energy already has excellent working relationships with key I&C customers and stakeholder groups (National Energy Action Northern Ireland (NEANI), CCNI, DRD etc.) and we will continue these strong relationships into any GTTW award (see Section 7.2.1). This includes our successful vulnerable person connection strategy (see Section 7.2.3). The most recent example would be the securing of £1.2million of Northern Ireland Sustainable Energy Project (NISEP) funding, which will be utilised to assist vulnerable customers in paying for conversion from solid fuel/electricity and solid fuel heating to natural gas heating.

Throughout the development of the Ten Towns network firmus energy has proactively engaged at every opportunity with stakeholders. Amongst others, firmus energy has always striven to promote excellent working relationships with UR, DETI, CCNI, DRD, Health and Safety Executive Northern Ireland (HSENI), Energy Saving Trust (EST), the Carbon Trust and NEANI to name a few. firmus energy will continue to proactively and positively engage with all stakeholders and details of firmus energy's proposals to engage with key stakeholders and further details of this can be found in Section 7.2.1.

Since 2005 firmus energy has recruited staff based on qualifications, experience, skills and values. The quality of our staff is not only evident through key metrics such as a current Customer Satisfaction score of 97%, zero DRD fines since 2005, but also through the award of CORE: Business in the Community's Standard for Responsible Business (further details of the qualifications, skills and experience of key staff can be found in Section 2.3.2).

3. <u>The Skills And Experience Of Any Other Persons On Whom firmus energy Proposes To Rely, And The</u>
Nature Of Its Arrangements Or Proposed Arrangements With Those Persons.

Third-party contractors and agencies are integral to firmus energy's success in the Ten Towns and we propose to leverage these relationships and continue them for GTTW. Typical third parties are Construction Period Contractor, Engineering Consultants and their services are robustly tendered for ensuring that the most economically advantageous arrangements are in place (Details of procurement procedures are set out in Section 6 and our key external resources are detailed in Section 2.2.1)

4. Key Risks

We have identified the main external risks to the project as:

- Lack of Transmission Subvention;
- Asset Risk due to terrorism, accidental or malicious damage;
- Local/Political non-co-operation;
- Customers willingness to convert to natural gas;
- Natural Gas commodity costs; and

Regulatory Risk – changes to the regulatory environment.

Key internal risks to the project include;

- Health and Safety Risks;
- Management distraction;
- · Financial Strain; and
- · Ability to recruit qualified staff.

Our strategies to mitigate these particular risks are based on our previous "Ten Towns" experience and are set out in Section 4.1.1 and our risk management framework is set out in Section 4.1.2. Detailed construction and operational risk management procedures are set out in Section 5.7.4

Procurement Policies and Procedures

firmus energy already has existing procurement policies and procedures in place developed to ensure compliance with EU Directive procurement requirements and market tested costs. We will use existing recent market tested frameworks, for example, our current Period Contract, (details of which are set out in Section 3.6.4) to minimise mobilisation costs. firmus energy will actively seek to maximise economies of scale through combined competitive tender procedures for GTTW and the Ten Towns costs where appropriate. firmus energy's overall procurement proposals are set out in detail within Section 6.

6. Mobilisation

As GTTW sits in immediate proximity to our current area of operations and is very similar in nature, our data input assumptions have been built based on continuous development, rather than a step change in what we currently do, with consequent benefits in mobilisation and operational cost savings.

Detailed explanations of the build-up, including key drivers of mobilisation and post First Operational Commencement Date (FOCD) Opex are set out in Sections 3 and 8 respectively. Further details on cost assumptions and drivers are attached in the Low Pressure Workbook (Section 4 of this submission folder). These assumptions have been derived from our unique experience, having developed a greenfield distribution network in the adjacent Ten Towns licence area, leveraging both actual historic financial information and GD14 determined costs.

7. WACC

The build-up of the pre-tax real WACC required is discussed in Section 10 and is based on a prospective new ownership and capital structure specific to GTTW, resulting from the acquisition of firmus energy by iCON Infrastructure.

8. Risk Management

The risks identified by risk management processes outlined in Sections 4 and 5 have been considered in order to develop our operating cost forecast. We have leveraged our experience of operating a similar network, GD14 derived costs and testing assumptions against actual historical financial data or existing contractual arrangements where applicable. These points are considered in more detail in Section 8.3.5 (Opex) and Section 10.1.2 (WACC).

9. Efficiency Improvement

Our efficiency improvement plan for GTTW is contained within Section 8.5. The key highlights include:

- Manpower we have evaluated GTTW manpower requirements in the context of our existing Ten Towns resources and we have identified synergies of 14 less staff (c.40%) compared to developing the network on a standalone basis;
- IT systems developed by extension to the existing system rather than a new system; and
- Maintenance savings using existing Period Contract arrangements. Should we be successful in this application we would seek to discuss any such arrangements with the UR.

Efficiency improvements are also considered in detail under Innovation and Technology submission within our overall GTTW bid.

10. Licence Application

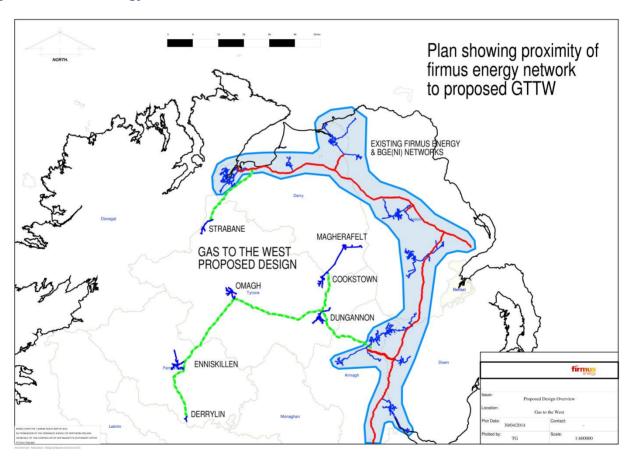
In submitting this business plan, firmus energy is clear in its wish to secure the new distribution licence for eight new towns in Northern Ireland for GTTW.

The basis of our business plan is that the licence is awarded on the following criteria:

- A forty year period;
- A pre-tax real rate of return of 5.47%;
- No period of supply exclusivity;
- 20 year conveyance exclusivity;
- Recovery of market development costs through the conveyance tariff; and
- A development plan which initially targets large I&C contract customers within the first 2 years then
 maximises the number of connections to all other I&C customers, existing residential housing, public
 housing and new build housing.

firmus energy will continue to trade as firmus energy, a UK registered business based locally in Northern Ireland, with separate accounts created for its GTTW operations. Our application builds on firmus energy's successful track record of planning, building, constructing, operating and developing the thirty year licence we were awarded on 24th March 2005 to develop a natural gas distribution network in the area known as the "Ten Towns²".

Figure 1.2: firmus energy's current Network Area



² Derry/Londonderry, Limavady, Coleraine, Ballymoney, Ballymena, Antrim, Craigavon, Armagh, Banbridge, and Newry Page | 5

1.3 firmus energy to date

In developing the Ten Towns gas distribution network, firmus energy has organised its business in a manner which has maximised the availability of natural gas to consumers and secures a positive economic contribution towards conveyance recovery over our 30 year licence term.

In addition to the original "Ten Towns", firmus energy has extended the gas network to New Buildings, Moira, Lurgan, Portadown, Broughshane, Tandragee, Templepatrick and gained UR's approval to extend the network beyond our initial licence area to Portstewart, Ballyclare, Warrenpoint, Bessbrook, Craigadoo, Coleraine Quarries. Bushmills and Glenavy. Should we be successful in our application for the distribution licence for GTTW we will ensure as many customers as possible can avail of the benefits of natural gas.

Our development to date has been undertaken by:

- Developing a safe and robust gas distribution network with no HSENI enforcements;
- Maintaining the highest level of customer service of any regulated energy company in Northern Ireland; and
- Maximising the development of our network, whilst seeking additional regulatory consent to extend our network to areas and customers that were not included within our original business plan assumptions.

Since our licence was awarded in 2005, we have:

- Invested over £85million building our network across Northern Ireland and we continue to invest around £10m per annum locally on network development and to invest £5m per annum into the local Northern Ireland economy through our business operations, based locally in Antrim;
- Looked to increase the number of consumers who can benefit from natural gas. Our original business model projected that we would be undertaking 2,000 connections per year. However, we now undertake 4,250 connections per year. This is expected to continue;
- Grown our business in an economically viable manner by initially targeting large I&C loads, new housing estates and public housing where refurbishment was planned;
- Not required an extension to our licence period to recover long run costs and therefore been more focussed on extending the reach of our network and stimulating the number of domestic connections to our network:
- Proven ability to project-manage large industrial conversion projects on time and within budget from equipment specification, appointment of suitable contractor, through to final commissioning. This has been developed via our in-house highly experienced staff. This is evident from the timely connection of our first customer, Michelin, up to recently when we sought and were awarded consent to connect Bushmills Distillery;
- Removed c.450,000³ tonnes of carbon dioxide from the local atmosphere:
- Provided business and domestic customers with over £60m3 in financial savings over competing fuels via a dedicated connections sales team coupled with an effective gas purchasing strategy; and
- Maintained competitive pricing to encourage connections to natural gas.

As part of the GTTW application, firmus energy will seek to negotiate terms that will offer value to customers while generating an acceptable return on investment. These include:

- Recovery of market development costs by conveyance tariff;
- Consideration of Capex efficiencies through use of abandoned gas assets and using the latest trenchless technologies;
- A focused development plan targeting all market sectors; and
- An innovative approach with respect to transmission connection.

firmus energy is in a strong position to build and operate the GTTW network due to:

- Existing positive relationships with transmission pipeline operators (BGE(UK), PTL (Premier Transmission Limited) and BGTL (Belfast Gas Transmission Limited));
- Proven track record in rolling gas distribution networks into 18 greenfield provincial and rural towns from Derry/Londonderry to Warrenpoint:

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³ Based on 250 million therms supplied to end 2013 and an average 24% saving compared with displaced fuels.

- Existing strong relationships forged with local councils, road authorities and downstream installer network via Gas Safe;
- firmus energy is in the unique position of never having received a single road authority fine, a network related CCNI complaint or indeed enforcement notice (either prohibition or improvement) by any HSENI or Local Authority Inspectors; and
- Our existing and successful relationships with the majority of the 20 largest industrial users that have been identified within the Fingleton McAdam design see Appendix 1.

To develop confidence in the gas network, firmus energy will replicate the customer success it has had in the "Ten Towns" by providing large users with:

- Annual updates on the gas network rollout and the strategic economic outlook;
- · Commodity market movements;
- Details of gas product innovations to improve overall energy efficiency; and
- Finance packages to support energy efficiency improvements with the support of the Carbon Trust.

Building on existing and positive stakeholder relationships with the HSENI, Gas Safe, CCNI, Northern Ireland Housing Executive (NIHE), Housing Associations, Trading Standards, EST, Carbon Trust, NEANI, Bryson Energy, Age Sector Platform, AdviceNI, Confederation of British Industry (CBI), Environment Agency, Major Energy Users Council, Manufacturing NI, etc.

firmus energy has also been successful in attaining three supply licences:

- Gas Supply (Ten Towns Licence Area) Domestic and Commercial Customers c.22,000;
- Gas Supply (Greater Belfast and Larne) Domestic and Commercial Customers c.47,000; and
- Electricity Supply (Northern Ireland) Domestic and Commercial Customers c.300.

firmus energy is in a unique position to offer the support of a jointly owned Supply Business to help ensure the supply relationship with customers is maintained from the earliest possible date within the GTTW development. While firmus energy is clear in its understanding that there is no supply exclusivity as part of this licence award, it is essential that at least one supply company is committed to providing gas supply related services to both domestic and commercial customers within the GTTW licence area.

In addition, to support our business proposal firmus energy has:

- Undertaken comprehensive site surveys of the eight towns to assess the feasibility of distributing and supplying natural gas to each of the towns;
- Undertaken its own load survey of the towns within the GTTW;
- Had initial discussions with the proposed larger industrial contract sites about converting to natural
 gas:
- Met with the NIHE who have provided details of all their properties within the GTTW licence area and their proposed heating replacement programme;
- Analysed local council development plans to assess new build housing developments;
- Met with the NIHE Interim Chief Executive to review the Heating Replacement Programme;
- Met with Northern Ireland Electricity (NIE) and been in contact with NI Water to consider if cost savings can be derived with dual planning of infrastructure development;
- Undertaken analysis of the old town's gas infrastructure within Dungannon and Omagh;
- Carried out a detailed MOSAIC (a dynamic customer clarification based on demographics, lifestyles, preferences and behaviours by postcode) and mapped this on our Geographic Information Systems (GIS) software to develop an analysis of the domestic load potential within the eight towns; and
- In order to enhance our understanding we have undertaken a review of these designs to consider alternative scenarios in a way that "sensitivity checks" the base design. Our evaluation also considers more recent changes to load and market conditions in each of the towns with a view to identifying efficiencies (including cost) that can be implemented in the GTTW network design.

As per the criteria set out within the UR's application document, firmus energy has provided cost (see Sections 8 and 9) and WACC (see Section 10) information based on the Capex designs provided.

firmus energy's existing infrastructure and business arrangements within the current licence areas ideally place firmus energy to ensure that GTTW will seamlessly dovetail into our strategic gas network rollout plans for

Northern Ireland. Examples of customers we are already speaking to about their network designs include Moy Park, Dale Farm, Linergy, Linden Foods, Dunbia, (all of whom are existing firmus energy customers) and McCloskey International (new build factory).

Strategic Fit

In developing our business within Northern Ireland, firmus energy's key strategic ambitions have been to:

- Focus primarily on the ownership and operation of gas distribution networks in Northern Ireland;
- · Leverage management and engineering competencies across existing network assets; and
- Develop firmus energy's customer base on an economic basis, demonstrating a commitment to high
 quality service. firmus energy has consistently exceeded its regulatory Standards of Performance
 targets and has more recently worked closely with stakeholders such as the CCNI and the DETI to
 implement guaranteed service standards, effective from 1 April 2014.

Against this background, GTTW is considered as a complementary strategic fit for firmus energy. It leverages key staff competencies, extending the distribution network to new (but nearby) areas and optimises relationships with key stakeholders that will help to target and stimulate interest to the residential and commercial sectors in Northern Ireland.

firmus energy continues to optimise these relationships by working closely with Gas Safe (in working with the downstream installer network), EST (in securing Northern Ireland Sustainable Energy Project funding to help stimulate residential conversions; we have recently secured £1.2m funding) and Bryson Energy in providing Energy Efficiency advice to more vulnerable domestic customers. firmus energy made the strategic decision to provide all staff with City & Guilds energy efficiency advice training – the only utility in the UK to have done so. firmus energy has sourced funds of £20,000 from Energy Utility Skills for this training.

In addition, GTTW provides further strategic opportunities as it:

- Will stimulate the usage of the North West and South North transmission pipelines which help to reduce costs to Northern Ireland gas consumers;
- Supports the development of natural gas as the heating fuel of choice in Northern Ireland;
- Will leverage one of our core competencies in working effectively within the Northern Ireland regulatory regime;
- Will increase the take up of natural gas to domestic and commercial customers, displacing the carbon footprint and helping to address fuel poverty by providing a cleaner, more versatile fuel source which can be budgeted for more effectively especially with the use of pay as you go gas meters;
- Provides an opportunity to further develop the installer/retailer/manufacturer/agent network which
 "fits" with our aspirations to provide jobs in local towns for local people benefiting the local
 community. Already we understand that there are 300 working within the local gas market in the Ten
 Towns:
- Complements existing direct and indirect business relationships with many of the large energy users within each of the towns, i.e. direct relationships: Kerry Foods, Fane Valley, Anglo Beef Processors, Dunbia, Dale Farm, Moy Park, United Feeds; indirect: Quinn Glass who manufacture bottles for Diageo. Diageo (Bushmills Distillery) is a customer of firmus energy, who has gone through the conversion process and had a positive experience with how we managed that process on their behalf:
- Will offer increased value/cost efficiencies for customers;
- Will provide more businesses and homes in Northern Ireland with a sound economic investment and savings;
- Will create diverse employment opportunities across NI which will provide support in tackling unemployment. firmus energy already has 56 registered installer companies carrying out domestic/Small and Medium Enterprises (SME) and industrial conversions who have taken on over 300 staff and we work with our Period Contractor, McNicholas Construction Services who employ 90 staff; and
- Stimulate customer numbers which will increase our gas trade book portfolio which in turn shall enhance our buying power.

2. Organisation

- Additional staff of 23 required for GTTW;
- Building on the synergies of our existing Distribution Company which has a GD14 determined staff base of 55;
- Existing and experienced SMT already in place;
- Professional, motivated and well-trained staff firmus energy has been awarded Best Places to Work award, Investors in People (Silver Standard) and CORE: Business in the Community's Standard for Responsible Business. All staff in firmus energy are trained to City and Guilds level in energy efficiency;
- Existing contract with Period Contractor (McNicholas Construction Services) that could facilitate GTTW;
- Existing synergies with our current Distribution Network. GTTW will be run
 through our existing Head Office in Antrim and our satellite yards (Derry/Londonderry,
 Mallusk and Craigavon), as the towns in GTTW are a maximum of 1 hour travel from
 our existing network;
- Maximising innovative field based IT solutions to minimise journey time and need for a satellite office in GTTW.

2.1 Structure

2.1.1 Rationale for organisation structure

Through our existing business, firmus energy already has internal operating teams, processes and procedures, external agencies, contractors, stakeholder relations and a governance structure in place. firmus energy has the relevant experience and a fit for purpose organisational structure. We see GTTW as a natural fit with this existing organisation. Expanding teams within the existing structure, whilst maintaining appropriate separation for licence purposes, will be less expensive and less time consuming than creating new ones. Our proposed organisation structure for the GTTW bid is set out in Section 2.1.2. The similarities in both licence areas (GTTW and Ten Towns) will deliver synergies and efficiencies in terms of manpower and with significant experience already gained from our existing distribution network, firmus energy will also ensure that the GTTW network is constructed, operated and maintained in a safe and economic fashion.

2.1.2 Explanation of the range of business activities and associated resource levels

The range of business activities for GTTW will mirror the activities undertaken in our Ten Towns network. The activities and how they are managed from an organisational perspective are discussed throughout this section.

Our manpower calculation has been undertaken on the basis of the incremental staff needed to undertake GTTW; over and above our existing business. firmus energy's distribution manpower allocation currently sits at 55 FTEs. However with the close alignment of Ten Towns and GTTW activities firmus energy believes that additional staff requirement can be limited to 23 during the first 10 years for GTTW.

Figure 2.1.2a Ten Towns and additional GTTW manpower levels

Ten Towns (GD14)	General Manager	Regulation	Engineering	Finance	Marketing	Sales	Total
Pay band 1	0.48	0.33	1.00	0.54	0.00	0.60	2.95
Pay band 2	0.00	2.00	3.00	2.00	1.00	1.25	9.25
Pay band 3	0.00	2.00	10.00	1.00	1.00	1.75	15.75
Pay band 4	0.50	5.00	12.00	3.00	0.00	6.00	26.50
Total	0.98	9.33	26.00	6.54	2.00	9.60	54.45

GTTW	General Manager	Regulation	Engineering	Finance	Marketing	Sales	Total
Pay band 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pay band 2	0.00	0.00	0.00	1.00	0.00	1.00	2.00
Pay band 3	0.00	2.00	10.00	0.00	1.00	0.00	13.00
Pay band 4	0.00	0.00	3.00	1.00	0.00	4.00	8.00
Total	0.00	2.00	13.00	2.00	1.00	5.00	23.00

Corporate Governance

firmus energy's Corporate Governance is provided via firmus energy's Boards. There is a firmus energy distribution Board and a firmus energy supply Board. These have a Chairman, Executive Directors and Non-Executive Directors and follow best practice corporate governance strategy for the utility industry. Secretariat services will be provided in-house. The existing SMT structure within firmus energy will manage GTTW and all associated statutory and regulatory compliance.

Senior Management Team (SMT)

firmus energy's SMT is charged with the efficient running of the business. It has responsibility for current Distribution and Supply businesses and ensures that operational efficiency and regulatory integrity is maintained. firmus energy does not envisage that any change to either the structure or manpower will be required for GTTW. SMT time is addressed by the shared services charge, included in miscellaneous costs (see Section 8).

Figure 2.1.2b SMT organisational structure



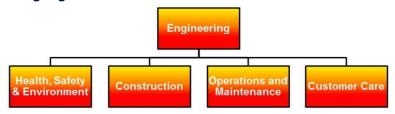
General Manager

The General Manager's role is to oversee and manage firmus energy's overall activities according to licence conditions; in particular the delivery of business growth in line with the business and regulatory targets. The General Manager's office would have oversight responsibility for delivery of GTTW. The General Manager is accountable to the Board for the delivery of targeted commercial performance and in particular the achievement of gas volume connections and sales, earnings before interest, tax, depreciation and amortisation (EBITDA) and customer number targets necessary to ensure the ongoing financial success of the business. GTTW is a natural fit with firmus energy's Ten Towns business.

1. Engineering

Engineering comprises 4 key functions: Health & Safety, Construction, Operations & Maintenance (O&M) and Customer Care. Engineering is responsible for the design, construction, extension, audit and maintenance of firmus energy's gas distribution network in line with all regulatory and legislative requirements. This also includes Customer Care, which manages the customer journey from initial register of interest to the completion of works. The existing Engineering management structure for the Ten Towns development will remain and will be responsible for the roll out of the GTTW network. A build-up of an additional 13 personnel will be required to facilitate the increase in engineering and construction activity, records and asset management and customer connection duties.

Figure 2.1.2d Engineering organisational structure



Health, Safety & Environment

The Health, Safety & Environment (HSE) team are responsible for developing and maintaining the health, safety, environmental and quality policies as well as a "roadmap" for quality and environmental standards. In addition they are responsible for investigating accidents and incidents ensuring continuous improvement in compliance with the firmus energy Safety Case. This involves the preparation of monthly, quarterly and annual reports and management data, audit and reporting on activities to ensure that safety standards are applied to protect the gas network, firmus energy staff, contract staff and the general public. The HSE team also represents firmus energy in our relationships with HSENI, Contractors, Training Providers and Gas Safe. With the increase in network area, an additional Health & Safety Officer will be required.

Construction

To date, firmus energy has installed over 870km of gas mains and over 22,000 services throughout the Ten Towns licence area. The construction team has been responsible for designing the network roll out as well as associated customer installations from domestic to large I&C. This construction work has been carried out by our Period Contractor, McNicholas Construction Services, and completed in close liaison with the Department for Regional Development (DRD) Roads Service and the DRD Structures Division. firmus energy representatives participate at Divisional Committees (DRAUC) every 6 months to discuss work programmes, traffic management proposals, potential for reducing disruption and major schemes. All works in the public highway are notified using the Northern Ireland Street works Registration and Notification System (NISRANS). Reinstatement core samples are taken from firmus energy works by the DRD on a six monthly basis to confirm quality of works completed and to allow performance to be measured and reported. Since construction works commenced in 2005, firmus energy has received no prosecutions from the DRD Roads Service relating to works and as recently as 2013 we received the Northern Ireland Roads and Utilities Committee Award with McNicholas Construction for the quality of reinstatement in the highway. We continue to install approximately 90km of mains per year, in addition to 4,250 services, and have effective construction processes in place to ensure that all network build is constructed to the highest industry standards. Evidence of this can be witnessed from the independent audits that have been carried out by external bodies relating to construction activities, internal engineering processes and our asset records system.

An additional 4 construction engineers and 2 graduate engineers will be required for the roll out of the construction programme to the GTTW towns. Their duties will include detailed design of the gas network, liaison with the Period Contractor to plan and audit the works, liaison with the DRD Roads Service to agree timescales, routes and work times and quality checking of completed works. Justification of additional manpower is based on Capex spend and number of connections per year.

Operations & Maintenance (O&M)

The O&M team are responsible for the maintenance and safe operation of the firmus energy distribution system on a planned preventative basis in accordance with ISO 9001 and relevant Irish and UK gas standards with respect to pressure systems. They are also responsible for the management and development of the emergency response service for distribution operations including the management and resource planning for both direct and contract staff 24 hours a day, 365 day per year. The O&M team includes the Records Department who are responsible for digitising the position of the gas assets onto the GIS and recording all information to ensure a detailed asset register is maintained with full traceability of components installed on the network. This digital asset information is also shared with third party contractors as an aid to gas plant protection through the firmus energy Dial B4U Dig service (08456 080066). There will be a requirement for an additional 3 engineers within O&M who will be required to carry out annual maintenance checks and Pressure Systems Safety Regulations (PSSR) inspections for all commercial sized customers.

Customer Care

The Customer Care team provide integration and co-ordination of all engineering activities between the various business functions within firmus energy. The team manage the firmus care (vulnerable care scheme) and liaise

closely with third party contractors who undertake annual boiler servicing for vulnerable customers. They are responsible for all customer interaction during the connection process, processing Gas Application Forms (GAFs), advising customers over the phone, managing complaints to resolution, arranging customer appointments in relation to maintenance works at I&C premises. An additional 3 personnel will be required within the customer care team to facilitate the roll out of the gas network to manage the increased customer numbers, appointments and administration.

2. Sales

Business activities will be in the Large Contract and I&C, SME and Domestic (NIHE, New Build, Existing Housing) sectors. The existing Head of Sales will have overall responsibility for all connection sales activities in both the Ten Towns and GTTW. To deliver the connection targets defined for GTTW, an additional 5 sales staff will be required. The existing CDM in Ten Towns will manage Contract Sales in the GTTW towns with the addition of 1 new Key Account Manager (KAM). The existing Housing Sales Manager in Ten Towns will have overall responsibility for all Domestic and SME sales in GTTW. There will be a requirement for 4 additional sales staff (Energy Advisors) with 2 focusing on New Build/NIHE and 2 focusing on residential housing and SME sales. Each will work in a defined geographical area.

Figure 2.1.2e Sales organisational structure



Contract and IC sector

Business customers using in excess of 732,000 kWh/year will have a Distribution and Supply contract specific to their negotiated and agreed terms. Large Contracts with annual usage greater than 4.4 million kWh will be managed by the existing CDM. A new KAM will be required to manage new GTTW customers using 732,000 kWh/year up to 4.4 million kWh/year. This new KAM will report to the CDM. Both staff will operate in all GTTW towns on a scheduled appointment basis managed by the Customer Care team.

SME

This sector relates to business customers that use up to 732,000 kWh/year and will be managed by multi-disciplined Energy Advisors.

Domestic – Northern Ireland Housing Executive (NIHE)

Social housing is predominantly owned by the NIHE and will be managed by multi-disciplined Energy Advisors.

Domestic - New Build

New build social/private housing and will be managed by multi-disciplined Energy Advisors.

Domestic - Existing Housing

This sector is for privately owned and privately rented housing and will be managed by multi-disciplined Energy Advisors. The rationale for the proposed structure is the development of a multi-disciplined "local" Sales team who will control a designated territory as the network extends. This will ensure market penetration is maximised and that all residential and business connection opportunities are captured. Management of field activity will be monitored by the use of mobile computer tablet technology, a robust customer relationship management system and the existing highly experienced managers. We currently successfully utilise tablet technology in the Belfast Supply market and are in the process of rolling this out to the Ten Towns Sales Team. Connection Sales Teams will be incentivised through a performance management framework and the use of a company-wide scorecard with both departmental and personal connection sales targets. Further emphasis will be placed on residential sales connections and sales support will be used to capture interest so that the closing of sales are facilitated by firmus energy staff. Connection sales booklets have been updated to reflect the needs of both Ten Towns and GTTW towns to ensure an overall consistent campaign approach. These are included within Appendix 2.

3. Marketing

Core business activities include Campaigns, PR Sponsorships and Events (PRSE), Online, and Customer Operations. With many of the Ten Towns in the early stages of natural gas adoption there are strong synergies

with marketing activity required, both to launch natural gas into the GTTW towns and the continued stimulation of demand in the Ten Towns. One additional member of staff will be sufficient to meet the increased marketing activity required for GTTW.

Figure 2.1.2f Marketing & Customer Operations organisational structure



Campaigns

As part of the overall marketing plan the role of campaigns is to develop and implement campaign strategies and activities that stimulate customer conversions to natural gas and create ongoing customer loyalty. This role requires experience in the day to day management of external agencies, a sound working knowledge of the full marketing communications mix and typically will focus on advertising (radio, press, outdoor, TV etc.) direct marketing, field marketing, print collateral, research and analysis. Currently firmus energy has external marketing agency arrangements for Advertising and Direct Mail. No additional manpower will be needed as the synergies in the market development requirements for GTTW and the Ten Towns will enable the same campaigns to be implemented across both licence areas.

PR Sponsorships and Events

As part of the overall marketing plan the primary role of PRSE is to support firmus energy's commercial objectives through the development and implementation of a focused PRSE plan, which engages with all stakeholders creating a positive image of both firmus energy as a company and natural gas as a product across all markets. The synergies in the market development requirements for GTTW and the Ten Towns will enable similar PRSE activities to be implemented across both licence areas 1 additional staff member will be needed as the nature of PRSE activity is local/specific town based.

Online

With over 80% of the NI population using the internet, the role of online is to develop and implement online strategies and activities to create a positive image of natural gas as a product across all markets, support customer conversions to natural gas, provide online customer support and engagement and create ongoing customer loyalty. This role requires an experienced marketer with a sound knowledge of the full marketing communications mix but with particular experience and understanding of the role that online activity can play. This role already exists within firmus energy and therefore we can bring the synergistic benefits to GTTW, which means no additional manpower will be needed.

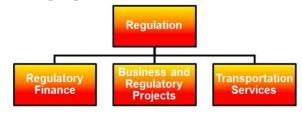
Customer Operations

The Customer Operations team manages firmus energy's customer switching processes. No additional manpower for GTTW.

4. Regulation

Department activities include Regulatory Finance, Business and Regulatory Projects (including IT) and Transportation Services. Given the synergies between Ten Towns and GTTW, firmus energy expects an addition of 2 staff to the existing Regulation manpower to undertake GTTW.

Figure 2.1.2d Regulation & Pricing organisational structure



Regulatory Finance

The team's activities include ensuring licence and code compliance, distribution price control submissions, negotiations and implementation, reporting on costs, volumes, connection numbers, Codes of Practice and

Guaranteed Standards of Service and overall relationship with UR, DETI, CCNI and other key stakeholders (NEANI, EST and Carbon Trust). The additional manpower resource required is for 2 Regulatory Analysts to assist in developing regulatory structures and reporting to ensure compliance with the GTTW licence.

Business and Regulatory Projects (B&RP)

Activities of the team include identifying and implementing improvements in business systems and working methods; the development and maintenance of business policies, processes and procedures; training new and existing staff in systems and processes; managing the business continuity process for firmus energy; the maintenance of data protection policy ensuring firmus energy conforms to the Data Protection Act 1998; managing existing IT and communications infrastructure including all hardware and software; and working with IT and communications partners when required.

Transportation Services

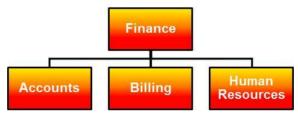
The team's duties include the development, maintenance and operation of the Network Code and switching system, allocation of gas flows to suppliers and the maintenance of relationships with Transmission Operators as well as third party suppliers in the Ten Towns licence area, which will be extended to include GTTW.

5. Finance

Business activities include Management Accounts, Financial Accounts, and Human Resources. The Finance Department is responsible for the development and maintenance of firmus energy's financial information and financial control systems, ensuring compliance with Corporate Governance and statutory legislation. In addition it is responsible for providing up to date relevant financial information to facilitate timely and accurate measurement of business performance against appropriate Key Performance Indicators (KPIs).

Given the synergies between Ten Towns and GTTW, 2 additional staff will be needed in Finance due to increase in workload.

Figure 2.1.2g Finance organisational structure



Accounts

Key performance activities include production of monthly management accounts including detailed analysis of gross margin performance, monthly reporting of gas volumes flowed against volumes billed, capital investment appraisal on all new potential network connections, supporting Regulation and Pricing division in relation to annual cost reporting and other submissions to the UR, monitoring of monthly Capex, detailed analysis of operating costs including identification of opportunities for cost savings.

Key processing activities include management of treasury function including monitoring daily cash position, accounts payable activities and management of supplier relationships, management of procurement process, payroll processing, supporting connection Sales team in the administration of the residential incentive schemes. Other key activities include budgetary planning, tax compliance reporting and audit and regulatory reporting.

Billing

Billing includes the core billing team and a separate credit management team. The team also manages the billing of third party suppliers for use of system. The Customer Billing team is responsible for timely and accurate billing of all residential, SME and I&C customers. The Billing team comprises three Customer Service Advisors and one Billing Specialist. We have recently recruited a Revenue Protection Lead. Key credit management activities include monitoring of aged debt and recovery of outstanding debts, processing all customer payments including electronic payments and direct debits.

Human Resources

Human Resources within firmus energy is responsible for providing a support network for all staff. Key activities include performance management, recruitment and selection, facilitating learning and development, supporting organisational change, employee relations and promoting firmus energy's brand values of Clarity, Empathy, Integrity and Teamwork.

2.1.3 Proposals to manage contract operations

The current period contract for the Ten Towns network is in place with McNicholas Construction Services (McNicholas) to cover all construction activities with respect to mains installation, services, meters, riser installation, Special Engineering Difficulty (SED), reinstatement, pressure reduction units and emergency works from 2014 - 2020. It is envisaged that we will use our current period contractor for the network rollout of GTTW.

firmus energy's Construction Manager will be responsible for the day to day management of all construction activity to install the network across the proposed eight towns and will have regular meetings with his McNicholas counterpart to discuss the build programme and issues around safety, quality and costs. A training matrix will be maintained for all contractor staff indicating minimum level of qualifications, experience and training that must be met for all work roles. During the construction activity, firmus energy engineers will carry out site inspections to assess quality and compliance with legislation, regulations and industry best practice. Following completion of individual jobs or projects the completed works will be snagged and rectified to the satisfaction of firmus energy and payment made to the contractor. Engineers will sign off completed work and this will be certified by the Construction Manager and the Head of Engineering. Prior to commencement of GTTW Service Level Agreements and KPIs will be agreed between McNicholas and firmus energy.

2.2 Resource Levels

2.2.1 Explanation of internal and external resource levels and how these are built up

Internal Resource

Internal manpower resource requirements will include current manpower allocations from firmus energy Distribution, Management; Engineering, Sales and Marketing, Finance, HR and Regulation and Pricing, together with a build-up of specific contracted GTTW employees. Resource levels, both internal and external, have been determined based on our practical experience gained during the development of the Ten Towns network. Additional firmus energy staffing requirements have been built on a bottom-up basis by the relevant departments. Our proposal of expanding our Period Contractor's scope of works to cover GTTW is based on confidence that McNicholas offers the best value for money for the development of a provincial gas network as has been determined in the recent tender process that was won by McNicholas Construction in March 2014.

External Resource

McNicholas Construction services – contractor for period contract 2014 – 2020 in the Ten Towns network. Construction teams are multi skilled and qualified to carry out mains work, service works and emergency works. For GTTW, they will be responsible for providing a detailed programme of construction work and to notify all works in accordance with the NISRANS ensuring all works are completed in accordance with all relevant legislation, recommendations and industry best practice. McNicholas have extensive experience within the natural gas industry and have been the main gas Contractor in Northern Ireland since 1996.

Gas Safe – firmus energy maintains a close working relationship with Gas Safe and has developed our own registered installer network who have proven technical capability in the safe operation and installation of downstream apparatus. These installers have all signed up to firmus energy's customer charter. Please refer to 7.2.2 for further information.

National Grid – contract in place for the Ten Towns network to provide emergency call handling services 24/7, 365 days per year through the Northern Ireland Emergency Gas Number **(0800 002 001)**. This is carried out in conjunction with Phoenix Natural Gas (PNG) who utilise the same number. For GTTW, the emergency calls will be allocated to the system operator using postcode. Resource levels are based on yearly number of calls received. Additional call handling resources will be made available by National Grid to manage increases in call rates. National Grid provides this service to gas consumers in Great Britain.

Scotia Gas Networks (SGN) — contract in place for Ten Towns network to provide commissioning, maintenance services and emergency response activities for large I&C meter rigs and pressure reduction equipment. A similar arrangement will be put in place for GTTW. SGN operates two of the UK's gas networks. Scotland is served by Scotland Gas Networks and Southern Gas operates in the south and south-east of England. SGN have experience of the maintenance and emergency response activities on gas distribution networks.

GL Noble Denton – contract in place for Ten Towns network to provide services with respect to an external competent authority for compliance with the requirements of the PSSR. For GTTW, this will be carried out by a

senior engineer from GL Noble Denton who will visit firmus energy every 3 months to sign off the pressure systems in GTTW. Prior to the introduction of gas into the distribution systems in the proposed towns, a Written Scheme of Examination will be prepared and signed off. GL Noble Denton merged with DNV in 2013 to form DNVGL and is a leading technical advisor to the global oil and gas industry developing best practices and standards.

Wilcock Consulting – we will employ an Industrial engineering gas consultant on a temporary basis, via an industry recognised employment agency, for 2 years, to specifically work with the CDM in providing conversion project management to Large Industrial users, ensuring customers convert as soon as possible.

Sections 2.2.2 and 2.2.3 provide more details on the build-up of staff for this project (including roles and pay bands) both during the mobilisation phase and for the first 10 years after the go-live date. For the purposes of this submission, we have assumed a licence award date of October 2014 and a 'live' gas date of 1 January 2018.

2.2.2 Assumptions associated with the build-up (including efficiency improvement plan)

We have assumed a build-up of additional GTTW staff as per Figure 2.2.2. As firmus energy Distribution already performs all the activities that we will carry out for GTTW, there will be synergies by combining the two operations in terms of staff numbers. There will be no requirement for the GTTW organisation to have its own SMT and firmus energy will cross-charge the GTTW organisation for both management time and the time of other existing staff involved in GTTW activities on a transparent basis. Manpower levels post mobilisation phase will be 23 FTEs.



Figure 2.2.2 Build-up of GTTW employees during the mobilisation period

2.2.3 Manpower numbers for all categories of personnel

firmus energy manpower numbers during both the mobilisation period and years 1 to 10 are illustrated in Figure 2.2.3 by department, role and pay band.

Figure 2.2.3 Manpower roles by department, role, pay band and date

Mobilisation						
Department	Role	Pay Band	Date	Number		
Regulation	Regulatory Analyst	Band 3	Feb-15	2		
Marketing	PR, Events & Sponsorship Specialist	Band 3	Dec-16	1		
Finance	Part Qualified Accountant	Band 4	Dec-16	1		
Engineering	Engineer - Construction	Band 3	Jan-17	3		
Sales	Key Account Manager	Band 2	Feb-17	1		
Finance	Qualified Accountant	Band 2	Mar-17	1		
Sales	Energy Advisor	Band 4	Apr-17	1		
Engineering	Engineer - Construction	Band 3	May-17	1		
Sales	Energy Advisor	Band 4	May-17	1		
Engineering	Graduate Engineer - Construction	Band 3	Jun-17	2		
Sales	Energy Advisor	Band 4	Jun-17	1		
Engineering	Graduate Engineer - Health & Safety	Band 3	Jul-17	1		
Sales	Energy Advisor	Band 4	Jul-17	1		
Engineering	Graduate Engineer - Maintenance, Records & Asset Mgmt	Band 3	Nov-17	1		
Total Mobilis	sation			18		
	Years 1 - 10					
Department	Role	Pay Band	Date	Number		
Engineering	Graduate Engineer - Maintenance, Records & Asset Mgmt	Band 3	2018	2		
Engineering	eering Customer Care Assistant Band 4 2018		2018	3		
Total Years 1 - 10						
Total overal	l .			23		

2.2.4 Justification for manpower numbers in relation to the range and volume of business activity

We have considered the GD14 determined 55 staff for firmus energy distribution at 2014. We have pro-rated this to take account of the difference in size of the GTTW networks and the number of customer numbers and gas pipeline required. On a straight pro-rata this would equate to 37 staff. However, given synergies with current operations in the Ten Towns and leveraging existing resources including SMT and central support functions, we have determined an additional 23 staff will be sufficient for GTTW. We have built up staff numbers based on our knowledge of the staff required in the initial phases of development of a low pressure network.

2.2.5 Manpower cost build up process is specified to support cost forecasts entered in workbook, and takes account of the progressive development of the business

The cost build-up of manpower in both the mobilisation phase and years 1-10 follows the timing and pay bands set out in Section 2.2.3. We have used the GD14 2014 determined pay bands (uplifted to 2014 prices) and our calculations are set out in detail in our Low Pressure Workbook (Section 4 of this submission folder).

2.3 Competences & Accountabilities

2.3.1 Competence management arrangements

As an organisation, we have developed a competency framework both for our business, managers and employees. The purpose of the framework is to clearly articulate the critical behaviours required for success across all roles in firmus energy. Core competencies are described in a framework which supports selection, succession planning, development and reward decisions. In addition to providing a basis for building best practice selection, succession planning, development and reward practices, our competency framework allows us to communicate effectively.

Selection

All recruitment is carried out in line with best practice principles outlined by the Equality Commission NI. Our recruitment process is competency based, and also reflects candidates alignment to our brand values of Clarity, Empathy, Integrity and Teamwork. Candidates are assessed against competencies and experience at short-list stage. Once selected for interview, structured competency based interviews are held. Interview questions are designed to reflect the key competencies and experience required for each specific role.

People development

We have developed a competency framework to manage personal development, progression, skills gaps and succession planning within the organisation. The framework includes:

Annual Training Matrix to monitor and measure the success of our learning and development activities;

- Generic and role specific training and development plans for all staff aligned to their specific role and career aspirations; and
- Provision and support for further education as required.

Performance management

Our performance management system comprises Balanced Scorecards for all staff and a robust performance management system which encourages two way communication and participation in all stages of the process.

- Balanced Scorecards This cascades from the organisational scorecard, through to departmental, team and individual scorecards. This ensures that all team members can see the result of their personal contribution to the organisational scorecard;
- 1:1s Held at least once per month. Personal and productive meetings with line managers to discuss progress against individual scorecards and how to ensure goals and objectives are achieved;
- Mid Year and End of Year Performance Appraisals Held in May and November each year, these
 formal appraisals from the basis of delivery of personal scorecards. Employees and managers have the
 opportunity to highlight areas of good performance as well as areas of concern, and agree on how to
 overcome issues which may prevent delivery of personal scorecards;
- Calibration Forum At the end of each year, the Heads of Department meet with line managers to discuss team performance and take an informed opinion to the Calibration Forum. This ensures consistency in application of performance management ratings across all areas of the organisation;
- Personal Development Plans and Personal Improvement Plans Staff have a development plan to
 address development and performance issues this could be for new starts or if changing a role, or if
 some additional training is required in a particular area. Personal Improvement Plans will be drawn up if
 performance is below expectations, and will be agreed with the employee. Personal Improvement Plans
 are role specific and time bound.

2.3.2 Professional and academic qualifications and experience associated with key personnel

General Manager (Michael Scott)

- 20 years' experience within the natural gas industry, both in GB and NI;
- Degree in Combined Economics, Queen's University Belfast;
- Proven track record of management at the highest level; and
- Chairman of the Fuel Poverty Advisory Group and member of IGEM.

Main Duties and Responsibilities:

- To manage firmus energy's strategic delivery of business goals;
- To ensure that technical standards and safety standards are exceeded and to ensure that gas distribution systems are operated and maintained in a safe and efficient manner;
- To deliver the targeted commercial performance of firmus energy and in particular the achievement of gas volumes, connections and sales, EBITDA and customer number targets necessary to ensure the on-going financial success of the business;
- To maintain a performance management culture within firmus energy that supports the strategic aims of the distribution business, fosters a culture of personal development and succession within the business and retains firmus energy's credentials as a "Great Place to Work";
- To cultivate the company values and culture of Clarity, Empathy, Integrity and Teamwork especially
 working with key stakeholders and facilitating the promotion of the natural gas industry through UR,
 DETI, CCNI, Gas Safe, Carbon Trust, EST, NEANI and Bryson Energy;
- To develop, promote and maintain appropriate customer service facilities internal and external to the business necessary for the protection and enhancement of the firmus energy brand; and
- To manage all stakeholder relationships in a way that supports the business's overall strategy and reputation.

Head of Engineering (Eric Cosgrove)

- 15 years' experience within the natural gas industry in Northern Ireland;
- BEng Hon degree in Civil Engineering, Queen's University Belfast;
- CEng. Chartered Member of the Institute of Gas Engineers & Managers (IGEM); and

 Proven track record in planning, managing, constructing and operating gas distribution networks in Northern Ireland.

Main Duties and Responsibilities:

- Ensure Health Safety and Environmental best practise across network operations, including Period Contractor:
- Accountable for the design, construction, extension, audit and maintenance of the firmus energy's network in line with all compliance and legislative requirements, ensuring economic viability;
- Responsible for the development of gas network to meet Capex/Opex budget requirements;
- Accountable for identifying network extension opportunities and liaising with the UR to financially approve projects;
- Ensure network is developed, constructed and operated in line with Health & Safety and legislative requirements applicable to NI Gas Industry, in an efficient and economic manner;
- Optimisation and management of Period Contractor, analysing contract costs; and
- Responsible for all network related emergencies and optimisation of network development opportunities.

Head of Sales (Paul Stanfield)

- 25+ years' experience in NI gas/energy market (Coal Advisory Service, Calor Gas, PNG, and firmus energy);
- HNC in Civil Engineering; and
- Proven track record in all customer sectors (Residential, NIHE, New Build, SME and large I&C).

Main Duties and Responsibilities:

- Proven capability to develop and implement a clear and successful sales strategy to drive connection and gas volume;
- Accountable for commercial performance including sales, gross margin and overall channel profitability;
- Responsible for developing the customer proposition for the commercial gas sector;
- Accountability for the development of customer strategy for the commercial and domestic gas sectors;
- Accountability for the effective management of a team of category personnel:
- Accountable for targeted network development build to maximise connections at positive NPV; and
- Sign off of all promotional offers/tariffs.

Head of Marketing and Customer Operations (Des Brown)

- 25+ years' experience in marketing;
- · Chartered Institute of Marketing and past member of Institute of Direct Marketing; and
- Proven track record in marketing in energy, telecoms and private sectors.

Main Duties and Responsibilities:

- Accountable for the development and delivery of the marketing plan for firmus energy, within agreed budgets, supporting the delivery of key gas volume and connection sales, properties passed, and brand metrics around customer acquisition, retention and brand awareness;
- Liaise with the Sales team to ensure that marketing activities are targeted at the delivery of connection and switching targets, at best cost and that communications are delivered in line with company brand and values;
- Working with the Head of Sales, develop and implement customer acquisition relevant to GTTW;
- "Brand champion" for firmus energy, ensuring that the brand values are fully disseminated across the business and that, at every touch point, the brand values are embedded;
- Accountable for the management of the advertising agency, including campaign development and execution;
- Responsible for the management of all marketing agency relationships (including PR, public affairs and online agencies) in accordance with agreed contracts; and
- Responsible for stakeholder management activities at a local and national level, including the development and management of the Stakeholder Engagement Plan.

Head of Regulation and Pricing (John French)

- Over 15 years' experience with senior positions in finance, policy, regulation and energy industries in Europe, GB and NI;
- BAcc (Hons) and MAcc degree in Accounting and Finance from University of Dundee; and

• Proven track record within energy sector, setting international and domestic energy policy, and representing commercial energy interests.

Main Duties and Responsibilities:

- Manage regulatory framework Capex, cost reporting and compliance:
- Regulatory considerations relating to firmus energy's activities in Northern Ireland whilst maintain close working relationships with internal and external stakeholders;
- Work closely with Bord Gáis Éireann Transportation and PTL to ensure the optimal conditions for the transportation of gas through the Northern Ireland gas network;
- Systems management and systems development;
- Management of all firmus energy internal projects; and
- firmus energy IT infrastructure and applications development.

Financial Controller (Greg Bell)

- 25 years' experience in various senior roles, including Corporate Finance Manager, Viridian Group plc, Group Finance Director, ASGH ltd. and Financial Controller, Bord Gáis Energy;
- Economics degree, BSc (Econ), Queen's University Belfast and a Fellow of the Institute of Chartered Accountants in Ireland: and
- Proven track record in the Utility Sector with Viridian and firmus energy/Bord Gáis, including international assignments, general and financial management experience including start-ups with the Anderson Spratt Group of companies.

Main Duties and Responsibilities:

- Accountable for all finance related activities within firmus energy, providing financial advice and guidance to the firmus energy Board and SMT;
- Manage statutory, regulatory and management accounts;
- Management and reporting of KPIs, ensuring all necessary financial, management and taxation information is provided. Review of Period Contract and Capex spend;
- Ensure comprehensive financial and regulatory reporting requirements are maintained, whilst keeping fully updated on latest financial and tax regulations;
- Develop, maintain and review the overall system for budget development;
- Manage and develop corporate plan in line with business objectives and regulatory and statutory obligations.

2.3.3 Training and development arrangements for all employees

All existing and new firmus energy staff must meet core competences which are assessed through a competency based interview process. Upon commencement of employment all new staff development and training needs are identified and personal annual training and development plans are put in place by managers.

Development plans focus on training needs and take account of additional training needs. These are live documents which are updated and reviewed on a bi-annual basis and link directly to the company scorecard. Existing staff with experience developing the Ten Towns network area will be available to support training requirements for GTTW. These training and development needs will be based on experience previously acquired and have adopted learning points raised as part of the Ten Towns and business development:

- Engineering Induction for all staff provided by Head of Engineering;
- Manager's Essential Toolkit designed to equip middle management with team development and performance management skills;
- Emergency Call Handling training;
- City & Guilds energy efficiency training;
- Values Training for all staff based on brand values of Clarity, Empathy, Integrity and Teamwork; and
- Emotional Resilience training for all staff.

firmus energy undertakes regular training/competency gap analysis in order to plan the training for safety critical staff, including the engineering function. The structure of the initial assessment is through interview and further analysis is based upon the IGEM – TD102 Competency Framework. The framework allows levels of competency to be determined for all positions within the engineering function (foundation, professionalism & mastery) and allows for the development of individuals into new and more challenging roles. firmus energy measures the requirements of each position against the criteria in the framework and identifies training and/or experiences which prove each individual's understanding of each criteria. Each engineer is selected for the Page I 20

most appropriate role within the business. Where a skills gap is identified or where an individual could be assisted in developing within the business, a training program will be put in place for the individual.

2.4 Deployment

2.4.1 Details of personnel deployment to operational locations in the licensed area

Engineering

The engineering team is located at the firmus energy offices in Antrim. For GTTW the additional engineering resources will be based at our existing offices. The firmus energy network is in close proximity to the proposed GTTW development. firmus energy has 'live' gas in New Buildings with Strabane only 8 miles away. We have 'live' gas 15 miles from Dungannon. Hence, we see the GTTW as a natural progression, which can be managed effectively from our offices in Antrim. At present our construction engineers manage the network build in Derry/Londonderry – 75 miles from Antrim and Warrenpoint – 70 miles from Antrim and have the use of contractor satellite offices based in the North-West and South sections of the network. There will be an additional 4 construction engineers and 2 graduate engineers employed to design and supervise the roll out of the GTTW network. The engineers will split their time undertaking site activities in GTTW and design work within the office. We envisage McNicholas establishing a satellite office within GTTW and would propose to operate from these as required.

Engineers will be equipped with field based IT solutions to enable the retrieval of asset information and record information on site. This will allow onsite access to relevant material including access to GIS maps. The automated solution will provide additional efficiencies for engineering staff by reducing manual work throughout the process. There will be a requirement to have sufficient cover for emergency response and it is envisaged that we would have first response operatives based in the West to support the existing 2 staff in the North of the province and 2 in the South of the province. We plan to have engineering support to manage the emergency cover a maximum of 1 hour from Enniskillen. We have trialled this by driving the route and can confirm that this is feasible. Engineering personnel will be provided with home working kits to minimise travel time and cost.

Connection Sales Team

firmus energy will utilise the existing sales management structure and employ local field sales staff from each of the towns within GTTW. This approach has worked well in the past. However, the structure will be reviewed as firmus energy continues to have more domestic sales focus going forward. Field sales staff will be equipped with field based IT to facilitate standardised presentations, activity, location and performance monitoring with morning meetings facilitated via a video messaging service. The connections sales team will be able to provide onsite quotations. This will create efficiencies by reducing return visits and also allowing sales staff to increase the number of visits they can make.

3. Mobilisation

- Mobilisation costs of c.£0.9m minimised by leveraging operational synergies;
- Excellent Track Record No DRD Road Authority Fines or CCNI Stage 2 construction complaints. Surpassed original licence targets by connecting 8 new towns, undertaking 870km of network build and connecting over 22,000 customers;
- Experience developing provincial greenfield opportunities;
- Robust contract already in place with Period Contractor (McNicholas Construction);
- Network Code and Transportation Services Team in place;
- Proposed innovative alternative design to substitute transmission pipelines for distribution mains with the potential saving of c.£10.1m;
- Strong stakeholder and existing customer relationships;

3.1 Plans and Proposals

Detailed plan and proposals for mobilisation including

firmus energy already operates a very similar network in the Ten Towns to the proposed GTTW network. This network was developed through a similar mobilisation process to that envisaged in this licence application. The Ten Towns network now extends to over 870km of mains and over 22,000 domestic and I&C services.

3.1.1 The internal and external resources required

Internal resource requirements include manpower derived from management, Engineering, Sales and Marketing, Finance, HR and Regulation. Current IT systems for asset management, cost reporting, management reporting, transportation services and switching will be deployed.

We recognise external key resource requirements will include a Period Contractor to construct the network and provide connections, to assist with our internal designs and will operate under internal supervision. Prior to the introduction of gas into the distribution systems within the proposed towns a Written Scheme of Examination will be prepared and signed off by GL Noble Denton. Wilcock Consulting will be employed to accelerate industrial connections to the network and to project manage industrial customers through the conversion process. These costs are included in the Capex plan.

Local Heating Trade

Our success in the Ten Towns has clearly benefited from the development of a local installer network and associated trades, including natural gas retailers, manufacturers, plumbing suppliers and trade publications. The local installers in all sectors deliver the final conversion cost and it is from this cost that the final decision to convert is made. We have been extremely successful in developing the installer network with over 50 installers having signed up to firmus energy's customer charter which is reviewed annually. All installers are Gas Safe registered.

3.1.2 How these resources will be secured and managed

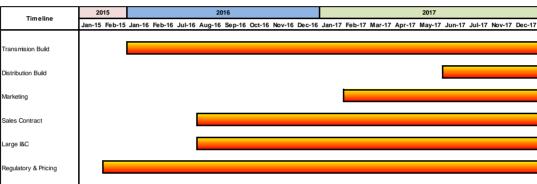
Existing Management will supervise the additional internal labour requirements by function, with the Head of Engineering having overall responsibility for the delivery of GTTW. Additional manpower will be recruited as required, using competency based interviews and existing IT systems will be replicated to facilitate separate cost monitoring for GTTW.

External Period Contract resource is already in place and the existing contract has provision to 2020. However, firmus energy would be happy to discuss tendering for Mains and Service laying services if deemed appropriate. A tender for Industrial engineering gas consultant services will be placed on confirmation of the award of the Licence. This resource will be managed by internal engineering resource in conjunction with the KAM.

3.1.3 Timetable for the overall delivery of the low pressure pipeline from licence grant to first operational commencement date. Applicants should explain the timetable, e.g. assumptions, key dependencies, and risks

The project timeline below illustrates the proposed approach from award of licence to first customer operational commencement date. This is predicated on the assumption that the licence is awarded in October 2014, in line with paragraph 4.48 of the Applicant Information Pack.

Figure 3.1.3 Mobilisation timeline



A key dependency will be the construction and operational date for the high pressure network in the envisaged timeframe, which will be dependent upon:

- Licence award to the timelines set out at paragraph 4.48;
- The achievement of all relevant way leaves and easement consents to facilitate construction;
- No major delays due to archaeological surveys, ground conditions, river crossings;
- Assumption that transmission pipeline is commissioned and gas goes 'live' to all towns at the same time;
- Assumption that the proposed location of some of the Above Ground Installations (AGIs) may be reviewed to suit the early connection of large contract customers;
- The suggestion that some distribution mains may be substituted for transmission see Section 3.6;
- The key contract loads are still in business; and
- firmus energy proposes that some distribution mains will be installed prior to the transmission pipeline being completed to ensure that large I&C contract load can be connected as soon as possible.

We remain confident that mobilisation will represent an extension of our existing activities, (key internal skill sets and Period Contact arrangements already in place to cover the mobilisation phase) as opposed to a paradigm shift in organisational structures and processes. We are therefore best placed to manage the key dependencies and risks within our direct control and will work with the Transmission partner and other stakeholders to mitigate other risks, where possible, before they arise. Further details on the firmus energy risk management process are presented within Section 4.

3.2 Resources

3.2.1 Organisational arrangements to secure and manage internal and external resources

Please also refer to the existing organisational Structure as discussed at 2.1.

As outlined at 3.1.2, the Head of Engineering will have overall control of the mobilisation project, but this will be supported by the rest of SMT who will manage additional manpower and other resource brought on within each of the functional areas of expertise. Incremental manpower will be secured by a recruitment process managed by HR. Extensions to profiles within our existing IT systems to allow us to monitor the project separately will be facilitated by the Business & Regulation Projects Manager.

With regard to external resource, as already discussed current Period Contract arrangements for subcontract construction, labour and materials are already in place well beyond the mobilisation period. Finance will work with Engineering to identify appropriate criteria and manage the procurement process for the Industrial engineering gas consultant through a competitive tender process. Other ancillary incremental services such as insurance will be included within the scope of existing procurement frameworks, where best value can be achieved.

3.2.2 Manpower numbers to manage the process

Manpower requirements are outlined in detail within 2.1.2. Figure 3.2.2 illustrates the phasing of incremental manpower requirements during the mobilisation phase.

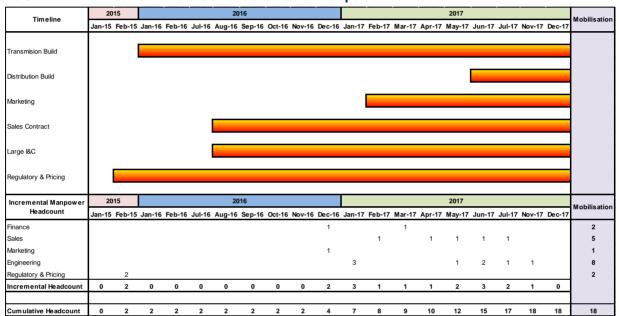


Figure 3.2.2 Mobilisation timeline and incremental manpower headcount

A detailed analysis of mobilisation resources requirements is set out within Section 2.2.3.

In the initial phase, design and administrative activities can be managed by the existing firmus energy team. Upon the award of the licence, 2 Analysts will be added to the Regulation team to monitor costs and ensure licence compliance. An additional finance resource and 1 marketing resource will be recruited at the end of year 1 to begin building a detailed marketing strategy and to process and monitor mobilisation costs. In year 2, manpower levels step up as we commence design and build activities in earnest with 3 engineering staff joining in January 2017. A KAM is hired in February 2017 to commence industrial connection sales activities. The finance function is augmented by the addition of a qualified accountant as the business expands. 4 Energy Advisors within the sales team will be recruited using a staggered approach beginning 8 months before FOCD to allow for training and development. A further 5 engineering staff will come on board when construction begins mid-2017. At the end of the mobilisation phase it is anticipated that an additional 18 staff will be on payroll. The rapid ramp up in personnel in mid-2017 is a function of the requirement to achieve significant domestic connections during the early stages of network development. The activities driving the recruitment of manpower are outlined at 3.3.1.

3.2.3 Recruitment arrangements

The recruitment processes shall begin 6 months before staff join payroll.

HR will agree job specifications and requirements with functional managers and subject to sign off by the SMT, advertise for new staff in local press and via JobsNI. Where possible, positions will be advertised in via local Page I 24

regional press and job centres across the GTTW area, reaching out to suitable unemployed persons through programmes such as Bridge to Employment and Energy Utility Skills. Applicants will undertake competency based interview/practical and attitude assessments to ensure the necessary skills are demonstrated.

firmus energy staff have significant connection sales and engineering skills, gained in the adjacent Ten Towns Licence area. A skills transfer programme will be put in place on award of the licence to ensure all existing skills are optimised across the new project. Experienced existing staff will be used to mentor and train recruits with 'on the job' training within the adjacent Ten Towns Network in the run up to the commencement of construction.

3.3 Activities

3.3.1 Provide details of the proposed activities

Details of proposed activities by function during the mobilisation period are as follows:

Engineering

- Preparation of Safety Case;
- Liaison with existing Period Contractor regarding the scope of GTTW;
- Detailed network designs of all towns in GTTW;
- Meet with DRD Roads Service and Structures Division;
- Set up Emergency Call Centre Provision;
- o Route drive of all proposed spine mains;
- Liaise with Sales team regarding Contract loads;
- Identify locations of Special Engineering Difficulty (SED's);
- Amend engineering policies & procedures;
- Engage GL Noble Denton⁴ PSSR/Written Scheme of Examination; and
- Liaising with Councils.

Sales & Marketing

- Advertise/employ/train new local field sales staff;
- Meet NIHE staff to schedule Heating Replacement Programme and advise on network build priorities;
- Asses New Build potential and influence/educate local architects/local builders and developers;
- Visit all large I&C loads and advise on costs of conversion/running cost and gas live date;
- Secure targeted I&C Contract loads to ensure volumes are met within years 1 and 2;
- Initiate project management of large contract conversions to ensure conversion as soon as gas is live;
- o Build upon existing relationships with local installer and retailer networks;
- Organise public awareness forums and energy briefings engage stakeholders and include industry bodies - CBI/IOD/Chief Executives/MEUC;
- o Initiate "get prepared gas is coming to you" Sales campaign; and
- Ensure gas supply arrangements are in place for large contract customers.

Regulation

Regulatory Analysts responsible for:

- Licence implementation and development;
- Licence compliance and formulation of compliance registers;
- o Agreement of annual cost reporting and price control data fields;
- o Development of Network Code and SMP (Supply Meter Point) Agreement
- Documentation of process and policies; and
- Cost analysis for prospective customers.

Transportation Services Personnel responsible for:

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⁴ A consultant specialising in gas distribution practice Page I 25

- Operation and maintenance of Network Code for GTTW;
- Training and liaison with Gas Suppliers for GTTW;
- Nominations and Allocations for both Daily meters and non-daily metered customers within GTTW: and
- Switching Suppliers briefing to all suppliers who have acceded to the Network Code.

Finance

- Working with IT to set up a separate ledger instance to capture management information, separate P&L and balance sheet reporting for the new licence;
- Separate transportation billing;
- Other source systems including payroll, accounts payable, project appraisals, liaising with Regulation on cost and Regulatory accounts reporting direct from Accounting systems;
- Establishment of detailed budgets for cost monitoring and control;
- Capturing and reporting mobilisation costs against budgets;
- o Supporting the procurement process; and
- o Ensuring appropriate insurance, finance and funding arrangements are in place.

3.4 Costs

3.4.1 Details for each activity

We have based our mobilisation costs (i.e. costs which may be incurred prior to FOCD) using the same operating cost activity categories as set out in the Low Pressure Workbook and summarised in Figure 3.4.2.

Figure 3.4.2 Build-up of mobilisation costs

			Cost (£)
Market Development & Advertising	}	Marketing	8,000
Ivialket Development & Advertising		Public Relations	63,000
Maintenance			15,000
Mannawar	}	Payroll	594,645
Manpower		Other Manpower	85,200
Buildings			31,950
Telephone, Postage and Stationary			15,000
Insurance			31,407
Professional and Legal Fees			31,950
Information Technology			10,650
Miscellaneous			42,600
Total mobilisation costs			929,402

We believe that this expenditure and in particular the early build-up of staff numbers can be used to facilitate expedient connection of consumers following the commencement of commercial operations. It would also be our intention to incur capital expenditure costs in the year leading up to the first year of commercial operation by laying "uncommissioned pipe" so that large commercial consumers can connect to the low pressure network as early as feasibly possible. We have excluded these capital costs (including capitalised labour) from the mobilisation costs entered in the Low Pressure Workbook as per clarification question 57.

3.4.2 Detail of how the cost forecasts entered in workbook are built up

As part of our Low Pressure Workbook we have appended an excel workbook that sets out our assumptions and calculations for the build-up of mobilisation costs Low Pressure Workbook (Section 4 of this submission folder). All costs have been supplied on the basis of April 2014 prices and any efficiency improvements have been built-in to the cost inputs. We have also identified any risks associated with operating activities and have built our costs taking account of these identified risks.

Market Development & Advertising

Mobilisation PR and Marketing costs build up is aligned with network development and sales activity. Costs are based on the specific activities required for stakeholder engagement, and to stimulate sufficient demand in advance of 'gas live' to secure early connection targets. Activity will focus on individual towns and costs are based on actual costs for similar activity in Ten Towns. See Figure 7.1.1g - Marketing and Sales overview.

PR activity will commence immediately from licence award and will focus on:

- Face to face briefings to Elected Representatives, Business Organisations and local Media in each of GTTW towns. Based on Ten Town experience these costs will be £3,000 per annum per town; and
- In addition we will set up a Press Office function estimated at £250 per month (£3,000 p.a.) to field on going enquiries.

In the year prior to gas live, PR activity will increase to include:

- A Local Influencer Roadshow in each of the GTTW key towns at £800 each;
- Sponsorship of local Business Awards in each of the 5 key towns at c £800 each; and
- 1 x Energy Briefing Event at a cost of £1,000.

Marketing activity will focus on customer research at a cost of £8,000.

Maintenance

Mobilisation costs with regard to set-up and operation of retainer service governor maintenance.

Manpower

Incremental manpower timing and requirements as outlined at 3.2.2 have been costed in accordance with the build-up of staff numbers, pay bands and costs in Section 2.2. The salary costs are calculated net of capitalised labour costs as these will form part of the capital costs of the project. Our cost forecasts for manpower follow the proposed build-up using GD14 determined manpower costs uplifted to 2014 prices. A detailed bottom-up analysis of manpower cost build-up is presented within the Low Pressure Workbook (Section 4 of this submission folder).

Buildings

This includes all establishment costs, rent and rates. Based on current experience, we have modelled this at £150 per month per employee during the mobilisation period given that we have room to expand within our existing facilities at Kilbegs Business Park. We have the opportunity to convert the stores area into office space.

Telephone, Postage and Stationery

These costs are primarily call related throughout the mobilisation period with a step change occurring as we approach FOCD due to increased capacity requirements.

Insurance

Insurance costs during the mobilisation period are based on a blended driver which is a function of staff numbers and length of pipeline, relative to their respective GD14 levels. The resulting blended rate has been applied to GD14 determined costs uplifted to 2014 prices.

Professional and Legal Fees

This includes legal costs associated with establishment of transportation code and other GTTW related consulting services for example formalisation of licence and procurement arrangements. Based on current experience, we have modelled this at £150 per month per employee during the mobilisation period. It is currently assumed that our existing Period Contract arrangements can be extended to GTTW and therefore no associated professional and legal fees have been incorporated into our forecast. In the event of firmus energy market testing the GTTW Period Contract by tendering for works additional costs of c.£50,000 would be incurred.

Information Technology

We have identified IT cost efficiencies as firmus energy already has the requisite information systems in place required to provide management information necessary to manage the GTTW network. As such there will be no significant change to the existing information system architecture which primarily consists of; Oracle Financials, felive, GIS and other desktop systems. In light of this, forecast IT costs primarily reflect staffing requirements during the mobilisation period due to additional software licence requirements.

Miscellaneous (incl. shared service costs)

During the mobilisation period, shared service costs have been modelled at a rate of £200 per employee each month reflecting the direct benefit derived from leveraging existing Ten Towns resources. Key shared service components include: the recharge of senior and wider management time spent directly on GTTW, accounts payable, payroll, IT, facilities management and business continuity costs.

Given the significant experience firmus energy has already gained in building a successful gas distribution business, these recharges represent significant value for money. The current team of experienced professionals understand the challenges posed by entering a greenfield market and are best placed to respond to these in the most efficient manner. The synergies gained from combining specifically employed GTTW employees with an existing group of experts will benefit both the Ten Towns Distribution operation as well as GTTW.

3.5 Systems

3.5.1 Arrangements to put in place required work and asset management processes

firmus energy already has documented work and asset management processes in place for the operationally similar Ten Towns distribution network as detailed within Section 5.7. These will be reviewed to ensure compliance for GTTW.

3.5.2 Arrangements to procure required information systems

As outlined within Section 4.5, firmus energy already has information systems in place, necessary to provide management information necessary to manage a distribution network such as that set out in the application process. The systems currently in place include:

- felive which facilitates project costing and management; transportation services, site works and sundry service billing;
- GIS which facilitates network mapping and asset management;
- Oracle financials supporting: procurement; accounts payable; and financial reporting; and
- Desktop systems including email, word processing, payroll, presentation and analysis software.

3.6 Low Pressure System Construction

Proposals

3.6.1 For engagement with external stakeholders (including but not limited to relevant regulatory authorities, statutory agencies, other licence holders, private entities) necessary to construct a ≤7bar gas distribution system

During the mobilisation period we would envisage significant regulatory engagement. A number of interactions are suggested. These are discussed in more detail at 4.2 and include:

- Finalisation of Licence Award;
- Developing and agreeing Guaranteed Standards of Service:
- Consultation and sign off of our proposed Connection Process;
- Establishing qualification criteria for a Vulnerable Customer Scheme –suggestion for an extension of the current firmus care scheme;
- Agreeing initial Conveyance Charges;
- Consulting with the UR on Distribution Codes of Practice (Marketing, Complaints Handling, Consumer Information);
- The development and implementation of a Network Capacity Statement

- Drafting and agreeing Network Code (including Credit Rules);
- Formalisation of a Supply Meter Point Agreement;
- The establishment of an Annual Development Plan in an agreed format;
- Discussion and agreement on Depreciation Policy applying to each relevant classification of network assets; and
- Working with UR on postalised conveyance charges across Northern Ireland.

It will also be essential to engage with the CCNI. We would propose to enter dialogue to discuss:

- Complaints Handling Procedure in place
- Guaranteed Standards of Service in place
- Distribution Codes of Practice (Marketing, Complaints Handling, Consumer Information in place
- Vulnerable Customer Scheme firmus care in place
- Connection Process in place
- Customer/Sales Material (to be reviewed by CCNI prior to launch)

Another key interaction will be with DRD to ensure we can match network construction with development plans to minimise disruption to local communities. We have already initiated meetings with the DRD Roads Service and DRD Structures Division in relation to proposed works in GTTW. The routes of the mains for the first 3 years have been discussed with a view to ground conditions, position of existing apparatus, and proposed major works by other utility companies – dual trenching and the crossing of rivers and culverts, public realm schemes, bridge construction and new loads including schools.

In addition, initial meetings have been held with NIE to investigate opportunities for joint infrastructural development and the potential for gas supply to replace existing Economy 7 domestic heating loads. We are also currently investigating dual-trench opportunities with NIE and NI Water.

We are leveraging existing relationships within the Ten Towns network and the Greater Belfast network to talk to large commercial customers about load information surveys. Meetings are being conducted with other large potential users to update and fully understand the market opportunity outlined in the Applicant Information Pack.

A key external relationship will be with the Transmission Network operator. To ensure that connection targets can be realised and minimum disruption is caused by our works, it would be firmus energy's intention to selectively undertake main laying works prior to gas being commissioned at the AGIs on the Transmission network. This would mean that once gas is 'live' at the AGIs then there would be minimal work required to connect the large Contract customers. This will require close interaction with agreement on procedures with the Transmission Network Operator.

Other external stakeholders include:

- HSENI Safety Case;
- The Northern Ireland Fire & Rescue Service (NIFRS) we would meet with local NIFRS officers/stations to ensure they are aware where the natural gas network is being developed and to explain how we can assist with Public Reported Escapes (PREs). We are currently engaging with NIFRS management to develop processes which will help both bodies deliver the best approach for PREs (including reported Carbon Monoxide incidents);
- Local Councils keep Councillors updated with progress;
- NIHE

 to ensure they are aware of the benefits of natural gas for tenants and when they should expect
 gas to be available;
- Local primary schools visits to schools to explain the hazards involved in our works area and to encourage children to refrain from exploring site-works;
- Local contractors to explain the need to consider the presence of natural gas infrastructure in the
 area. Having had experience of this in the Ten Towns, we would propose a proactive approach to
 inform architects, design engineers and contractors of the gas network in the local area; and
- Local installers, to understand the benefits of working with firmus energy, our brand values, our processes and connection procedures, to help stimulate demand and accelerate domestic and SME gas consumption once gas mains and services are laid.

3.6.2 To establish the network design process (Applicants should demonstrate their ability to design an efficient network as part of the Operational Business Plan submission). This should include consideration of whether any high pressure pipelines could be substituted for low pressure pipelines, taking into consideration the most appropriate size of pipeline and the pattern of connections

The network design process will employ proven design techniques similar to Ten Towns network utilising IGEM/GL/1 and IGEM/TD/3 and TD/4. The systems will be designed to meet the peak six-minute gas flow requirements which are forecast to be required for 1 in 20 winter conditions. The designs will represent fitness for purpose at the best-cost solution.

Pipe sizing and routing is determined by firmus energy's Project Engineers. The design package used by firmus energy for gas flows and pipe sizing is SynerGEE gas. This is an industry standard network analysis tool and has been used to carry out the design of the existing Ten Towns gas network which now extends to over 870km of mains.

Based on the data supplied by Fingleton McAdam we have provided a network roll out (Appendix 1). The slides show how the network could be constructed using the Fingleton McAdam design, the range of customer connection types and proposed timescales to meet connection targets.

We have carried out a detailed load survey of the towns and following award of licence it would be our intention to carry out a comprehensive detailed review of all routes and pipe sizes to ensure design optimisation and all associated cost efficiencies are realised.

firmus energy has investigated the possibility of substituting transmission pipelines for distribution mains. The cost of transmission mains exceed the cost of lower pressure distribution mains and it would be the intention to substitute transmission pipelines for distribution main wherever possible to reduce costs and to make gas available to more households as individual connections cannot be taken off transmission pipelines. This would reduce construction time on the transmission pipeline and hence will get customers connected to the distribution system in a shorter timeframe and any reduction in transmission build would minimise disruption to farmers and landowners.

firmus energy would suggest that the extension of the transmission pipeline from Derry/Londonderry to Strabane is substituted for a distribution main. We have carried out a load survey of the town and are confident that the town can be adequately supplied gas using a 4 barg distribution main connected to the firmus energy network in Derry/Londonderry at Maydown roundabout. An approximate route of the main is shown in Appendix 3

We would estimate that installing distribution main from Derry/Londonderrry to Strabane could save up to £8.6m in construction costs relating to the transmission network, inclusive of proposed AGI costs and 'hot tap' connection costs to the northwest pipeline. Saving based on c.£200/metre difference between Transmission and Distribution for c.28.2km.

firmus energy would propose that the AGI in Cookstown is relocated to save costs. We have carried out a detailed load survey of Cookstown, Moneymore, Magherafelt, and Toome and are confident that the AGI could be located closer to Dungannon and the transmission pipeline substituted for distribution mains to save in the region of £1.5m (see Appendix 4). Saving based on c.£200/metre difference between Transmission and Distribution for c.6km.

3.6.3 To initiate materials procurement processes and award contracts

firmus energy could apply its current Period Contract which runs until March 2020, to help deliver the materials procurement process required within the mobilisation plan. This would avoid the need to initiate procurement processes during the mobilisation phase. As firmus energy has only recently awarded its Period Contract, we are confident that these arrangements will offer the best value for money and avoid the resources and costs that would be involved in a new tender. However, we are open to re-tendering.

firmus energy has secured a Period Contract for the third time since 2005 in the Ten Towns, which is directly adjacent to the area to which this application relates, and intends to apply the learning from these processes to future material procurement processes and contract awards.

3.6.4 For preparation of construction, maintenance and specialist services contract tender documents

firmus energy proposes to apply its current Period Contract which runs until March 2020, to help deliver the construction, maintenance and specialist services. The current contract which commenced in March 2014 contains:

- Mains Work:
- Permanent Reinstatement of Public and Private Land;
- Pressure Reduction Units and steel pipe services:
- Emergency Works/Response;
- Service and Metering Works; and
- Provision of Resources.

As outlined at 3.2.1, the Finance team will work with the Engineering team to establish key criteria for preparation of tender documents, including specimen contracts for Industrial Sales Engineer and with all functions to ensure any other specialist services required, are subject to appropriate rigour and competition to achieve best value for money for gas consumers.

3.6.5 To initiate the competitive tender process

firmus energy does not anticipate a requirement for an OJEU level competition at the mobilisation phase. A similar competitive tender process has just been completed and future competitions will be run, based on this experience and in line with procurement principles, including Pre-Qualification Questionnaires (PQQs) where appropriate as discussed at 6.1.

3.6.6 To award the construction, maintenance and specialist services contracts

In awarding specialist service contracts that arise during the mobilisation period and prospectively for any future Period Contract, tender responses will be measured against criteria set out in the tender documents, by a panel including the sponsoring function, finance and another independent function with the objective of achieving best value for gas consumers.

3.7 Mobilisation Operations Management

3.7.1 To establish the management team

It is proposed that the current SMT team will manage the GTTW business. Operationally we will manage as discussed in 3.2.1. It is anticipated that by expanding the organisation to deliver the project, development and promotional opportunities will present themselves for existing experienced staff, whilst offering opportunities for newly qualified staff to gain further experience.

3.7.2 To establish customer contact representatives

The proposed timeline for establishing customer contact is outlined at 3.2.2, the recruitment processes at 3.2.3 and the work involved outlined at 3.3.1 and discussed in more detail at 7.2.

3.7.3 To establish the information system to support management of the mobilisation process

The proposed process for establishing information systems to support mobilisation process are outlined at 3.5.2, namely that existing systems are used to manage an existing system will be used and where appropriate separate instances of systems will be created. These systems are discussed in more detail at 4.5.

3.7.4 For mobilisation cost monitoring and control, including contingency costs

The proposed mobilisation operating plan for cost monitoring, as outlined for the Finance team (3.3.1), using existing financial reporting systems discussed at 3.5.2, with separate P&L, and balance sheet reporting for activity covered by this licence application, separate from existing operations.

3.7.5 For risk assessment and proposals to mitigate/ resolve identified issues

The proposed approach to risk assessment and mitigation will be to use existing risk management processes outlined at 4.1. These have been developed by firmus energy since our Ten Towns licence award in March 2005. Given that mobilisation will represent a logical extension of our existing activities, in an adjacent operating area (key internal skill sets and Period Contact arrangements already in place to cover the mobilisation phase) as opposed to a paradigm shift in organisational structures and processes, we are well placed to manage the key dependencies and risks associated with mobilisation.

4. Governance

- Governance and risk management procedures will be in place lead by Board Audit and Risk Committee;
- Professional regulatory relationship with the UR through operating four existing regulatory licences;
- The main external risks to the project are:
 - Customers willingness to convert to natural gas;
 - Asset Risk due to terrorism, accidental or malicious damage;
 - Local/Political non-co-operation;
 - o Environmental risk; and
 - Natural Gas commodity costs.
- The main internal risk to the project are:
 - Health and Safety Risks;
 - Management distraction;
 - o Financial Strain; and
 - Ability to recruit qualified staff.
- Policies and Procedures are already in place following our original Ten
 Towns licence award in 2005. However, firmus energy can review and revise
 these to ensure they are fit for purpose for the GTTW;
- GTTW will build on firmus energy's existing operational procedures and schedules for inspection review and QA Audit with our existing Period Contractor (McNicholas Construction Limited).

4.1 Risk Management

4.1.1 Identification and quantification of risk issues, including significant asset risk issues External/Strategic Risk

There are a number of potential risks associated with operating a licence for the conveyance of natural gas for GTTW. At a strategic level is the question of viability and the fundamental economics of the opportunity. Given the number of towns franchised, economies of scale and balance achieved in setting attractive conveyance tariffs to promote connections, whilst guaranteeing an acceptable rate of return to secure investment, firmus energy is confident in its ability to manage these risks.

Transmission Subvention

Crucial to mitigating this risk will be subvention and postalisation of Transmission Conveyance tariffs. firmus energy would seek to mitigate this risk by lending support to secure the potential £32m of subvention funding. The arguments for subvention will be further strengthened if firmus energy's proposed modifications to the network configuration, discussed at 3.6.2, were accepted. This could reduce overall high and low pressure network costs by c.£10.1m.

Environmental

firmus energy has identified the largest risks to the environment are through the site based activities during the construction and maintenance of the gas distribution system.

This is mitigated through a structured design process, which is used to design 'out' the possibility of risk to the environment.

To mitigate these risks firmus energy only employs contractors who can show evidence of their ability to work to and maintain a recognised Environmental Improvement Accreditation (e.g. EN ISO 14001), McNicholas Construction has this accreditation.

During PQQ and the Invitation-To-Tender (ITT) the contractors are assessed on their ability to successfully manage and mitigate works on the environment under the following topics:

- Pollution to water courses;
- Pollution to air/atmosphere;
- Effect of Noise on Local Residents and Animals;
- Flora & Fauna impacts:
- Amounts to landfill;
- Ability to Recycle, Reduce and Re-Use materials; and
- Process for effective Incident management.

firmus energy monitor all aspects of the construction activities, including the environmental impact, with regular site visits and inspections. The information captured during these is formally discussed with the Period Contractor to aid improvement through the life cycle of the contract.

firmus energy will continue to audit the processes and procedures to ensure the processes are being followed and are to the level required to keep the impact of our works to the minimum.

Asset Risk - Terrorism, Grid interference/Construction disruption

At an operational level, terrorism needs to be taken into account as a risk with significant consequences. Fortunately, disruption is much less of an issue in Northern Ireland in recent times.

firmus energy has had experience dealing with suspected terrorist instances and has experience dealing with The Police Service of Northern Ireland and the Security Forces, for instance bomb threats to infrastructure on Craigavon Bridge in Derry/Londonderry.

An awareness of the potential for damage, both accidental and malicious, will be factored into all engineering plans and security arrangements accordingly and will also be addressed in the Licence terms negotiated with the UR's office. Outside normal working hours and working in vulnerable areas are already built into firmus energy's procedures. Please refer to 5.8 below.

A key aspect of firmus energy's risk management strategy will be education and public affairs strategy. As discussed in the mobilisation plan at 3.6.1, visiting schools to educate children on the dangers of playing around our construction sites will be vitally important. A proactive approach to inform architects, design engineers and contractors about the presence of our infrastructure in towns will also be essential.

Local/Political non co-operation

Local political co-operation will be key to gaining access to construction sites and achieving network build targets. Local organised opposition to network routes could create serious delays, a longer mobilisation period and significant additional costs.

firmus energy will continue to position itself to maximise the potential for local co-operation in a variety of ways:

- Local authorities, with powers over way-leaves, road-opening licences and other key approvals will
 have a vested interest in the successful roll-out of the distribution networks, to promote economic
 growth in their respective towns;
- The regional approach to firmus energy's business structure and its business location will bring further employment and utility presence to a number of new areas in Northern Ireland;

• The proposal to contract with local providers for a number of key customer-facing activities will generate local employment. We estimate close to 100 jobs will be created - direct employees (23), local support service providers (15), distribution contractors (40) (15 construction teams – 2 to 3 in each) and gas installers (20); and

firmus energy already has strong links with all local councils and MLA's and regularly keeps elected representatives fully abreast of gas network rollout across the Ten Towns as evidenced by the MLA Roadshows undertaken at each Ten Towns Council as well as at the NI Assembly in 2013.

Domestic Connections

The Application Pack intimates a preference for a "FAT" model. A key risk is achieving an economically viable number of domestic connections. Demographic data (see 7.1.1) suggests lower than average Northern Ireland incomes. We will seek to reduce this risk in a number of ways:

- Working with NIHE on the Heating Replacement Programme;
- Use developers to lay "open" trenches for New Build sites to reduce costs;
- Working closely with the Department for Social Development (DSD) to source qualifying customers who
 can gain funding for oil boiler replacement under the Boiler Replacement scheme. To date, we have
 made 336 successful applications under this scheme; and

Maximising the impact of marketing and sales campaigns (more fully described at 7.1.1) against the connection incentive.

Industrial & Commercial Connections

The next challenge is to maximise connections to the network at the earliest opportunity and to achieve high volume I&C connections. Important potential loads are identified at 7.2.2. We note the comments at 4.36 in the Application Pack. Our approach to reduce this risk includes:

- Incentives for conversion for I&C customers via the Carbon Trust loan scheme. firmus energy has
 experience sourcing such funding. firmus energy successfully secured funding to support the
 installation of a Combined Heat & Power (CHP) unit at Daisy Hill Hospital;
- Discussions with Equipment manufacturers to investigate opportunities for I&C customers to finance equipment purchase from efficiency savings; and
- Only when essential and to drive critical connections to the network some form of connection incentives.

Commodity Risk

A key risk influencing connections will be ongoing commodity costs which, is the main driver of costs that connected customers incur. firmus energy benefits from its Supply business experience and has key relationships and access to commodity trading information to help inform key customer groups of past and future trends to mitigate this risk.

Regulatory Risk

Given the long term investment required, and the economic challenges in the proposed licence area, it is essential to have clarity and consistency in approach. firmus energy has interacted with the UR since before the Ten Towns licence in March 2005 and believe that we enjoy a positive and professional relationship with the UR's Office.

Internal/Operational Risk - Risks to the firmus energy core business

Health & Safety

firmus energy has a practical approach to Health and Safety risks, where the first step is to identify known hazards. Once the hazard has been identified, a series of actions can be implemented to safely mitigate the risk

firmus energy has developed a risk assessment process which is flexible to the varying situations encountered in the gas distribution industry without diluting its ability to identify and manage the risks incurred. firmus energy has developed a 2-tier risk assessment process to allow a flexible working process with the ability for expansion for detailed risk assessments where these are more suited to the risks incurred.

Due to the frequency of encountering hazards within the engineering function of the business, we have introduced site specific risk assessments. These allow engineers to identify, record and mitigate the hazards of design/site hazard. The site specific risk assessment form allows the engineer to ensure suitable and sufficient assessment of the risks for the specific site is detailed and managed.

The management of risks is critical to the success of our business, and thus we have and maintain a risk register. firmus energy has identified the key risks to the success of our current business, and has identified measurements which could indicate levels of increased risks. Each department reports on the levels of their risks on a monthly basis, and this is reported in the monthly risk register to the SMT. From the levels reported by all parts of the business, the SMT can identify increased risks and thus take action before the risk is realised.

firmus energy employs the 'E.R.I.C.' protocol to all risks:

- 1. Eliminate the risk through design or planning;
- 2. Remove the risk through substitution;
- 3. Isolate the risk through Permit of Works; and
- 4. Control the risk through suitable and sufficient engineering/procedural methods.

The same protocol will be extended to GTTW.

Distraction to firmus energy management

There is a risk that GTTW will have potential adverse consequences on the firmus energy business in the Ten Towns. In particular, involvement in this opportunity will distract senior management from their core business duties.

firmus energy will reduce this risk by ensuring sufficient and competent resources are in place at mobilisation. The prospective organisational structure set out at 2.1 and the mobilisation organisational structure discussed at 3.2 addresses this issue. New staff will report into existing functional reporting lines facilitating cross fertilisation of knowledge, skills and experience. Increasing the size of the organisation helps reduce business continuity risk in both network areas given their proximity to each other.

Based on our track record of meeting all regulatory development targets; approval to extend our gas distribution network to eight new development areas and now connecting twice the number of customers than what was originally envisaged at licence award, we believe that firmus energy's management team is fully capable of overseeing the GTTW licence without an adverse impact on Ten Towns development. In fact, firmus management expect that a further extension of the distribution network will drive synergies and crossfertilisation of management practices that will be beneficial for both the Ten Towns and the GTTW networks.

Financial strain on firmus energy

There is a risk that involvement in further network development in Northern Ireland will place a strain on firmus energy's finances. This will be mitigated by securing a licence agreement that is understood and agreed by all parties. Both Bord Gáis Eireann (BGE) and iCON Infrastructure have demonstrated within this application their financial capacity to fund this investment. This is demonstrated by the letters of support provided by iCON Infrastructure from both Lloyd's and RBS in support of the GTTW application and three years of audited accounts for both BGE and iCON Infrastructure which have been included in the application pack. We can confirm that the business and parent company are fully committed to GTTW.

Recruitment

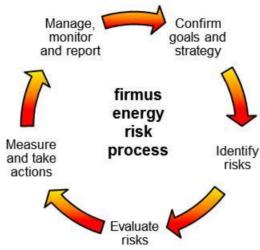
The risk that key technical and professional skill sets will not be available at mobilisation to ensure timely network roll out.

firmus energy is a stand-alone business in Northern Ireland, incorporating local recruitment for the key management and technical positions essential to running the business. firmus energy is in a unique position, already operating a technically similar network in an adjacent geography with similar geology and demographic trends. As outlined in 3.2.3, this affords a second to none training and development opportunity during the mobilisation phase for staff that may have appropriate knowledge and skill sets, who require additional experience.

Description of the policy and processes to identify and manage risk issues

firmus energy's risk process consists of the five interrelated components set out in the Figure 4.1.2, culminating in a risk radar and 'Key Risk Indicators', which are reviewed quarterly at firmus energy's Board meeting. The Risk Management process is supported by a clearly defined Risk Management structure with assigned roles & responsibilities. We have outlined the first three steps which relate to risk identification and establishment of individual risk management processes.

Figure 4.1.2 firmus energy risk process



Confirmation of goals and strategy

firmus energy utilises a number of objective setting and planning processes including Balanced Scorecard⁵. Corporate Planning and Performance Management processes. The risk process is consistent with and aligned to these processes.

Objectives must exist before management can identify potential events affecting their achievement. The setting of strategies and objectives and how risks are identified and managed are influenced by the 'internal environment' in which firmus energy operates. The internal environment comprises many elements including: the tone and values of the organisation, the competence of personnel, the assignment of authority and responsibility, and management's philosophy for managing risk as well as Board oversight. It forms the foundation for defining firmus energy's risk appetite and risk attitude.

Risk appetite is the amount of risk firmus energy is willing to accept in pursuit (and preservation) of value, and is determined at Board level. Risk attitude ('Tone from the Top') is the high level articulation of risk appetite and is used to provide direction in determining the level of risk to be taken within key areas of the business/business model.

Identifying Risks

The process for identifying risks begins with the development of a 'Risk Universe'. This is a comprehensive view of possible inherent risks that may impact the business. It encourages the business, SMT members, risk champions, risk managers and assurance providers to have a common view of risk, acts as a prompt list, and is used by all to aid risk identification and focus control/assurance activity. The Risk Universe forms the basis for preparing the risk register.

The Risk universe comprises four predefined categories:

- External/Strategic;
- Operational;
- Financial; and

⁵ The Balanced Scorecard is a strategic planning and management system that is used to align business activities to the vision and strategy of an organisation, improve internal and external communications and monitor organisation performance against strategic goals.

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Compliance/Legal.

The Risk Universe is updated on an annual basis by the SMT as part of an annual risk identification process (at inherent level), taking into account past risk events.

The following key tools and techniques are available for risk identification:

- Facilitated risk workshops, meetings and interviews, both bottom up and top down;
- Risk self-assessment:
- Process flow maps analysis:
- Analysis of past loss events;
- Corporate/business planning cycle; and
- Any other risk identification tools available, as appropriate.

Assess and evaluate risks

Risk assessment is carried out annually (or for new risks or changes in circumstances, as they arise) at an inherent level and, subsequently, at a residual level. Risk ratings are assigned to risks by the SMT.

Risk assessment is completed by examining the consequences of the risk materialising and the vulnerabilities associated with each risk. All risks must be assessed across the following two dimensions:

- 1. Severity of the impact of the consequence caused by the risk materialising; and
- 2. The likelihood of the event occurring.

4.1.3 Description of the procedures to mitigate risk and monitor actions to completion

The last two steps in firmus energy's risk process align with procedures to mitigate risks and monitor actions to close these risks out.

Measure and take action

The SMT monitor, identify and measure shifts in risk conditions in order to take actions and mitigate risk on a timely basis. The actions that might be taken may be for the following purposes: avoid risk, seek risk (i.e. take opportunity), modify risk, share risk, or retain risk.

Risk owners, in conjunction with SMT, prepare the Key Risk Indicators (KRI's) (including target levels and triggers). KRIs assist management in measuring and monitoring both current and potential future shifts in risk conditions by acting as triggers for intervention/escalation and for putting mitigating actions in place in a timely manner.

A dashboard of KRI's, controls, and exceptions of internal controls is created and reviewed on a quarterly basis. Risks are then positioned on the Risk Radar, taking into account the movement in the KRI measurements quarter on quarter, understanding what is driving the KRIs, actions being put in place and outcome of previous actions, and management judgement.

To ensure accountability, these actions are linked to a risk in a risk register, and therefore, to the underlying business objectives. The manager tasked with delivering the business objective is responsible for delivering these actions (even though he/she may choose to delegate the action).

The action plans will set out the following:

- Planned control actions to address risk;
- Responsibility for undertaking the planned activities; and
- Timeline for action.

Manage, monitor and report

Monitoring consists of a review of the combination of KRI's (where applicable), progress on mitigating actions, evaluations by management, consideration of the effectiveness of internal controls, regular communications and periodic audits. This monitoring provides vital assurances to the Board that the organisation is managing risk.

On an annual basis, the Board Audit & Risk Committee undertakes a review of risk and the effectiveness of internal controls. The Internal Audit and Risk function also, on a regular basis, performs an independent

assessment of the effectiveness of internal controls in place to mitigate risks based on an agreed Internal Audit Plan

4.2 Interaction with Utility Regulator

4.2.1 Principles/arrangements to be completed during mobilisation

The principles and arrangements to be finalised during the mobilisation phase have been discussed in detail within 3.6.1.

4.2.2 Accountability for regulatory affairs identified in the organisation structure

Regulatory Affairs are the operational responsibility of the Head of Regulation (please refer to 2.1), who is a member of the SMT.

Since receiving the Ten Towns licence in 2005 firmus energy has worked professionally and constructively with UR, DETI and CCNI to maximise the benefits of natural gas to consumers and the local economy.

firmus energy has undertaken three distribution price controls with the UR since our conveyance licence was awarded. Therefore, firmus energy is fully aware of regulatory precedent for Distribution Network Operators in Northern Ireland.

This relationship would be maintained, enhanced and built upon.

4.2.3 Proposals for periodic reporting of performance, including cost reporting, to the UR

firmus energy would provide annual Regulated Accounts to the UR for accounting periods ending 31 December each year, subject to audit by a Registered Auditor within 180 days of that date.

In addition, firmus energy currently provides the UR with detailed annual cost reports to help provide enhanced transparency and regulatory understanding of our business in the Ten Towns.

We would propose replicating this reporting for GTTW and any other requirement determined and agreed as part of any licence negotiation and settlement.

4.3 Policies & Procedures

4.3.1 Process for development of policies and procedures

firmus energy's B&RP Team is responsible for documenting policies and procedures. This will also include the creation of updated policies and procedures when revised regulatory or statutory instruments are put in place. These will also consider when future legislation changes will come into effect and development of policies and procedures will be scheduled around these. In addition, this team also provides regular and structured training to all staff.

4.3.2 Process for maintenance/ review of policies and procedures

firmus energy review all internal policies within the business on a six monthly basis. This is done in conjunction with the B&RP team who manage all policies, process and procedures across the business. A listing of all firmus energy policies and procedures is included within Appendix 5.

4.3.3 Organisational arrangements for personnel access to current documents

The B&RP team control access to all documents within the business. Editing of official policies and procedures is limited to the B&RP team through hierarchy access controls. These controls are managed through a document control policy. All firmus energy staff (including contracted staff) are bound by a confidentiality agreement which is signed upon employment with the company.

The B&RP team manages all personnel access within the business to systems, databases and internal networks, folders and files. The B&RP team is responsible for setting up new users and their access privileges within IT systems. This is managed internally with dedicated user accounts created for each role within the business and for external sub-contractors. Access to the internal firmus energy network is robustly managed by the B&RP team through a secure Microsoft server.

When network access is granted application access is also managed by the same team based on staff role accountabilities. Additional requirements must be requested to ensure the necessary security checks are maintained. Document and folder access is managed internally via a hierarchy structure managed by the B&RP. Requests for system access must receive management approval. Access to working documents is strictly limited to the B&RP team. Staff have access to PDF copies of documents.

4.3.4 Proposals for communication of changes

Communication of all changes to policies and procedures follows a designated process. The communication processes are as follows:

- Internal B&RP team communicate to all internal staff via email and where required training courses are developed in-house. Where training is required for internal staff, this is provided to ensure effective communication of changes across all areas of the business;
- External changes are communicated by the SMT to the relevant stakeholders and followed up with face to face meetings if required; and
- External stakeholders will be informed and consulted on for any policy changes which impact their areas.

4.4 Inspection Review / QA Audit

4.4.1 Proposals identified for inspection/review/QA/audit

firmus energy has a schedule of inspections and audits for Quality, Health, Safety and Environmental policies and procedures, for all activities undertaken. We also consider the activities of our Period Contractor.

4.4.2 Proposed range of operational activities covered

Each month the engineers inspect the site activities of our Period Contractor to ensure their adherence to all legislative and contractual requirements. firmus energy gives guidance to the Period Contractor in the form of an Operational Procedural Manual, which is a 'live' document and under continual review/improvement.

4.4.3 Proposals to identify actions and manage to completion

firmus energy has a schedule of audits for each year and review the company's compliance with its own policies and procedures. The audit also measures firmus energy's compliance with the current legislation.

Where Non-Conformances (NCs) are identified these are recorded in a central log and responsibilities for improvement allocated to an appropriate manager. A timeframe for implementation of the improvement and a review of the system is detailed. Following the implementation of the change and a successful review, the NC is closed only following agreement of the SMT.

4.4.4 Arrangements for feedback into review of policies and procedures

Where a NC identifies failings in training, understanding by any party or change in the process is required, firmus energy will ensure sufficient training is provided to all appropriate staff.

4.5 Information Systems

4.5.1 IT systems proposed to provide management information

The information system provides a reporting function for internal and external purposes. Internally reports can be used to monitor cost effectiveness of projects. Asset management is used in the information system currently in place at firmus energy as part of the existing contract with the Period Contractor. Reporting from the information system provides internal financial information based on contracted rates and also allow each project to be assessed on an NPV positive basis.

4.5.2 Proposed approach to provide and disseminate operational activity based cost information

Cost information is recorded and all projects are scrutinised during the approval stage. The system uses the cost information to identify whether a project should be undertaken by the business based on NPV analysis. The information system provides the business with the ability to identify costs and monitor these going forward with the aim to identify future efficiency savings.

4.5.3	Support services	requirements	identified	and resour	ced
T.J.J	Support Scratces	requirements	IUCIILIIICU	anu resour	JEU

Support for the information system is in place currently through a contract with Bord Gáis Energy. This support will continue post sale under a Transition Agreement. No significant changes to this system is required going forward. Infrastructure support around the information system is currently in place and includes back up facilities and disaster recovery systems which are stored locally off site in line with the systems disaster recovery policy.

5. Technical

- firmus energy has experience in developing a Safety Case and will build upon its existing positive relationship with the HSENI;
- Average emergency response of 37 minutes for PRES;
- We continue to exceed standards of performance with regard to gas escape response (1 hour uncontrolled: actual 99.5% vs. target 90%, 2 hour controlled; actual 99.3% vs. target 90%);
- In developing our network in the Ten Towns we have ensured compliance with the Health and Safety at Work Order (NI) 1978;
- In its network design, firmus energy utilises the Institute of Gas Engineers and Managers (IGEM) good engineering design and best practice;
- firmus energy is a Member of Northern Ireland and Divisional Road Authorities and Utilities Committee, IGEM and the Energy Institute.

5.1 Safety Case

5.1.1 Proposed process and timetable for development

In order to comply with the Gas Safety (Management) Regulations 1997 – Regulation 3, firmus energy will submit a safety case to the HSENI for GTTW. firmus energy will demonstrate its ability to meet with duties imposed under the regulations and will provide details on the following:

- The systems to be used;
- How the systems would be operated safely;
- Ability to manage the flow of gas safely;
- Willingness and ability to co-operate with those who have duties under the regulations;
- Ability and resources to manage and investigate gas escapes;
- · Steps to ensure continuity of supply (and composition) of gas; and
- The management structure for dealing with gas escapes

firmus energy has a proven track record of submission and revision of safety cases to the HSENI, and use the Safety Case Assessment Manual (PM/Permissioning/03) as published by the HSENI, as a basis of suitability assessment prior to submission.

The Safety Case for GTTW would comprise a similar structure and format as our existing safety case for the Ten Towns, which has recently been successfully audited by the HSENI. Although the format would be similar, the information contained would be specific to GTTW.

It would take approximately 12-18 weeks to collate all relevant information required for the Safety Case. firmus energy would formally write and present this to the HSENI. A minimum of 6 months prior to the introduction of gas into the new system. This would allow sufficient time for the HSENI to liaise with firmus energy on the content of the Safety Case and to propose any amendments prior to acceptance by the HSENI.

5.1.2 Proposed arrangements for liaison with and submission to HSENI

Should our application prove successful firmus energy would continue to engage with the HSENI and would provide information relating to the proposed development plan and management of the gas system. The initial

meeting would cover introductions with a view to establishing effective communication lines between the parties to reinforce the already existing excellent working relationship that firmus energy has with the HSENI through the Major Hazards Group.

The safety case will be a 'live' document and will be revised to replicate the changes in the distribution network as it is developed and extended. The initial Safety Case will give an indication of the proposed development plan but as the Safety Case is revised over time this will reflect the actual network which has been developed. firmus energy proposes submitting the Safety Case when the initial designs have been completed for each of the towns. Once submitted to the HSENI the Safety Case becomes a controlled copy and any changes would be formally submitted to the HSENI by firmus energy. The safety case would be revised every 12 months or sooner if required by Health & Safety regulations.

5.1.3 Proposed process for management of change in operational practices

Where changes are deemed to be minor e.g. change in reporting structure, this will be noted and submitted by email to the HSENI contact to be retained with the Controlled Copy. Where a significant change to the Safety Case would be required e.g. change in key personnel or ownership of the company, we would inform the HSENI immediately and carry out a revision of the Safety Case as early as possible. Where changes in legislation require a change in systems or management, such changes would be duly noted and replicated within the Safety Case.

Where firmus energy identifies a requirement to change a process and/or procedure this would not normally be notified to the HSENI, but would be communicated to all those impacted by the change through training and 'tool box' talks. These steps are intended to ensure that all those involved understand and undertake changes in the process/procedure.

5.2 Technical policies, procedures and reference standards

5.2.1 Proposals to have policies covering all operational business activities

firmus energy has robust policies for all operational business activities relating to the successful management of the design and construction of a gas distribution network in the Ten Towns. These policies which have been developed over the past 9 years will be replicated for GTTW.

The management of firmus energy are responsible for the analysis of and changes to the policies and procedures. Each manager has a designated area of responsibility and will maintain the policies and procedures in that area of expertise. SMT will act as approvers for changes to the policies and/or procedures.

5.2.2 Proposals for training of personnel to ensure understanding

Following changes to policies or procedures these are updated and communicated to all relevant staff (and/or contractors) to ensure they are aware of and understand the changes. The policies and procedures on our shared drive are held in a central structured file, where the current items are easily accessible to all staff to review. A review date is agreed to permit analysis of the effectiveness of the change, and to allow input from those who use the systems to ensure a proper revision is undertaken.

Staff (and/or contractors) are advised of the change to the policy/procedure, and this is communicated through various methods which depend on the level of detail required. 'Toolbox Talks' can be used for the less critical changes, but where it is deemed a requirement firmus energy provides formal training, both internally or by third parties (if required). The changes will be closely monitored and audited by firmus energy to ensure that the changes are being applied. These steps are intended to ensure that those involved understand and undertake the changes in the relevant process/procedure.

5.3 Compliance with relevant legislation, industry standards & best practice

5.3.1 Proposals to incorporate into all policies, procedures and practices

As required by the Health and Safety at Work Order (NI) there are established regulations to ensure the safety of gas supply. The regulations mirror the equivalent Regulations which apply to Network Operators in Great Britain.

All policies and procedures are regularly reviewed for effectiveness and compliance with legislation. Where there is a change in legislation, a change in technology or where an incident identifies the need for improvement in our system, the firmus energy management team are committed to systematic improvement analysis.

The SMT are responsible for the analysis of and changes to the policies and procedures. Each manager has a designated area of responsibility and will maintain the policies and procedures in that area of expertise.

The HSE Manager is responsible for monitoring the changes in legislation which may have an impact on the policies or procedures. The HSE Manager will then inform the relevant manager of the proposed change, who will then assess the potential impact of the change in legislation and will amend firmus energy policies, procedures and practices accordingly.

5.3.2 Process to maintain awareness of industry practice

firmus energy utilises the IGEM Standards as a basis of good engineering design. This suite of documents includes Transmission and Distribution, Gas Measurement, Utilisation, Gas Legislation, Safety, and General. It is the responsibility of the HSE Manager to ensure the current edition of each of the IGEM documents is available for reference in our engineering library.

firmus energy is an industrial affiliate member of IGEM and firmus energy engineers have the full range of membership levels within the Institute. firmus energy encourages membership of the institute to ensure individuals continue to develop professionally and maintain adherence of the code of conduct as required by the Institutes for all its engineers.

firmus energy proactively encourages the continued professional development of its engineers and assists in their attendance at relevant courses and briefings held by institutes, through annual training plans to ensure that we keep abreast with the latest developments in innovation and best practice.

To ensure firmus energy adhere to the current legislation and industry standards, the HSE Manager monitors changes in relevant legislation, industry standards and best practices to review changes in:

- Legislation via the HSENI information portal and website;
- Legislation by monitoring the Croner Health, Safety & Environmental information centre;
- Industry standards by monitoring the IGEM website;
- European and/or British Standards through the BS website:
- Technical Bulletins (TBs) from the Gas Safe Register (GSR); and
- Continuing Professional Development (CPD) Workshops days by IGEM.

firmus energy is a member of the All-Island Gas Networks Industry Forum which allows members of likeminded companies to share information on safety and quality to enable help in the prevention of or reoccurrence of incidents in the natural gas industry. We actively support and are supported by the Energy Institute.

Divisional Roads Authority and Utilities Committee (DRAUC)

In order to achieve co-operation at local level, DRAUC's have been established in each of the four Roads Service Operational Divisions. These Divisional Committees (DRAUC's) meet every 6 months to discuss works programmes and major schemes, traffic management proposals, potential for reducing disruption and other shared issues. firmus energy is represented on these committees by the Construction Manager.

Northern Ireland Road Authority and Utilities Committee (NIRAUC)

At a Northern Ireland level, the NIRAUC meets quarterly to promote regional liaison and best practice, maintain a professional relationship leading to improved co-operation between the parties and discuss issues of mutual interest. The street works codes of practice have been agreed at NIRAUC before being approved by the Department. firmus energy is represented on these committees by the Head of Engineering and the Construction Manager.

firmus energy is a member of the Northern Ireland Utilities Safety Practitioners Group (NIUSPG) which allows safety members of like minded utility companies to share information, to help prevent occurrence of injuries in the industry. The group discusses any changes in legislation which may affect some or all of the members and the group will agree a common approach. The NIUSPG is proactive in the prevention of injury to 3rd parties

through damage to apparatus. The NIUSPG allows firmus energy and other members to follow a 'Best In Industry Practice' approach.

Northern Ireland Gas Forum Working Group and the Carbon Monoxide Safety Group

firmus energy is a regular attendee at the Northern Ireland Gas Forum Working Group and the Carbon Monoxide Safety Group, where industry discusses safety items with the HSENI. The focus of both groups is to agree a common practical approach to safety issues within the industry, for the benefit of everyone.

Gas Safe Register (GSR)

firmus energy has a number of engineers who are members of the GSR. These engineers keep abreast of all current issues "downstream of the gas meter"; and when the GSR releases any Technical Bulletins (TBs) the engineers brief relevant information to those that may be affected.

Northern Ireland Cross Sector Information Exchange (NIXIE)

Finally, firmus energy is also a member of the NIXIE which exists to enable infrastructure companies based, or operating, in Northern Ireland and HM Government to assist one another in maintaining a better understanding of the risks facing the UK's Critical National Infrastructure (CNI) and to co-operate in devising strategies to combat them. It was formed in 2008 to share in-confidence mutually beneficial information regarding vulnerabilities, threats, protective security measures and security incidents relating to the CNI. The NIXIE includes members from leading infrastructure companies in Northern Ireland and Customer Proprietary Network Information (CPNI).

5.4 Network Code

5.4.1 Timetable for completion of the network code and any other appropriate contractual arrangements

firmus energy has an agreed Network Code for its Ten Towns network as presented at the following link (http://www.firmusenergy.co.uk/media/2013-08-12-firmus-energy-Distribution-Network-Code-V2.1-FINAL.pdf). This Network Code will also be used for the use and operation of the distribution gas pipeline within GTTW.

The Network Code sets out the common terms and conditions between firmus energy and industry players who use firmus energy's network to convey natural gas through the distribution pipeline.

5.4.2 Accountability for management of processes/compliance/issues identified in the organisation structure

Accountability for the management of process/compliance/issues in regards to the Network Code is the responsibility of the Transportation Services Team that is within the Regulation Department of firmus energy.

It is the responsibility of the Transportation Services Team to maintain the process within the Network Code and ensure firmus energy's compliance with the requirements on firmus energy as distribution network operator. In addition, it is the responsibility of this team to bring forward suggested Code Modifications to the Network Code to regulatory fora (such as GMOG and the Distribution Network Forum) to improve the overall performance of the Code both for Energy Suppliers and Distribution Network Operators.

firmus energy will ensure, as we have done within the Ten Towns, that the Network Code for GTTW is operated and maintained on a consistent basis as other with Network Operator's Network Codes.

As set out in Section 2.1.2 the Transportation Services team are also responsible for the customer switching system, allocation of gas flows to suppliers and the maintenance of relationships with the Transmission Operator as well as suppliers operating in our network area. All these activities will be extended to include GTTW.

5.5 System performance monitoring & system control

5.5.1 System control arrangements

The firmus energy Ten Towns network comprises relatively simple town based 4 barg distribution networks supplied from a number of AGIs requiring minimum monitoring of pressures and flows.

The AGIs have a standard configuration comprising a working stream with standby stream which maintains a reliable delivery of gas into the distribution system. The Transmission System Operator monitors pressure status on the transmission system on a 24 hour basis in a manned control room using a Supervisory Control and Data Acquisition (SCADA) system, which will activate alarms should pressures fall below or exceed pre-set operating conditions. The normal operating pressure supplying the medium pressure distribution system is 4 barg with a high pressure alarm setting of 4.4 barg and low pressure alarm setting of 3.5 barg. The Transmission System Operator provides an emergency response rota with duty engineers available on a 24 hour basis. In the event of an alarm being raised, it will be notified to the duty engineer who will attend site to investigate the situation. The duty engineer will liaise with firmus energy's Standby Manager if deemed necessary. In the event of an incident the situation would be managed using the existing incident procedures.

firmus energy utilises Technolog's PMAC (Pressure Monitoring and Control) system to monitor the distribution system at key locations within each town. The data is accessed via PMAC on a PC dedicated to this function, utilising a modem connection to the BT landline network to download information from Newlog 4 devices spread across the distribution system. PMAC is set up to notify High Pressure (HP) and Low Pressure (LP) alarms at any of the monitored sites and these alarms are sent to the Bord Gais 24/7 Network Control Centre at Finglas, North Dublin. Operators inform the 2nd tier Standby Manager as and when they appear on their PMAC system. Following receipt of an alarm, the 2nd tier manager would arrange for personnel to visit the location to carry out an investigation of the cause of the alarm and would instigate relevant procedures relating to pressure problems or emergency response.

firmus energy is currently developing an updated solution which utilises wireless technology to collect and transmit data using an SMS system on an open network basis.

In line with the GTTW connection targets and proposals, it would be firmus energy's intention to connect large I&C users onto the distribution system. These sites will have a requirement for Daily Metering Data, which will be supplied to an internet based monitoring platform via a SMS telemetry system and relevant firmus energy staff will have access to the website. We propose specifying pressure reduction and metering rigs which will come with integrated flow corrector and Machine to Machine (M2M) SIM cards. This will relay accurate information, via the mobile phone SMS system, on volume of gas used at six minute intervals as well as pressure data. This equipment will also allow our engineering department to monitor other areas such as filter differential pressure and slam shut status which will give an early indication of any issues which may lead to the requirement for a technician to visit site.

As these sites will provide pressure data, we will be able to reduce the number of pressure monitoring devices on the network. We plan to move away from the traditionally employed systems of monitoring pressures on distribution networks by utilising pressure sensors, which will be installed on pressure points within below ground chambers at key points of the network. The pressure sensors relay information to loggers sited within above ground marker posts which will in turn communicate with the internet based platform described above providing visibile data to firmus energy. The software can be set up to raise an alarm once pre-determined thresholds have been passed i.e. LP/HP e.g. below 3.5 Bar for Medium Pressure (MP) system monitoring & below 60 mbar for LP system monitoring. Further inputs can be gathered from a District Pressure Reduction Module to raise an alarm should the slam-shut device activate within the station. There is also the potential to install switches which will trigger should someone attempt to gain unauthorised access or to monitor water levels in below ground kiosks. The alarms can be directed to specific personnel both during office hours and out of hours as per the emergency call rota. Standby personnel will have access to the website to enable them to monitor system pressures remotely.

firmus energy has extensive experience working to these standards.

5.6 Asset Records

5.6.1 Key records

The majority of firmus energy's gas distribution network comprises low maintenance polyethylene pipe supported by modern and efficient management systems, designed and operated to industry standards and compliant with HSENI Regulations.

firmus energy's audit programme is fundamental to delivering effective quality control of fusion welding, testing of mains, services and associated installations. All information received from the Period Contractor is recorded on the asset register to ensure full traceability of components, therefore providing an audit trail back to the material supplier and the installation team responsible for the works.

firmus energy uses a state of the art GIS based on the GE-Smallworld suite of GIS software to record, manage and report on our network assets.

The Smallworld GIS is user friendly and allows multiple users to simultaneously capture and update information. It also provides an efficient and effective quality assurance tool that allows work to be checked and verified before it is published. The GIS has powerful and flexible reporting functionalities that can be run without the need of complex programming experience.

Our GIS has been customised by a renowned GIS Developer (AEGIS Consultants) specifically for the needs of the gas networks business. AEGIS Consultants bring with them considerable experience having supported Bord Gais Eireann in the development of their Smallworld GIS since 1999.

The system is easily configurable and continues to be customised to meet the company's specific requirements in the recording, display and reporting of network information. Recent developments include the modelling of strategic mains and valves to aid O&M and plant protection and the modelling and reporting of customer data for targeting sales connections.

Our Period Contractor provides accurate measures and sketch locations of our network at the time of construction. These measures and sketches are then used by the Contractor to accurately digitise each section of network on the GIS. The gas network information held on the GIS contains accurate locations and details of all gas mains including diameter, material, specification, date laid, project number, job number, method of installation, joint type and depth of cover. Regular site audits are carried out by firmus energy records staff to check and confirm the accuracy of the information provided by our contractor.

Using the bespoke GIS allows the following elements to be recorded and reported on;

- As laid sketches:
- All mains, services (greater than 32mm) and associated fittings digitised on GIS;
- All I&C meters digitised on GIS;
- Weld Record Sheets and Printouts;
- Pressure Test Certificates;
- Commissioning Certificates and schematics:
- Pipe diameters, materials, pipe batch number, SDR, date of manufacture, date of installation;
- Pressure Reduction Stations including digital photographs and schematics;
- Valves, fittings, joints and connections including serial numbers and locations;
- Above ground pipe work and steel risers including digital photographs; and
- Pipe protection used, i.e. steel plates, plastic tiles, sleeves.

A significant amount of information is captured during the construction works and the key records retained are described in further detail below.

As-Laid Plans

Our contractor provides detailed, accurate as laid sketches for all plant and apparatus installed on our network. Information captured includes location and line of mains and services, location and detail of valves, excess flow valves, purge points, cap ends, joint locations etc, method of lay, depth of cover, team name, date of work, pressure, project and job number, pipe size and material, location of meter, serial number of meter, pipe Page I 46

protection, pressure reduction stations, risers etc. In addition digital photographs are provided for all pressure reduction stations and gas risers.

To ensure information is obtained at the time of installation a system of quality level indicators is used for as laid sketches; Quality Level 1 is where information is gathered at time of installation and the Records Officer can clearly see all detail required. Quality Level 2 is where information is gathered when works are nearing completion and the Records Officer can only see partial detail. Quality Level 3 is where information is gathered after works are completed and backfilled. Quality levels are monitored on a monthly basis and QL3's should not exceed 20% of the total sketches received by firmus energy each month.

Our Period Contractor digitises all the above details on the firmus energy GIS and all work is quality approved by the firmus energy Records Officer.

All as laid sketches are digitised within 15 working days of completion of works.

Meter serial number

Meter serial numbers are recorded on job cards for every meter installed on the gas network. A meter exchange process is in place that manages all meter exchanges, upsizing, downsizing and meter removals. Meter serial numbers are taken from job cards and input onto the firmus energy felive. firmus energy is currently trialling hand held devices which will link the work in the field to the system within the office. The trial is progressing well and following discussion with HSE(NI), these could be in situ by year end.

Regulator serial numbers

Regulator serial numbers are managed and recorded as per meter serial numbers above.

Valve serial numbers

Valve serial numbers are recorded for all valves of size 63mm and greater at the time of installation and are detailed (with photographs) on valve construction cards compiled by our Period Contractor. Before payment is made for the installation of a valve the firmus energy engineer checks the valve construction card to ensure all details are recorded correctly.

Weld records

Butt fusion and electro fusion weld records and associated print outs are recorded for every joint and fitting installed on our network. The records detail installation team name, works location, date, material, weld machine type and serial number, pipe batch number, fitting number, fitting type, project number, job number, time duration of weld, temperature etc. The weld records and print outs are gathered by Records Officers who place this information into the project completion packs with a sketch to show the location of each weld/joint. Project completion packs are received within 15 days of project completion and are checked by the relevant firmus energy engineer for accuracy, detail and completeness.

PRE paperwork

firmus energy has a robust system in place to manage all paperwork relating to PREs. All reported escapes are recorded through our Emergency Control Centre at Hinckley in GB. All paperwork is checked for full compliance by our O&M department and where required reported to the HSENI through Reporting of injuries, Diseases, and Dangerous Occurrences Regulation (RIDDOR). Information relating to each PRE is uploaded onto our felive system including details of PRE, issue, arrival and departure times of engineers, initial and final report. Reports can then be run from our felive system on all PRE's received relating to the firmus energy system. All paperwork is recorded and retained under a unique Job Number as issued by the Emergency Control Centre.

Maintenance records including PSSR

firmus energy carries out rigorous annual maintenance and inspections required under the PSSR. These records are collated and retained under a unique referencing system for individual meter points. These records contain all information relating to each installation including meter details, dates, pressure settings, commissioning details, fault history, replacement parts used, safety device activation and annual inspection details. All unique reference numbers are recorded through the GIS and can be reported on.

Leak survey records

firmus energy carried out a leak survey of the entire gas network in 2009. The majority of the survey was carried out using a van equipped with gas detection equipment and this vehicle followed the route of our network within each town. In areas inaccessible by vehicle these were surveyed on foot using suitable gas detection equipment. No leaks were detected during this exercise which verifies reliability in terms of system integrity. The results were encouraging and it is proposed to carry out this exercise at 5 year intervals as long as there is a minimal level of leaks with the next survey planned for Q4 -2014. All records relating to the survey are in CD format and contain detail relating to date, location, duration, and speed of vehicle and recorded gas readings.

Serial numbers for telemetry equipment and calibration certificates

Extensive records in the form of a database will collate information such as site location device serial numbers, logging rates, calibration dates and battery changes. Detailed calibration certificates are also retained confirming the accuracy of equipment.

firmus energy is currently undergoing a trial of hand held devices for data capture and recording of assets in line with the new period contract.

Handheld devices (PDAs/tablets) in the Ten Towns allow for direct data capture by the Period Contractor on site. The devices allow asset information to be recorded in real time and has a direct link to a diary management system which can be accessed by firmus energy staff to monitor construction activity, job progress and completeness of records.

5.7 Asset Management system (AMS)

5.7.1 Proposed approach to implement an asset management system

firmus energy recognises the requirement to have an Asset Management System (AMS) to manage assets over the long term. A primary requirement of any AMS is to collect all relevant information on the asset at time of installation and commissioning. We have robust processes in place to ensure the quality of the plant and equipment being installed and that high quality information is captured and recorded immediately after installation. We operate a system of annual inspection on all of our sites which fall under the governance of the PSSR: 2000. We carry out function checks on safety devices and condition assessments of all equipment installed at these sites at the same visit. This information is captured and recorded in the AMS which will be used to develop a deterioration model for all assets.

firmus energy's existing distribution systems are relatively new and as a result we encounter very few issues with regarding reliability of pressure reducing modules on either our distribution systems or customer pressure reduction & metering sites. We regularly liaise with PNG in their capacity as a Distribution System Operator as we use similar equipment.

firmus energy will align its current asset management practices with the internationally recognised ISO 55001:2014 Asset Management. Implementing this standard will be straightforward given our current work practices, the standard of equipment in use on our distribution systems and the standard of our records. We have engaged the services of GL Noble Denton to assist with the process of implementing and gaining this accreditation.

5.7.2 Demonstration that asset records are integrated/aligned with work and financial management processes

The GIS is widely used throughout the company by many departments. Some of the main functionalities of the GIS are listed below;

- Production of Network Design and Construction drawings;
- Capture of As-Laid gas mains, services and plant;
- Scanning and import of New Build site layouts (Developers plans) where geography is not yet available from LPS:
- Display of other Utility networks (e.g. NIE, NIWater) to assist in the design and construction process and improving Health and Safety standards;
- Sharing of firmus energy network data with other utilities, councils, contractors etc.
- Management of Network Asset;

- Production of Pressurised Systems Safety Regulations information and schematics;
- Reporting of Connectable Properties and Properties Passed data;
- Display and reporting of customer locations, Sales Enquiries, Customer data, NIHE data to aid design and sales activities;
- Critical route, strategic mains and valves identification and monitoring;
- Production of drawings for Dial B4U Dig enquiries;
- Leak survey route planning;
- Provision of data for Field Access to Automated Records (FAAR) software used by almost 40 staff; and
- Network modelling and pressure monitoring, data from GIS is exported into SynerGEE gas network
 modelling software allowing engineers to experiment with different design options and ensure the
 network maintains the capacity to supply customers.

All works carried out on the firmus energy gas network are planned, progress monitored, recorded and invoiced through our felive and GIS. There is full traceability from Project or Job inception to completion. All potential works are estimated and approved through the system prior to handover to our Period Contractor. Following issue to the Period Contractor, the construction works are monitored at several stages by the engineering function. Following completion of Jobs or Projects payment for the work is directly linked to the provision of completed asset records relating to the particulars discussed in Section 5.6.

Each item of capital work will be given an individual code (a "tracksheet") and the contractor charges time and materials via this tracksheet. Tracksheets (and the associated capital works) will be regularly monitored by the firmus energy engineers to check conformance and progress. Costs are included in firmus energy's financial accounting system as work-in-progress and are also monitored on a monthly basis.

Once works has been certified as complete by a firmus energy engineer the costs will then be capitalised and will form part of the monthly invoice from the contractor for all works certified in that period. These invoices will be reviewed and once satisfied will be approved for payment by both the Construction Manager and the Head of Engineering. The monthly payment will also require additional sign off by two senior personnel.

Monthly reports are compiled relating to planned work versus completed work, mains installed against mains commissioned and meter planned to meters installed across the network to ensure correlation between spend versus budget. KPIs are in place relating to a number of measures such as response to PREs, reinstatement completion and the provision of as-laid information. These are closely monitored to ensure compliance and financial penalties enforced where performance has not been maintained.

firmus energy is currently undergoing a trial of hand held devices for data capture and recording of assets. Using barcode scanning technology construction staff will monitor and record assets used for each job. All assets will be traceable by job, via GPS, and by a member of staff as all staff activity will be logged into the system through a secure portal. The system allows all assets to be recorded remotely and in real time to the firmus energy database via a direct link to the servers from the device. Cost savings will be made through reducing the time to complete tasks as manual paper exercises are removed, which will also mitigate the risk of errors as manual input will be limited. It is envisaged that this will provide an improved reporting mechanism and improved payment mechanism for completed works.

5.7.3 Proposals for asset life cycle management

All equipment comes with manufacturer's recommendations for regular routine maintenance and major overhaul type maintenance at less frequent intervals. firmus energy follows guidance to maintain the reliability of the equipment and over time, as the assets age, information on the type of maintenance work which has been required to be carried out will be analysed and utilised to carry out risk assessments which will detail the impacts and likelihood of failure of particular equipment. Information on any additional corrective maintenance will also be taken into account. This will ensure that we can make proactive investments to ensure continued reliability of equipment and thus reduce capital and maintenance costs and ultimately deliver a more reliable service benefitting all customers.

5.7.4 Proposals to identify and manage developing risk issues

Damage to gas network

As a gas Distribution Network Operator the key risks are danger to life, damage to the gas network, the resultant escape of gas and potential loss of supply to customers. Using our Smallworld GIS we produce detailed schematic drawings for each town in our licence area. These are updated regularly (6 monthly) and are Page I 49

used by the O&M team in efficiently managing third party damages on our network and developing procedures to effectively manage supply emergencies.

We have a dedicated Emergency Room within the firmus energy offices in Antrim which contains plans for all the individual pressure systems within the firmus energy gas network. All emergency procedures are available and all information relating to emergency contact details for large I&C customers, priority customers, vulnerable customers and all external stakeholders ensuring that any large scale incident can be managed effectively.

Critical mains

We have developed a Strategic Mains feature in GIS that identifies and highlights sections of main that we deem to be critical or strategically important to our network. This alerts us to when our contractor will need to work on these sections and allows firmus energy's engineers to co-ordinate with and supervise our Period Contractor in order to minimise the potential of any adverse impact or damage.

Critical route surveys are carried out on a weekly basis by our engineers and any contractor found to be working is advised on the presence of our plant. We check and ensure they have up to date gas network drawings on site and provide further information as required.

Dial B4U dig service (08456 080066)

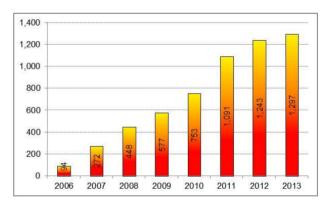
firmus energy operates a Dial B4U Dig service for contractors/individuals who intend to carry out excavation works in the vicinity of our gas distribution network. Enquiries are received via phone, email, post and persons visiting our office.

Under recommendation from the HSENI we share our Dial B4U Dig telephone number with BGE(NI) for the high pressure transmission pipeline in Northern Ireland. We maintain a close working relationship with BGE(NI) in order to ensure both our distribution network and the BGE(NI) transmission pipeline are protected from any proposed works. firmus energy records all calls made to the Dial B4U Dig number and advise both BGE(NI) and the caller if the enquiry is in relation to the transmission pipeline.

As our network has grown, so the number of Dial B4U Dig enquiries has increased from a total of 94 enquiries in 2006 to 1297 enquiries in 2013. Figure 5.7.4 details yearly totals.

Figure 5.7.4: Historical annual Dial B4U Dig enquiries

Year	Enquiries
2006	94
2007	272
2008	448
2009	577
2010	753
2011	1,091
2012	1,243
2013	1,297



Every written enquiry is responded to within 5 working days and where gas network will/may be affected we will issue detailed drawings identifying the location of gas plant along with an explanatory letter with safety information and advice. Every enquiry is also checked for proximity to the BGE Transmission pipeline.

We monitor Symology (Street Works Notification system) on a daily basis for upcoming Street Works by other utilities and advise them of our network.

firmus energy regularly shares its network data by providing extracts of pipeline information from our GIS to other utilities, local councils and contractors for display in their own mapping systems. By making our data readily available to other parties we effectively manage to keep the number of damages on our network to a minimum. All information sent out is recorded.

We actively promote our Dial B4U Dig service by means of safety presentations to contractors, utility companies, construction companies, emergency services, and large customers. Large customers are provided with safety packs which include details of our Dial B4U Dig service and As-Laid drawings of our plant located on their site.

Defective equipment

All serial numbers on plant installed across our network is recorded to ensure we have full traceability of all components. The detailed recording of this information has proven to be extremely valuable and beneficial to firmus energy. A particular batch of valves had to be located and replaced as a precautionary health and safety measure. The valves in question may have been fitted with substandard bolts and needed to be inspected to ascertain if the bolts in question had been fitted. Through our recording of all valve serial numbers on As-Laid information and digitised onto our GIS we were able to easily identify and locate all of the valves by reporting on serial number and date of installation. This allowed us to carry out all necessary remedial works quickly and efficiently.

Terrorist interference to gas apparatus

There have been a number of terrorist incidents over the past few years that have resulted in 'near misses'. A number of these incidents did not target the gas apparatus directly but following an incident at Craigavon Bridge in Derry/Londonderry in 2009 where a viable device was intentionally attached to the gas main we have set up processes and procedures with the relevant authorities to manage such a scenario. This includes critical apparatus, emergency contact numbers, details of stakeholders, checklist for Manager and inclusion into the firmus energy emergency procedures suite of documents. All relevant personnel have been briefed on such incidents and the procedure to be followed in the event of a similar scenario in the future.

5.7.5 Application of Reliability Centred Maintenance (RCM) principles to optimise activity

The implementation and operation of an AMS will support our RCM approach to maintaining a reliable supply of gas to all customers in GTTW. The aim of minimising equipment failure will be delivered by optimising our inspection and maintenance programme, targeting equipment which may prove problematic. Information captured will also be utilised when specifying new equipment being installed as network development continues or is deemed to have come to the end of its useful working life.

5.8 Emergency Response

In accordance with the Gas Safety Management Regulations firmus energy operates a 365 day, 24 hour gas emergency service to respond effectively to emergencies and incidents on the gas network. firmus energy utilises the Northern Ireland emergency number (0800 002 001) and all emergency calls are managed by the National Gas Emergency Centre (NGEC) at Hinckley.

5.8.1 Set out standards of performance and rationale

firmus energy has a proven high standard in reacting to situations requiring an emergency response and the resultant figures are over and above the agreed targets.

Standards of Performance were agreed to attend 90% of all uncontrolled gas escapes (where gas is escaping freely) within 1 hour and attend 90% of all controlled gas escapes (where gas is not escaping freely) within 2 hours. Figure 5.8.1 presents historical uncontrolled and controlled gas escapes.

Figure 5.8.1 Historical uncontrolled and controlled gas escapes summary

PRE	Torgot	Actual							
PRE	Target	2007	2008	2009	2010	2011	2012	2013	
Uncontrolled (within 1 hour)	90%	97%	99.7%	100%	100%	100%	100%	100%	
Controlled (within 2 hours)	90%	100%	97.5%	100%	99.6%	100%	99.8%	98%	

firmus energy has excelled in delivering performance in excess of agreed targets year on year and it would be our intention to continue this performance in GTTW.

The recent publication of the Overall Standards of Performance for Gas Conveyors and Gas Suppliers has taken the rationale developed by firmus energy and increased the targets set within the standards with the addition of a third category of attending faulty pre-payment meters from 1st April 2014.

The Standards of Performance stated are in 97% of cases, reports of uncontrolled gas or other gas emergencies are attended within 1 hour from the time of the relevant report, in 97% of cases, reports of controlled gas escapes or other gas emergencies are attended within 2 hours from the time of the relevant report and 97% of all faulty pre-payment meters visited within 4 working hours.

firmus energy has historically exceeded its Standards of Performance by efficiently matching resource of the Contractor to the nature of emergency response. We will replicate this success in GTTW.

This efficiency has been achieved by managing the contractor effectively and ensuring that all requirements within the Period Contract are geared towards ensuring Health and Safety is a number one priority. The quality of the paperwork regarding the emergency response is audited each day to ensure it is of the required standard and the Period Contractor is monitored with regard to response times. Vehicle tracker systems are fitted to ensure the most appropriate resource is dispatched on site.

5.8.2 Explain emergency procedures development during mobilisation stage (PREs), emergency incidents, supply constraint etc.)

firmus energy has developed a full suite of emergency procedure documentation for the safe conveyance of gas in the Ten Towns. These procedures include Gas Emergency Manual, Leak Management Procedures and Gas Supply Emergency Procedures.

We have a dedicated Emergency Control Room within our offices in Antrim which contains all required documentation relating to vulnerable customers, priority customers, emergency contact details for large I&C customers, and emergency procedures in addition to video conferencing facilities and fax. All sensitive information is secured and is only available to the Manager in the event of a gas incident or emergency.

firmus energy plans to use our existing emergency procedures for the Ten Towns development as a template for the development of emergency procedures for towns included in GTTW. The towns proposed in GTTW are of a similar size and population to the towns within our existing development plan so will be able to adapt procedures without a significant additional work or cost requirement.

We have been providing efficient emergency response services to the Ten Towns since 2005 and have the experience of continually exceeding Standards of Performance for outlying towns at the edges of a diverse gas network. There has been a very low number of public reported gas escapes and the average time to attend a PRE has been **37 minutes (uncontrolled and controlled)**. No gas escapes are deferred on the gas network. All are managed and closed out at the first visit.

5.8.3 Explain how resource arrangements align with progressive development of business

Period Contractor resources have been trained to be multi skilled. They can cover emergency work in addition to normal construction activity which is essential for a gas network covering a large geographical spread where safety is a number one priority. As the network has developed resources are reviewed on a regular basis to ensure that we have sufficient numbers of supervisors, first responders and emergency response teams trained and qualified to respond and manage gas emergencies. Succession planning and a shadowing programme are in place to ensure adequate resource levels are maintained.

firmus energy has internal resources to manage gas emergencies within Ten Towns. Regular refresher training is undertaken and as the network is extended additional personnel have received appropriate training and development to participate in emergency response activities. firmus energy operates a two tier management system to manage gas emergencies, comprising of 1st tier supervisor and 2nd tier manager. When a report of a gas emergency is received by the emergency call centre the first responder will be dispatched and dependant on the severity of the incident the firmus energy 1st tier supervisor will be informed and may visit site to manage operations. Should the incident be of a severe nature, fire, explosion, loss of supply to a large number of properties then the 2nd tier firmus energy manager will be informed of the situation and the emergency control room may be set up within the firmus energy offices to manage the situation.

It will be necessary to develop additional personnel to participate on the rota for emergency response at both 1st tier supervisor level and at 2nd tier manager level. firmus energy have qualified trainers within the company to Page I 52

complete this training and it will be necessary to have these resources in place prior to the first live gas within the GTTW towns. From our experience in dealing with gas emergencies across the Ten Towns network we are aware of the wide geographical spread between the towns and it is proposed that all firmus energy engineers involved in the design and audit of construction works will undergo Leak Management training to enable a sufficient response should an emergency be reported in the more remote areas of GTTW.

5.8.4 Compliance with single Gas Emergency Number and interaction with other parties within the Utility Industry

There is a single Northern Ireland Gas Emergency Number (0800 002 001) which is based on a postcode system. firmus energy is responsible for emergency response on the Ten Towns network, and PNG as the Network Operator in Greater Belfast are responsible for their system. National Grid issue the emergency calls to either firmus energy or PNG based on postcode. National Grid will be consulted and receive training prior to the introduction of GTTW. An updated list of postcodes will be provided to National Grid managers who in turn will provide the necessary training to their staff.

As a Distribution Network Operator firmus energy has in place agreed robust procedures with the Primary Transporter (PTL) and with Transmission Operator, BGE (NI) regarding supply emergencies. We also have in place agreed processes with the Northern Ireland Network Emergency Co-ordinator (NINEC) based around load shedding arrangements in the event of a Network Gas Supply Emergency. These processes and procedures are tested annually with simulation emergency exercises and firmus energy has participated in all such exercises since 2007. We have also carried out a number of exercises with local councils and the emergency services relating to the simulation of a gas escape within the vicinity of highly populated areas.

5.8.5 Arrangements for personnel training and simulation exercises

Safety is the number one priority for firmus energy and this philosophy extends to all personnel involved in emergency response activities. We have an engineering training matrix which records all qualifications and training completed and highlights refresher requirements which are programmed by the HSE Manager.

Prior to carrying out supervisory duties at PREs personnel must have attended an approved gas emergency training course and undergone training at a number of varying types of gas escapes in a shadowing capacity and must have a detailed portfolio of all escapes attended and the actions carried out. On completion of the shadowing of a more experienced engineer the operative then takes the lead at the gas escape with the mentor figure recording their actions. An interview is then completed to confirm the operative in question has the necessary breadth of knowledge to enable them to act as 1st tier supervisor for PREs. firmus energy has an Engineering Manager on standby at all times should the 1st tier need to escalate an escape or to seek advice.

Due to the low numbers of actual gas escapes on the firmus energy network the engineering department holds debrief sessions following gas escapes of an uncommon nature to update all engineers on actions taken and the management of the escape or incident to satisfactory conclusion. An example of this was a viable explosive device attached to Craigavon Bridge in Derry/Londonderry.

External training provide simulation exercises for our emergency response staff which encompasses recording gas readings in the street, internal gas escape in a building, evacuation procedure, dealing with multi-occupancy buildings, interviews on site and recording of information.

6. Procurement

- Existing procurement policies and structures in place;
- All policies and procedures have been developed to ensure compliance with EU Directive procurement requirements;
- Experience undertaking Official Journal of the European Union (OJEU) procurement process; and
- Period contract with McNicholas Construction can be utilised.

6.1 Principles

6.1.1 Identify accountability for development and management of processes in the organisation structure

Procurement processes have been developed to comply not only with EU Utility procurement requirements, but also with more stringent Public Sector Procurement regulations. Accountability for ongoing development and management of procurement processes resides with the Financial Controller and the finance function, who draw on appropriate legal advice as required.

6.1.2 Proposed policies and procedures to ensure compliance with EU requirements

Procurement in firmus energy is regulated by a hierarchy of procedures developed in conjunction with Bord Gáis Eireann as follows:

- The "Utilities Directive" EU Directive 2004/17/EC (as amended) as implemented in Ireland by the European Communities (Award of Contracts by Utility Undertakings) Regulations 2007 (the "Utility Regulations") together with all applicable Irish and EU procurement guidelines;
- The "Remedies Directive" Council Directive 92/13/EEC as amended by Directive 2007/66/EC, as implemented in Ireland by the European Communities (Award of Contracts by Utility Undertakings) (Review Procedures) Regulations 2010
- Code of Practice for the Governance of State Bodies;
- Charter on Ethics in Public Procurement;
- Public Body Procurement Guidelines 1;
- firmus energy Corporate Policy Document 2 (PD2) Procurement Procedures;
- firmus energy Corporate Policy Document 3 (PD3) Authorisation Levels and Execution of Contracts Policy;
- Code of Conduct for firmus energy Board Members, Senior Management and Directors of Subsidiary and Joint Venture Companies;
- firmus energy Corporate Policy Document 16 (PD16) Code of Conduct for firmus energy Staff; and
- firmus energy Corporate Policy Document 66 (PD66) Credit Card Procedures.

6.1.3 Processes, authority levels and financial controls

Procurement processes and procedures are managed on a day-to-day basis by the finance department. The purchase order/contract management IT system ensures that authority levels, legal and insurance documents and contracts are monitored and reviewed as appropriate for the proposed purchase.

Current authority limits for purchases are as follows:

•	Up to £12,500	Departmental Manager
•	Up to £40,000	Head of Marketing, Head of Sales, Head of Regulation & Pricing
•	Up to £80,000	Head of Engineering
•	Up to £200,000	General Manager, Financial Controller
•	Up to £400,000	Managing Director, Finance Director, Board Director
•	Over £400,000	Board resolution

Purchase invoices cannot be processed on the Accounts Payable system unless referenced to a valid purchase order, demonstrating that appropriate procurement and purchasing processes have been followed.

Purchase order requests are to be approved at various authority levels dependant not only on the value of the purchase order request, but also the nature of expenditure. Final approval is given by the Purchasing Department once they have confirmed that a valid contract is in place with a supplier, having complied with appropriate procurement rules.

6.1.4 Competitive tendering arrangements and timetable for these

As outlined in Section 3.1.2, we believe that key contractual arrangements already in place (e.g. Period Contract, £50m) will be sufficient during the mobilisation period. As we move forward in the normal course of business the following arrangements will apply. In order to achieve a balance between efficient procurement and value for money, competitive requests for quotation and tendering arrangements are organised according to the following thresholds and timetables:

Request for Quotation

- £0-£12,500: Number of Quotations at the discretion of the Procurement Department but at a minimum seek at least 1 (one) written quotation. (Excluding Credit Card Purchases);
- £12,500 £40,000: Procurement Department to issue written notice of its requirements and to seek a minimum of 3 (three) written quotations;
- £40,001 £160,000: Procurement Department to issue written notice of its requirements and to seek a minimum of 5 (five) written quotations; and
- For the purchase of certain materials with a value from £160,000 up to (but less than) £345,028, approved supplier lists may be used, with the approval of the Procurement Manager. For the avoidance of doubt Approved Supplier Lists do not constitute Panels pursuant to the EU Utilities Directive.2004/17/EC.

Invitations to Tender - Below EU Threshold

- Goods and services of a value from £160,000 up to (but less than) £345,028; or
- Works of a value from £160,000 up to (but less than) £4,322,012.

All invitations to tender must be issued by Procurement to at least 5 (five) qualified tenderers (provided there are sufficient suitable tenderers) and must include approved conditions of tendering and so far as possible, conditions of contract. Invitations to tender may be issued to less than 5 (five) qualified tenderers; provided that the Originating Manager and Procurement Manager confirm that they are satisfied that the number invited to tender is sufficient to ensure adequate competition.

Contracts which involve 'Construction Work' must be in writing.

Award criteria

- The applicable award criteria must be linked to the subject matter of the contract, should be set out in the ITT, and may be either:
- Lowest Price the tender with the lowest price must be awarded the contract (provided that it meets the specification); or
- Most Economically Advantageous Tender in addition to price, various other criteria may be
 considered depending on the contract in question, such as: safety, delivery or completion date, running
 costs, cost-effectiveness, quality, aesthetic and functional characteristics, environmental characteristics,
 technical merit, after-sales service and technical assistance, commitments with regard to spare parts
 and security of supplies;

- All invitations to tender must specify a closing date, which must be a minimum of 3 (three) weeks after
 the issue of the ITT, and the deadline for submission of tenders should be 12.00 noon unless otherwise
 timed for specific reasons (which should be documented). A shorter tender period may be adopted in
 exceptional circumstances, subject to the approval of the Procurement Manager. A pre-printed
 envelope must be provided which must be addressed to the Procurement Manager; and
- Unsuccessful applicants should be notified as soon as possible of the outcome of their application or tender.

Invitations to tender above EU Thresholds

firmus energy must follow the Utility Regulations where the value of the contract (exclusive of VAT) is expected to be equal to or in excess of:

- (i) £345,000 for Goods/Services; and
- (ii) £4,322,000 for Works Contracts.

When valuing a proposed contract regard must be given to the estimated total value of the contract including lots, options, renewals, prizes, payments to be made and benefits provided to the successful tenderer and the composite cost of any works, products and services to be provided for the purpose of the contract. Where it is proposed that contracts will be awarded in or around the same time in the form of separate lots, the total value of all the lots must be aggregated to determine whether the relevant threshold is exceeded.

The estimated value of a proposed contract for the purposes of applying the thresholds must be valid when the relevant Contract Notice is sent to the EU Official Journal or, if no Contract Notice needs to be sent, on the date on which a contract award procedure is commenced. All estimates should be realistic and objectively justifiable.

Contracts may not be subdivided.

Tendering procedures

There are three procedures available under the Utility Regulations:

- Open Procedure: All interested suppliers, contractors or service providers may submit tenders;
- **Restricted Procedure:** Any interested suppliers, contractors or service providers may request to participate but only appropriately qualified candidates invited by firmus energy may submit tenders; and
- **Negotiated Procedure:** Any interested suppliers, contractors or service providers may request to participate. firmus energy invites selected appropriately qualified candidates and negotiates the terms of the contract with one or more of them.

Advertising

Certain forms of notice are required to be published in the Official Journal of the European Union (OJEU). Ordinarily a Contract Notice will be appropriate but other notices are also available which can be accessed at http://simap.eu.int/.

Pre-qualification and number to be invited to tender

Candidates must be pre-qualified on the basis of objective and transparent selection criteria which are relevant and proportionate to the subject matter of the contract to be awarded. The purpose of the pre-qualification/selection stage is to allow firmus energy to identify those applicants who are, in principle, capable of performing the contract being tendered having regard to resources and experience and to eliminate those who are not. Accordingly as a general rule the curriculum vitae and experience of a candidate or/and its staff may only be evaluated as part of the process to determine the candidate's suitability at pre-qualification stage and cannot be used in evaluating a candidate's bid at the contract award evaluation stage.

Candidates must be informed of the selection criteria in advance and these criteria cannot be amended once the competition has commenced. If weightings will be applied to the selection criteria or a defined scoring methodology or sub-criteria and/or sub-weightings are used, this should also be disclosed to all potential candidates in advance, along with any applicable minimum requirements e.g. any minimum turnover requirement or any requirement that the candidate hold a particular authorisation or licence (which is required to carry on the business in question).

Applicants will usually be subject to exclusion from the competition in certain circumstances e.g. if they have been convicted of fraud. These circumstances should be set out in the PQQ.

Notifying pre-qualified and unsuccessful applicants

Where the restricted or negotiated procedure is used and it is proposed to invite only certain qualified applicants to take part in the tender competition, unsuccessful applicants must be promptly informed in writing that they have not been pre-qualified. Such notice must contain information relating to the reasons for rejection of the relevant unsuccessful applicant's application to pre-qualify.

Award criteria

If the contract is to be awarded on the basis of Most Economically Advantageous Tender, the tender documents or tender notice must clearly state all the criteria which it is intended to apply to the award and the relative weighting applicable to the contract award criteria. Where weightings or marks are sub-divided within criteria headings, these should also be provided along with the relevant sub-headings. Weightings can be expressed by providing for a range with an appropriate maximum spread (e.g. 5-10%). Tenderers must be informed of the award criteria and associated weightings in the tender documents and these criteria cannot be amended once the competition has commenced.

Award criteria must be linked to the subject matter of the contract, must be non-discriminatory and objectively justifiable and must not overlap with the selection criteria used at pre-qualification stage. It is important that award criteria are 'forward looking' (that is relate to assessing tenderers' proposals for the particular contract or project being tendered) and do not cover matters which are relevant to determining whether, as a general matter, a tenderer has the resources or ability to perform the contract.

Technical specifications and variant tenders

Technical specifications should be set out in the tender documents or the tender notice. Whenever possible, technical specifications for works contracts should be defined so as to take into account accessibility criteria for people who are likely to use the works on completion, especially for people with disabilities.

By reference to technical specifications in order of preference:

- (i) To national standards transposing European standards;
- (ii) To European technical approvals;
- (iii) To common technical specifications;
- (iv) To international standards; or
- (v) To other technical reference systems established by European standardisation bodies.

firmus energy is required to ensure that all tenderers are treated equally. This obligation includes a requirement to ensure that tenders are not rejected solely on the ground that their tender does not comply with the particular technical specifications used for the contract where the tenderer can credibly show that their proposal satisfies the requirements of the technical specifications in an equivalent manner e.g. by reference to an EU or international technical standard.

Technical specifications must not, unless justified by the subject matter of the contract, refer to specific makes or sources, particular processes, brand names, trademarks, patents, types or a specific origin or production, where the effect of doing so would favour or eliminate certain undertakings or certain products. The use of such references is permitted on an exceptional basis where a sufficiently precise and intelligible description of the subject matter of the contract is not possible and in those cases the words "or equivalent" must be used.

Time limits

For a summary guide of applicable time limits, see Figures 6.1.4a and 6.1.4b.

(i) General considerations applicable in every case

When fixing time limits for requests to participate in a competition and for the receipt of tenders, firmus energy takes particular account of the complexity of the contract and the time required for drawing up tenders. The minimum time limits permitted by the Utility Regulations may need to be extended to ensure that tenderers are given a fair and reasonable amount of time in which to prepare their tender documents.

Where firmus energy does not provide unrestricted and full direct electronic access to specifications and any supporting documents applicable to advertised contracts, such specifications and supporting documents will be provided to candidates as soon as possible and in any event within 6 days of a request (provided that the request was made in good time before the time limit for submission of tenders). Moreover, if a candidate requests additional information about the specifications or supporting documents, that information must be provided no later than 6 days before the deadline for receipt of tenders, provided the request was made within a reasonable time before the deadline.

(ii) Open procedure

Figure 6.1.4a: Open procedure time limit summary

<u> </u>										
Time limit in days for receipt of tenders without Periodic Indicative Notice										
General time limit	Notice sent electronically	Contract documents available	Notice sent electronically plus documents available electronically							
52	42	47	40							

Time limit in days for	Time limit in days for receipt of tenders with publication of a Periodic Indicative Notice									
Time limit reduced to	Notice sent electronically	Contract documents available	Notice sent electronically plus documents available electronically							
36	29	31	24							
Minimum time limit (e.g. urgency, nature of contract)	Notice sent electronically	Contract documents available	Notice sent electronically plus documents available electronically							
22	15	22	15							

As a general rule, the time limit for receipt of tenders is at least 52 days after dispatch of the contract notice to the OJEU.

(iii) Restricted and Negotiated procedures

Figure 6.1.4b: Restricted and negotiated procedure time limits summary

Time limit in days for receipt of requested to participate							
General time limit	Notice sent electronically	Minimum time limit (e.g. urgency, nature of contract)	Notice sent electronically				
52	42	47	40				

Time limit in days for receipt of tenders								
General time limit (where no mutual agreement)	Contract documents available electronically	Minimum time limit (e.g. urgency, nature of contract)	Notice sent electronically					
36	29	31	24					

6.2 Materials

6.2.1 Identify accountability for development and management of processes in the organisation structure

As outlined above at 3.6.3 and 3.6.4 firmus energy has gone through a procurement process on three occasions for Period Contractor services. The most economically advantageous tenders have been received on a combined provision of materials, construction, maintenance, and specialist services.

Procurement work with the Head of Engineering to ensure services required are clearly explained and selection criteria objectively established.

6.2.2 Proposed policies and procedures to ensure compliance with EU requirements

The policies and procedures set out at 6.1.4 above are applied

6.2.3 Processes, authority levels and financial controls

The policies and procedures set out at 6.1.3 above are applied

6.2.4 Competitive tendering arrangements and timetable for these

As outlined above, existing Period Contract arrangements were put in place in March 2014 and these can be applied during the mobilisation period. We would anticipate that planning for competitive tendering arrangements for materials, construction, maintenance and specialist services will re-commence in 2019 to have a new contract in place by 2020.

6.3 Construction, Maintenance and Specialist services

6.3.1 Proposals for Services contract development

It is proposed that Procurement will continue to develop requirements for services based on our experience gained under the previous and current Period Contracts to apply to the re-tendering process beginning to 2019 in conjunction with the Head of Engineering, the HSE Manager as well as the Construction Manager and the O&M Manager.

6.3.2 Proposals for contracts award during mobilisation period

It is proposed to award a contract for Consulting Engineers to support I&C connections in the initial phase, which is anticipated to be below the £345,000 threshold and tendered according to the processes outlined at 6.1.4 above.

7. Business Development

- Track record of surpassing connection targets;
- Existing relationships with many contract and large I&C customers initiated contact with all identified large I&C customers over recent months;
- Strong relationships in place with key GTTW stakeholders;
- Innovative vulnerable customer delivery mechanisms in association with Bryson Energy;
- Proven ability to combat fuel poverty through firmus energy's Toasty Homes,
 Cosy Home, and Warm Home initiatives;
- · Existing installer relationships; and
- Experience in working with natural gas Suppliers.

7.1 Plans & processes to achieve targets for growth in demand/connections

Explanation of how the applicant will meet the pattern of connections set out in the FMA development plan to include;

7.1.1 Justification

Growing demand

GTTW will bring natural gas to provincial towns that have no experience of the economic, environmental and lifestyle benefits that natural gas can bring. This is an identical scenario to the one we faced in 2005, when we were awarded the Ten Towns licence. Through the planned and continuous marketing activity that firmus energy has undertaken in the Ten Towns via advertising, PR, sponsorships, events, development of an installer network, door-to-door activity, conversion incentives etc. we have created both a positive perception of firmus energy as a company and a positive experience and perception of natural gas.

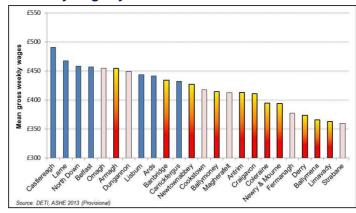
Household demand⁶ for converting to natural gas across the Ten Towns has increased to 15% in 2013 and we have successfully delivered 49% more connections, compared with our PCR02 regulatory targets. Natural gas has only been available for a few years in certain areas of the Ten Towns and as such there is a close alignment in the activity needed to develop the GTTW natural gas market. In assessing the 'job to be done' to grow demand for natural gas we have profiled the demographic make-up of GTTW and overlaid our experience to create an informed marketing and sales plan which will deliver the connection targets.

The 2011 Census Data shows the following:

Gross weekly wages are significantly lower in GTTW and the existing firmus energy licence area of Ten Towns than in the Greater Belfast and Larne area.

⁶ Based on agreement to the statement "I intend to switch to natural gas in the next 12 months." Page I 60

Figure 7.1.1a Mean gross weekly wage by Council area.



Compared to the Greater Belfast/Larne area and Ten Towns, GTTW is underrepresented in ABC1 Households (professional, managerial) and over represented in C2DE households (manual workers, state pensioners). However, GTTW is more closely aligned with the Ten Towns than the Greater Belfast/Larne area.

Figure 7.1.1b ABC1 groups by Council area.

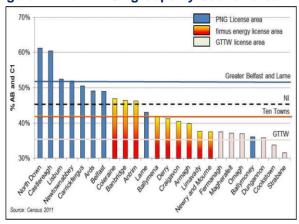
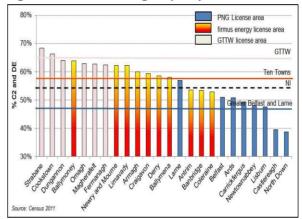


Figure 7.1.1c C2DE groups by Council area.



This 'lower earning socioeconomic group profile' is reinforced by Mosaic Northern Ireland analysis of household types within GTTW. When compared to the NI norm, the GTTW households tend to be under represented in the 'affluent' Mosaic groups and over represented in the 'under financial pressure' Mosaic groups.

Figure 7.1.1d Mosaic Northern Ireland Group Analysis

	NI Groups	% NI average	% GTTW areas
Α	Wealth and Wisdom	6.72%	2.03%
В	Better off Families	9.55%	4.58%
С	Ageing Suburbanites	18.89%	17.23%
D	Younger Nestmakers	7.57%	16.04%
Е	Small Town Renters	11.77%	15.31%
F	Students and Singles	5.61%	7.37%
G	Poor Seniors and Solos	10.41%	6.98%
Н	Housing Executive Tenants	15.80%	23.45%
I	Farming Communities	13.67%	5.78%

Mosaic Northern Ireland identifies groupings of 'similar' households using robust socio-demographic, lifestyle and behaviour data sources. It is the only household address and postcode classification covering all of Northern Ireland. It classifies all consumers into one of 9 Groups and 36 Types. As such it provides the ideal tool for analysis of existing Ten Towns customers to be used to profile and prioritise potential customers.

Learning and experience

Over the years we have conducted considerable face to face research in the Ten Towns into the customer "barriers and triggers" behind converting to natural gas. Our research shows that the barriers to natural gas that customers felt were:

- 1. Happy with their existing fuel source;
- 2. That it was too much hassle to convert to natural gas:
- 3. There were safety issues regarding natural gas especially following media reports of gas explosions in Great Britain and carbon monoxide leaks;
- 4. A fear of gas price rises in future following media coverage of the gas market in Great Britain;
- 5. That they could not afford the cost to convert to natural gas; and
- 6. A general lack of knowledge around natural gas as a whole.

Overall, GTTW is the least affluent of the 3 network regions, with a higher proportion of less well-off households than the NI norm and the introduction of natural gas will be completely new. However, our experience in the Ten Towns has shown that by investing in well targeted marketing activity, marketing messages and sales activity, we can stimulate and encourage conversion to natural gas, thereby providing a long term, sustainable solution, across all customer segments by emphasising the following benefits:

- **Economic** natural gas can save consumers money compared to oil;
- Lifestyle never run out of hot water or heat, also cook and tumble dry;
- Convenience no need for storage, fuel is available 24/7; and
- Environmental burns more cleanly than oil, removes carbon from the atmosphere

Growing connections

As part of our GTTW submission we have assessed the opportunity for connections both in total and by town. We have used Ordnance Survey maps, loaded into our GIS mapping system, to identify the number of properties in each town. We have used Mosaic NI data and NIHE data to identify the numbers of existing housing, NIHE properties and commercial properties overall and in each town. The overall addressable market for GTTW is summarised by Figure 7.1.1e.

Figure 7 1 1e	GTTW addressable properties by town	
1 IUUI <i>E 1</i> .1.16	GIIW audiessable biobeilles by lowii	

	Coalisland	Cookstown	Derrylin	Dungannon	Enniskillen	Magherafelt and Moneymore	Omagh	Strabane	Total
Pointer properties	3,389	6,431	47	7,529	8,577	5,840	11,279	6,999	50,091
A Wealth and Wisdom	0	0	0	207	344	164	227	0	942
B Better off Families	0	199	0	225	624	339	670	65	2,122
C Ageing Suburbanites	198	1,270	0	1,394	1,655	489	2,225	759	7,990
D Younger Nestmakers	300	767	0	977	1,357	981	1,676	1,383	7,441
E Small Town Renters	585	1,595	0	1,480	550	1,660	1,071	726	7,667
F Students and Singles	0	675	0	589	745	2	975	434	3,420
G Poor Seniors and Solos	0	264	0	755	892	249	470	607	3,237
H Housing Executive Tenants	1,596	1,050	0	1,002	1,430	879	2,329	2,590	10,876
I Farming Communities	443	305	29	325	74	705	483	318	2,682
Total Households	3,122	6,125	29	6,954	7,671	5,468	10,126	6,882	46,377
NIHE actual	0	1,055	0	1,813	2,019	1,299	1,889	2,210	10,285
Owner Occupied	3,122	5,070	29	5,141	5,652	4,169	8,237	4,672	36,092
Commercial	267	306	18	575	906	372	1,153	117	3,714

In addition to the 'desk top' analysis above we have surveyed each town to identify actual large contract loads and SME clusters. Subsequently each town has been mapped and marked up according to customer segments:

- Large Contract;
- 2. SME;
- 3. NIHE (supplied by NIHE);
- 4. New Build (supplied from Local Council area development plans); and
- 5. Existing households (identified and profiled by Mosaic NI group).

Our experience clearly identifies that maximising connections for the Large Contract, NIHE and New Build segments is best achieved through early and ongoing face to face engagement with key personnel to clarify cost benefits, lead-times, schedules, budgets etc. For mass markets such as Existing Housing and SME's it is crucial to stimulate and maintain demand from an early stage as the level of demand has a direct influence on the network build required to deliver the connection targets. A low level of demand will require a large network build whereas high demand will require a smaller build as set out in Figure 7.1.1f.

Figure 7.1.1f Demand v properties passed analysis

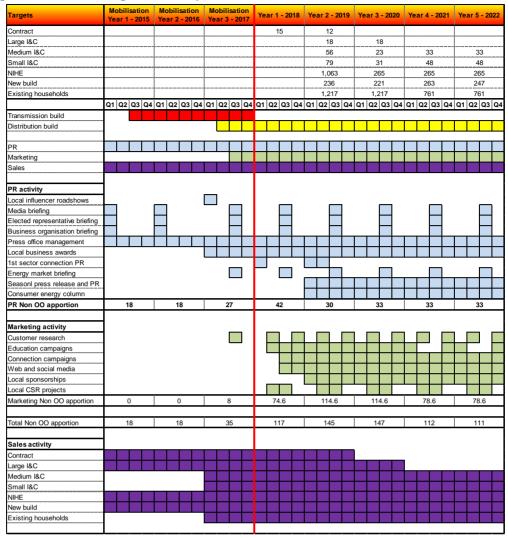
Level of demand to connect (%)	20%	30%	40%	50%
Existing housing connection target	1,217	1,217	1,217	1,217
Existing housing properties passed required	6,085	4,057	3,043	2,434
Total existing housing properties	36,092	36,092	36,092	36,092
% of total existing housing properties passed required	17%	11%	8%	7%

In carrying out this analysis and mapping exercise we have developed a planned network build in each town, for each year, fully aligned with planned marketing and sales activity to achieve both customer connection targets and volume targets in the most economically efficient fashion.

Our strategic approach will be to proactively educate customers to overcome our researched barriers to connection and stimulate demand for natural gas. Our plan is to maximise the impact of "mass market" channels (outdoor, press, radio, leafleting, social media, PR, sponsorship) in each town in order to educate as many customers about the key features and benefits (economic, environmental, convenience and lifestyle) of natural gas so that we stimulate and build interest in the product. In addition, targeted direct marketing (direct mail, email, face 2 face sales and events) will be used for prioritised customer segments and locations to stimulate demand and connections.

An overview of planned marketing and sales activity is set out in Figure 7.1.1g.

Figure 7.1.1g GTTW marketing and sales plan



7.1.2 Accountability in the organisation structure

Accountability for the growth in demand will sit with the Head of Marketing & Customer Operations. Accountability for the growth in connections will sit with the Head of Sales with support from the Head of Engineering. Effectively this tripartite approach creates shared responsibility at the most senior level of the business which will build on the success of the existing contract connections and connection strategy work streams enabling firmus energy to beat its connection targets.

7.1.3 Interaction with operations activities planning

Fortnightly town planning meetings take place between Engineering, Sales and Marketing. These meetings align the marketing, sales and engineering activities to ensure the network is built where there is both demand and sales available.

7.1.4 Interaction with customers

(To be read in conjunction with the Marketing and Sales plan at 7.1.1)

PR interaction with customers

Local Influencer Road Shows

Prior to works commencing in each town we will hold a 'Local Influencer Road Show'. The purpose will be to gather all local influencers together to present the benefits of natural gas, our build plans for the town and introduce our key personnel. This will ensure that from the outset, all key influencers in the town will have received the same comprehensive briefing. These Road Shows will take place in local venues and invitees will include but not be restricted to:

- Local elected representatives;
- Local chambers of commerce/trade;
- Key local businesses; and
- Community Leaders.

Media Briefings, Elected Rep Briefings, Business Org Briefings

Briefings to these key stakeholders will be planned to coincide with key stages of development – the award of the licence, the commencement of the transmission build, the start of the distribution build etc. We would also plan two sets of briefings each year to ensure that progress is communicated e.g. connection numbers to date, properties passed, next phase of development.

Press Office Management

A press office function will be put in place from the award of the licence to facilitate any media enquiries as and when they occur.

Local Business Awards

firmus energy will proactively seek to become involved in local business awards in each town. This will ensure that we are actively engaged with the local business community in each town each year and will provide a platform for on-going brand awareness.

1st Sector Connection PR

In each town we will generate publicity to mark the occasions of the first connections in the Large Contract, SME and existing housing sectors. This activity will help to sustain the awareness and demand for natural gas.

Energy Market Briefings

Currently in the Ten Towns we organise Energy Market briefings for Large Contract customers which provide an economic overview and a view of how energy prices will perform over the next year. These briefings help to position us as energy experts and as they have proved very popular we propose to extend these briefings to GTTW Large Contract customers.

Seasonal Press Release & PR

On-going Seasonal Press Releases and PR activity will be issued tying in a natural gas theme with specific seasonal messages and activities. Again this activity will help to keep natural gas at 'top of mind'.

Consumer Energy Column

In the Ten Towns we have agreed a consumer column in local press titles through which we can help to educate consumers about energy usage, savings, lifestyle products etc. We will extend this activity to GTTW.

Marketing interaction with customers

Customer research

Customer surveys are planned to establish and track progress key metrics such as brand awareness, brand reputation, price perception and future intentions. This research will inform levels of marketing spend and messages required to grow demand.

Education campaigns and Connection campaigns

Nine to twelve months before the gas goes live within a particular GTTW town, firmus energy will begin a demand stimulation marketing programme focusing on a specific customer segment. A combination of media channels (television, radio, print media, social media and local events⁷) will be used to begin initial customer awareness of the development and availability of natural gas in the GTTW towns. In addition to this activity we will in parallel actively seek registrations of interest/sales leads in order to build up a database of potential customers prior to gas actually going live in the GTTW towns.

All advertising materials will be designed around a clear and definite call for customer action and engagement e.g. call to action, "for an information pack and to register your interest call us on 0800 0324567 or visit

⁷ Local community halls / churches with representation and displays of natural gas appliances eg. central heating boilers, heating controls, meters, cookers, fires, tumble dryers, installation process.

<u>firmusenergy.co.uk/interest</u>". In parallel we will issue Direct Mail every three months to specific existing households and SME's advising when they will be able to connect to natural gas.

Local Sponsorships

We will sponsor local events in each town to build brand awareness, engagement and good will with the local population. This is the same strategic approach that we use successfully in the Ten Towns e.g. Derry/Londonderry Triathlon, Mid Ulster Soccer League, firmus 5 junior athletics. These are low cost sponsorships which deliver high yields and this will be firmus energy's approach in GTTW.

Local Corporate Social Responsibility (CSR) projects

firmus energy has an active CSR committee. Our staff are actively involved in our local communities through our 'Warming Communities' programme and as with our local sponsorships our CSR activities are structured to build good will, engagement and brand awareness with the local community such as CLIC Sargent, Riverside and Ceara Special Schools, National Trust and Action Cancer.

Sales interaction with customers

Large Contract and Large I&C

The CDM and KAM will be accountable for sales in this customer sector. Customer interaction will be via prearranged appointments with the site Engineer. Site plant will be assessed via a detailed survey and quotations/offers prepared to detail conversion and running costs. Potential meter positions will be offered. Possible new technology will be identified and a proposal for project management discussed. Several site visits are required allowing the customer adequate time to make an informed decision. There will be a continuous communication channel between the customer and CDM/KAM via email and telephone.

New Build and NIHE

These sectors will be managed as a combined sector i.e. with two Energy Advisors, each with a portfolio of New Build and NIHE customers in two defined geographical areas. From licence award the Energy Advisors will assess New Build and NIHE potential and actively engage, educate and influence their NIHE regional offices and town planners, builders and developers, architects etc. Each Energy Advisor will use a standard suite of detailed presentation materials addressing issues including safety, features and benefits, the connection process, meter information, billing information and energy savings advice. This will ensure that all customers receive consistent and sufficient information from the outset to overcome perceived barriers and to stimulate demand.

Each of the Energy Advisors will manage a 'work flow timeline' and map out connections required. This will feed into the fortnightly Town Planning meetings for each town and into the annual network build programmes for each town.

Existing residential housing & SME

As gas goes live our Energy Advisors will:

- Follow up on the 'registrations of interest/leads' already submitted as a result of marketing campaigns; and
- 2. Call with other 'able to connect' properties who have not yet responded to the direct mail.

Energy Advisors will conduct an Energy Audit at every dwelling. This audit will identify current energy usage and costs allowing suitable efficiency and saving recommendations to be made. Following on from the audit each Energy Advisor will use a standard suite of detailed presentation materials addressing issues including safety, features and benefits, the connection process, meter information, and billing information. This ensures that each customer receives consistent and sufficient information to overcome perceived barriers. Each Energy Advisor will arrange, on agreement with the customer, for installers to provide written quotations for installation costs. On acceptance of an installer's quote the Energy Advisor will re-visit the customer to secure a signed GAF. The GAF sets out our terms and conditions along with other information including payment method and meter position.

Once a GAF is signed the Energy Advisor will keep the customer informed at regular intervals about progress and connection date.

7.2 Plans to maximise the number of premises connected to the gas network

7.2.1 Arrangements for engagement and development of relationships with businesses, social landlords, and potential customers

firmus energy maintains a stakeholder engagement map as set out below. This ensures that ownership of engagement and relationship development with key bodies and organisations sits at the most senior positions in the company.

firmus energy will undertake a comprehensive stakeholder engagement programme in each GTTW town prior to any work commencing. We envisage a Key Influencer event in each town to provide sufficient information on the features and benefits of natural gas and our plans for the build out of the network. The invited audience for each of these events will consist of all 'influencers' within the town e.g. politicians, councillors, Chamber of Commerce, Chamber of Trade, religious leaders, sports club chairpersons, school headmasters/headmistresses, large employers etc.

Figure 7.2.1 firmus energy stakeholder engagement map

General Manager	Head of Regulation & Pricing	Head of Engineering	Financial Controller	Head of Marketing & Customer Operations	Head of Sales
Michael Scott	John French	Eric Cosgrove	Greg Bell	Des Brown	Paul Stanfield
Stakeholder Groups					
Staff	Staff	Staff	Staff	Staff	Staff
Parent company	Parent company	Parent company	Parent company	Parent company	Parent company
NI Government	NI Government	NI Government	Financial bodies	Media	Business organisations
Local	Regulatory	Energy		Energy	Housing
Government	organisations	organisations		organisations	organisations
		Contractor		Customers	
Bodies and Organ	nisations				
MLAs	UREGNI	PIG	HMRC	Journalists	СВІ
Local Councils	DETI	IGEM		Residential customers	IOD
Chief executives of regulatory	CCNI	Energy Institute		Business customers	NICOC
and key	Mutual Energy	HSE		NEA	Local COC's
stakeholders		DRD		EST	MNI
		McNicholas		Bryson Energy	NIRTA
					NIHE
					MEUC

Large Contract Business

Customers will be individually managed by our CDM and KAM and will be furnished with all relevant market information so they can make an informed decision. We will continue our active relationship with the Carbon Trust, Major Energy Users Council and Manufacturing NI and hold bi annual energy briefings to cover all large energy users.

SME Business

Customers will be managed by Energy Advisors. As in the Ten Towns firmus energy will become a member of local Chambers of Commerce/Trade and continue the relationship with NI Federation of Small Businesses on top of regularly contacting each business on or due to be live via active territory management.

Social Landlord

NIHE customers will be managed by Energy Advisors. We will engage with the local landlords association (LANI) and as in the Ten Towns provide information evenings to any interested community group.

New Build

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Builder, developer, architect, consultant and planner relationships will be managed by Energy Advisors.

Existing Housing

Each Energy Advisor will be in control of their area and able to present and sign up all housing sectors and small I&C.

Development of the installer and retailer network is crucial to future connection growth. Our plan is to extend our Local Installer Network who will sign up customers in the local area.

7.2.2 Arrangements for provision of connections to various categories of premise (owner occupied, NIHE, new build, small I&C, large I&C)

Development of the Local Heating Trade

Our experience in the Ten Towns has clearly benefited from the development of the Local Installer Network and associated trades, including natural gas retailers, manufacturers, plumbing suppliers and trade publications. The local installers in all sectors deliver the final conversion cost and it is from this cost that the final decision to convert is made. We have been very successful in developing the installer network with over 50 installers currently registered with firmus energy. All of these installers are Gas Safe registered and have satisfied criteria set down for inclusion on the list e.g. quality of work and customer service.

Please find below typical trade activity carried out by firmus energy in the Ten Towns which will be replicated for GTTW:

- Annual invitation to all installers to apply for inclusion on the local installer register by towns;
- Bi annual trade briefings outlining firmus energy network plans and successes to date supported by manufacturers and retailers;
- Weekly installer fact email which outlines "handy hints" and market information;
- Daily installer contact with Local Energy Advisors, following up on quotes and arranging joint marketing activity;
- Gas live information by town regularly communicated to trade bodies;
- Direct mail dates / messages and drop areas communicated to trade;
- All necessary branding / literature provided;
- Attendance at trade exhibitions e.g. Omagh Trade Show and trade breakfasts; and
- Host quarterly breakfast briefings in local plumbing supply showrooms in which local installers attend along with manufacturers.

With all of the towns in GTTW being more rural and close to our network we already have relationships with local installers/retailers and suppliers who all carry out significant business in GTTW. We are therefore, well placed to develop the trade even further with significant interest already being registered.

Large Contract and Large I&C

This sector will be managed by a CDM and a KAM. Every large potential contract site in each town has been surveyed by our CDM (30 years' experience in gas utilisation, conversion and account management) and a database compiled outlining contact details, existing fuel usage/cost, existing plant, likelihood to convert/cost, proposed future energy requirements and potential utilisation of new and more efficient technologies (for example CHP etc.). This information is the keystone in not only network design but also in prioritising build to ensure targets are achieved.

Other New Build opportunities have also been identified that will potentially increase the total gas volume within some of the towns. This will help mitigate volume loss from "prospects" who have already switched to a renewable heating source.

firmus energy already has business relationships with potential GTTW customers (e.g. Dale Farm, Moy Park, Kerry Foods, Linden Foods, WHSCT, NHSCT and each Education and Library board). These customers already have experience of firmus energy delivering conversion projects on time and providing dedicated account management following conversion (please see Customer Testimonials, Section 6 of this submission folder).

Figure 7.2.2a Typical GTTW town survey data sheet

rigure 7.2.2a Typical GTTW town survey data sneet						
Customer	Town	AQ in kWh	Therms	Fuel		
	Dungannon	64,000,000	2,183,771	Tallow		
	Dungannon	59,646,671	2,035,229	HFO		
	Dungannon	8,998,069	307,027	HFO		
	Dungannon	7,617,600	259,923	GO		
	Dungannon	5,025,500	171,477	GO		
	Dungannon	4,761,000	162,452	GO		
	Dungannon	4,388,489	149,741	GO		
	Dungannon	3,850,000	131,367	GO		
	Dungannon	1,800,000	61,419	LPG		
	Dungannon	1,700,000	58,006	LPG		
	Dungannon	1,800,000	61,419	LPG		
	Dungannon	1,300,000	44,358	GO		
	Dungannon	1,500,000	51,182	GO		
	Dungannon	1,500,000	51,182	GO		
	Dungannon	1,465,355	50,000	GO		
	Dungannon	1,465,355	50,000	GO		
	Dungannon	1,368,462	46,694	LPG		
	Dungannon	1,311,000	44,733	GO/LPG		
	Dungannon	1,300,000	44,358	GO		
	Dungannon	1,172,284	40,000	GO		
	Dungannon	1,058,840	36,129	GO		
	Dungannon	1,000,000	34,121	GO/LPG		
	Dungannon	634,800	21,660	GO		
	Dungannon	600,000	20,473	GO		
	Dungannon	180,944	6,174	LPG		
	Dungannon	126,960	4,332	GO		
	Dungannon	tariff	-	GO		
	Dungannon	tariff	-	GO		

Legend

- 1. Green indicates existing firmus energy customer
- 2. The two prospects in red have just issued a joint tender to convert to biomass and will have switched before gas becomes available

Existing fuel costs

With no provision for conversion incentive grants, experience suggests that the main decision to convert will be made on the payback period of conversion costs against savings made using natural gas over existing fuels. Figure 7.2.2b sets out the current net costs of competing fuels per kWh.

Figure 7.2.2b Existing fuel cost summary

Fuel type	Typical cost per kWh (net)		
Gas oil	6.3p		
Heavy fuel oil	4.65p		
Tallow	3.33p		
LPG	4.0p - 7.0p		
Wood chip	2.2p (30% moisture content)		

Conversion Costs

Conversion costs will vary from site to site depending on, for example, existing age/condition of plant but as an example for large users like conversion costs per site will range from £100,000 - £200,000 with each site having at least 2 steam boilers. LPG sites will be cheaper to convert but these costs will depend on whether or not existing pipework can be reused. The conversion cost at could run into several hundred thousand pounds as the conversion is complex and will have to be carried out by a European specialist contractor.

Customers' appetite to convert

In our experience the public have welcomed the opportunity to convert to natural gas. All will be seeking financial savings as well as environmental benefits. The main impediments to conversion will be the availability

of capital to pay for conversion costs and the inability to recover any capital investment within company approved timelines.

To encourage connection to the network and to undertake a downstream conversion as soon as gas becomes available it will be necessary to provide some conversion incentive assistance. Given that many of our potential large customers have previously received incentives in Ten Towns and Greater Belfast, there is an expectation that incentives will be available to stimulate conversion.

Conversion Strategy

Following physical surveys of all the large I&C customers we have put together an initial construction/connection programme to satisfy ourselves that we can achieve connection and volume targets. We will continue to work closely with our engineers in designing/programming the network build in line with customers' commitment following receipt of "letters of intent" to proceed. Prior to customer approach and commitment to provide gas, we will have carefully selected, via a "likely to convert" ranking system, those to be approached initially and thereafter.

It is often difficult to coordinate the conversion of the larger boiler plants as many customers operate on a 24/7 production basis. We would therefore propose to kick start the customer negotiation process immediately after the licence is awarded. Our objective would be to encourage as many of the large customers to purchase and install dual fired burners (oil and gas) during planned maintenance shut down periods prior to FOCD. This will facilitate faster connection, less disruption and loss of production for the customer when gas becomes available.

Our experience demonstrates the advantages that customers can benefit from as we can deliver transparent running costs from our knowledge of the gas commodity market along with our ability to coordinate and manage a seamless installation and conversion. We find that customers prefer a "one stop" approach when initially converting from other fuels to natural gas. This integrated ability provides the customer with all the necessary information from which they can make their decision to convert and as our Supply Company has the ability to forward purchase gas on behalf of the customer we can work to deliver the best value from the wholesale gas market, maximising savings for the customer.

Customer presentations leading to proposals will be tailored around price differential against existing fuels, environmental benefits, lower maintenance costs, conversion costs/specification and the offer to project manage the conversion process. Our proposals is designed to enable customers to make an educated decision and speed up the connection process through our existing relationships with Industrial Installers, burner/boiler manufacturers, pipework installation companies and specialist natural gas equipment suppliers we will continue to offer customers the total conversion package from start to finish. Our extensive knowledge of the gas supply market we will assist the customer in arriving at the most suitable gas purchasing options and procurement strategy with their chosen gas supplier.

Residential, I&C Small and I&C Medium Customers

These sectors will be managed by a Sales Manager and 4 Energy Advisors. The Energy Advisors will be multidisciplined and trained in both of these sectors so as to ensure total area saturation. The Energy Advisors will be local to the towns they will be working in and responsible for achieving the targeted connection numbers in a specific territory. On finalisation of the proposed network build programme the Energy Advisors will call with every premise/house due to have gas passing its door and carry out an Energy Audit/presentation outlining the benefits of natural gas and preparing for connection when gas becomes live. Customer relationships are crucial in the development of a rural network and the aim is for the Energy Advisors to become known as the "gas" expert in the town.

All data will be collected via tablet technology and stored within the Customer Management System for recontacting when gas is due to become live. Experience has shown that complete territory ownership by individuals proves to be highly effective in relation to connection numbers. The Energy Advisor will work closely with marketing to tailor campaigns to suit local customers. Customer presentations will be via tablet technology which will outline the benefits, connection options and energy saving tips. Tablet technology will assist in remote field management as the Sales Manager will have access to a location monitor and activity will be monitored via completed audits. The plan is to have a paperless system which will save time and money. When gas becomes

available the Energy Advisors will revisit those customers who already expressed interest and along with organising installer quotes will sign interested customers up for connection.

As gas will be a new fuel we will ensure that a 12 month leased "show house" is set up in each town so that potential connections (SME, NIHE, New Build and Existing) can experience live working equipment and appliances. This will be funded by appliance manufacturers and installers and will be constantly manned to ensure safety.

New Build and NIHE Customers

These sectors will have the same Sales Manager as above and will be managed by local Energy Advisors, yet again multi-disciplined to deal with both sectors and working in a specific territory.

New Build

After analysing the potential market via town development plans, area familiarisation and reports issued via the weekly Construction Information Services Ltd (weekly publication outlining all planning applications and building control applications by town) all New Build potential will be clearly identified and planned by the Network Development Manager.

An education programme will commence from 'award day'. It will outline the benefits of natural gas and advising on "gas live" dates in towns to ensure that builders/developers use natural gas for all new development opportunities. Activity will be focused on the following groups:

- Architects:
- M&E consultants;
- · Estate agents;
- Developers;
- Builders:
- · Building control officers;
- Town planners;
- Installers: and
- Appliance manufacturers.

This education process will include demonstration and presentation of all the benefits of natural gas along with the technical specification of preparation work that builders must adhere to prior to gas being delivered to site. Referrals from our existing Ten Towns builders will be encouraged to answer any questions builders may have.

NIHE

Key to success in this sector is the NIHE Heating Replacement Programme. The ability to deliver gas on to site to meet the project timescales is set down by the NIHE and its appointed contractors. We already successfully work with the NIHE appointed contractors and NIHE Regional planners in the GTTW area (H&A Mechanical and BC Energy) and have a good understanding of their requirements. We have already met with NIHE district planners and have obtained details of its future Heating Replacement Programme. We have advised them "tentatively" of possible gas live dates so that they develop their heating replacement programmes around the arrival of natural gas in GTTW.

Education about natural gas and its many benefits is essential for the success of GTTW as many local people will have safety concerns. We will undertake an education process with NIHE regional offices so that Maintenance Officers and tenant facing technical staff will have all the necessary information to answer any concerns that their tenants may have.

Our education process on NIHE estates would begin with Members of Local Assembly (MLAs), councillors and community groups. We will set up educational road shows within community halls and use of mobile display caravans. These shows will have NIHE heating installer representatives who will demonstrate the work that is to be carried out in each house. The benefit/running cost and safety message will be emphasised to ensure that the tenants make a fully informed decision.

Once a heating scheme is finalised our Energy Advisor along with the NIHE installer representative will visit every house within that scheme and carry out a tailored sales presentation to encourage the tenant to convert to natural gas.

7.2.3 Specific proposals for promotion of connections to vulnerable customers

Natural Gas is a recognised means of reducing fuel poverty - a recent CCNI Report⁸ showed that households in Northern Ireland that use natural gas spend on average over £1,000 less on heating per year than those households using home heating oil.

Building on this significant intrinsic benefit, firmus energy has engaged in several partnerships with Bryson Energy and including a 'Winter Warmth Scheme' which helps most vulnerable customers improve energy efficiency in their homes. This had a knock-on effect of lowering natural gas bills. This free service was designed for customers living in our network area outside of greater Belfast who were more than 60 years old and living alone or with a minor, have a disability or are chronically ill. The scheme offered a home visit from a professionally trained Bryson Energy representative who reviewed the customers energy bills, ensured they were fully aware of how to get the best use from their natural gas heating system and referred those eligible to any suitable energy efficiency schemes. In fact 34% of all scheme participants passed a benefits entitlement check with a £47 per week average increase for successful applicants. A similar initiative is currently on-going. This partnership approach to fuel poverty would be replicated for GTTW.

firmus energy advisors also actively source referrals and promote the Warm Homes Scheme introduced by the DSD to tackle fuel poverty. The scheme provides a package of free energy efficiency and heating measures to residential home-owners and those who rent from private landlords on a qualifying benefit. In addition to providing a natural gas connection, Warm Homes offers:

- Cavity wall insulation;
- Loft insulation;
- Hot water tank jacket;
- Benefit entitlement check;
- · Energy advice;
- Warm Homes Plus offers; and
- Insulation measures.

firmus energy's sales team currently promotes this scheme in their day to day contact with residential customers, and this approach would be replicated for the GTTW.

firmus energy is actively engaged with stakeholders in Northern Ireland that represent fuel poor customers such as NEANI, EST, Bryson Energy, Age Sector Platform, the Fuel Poverty Coalition, CCNI and Christine Liddell at University of Ulster. Through this active engagement we participate both at a policy level (firmus energy is Chair of the DSD thematic group on Fuel Poverty Prevention and member of the Northern Ireland Fuel Poverty Coalition) and in several funding schemes such as NISEP, Warm Homes, Cosy Homes and the DSD Boiler Replacement Scheme. Therefore we will work to ensure fuel poor customers in GTTW can convert and receive the benefits of natural gas in the most cost effective manner.

Within the Ten Towns licence area we offer a wide range of innovative measures that assist vulnerable groups, and we will extend these benefits to customers within the GTTW area. These include:

Prepayment meters:

 Prepayment meters help fuel poor households to manage their gas consumption on a 'pay as they go' basis;

- Oil companies do not provide prepayment facilities and charge around 3 times the standard pence per litre rate for a 20 litre 'emergency' oil drum on garage forecourts; and
- Prepayment meters continue to be used as an effective budgeting tool in many households across the Ten Towns.

⁸ "Customers Experience of Natural Gas in Northern Ireland", Consumer Council for Northern Ireland, June 2012 Page | 72

Prepayment tariffs:

• firmus energy does not charge any premium for using prepayment meters – this is contrary to GB where a premium is often charged.

Efficient heating systems:

- Natural gas is a highly efficient fuel, so consumers get an excellent return on every unit of energy spent⁹. Modern condensing boilers, which use hot flue gases that are wasted in a standard boiler, have very high efficiency and converting from a 10 year old 'G' rated oil boiler to a new 'A' rated natural gas boiler can lead to an improvement of 32% boiler efficiency and a saving of around 44% per annum for domestic customers.
- firmus energy works closely with Gas Safe and our provincial installer network to promote the installation of high efficiency Sedbuk 'A' rated boilers plus full system controls (time clocks, room thermostats and Thermostatic Radiator Valves) which ensures reduced energy costs and carbon emissions for customers.

firmus care scheme:

firmus energy operate a care scheme for its vulnerable natural gas customers. All vulnerable customers are 'flagged' on our database to ensure they receive priority treatment. Our firmus care scheme and our Code of Practice on the Provision of services for Persons who are of pensionable age, or disabled or chronically sick are published on the firmus energy website. firmus care provides:

- A free annual boiler service to firmus care customers:
- A pre-arranged password scheme with older or vulnerable customers to give added peace of mind;
- Special controls and adaptors for customers who have difficulty turning appliances on or off, free of charge;
- Energy efficiency advice;
- The ability to send bills to a relative, friend or neighbour; and
- A service to reposition gas meters if it is difficult to access, subject to technical survey, free of charge.

7.2.4 Standards of service specified

Our Guaranteed Standards of Service for both Distribution and Supply are published on our website. They comply with the Gas (Individual Standards of Performance) Regulations (Northern Ireland) 2014.

7.2.5 Proposals for maximising connections for owner occupier and non-owner occupier customers

Our proposals should be read in conjunction with Section 7.2.2. Through our 5 stages of Business Development we will maximise connections. These are:

Stage 1 – Identify potential connections in each market sector:

Residential – using the Ten Towns customer analysis and GTTW town maps we identify the "likely to connects", mailshot for register of interest and follow up with door knocking. This tells us the real demand and potential connections which will allow us to prioritise the network build in line with customer demand.

New Build – via town development plans/architects/planning consultants/developers/estate agents and builders we will identify sites coming into build and their timeframes. These timeframes will be factored into our planned network build.

NIHE – we have an established conversion plan with local NIHE regions in line with their 15 year boiler replacement programme. Again this will be factored into the planning for our network build.

SME – we have surveyed all business properties in each town and identify potential connections. Face to face selling will secure those most predisposed to converting to natural gas.

Contract – from surveys already completed we will plot loads on our network map and prioritise our network build according to their readiness to convert.

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⁹ http://www.which.co.uk/energy/creating-an-energy-saving-home/guides/home-heating-systems/gas-central-heating/

Stage 2 - Finalise Network Build

Stage 3 - Communicate gas live date

Stage 4 - Gas Live Day - start signing up customers

Stage 5 - Repeat and Refresh from Stage 1 so that a rolling 12 month programme is maintained.

As all potential customers will have been presented to and their details/information captured via an "Energy Audit" we will actively outbound call and Direct Mail them to keep updated with a view to getting connected in the future. The Sales process will be managed by an effective Customer Relationship Management (CRM) system with active re-contact schedules set up.

7.3 Interaction with Suppliers

7.3.1 Arrangements for engagement proposed

Critical to the success of any open market is a clear legal and operational framework. firmus energy has experience of facilitating competition in the Ten Towns network. To do this we worked closely with the UR and key stakeholders to gain an understanding of the needs of the marketplace, licence obligations and operational requirements.

Central to this was the implementation of a Network Code which determined the operational requirements placed on both firmus energy as the Network Operator and suppliers operating within the area. firmus energy considered numerous options when deciding on the most appropriate Network Code to implement; pivotal to this was ensuring that a Northern Ireland consistent approach was taken. It was agreed that while other Network Codes held some operational benefits, the Network Code which was implemented for the Greater Belfast area amended to address the differences for Ten Towns was the most favourable option for all stakeholders. The Network Code was then used to detail how supplier interactions would be facilitated. All information relating to the Ten Towns market opening was disseminated via industry forums which ensured all suppliers could be treated equally in terms of information provided, enquiries addressed and the timeliness of responses. Industry forums are facilitated by the UR and minutes including any documentation discussed are provided to any supplier with a Supply Licence, again ensuring fairness.

The Transportation Services Team is responsible for the day to day interactions with Suppliers. This team work closely with suppliers from initial market entry enquiries through to ensuring they are confident in undertaking the agreed process when they become operational. Contact lists are provided by the Transportation Services Team and are also requested from each supplier to facilitate effective and efficient communication between all parties.

firmus energy continuously strives to make improvements to the way in which supplier engagement is facilitated and operational procedures are often updated and amended based on feedback from suppliers. New processes such as those required for Full Market Opening in Ten Towns are actively consulted on through industry fora. Both new and updated documents are published to all suppliers. This approach has been successful in facilitating supplier engagement and it is proposed the same processes would be mirrored to facilitate an open marketplace for GTTW.

7.3.2 Explanation of how the applicant will coordinate with supply companies to meet respective licence obligations

The I&C market opened to competition in Ten Towns on 1st October 2012. firmus energy's Transportation Services Team worked closely with the UR prior to this date to ensure full engagement with all key stakeholders. To meet the terms of conditions 1.23¹⁰ and 1.24¹¹ of the conveyance licence specifically, a work plan was developed outlining key areas for development. This plan was agreed with the UR and shared with industry via an existing industry forum the Gas Market Opening Group (GMOG). As mentioned above, distributing information via the GMOG forum meant firmus energy could ensure that all suppliers were treated equally in terms of information received and the timeliness of such. The work plan addressed the need for a

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¹⁰ Condition 1.23 relates to Systems to Facilitate change of Supplier

¹¹ Condition 1.24 relates to Prohibition of Discrimination in provision of Services

legal framework, credit vetting processes and a Network Code to govern all supplier interactions on the Ten Towns network. A suite of market processes were developed to compliment the Network Code and assist suppliers with understanding how operational matters would be handled. Again these documents were agreed with the UR and distributed via the GMOG working group to perspective Suppliers.

As part of the Gas Supplier Forum firmus energy actively engaged in the revision of the existing SMP Agreement (a supplier owned document previously used in the Greater Belfast area only) to ensure changes applied were consistent with the Network Code implemented for Ten Towns and firmus energy internal business processes.

Internal system and business process changes were also necessary to facilitate smooth market entry for suppliers. Each system and business process change was tested internally prior to the go-live date to ensure they were fit for purpose, but also user friendly and not unnecessarily onerous on suppliers new to the market.

Our Transportation Services Team also conducted in depth training with all suppliers to ensure both the firmus energy distribution business and all prospective suppliers were in a position to be fully compliant with licence obligations. Training was provided on areas such as the accession process and health and safety requirements to ensure suppliers were comfortable with the obligations placed on them prior to actually entering the market. Following this, a more in depth operational training session was provided, which included an overview on switching processes, nominations and daily allocations processes and general sources of information. On an on-going basis we engage with registered and prospective suppliers via email and telephone to ensure operational requirements are being adhered to.

I&C market opening was applicable for a limited number of connections on the Ten Towns network. For this reason it was agreed that the most cost-effective approach to facilitating change of supplier would be to implement manual processes with limited investment in IT infrastructure. While this method was appropriate in meeting the needs of the I&C Market Opening, it will not be suitable for Full Market Opening which will mean a significant increase in the number of connections permitted to change supplier. To address this firmus energy has initiated a project to facilitate a semi-automated switching system for Ten Towns, which means the number of switching requests which can be processed will be substantially increased. As part of this process firmus energy is working with interested suppliers to determine the capabilities required to ensure the most cost effective solution is implemented.

This approach has been successful in facilitating I&C market opening and is also being adopted for full market opening on the Ten Towns network. We will replicate this process in GTTW as firmus energy believe this coordinated and consistent approach is the most appropriate way to engage suppliers in order to fulfil the requirements of the existing Conveyance Licence.

7.3.3 Proposals for planning and coordination of activity

firmus energy will submit and agree a project plan outlining work areas to be undertaken prior to gas going live. As with the previous I&C market opening and the current full market opening we envisage this will form a consultative process with the UR where deadlines for submission of various elements would be agreed and discussion around the form and detail provided on each area would be determined by a collaborative approach.

We will utilise the existing industry fora as a means of engaging suppliers in GTTW with the support of the UR to apply a structured and consistent approach to all communications. This is the most appropriate approach to the coordination of activities is to ensure an approach that is consistent across Northern Ireland, allowing suppliers operating in the Ten Towns area and the Greater Belfast area to enter the GTTW area with ease.

7.3.4 Proposals to interact with industry forums as appropriate

firmus energy is actively engaged with the Supplier Forum, the Distribution Forum and GMOG from both a Distribution and Supply perspective. We have designated staff to attend each forum and we propose to replicate this approach for GTTW. Currently these fora are scheduled monthly. However, the frequency is often increased where there are particularly significant workloads to be undertaken. Again, firmus energy would be satisfied with any increased level of engagement required to facilitate GTTW.

7.3.5 Arrangements, including all relevant systems to support a competitive retail market

We are currently developing a switching system based on existing change of supplier manual processes. Fundamental to this is ensuring consistency with the Network Code and agreed market processes. firmus energy actively participates in the Gas Supplier Forum from a distribution and supply perspective. Currently a

review of the SMP Agreement which is owned by all gas suppliers in NI has been undertaken, the purpose of this is to update all schedules to ensure additional requirements of full market opening are captured and communicated to all suppliers, in agreement with the UR. firmus energy will continue to input into this process through the agreed channel of the Supplier Forum.

firmus energy has received UR approval for the following documents in relation to market opening for Large I&C customers:

- Distribution Network Code;
- Connection Policy;
- Code Modification Rules;
- Accession Agreement;
- Code Credit Rules and Associated Proforma;
- Code Validation Rules:
- Site-works Processes and associated Proforma:
- SMP Confirmation and Response Statements;
- Emergency Documentation / processes; and
- Market Readiness.

These documents are currently being reviewed by firmus energy for full market opening to ensure all aspects including Small I&C and Domestic connections are documented and communicated to suppliers. In parallel to this a review of internal processes is being carried out to ensure that there is clarity in-house on which processes relate to the supply business and which are the responsibility of the distribution business. The documents provided to suppliers will be established and recognised by suppliers in preparation for GTTW, which will operate as an open market from day one.

firmus energy reports separately on its distribution and supply businesses. A Distribution Board provides governance for the distribution business and a Supply Board provides governance for the Supply business.

7.4 Public Relations

7.4.1 Set out range of activities and stakeholders proposed and the rationale for these

Throughout the development of the Ten Towns network firmus energy's rationale has been proactively to engage and consult with stakeholders to create a positive image of both the company and natural gas as a product. We propose to continue this successful approach for GTTW.

A Stakeholder Engagement Map (Figure 7.2.1) ensures that key stakeholders are identified and engagement with them is managed at the most senior level in the organisation. Key stakeholders include Government and Local Government, regulatory organisations, energy organisations, industry organisations, business and consumer organisations, media and customers. From licence award, firmus energy will commence a series of structured briefings to ensure that these stakeholder groups are kept well informed of plans and progress. Separate Key Influencer road shows will take place in each town, 9–12 months ahead of 'gas live', with an extended stakeholder audience to include local head teachers, religious leaders, key business owners, local chambers etc. This will ensure that all influencers in a town are kept abreast with network plans ahead of network build commencing. Our current 'press office' will extend to GTTW from licence award to provide a contact channel for all stakeholders and regular briefings and updates will be provided on an on-going basis.

A series of tactical PR campaigns will promote the specific benefits and features of natural gas on a regular basis to potential customers and help to stimulate demand from domestic households. PR activity will be coordinated with engineering, advertising and sales activity ensuring an integrated and efficient approach is maintained. Our PR activity plan is set out in Section 7.1.1 and the PR activity detail is set out in Section 7.1.4.

8. Operational Cost Forecasts

- Costs and activities have been developed to ensure that the highest safety standards are in place from licence award;
- Operating costs over the first 10 years of GTTW (excl. mobilisation) total c.£20.8m;
- Existing business will enable us to achieve manpower efficiencies of 14 less staff for GTTW compared to setting up a stand-alone business (£4.2m saving over 10 years);
- Operational Cost forecast is based on the experience firmus energy has gained in developing a similar provincial greenfield gas distribution network in the Ten Towns; and
- The basis of our submission is GD14 determined costs.

8.1 Cost forecasts (work book submission)

8.1.1 Explanation of cost build-up

Based on this considerable experience to date including the GD14 price control, we are uniquely placed to estimate the operating costs involved in setting up and operating a greenfield low pressure rural gas network within Northern Ireland.

In developing our estimates of future operating expenditure and the risk associated with the price cap form of control, we have based our costs, as entered in the workbook, not only on our experience in the Ten Towns but also on the specific requirements of this licence application, assuming the pattern of connections and volumes set out in the workbook.

All costs have been supplied on the basis of April 2014 prices and any efficiency improvements have been builtin to the cost inputs (these efficiency improvements are outlined in more detail in Section 8.5). We have also identified any risks associated with operating activities and have built these into our costs.

Based on our Ten Towns experience, there is a rise in operating costs in the first few years and these then start to level off in later years. We believe this to be even more the case for GTTW as the model for network development is a "FAT" business model that encourages the maximisation of all connections as early as possible.

8.1.2 Explanation of assumptions used and their appropriateness

As noted above, we have assumed the pattern of connections and volumes set out in the workbook in building our operating costs.

All other assumptions used in deriving cost inputs are noted in Section 8.3 under each cost heading.

8.2 Alignment with the business plan

8.2.1 Explanation of how activity and cost forecasts in the workbook accord with stated objectives of this business plan

The objective of the operational business plan is to demonstrate how firmus energy will deliver efficient operation of the low pressure system, as represented in the workbook, in a manner that is compliant with all relevant safety, regulatory and statutory obligations.

The cost forecasts and activities outlined are designed to ensure that we provide the excellent level of service we pride ourselves on within the Ten Towns network, whilst achieving value for money on costs and hence minimising distribution charges long term.

Costs and activities, specifically in relation to Manpower, Emergencies and Network Maintenance, have been developed to ensure that high standards of safety are maintained and that response times are kept as low as possible.

8.3 Activity costs build up

Objectives

- 8.3.1 Range of activities set out covers all operational costs which will be incurred under the licence;
- 8.3.2 Each activity fully detailed; and
- 8.3.3 Rationale is set out.

Activity costs have been designed to cover all operational costs from the date of licence award to FOCD¹² – i.e. the 'mobilisation' period and for the first ten years from FOCD.

We have outlined below our assumptions for each cost activity for the first ten years from FOCD (mobilisation costs are outlined in Section 3), detailing activities, rationale for costs, tender considerations and any identified risks.

The detailed calculations for cost build-ups, explaining how the numbers input into the workbook were derived, have been appended to the Operational Business Plan in the Low Pressure Workbook (Section 4 of this submission folder).

It should be noted that all costs included in the workbook exclude any costs to be recovered through the domestic connections incentive mechanism.

Marketing, Advertising & PR for Non-Domestic Connections

firmus energy has connected over 2,000 non-domestic customers to the Ten Towns network. To achieve this level of connections within such a short period of time, we have invested significant time and resources in marketing, advertising and public relations as well as offering incentives to further attract I&C customers.

For every new I&C connection, firmus energy carries out a cost/benefit analysis of the project to ensure that the NPV derived is greater than the costs of connection together with any incentive offered.

From this considerable experience and given the similarities between GTTW and the Ten Towns we are able to estimate the marketing, advertising & PR required in attracting non-domestic connections, not only in terms of cost but also who to target, the risks involved and what form of marketing/advertising is most efficient.

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¹² This means the date when gas first flows on a commercial basis through the pipeline.

Section 7.1.1 details the plans and costs to achieve targets for growth in connections and our proposed Public Relations activity.

To derive the costs we have used in the Data Input Workbook, we have made the following assumptions:

Market Development, Advertising & PR

Post Mobilisation, PR and Marketing costs build up aligned with network development and sales activity. Costs are based on the specific activities required for ongoing stakeholder engagement and connection targets. Activity will focus on individual towns and costs are based on actual costs for similar activity in Ten Towns. See Figure 7.1.1g Marketing and Sales overview.

PR activity continues from the mobilisation activity:

- Annual face to face progress briefings to Elected Representatives, Business Organisations and local Media in each of 5 key towns. Based on Ten Town experience these costs will be £3k per annum per town:
- Press Office function estimated at £500 per month (£6,000 p.a.) to field ongoing enquiries;
- Sponsorship of local Business Awards in each of the 5 key towns at c.£800 each;
- 1 x Energy Briefing Event at a cost of £1,000;
- 1st commercial connection PR in each town of £3,000 for each of 5 key towns; and
- On-going local Press articles targeting potential commercial customers (aligned with Ten Towns)

Marketing activity commences in earnest 9 months ahead of I&C connection targets to allow sufficient time and activity to stimulate the required demand for connections in the target years. Marketing activity centres on:

- 2 waves SME research per annum focus groups/depth interviews at £10,000 per wave;
- Print Collateral and Direct mail for Contract, I&C, NIHE, New Build etc. at £4,000 per month;
- Local press advertising (11 local titles at c £750 each per insert);
- Radio advertising non Belfast centric stations (Q network, Cool FM, Downtown); and
- TV We have engaged with PNG to investigate the potential for a joint 'convert to natural gas' TV
 campaign

Incentives

To attract the required level of I&C connections, firmus energy will offer a cost effective incentive. We have assumed that 25% will require this incentive during years 1 to 5 and this will reduce to 12.5% as the market matures from years 6 to 10. We have assumed an average incentive of £2,000 based on our experience to date. Domestic incentives are included within the domestic connection incentive mechanism.

Emergencies and Network Maintenance

As more fully described in Section 5.8, firmus energy has a full suite of emergency procedures currently in place for the safe conveyance of gas in the Ten Towns and these would be extended to the new network, taking account of the extended geographical area to be covered.

firmus energy engineers provide supervision at gas escapes, while our Period Contractor provides the first response service and excavation teams through the Period Contract arrangement.

From our experience of the Ten Towns network, in the first years the level of emergency call-outs and network maintenance is expected to be low, given that it will be a new distribution system.

With more domestic customers being connected and the pipe system maturing, the emergency call-outs and repairs and maintenance will undoubtedly increase. However, it has been our experience that with the quality of pipes used, there should not be any major repair work necessary in the first ten years of operation.

There is always a risk of unforeseen third party interference damage to the network. These will be recovered from the contractor responsible.

Emergency Call Centre Costs

Call centre costs comprise emergency reports that require investigation by a first call operative and calls which can be generally categorised as general enquiries where no further action is required. We will work with other Distribution Network Operators in Northern Ireland to ensure that these costs are minimised.

As the principal driver for call centre activity we have used the total number of customer connections. There is a fixed cost of £60,000 which is proportionately based on our existing Ten Towns call centre arrangement and a variable cost of £24 per emergency call based on GD14 (2014) figures.

Currently within Ten Towns we are working towards an emergency call rate of 20% (GD14 determination). For GTTW, we estimate that the call rate will reduce to 9% through the roll-out of a consumer education programme to reduce non-essential calls in partnership with other Network Operators and HSENI as well as the introduction of new metering technology.

Emergencies (First Call Costs)

As the principal driver for emergency activity we have used the total number of customer connections. Similar to the call centre costs above, there is a fixed and variable cost. A fixed cost of £60,000 has been calculated on a proportionate basis using our existing Period Contract retainer/emergency stores cost. We have assumed an average variable cost per call-out of £143 based on GD14.

Currently we are experiencing a call-out rate of 12% in the Ten Towns while working towards the GD14 target of 10%. For GTTW, during years 1 to 5 we estimate 9% of customers per annum will require an emergency call-out which, we estimate, will reduce to 8% through years 6 to 10 due to the roll-out of a consumer education programme to reduce non-essential calls in partnership with other Network Operators and HSENI as well as the introduction of new metering technology.

Maintenance and Repairs

As the principal driver for maintenance we have used medium/large I&C connections with an average cost of maintenance of £500 per connection in line with current third party service provision rates.

There is no charge for repairs as costs are recharged to the Period Contractor or the person responsible for the damage, as appropriate.

Manpower

The proposed build-up of manpower resource levels during years 1 to 10 is set out in detail within Section 2. Our cost forecasts for manpower follow the proposed build-up using GD14 determined manpower costs uplifted to 2014 prices and excluding any capitalised labour and sales costs that are to be recovered through the domestic connections incentive mechanism.

The rationale for GTTW manpower requirements is based on an incremental approach to our existing Ten Towns distribution business and takes into account synergies whilst being mindful of customer connection targets. Our proposals equate to 14 less staff (c.40%) compared to our estimate of a standalone GTTW network based on GD14 determined resource levels. A detailed analysis of incremental manpower numbers by department, GD14 pay band, role and timing of hire is presented within Section 2.

Other manpower costs (training, travel and transport, and labour related costs incl. recruitment) are incorporated within the manpower cost category and are based on staff numbers required during years 1 to 10. Other labour related costs will be captured under external arrangements with the Period Contractor.

Please refer to the detail manpower summary worksheet in the attached workbook.

Office Costs

Buildings

firmus energy is ideally placed within our existing offices at Kilbegs Business Park, Antrim, to reach each GTTW town. We have performed in-house test trials to verify that additional decentralised office locations are not required and note that we are currently servicing towns from Warrenpoint to Derry/Londonderry within the Ten Towns network from this location.

In order to cater for the incremental GTTW staff requirements outlined in Section 2, we will proportionately increase our footprint at Kilbegs Business Park. Therefore, we have based our forecast on GD14 determined costs uplifted to 2014 prices, which we have applied proportionately to expected GTTW staff levels as illustrated within the attached Excel workbook. This equates to a rate of £2,996 per staff member each year between years 1 to 10.

Telephone, Postage and Stationary

Telephone, postage and stationary costs include both a fixed cost and variable cost component. We have modelled a fixed cost of £10,000 per annum representing the telephone line rental cost which is based on and proportionate to our existing Ten Towns service arrangements. Meanwhile, the variable cost element is driven by GD14 determined costs uplifted to 2014 prices and allocated proportionately in reference to annual GTTW connection targets as a function of Ten Towns customer numbers reflecting extra handsets and expansion of phone systems.

Insurance

Forecast insurance costs between years 1 to 10 are based upon a blended driver which is a function of staff numbers, length of pipeline and volumes (required when broking insurance cover) during the forecast period and relative to their respective GD14 levels. The resulting blended rate has been applied to GD14 determined costs uplifted to 2014 prices.

Professional and Legal Fees

Forecast professional and legal fees for GTTW represent an extension of what we already do in Ten Towns and as such are a function of expected staff levels as a proportion of GD14 determined staff levels which is applied to the associated GD14 determined costs uplifted to 2014 prices.

Information Technology

We have identified IT cost efficiencies as firmus energy already has the requisite information systems in place required to provide management information necessary to manage the GTTW network. As such there will be no significant change to the existing information system architecture which primarily consists of; Oracle Financials, felive, GIS and other desktop systems.

In light of the above, forecast IT costs primarily reflect incremental customer and staffing requirements and have been modelled based on GD14 costs uplifted to 2014 prices profiled using a blended rate of forecast GTTW staff levels and volumes proportionate to firmus energy GD14 determined levels and actual firmus energy distribution volumes after 10 years.

Miscellaneous

The key component of the miscellaneous cost category is shared service cost recharges from existing Ten Towns arrangements that our GTTW operations will benefit from. These shared services primarily consist of; the recharge of senior and wider management time spent directly on GTTW, accounts payable, payroll, IT and business continuity costs.

Given the significant experience firmus energy has already gained in building a successful gas distribution business, these recharges represent significant value for money. The current team of experienced professionals understand the challenges posed by entering a new greenfield market and are best placed to respond to these in the most efficient manner. The synergies gained from combining specifically employed GTTW employees

with an existing group of experts will benefit both the Ten Towns Distribution division as well as the GTTW organisation.

In order to form a reasonable view of forecast shared service costs between years 1 to 10, shared service costs have been modelled based on GD14 costs uplifted to 2014 prices profiled using a blended rate of forecast GTTW staff levels and volumes proportionate to firmus energy GD14 determined levels and actual firmus energy distribution volumes after 10 years.

8.3.4 Proposals for which activities will be tendered

Section 6 outlines our policies and procedures in relation to procurement, to ensure compliance with EU requirements. We will ensure that these policies and procedures are followed for the procurement of any third party operating cost activities.

Where possible, we will use existing frameworks and endeavour to combine GTTW and Ten Town contracts to ensure best value in terms of economies of scale and competitive tendering.

Services to be tendered or market tested at the appropriate time will include;

- Period Contractor arrangements;
- Emergency call centre;
- Maintenance activities;
- PR, advertising and marketing; and
- Legal and insurance services.

8.3.5 Identification and quantification of risks

In relation to operating cost build-up and procurement of services we are confident that we can minimise operating cost risk. firmus energy already has procedures in place to control and review operating costs, identify and manage cost risks (see Section 4.1) and a contract management system to ensure procurement procedures are followed.

All cost activities in GTTW will follow the above procedures to ensure firmus energy derives value for money in all its procurement and also to provide checks and balances necessary for security and control in keeping with proper management and Corporate Governance practices. This will help minimise the risk of uncontrolled costs, improper procurement procedures, fraud or error.

In order to develop our operating cost forecast, we have leveraged our experience of operating a similar network, GD14 derived costs, actual historical financial data or existing contractual arrangements where applicable. Therefore, we believe we have considered all material risks in building up our operating cost forecast for GTTW.

The key operating cost risks identified and associated mitigating factors are as follows:

Manpower

- Key risk factors: Quantity and cost of staff;
- Mitigating factors: Staff and cost build up during the forecast period has been based upon actual
 experience in the Ten Towns network, GD14 determined staff levels, and external benchmarking with
 Towers Watson¹³.

<u>Maintenance</u>

- Key risk factors: Cost and quantity of maintenance works;
- Mitigating factors: Forecast maintenance costs are based on the 2014 Period Contract award following an OJEC process. Quantity risk is mitigated by our use of actual Ten Towns maintenance historic data.

¹³ Towers Watson is a leading global professional services firm that helps organisations improve performance and benchmark salaries. Page | 82

Marketing

- Key risk factors: Cost;
- Mitigating factors: The marketing plan (see Section 7.1.1) allows the negotiation of mass marketing discounts and agency services are regularly tendered. All marketing costs have been benchmarked against GD14.

8.4 Cost Management

8.4.1 Explanation of review processes for costs incurred

firmus energy has systems in place to manage and review operating costs through budgeting processes and also coding structures. The objective of the firmus energy purchasing procedures is to ensure that resources are used effectively and cost efficiently.

All expenditure requires an initial purchase order to ensure costs are necessary, appropriately approved and coded correctly. Larger cost activities require tendering processes and/or contracts to ensure value-for-money and to add a further level of control over the cost.

The person authorising the purchase is responsible for ensuring that the purchase itself is justified (including, without limitation):

- The provision of a business case where appropriate;
- Confirmation of an approved budget; and
- Confirmation that the purchase is necessary business expenditure.

Costs are reviewed on an ongoing basis by the Originating Manager and through the purchase order and contract management system. All payment runs and cheques also require approval from at least two members of Senior Management and these are reviewed on a weekly basis. Costs are also reviewed monthly by the SMT by comparing costs to budget, prior year and obtain explanations for any variances.

8.4.2 Explanation of information systems for managing costs

We have well developed information systems for managing costs which integrate into Oracle Financials. Our key systems are set out below;

Network maintenance

Using our felive system (used by both ourselves and our Period Contractor), each item of network maintenance is given an individual code (a "tracksheet") and the contractor charges time and materials to this tracksheet. Tracksheets (and the associated maintenance works) are regularly monitored by firmus energy engineers to check their progress. Tracksheet costs are included in the firmus energy financial accounting system as work-in-progress and are also monitored on a monthly basis as part of the month-end management accounts review.

Once a tracksheet has been certified as complete by a firmus energy engineer, the costs are uploaded to Oracle (our financial accounting package) and then expensed as an operating cost and will form part of the monthly invoice from the contractor for all works certified in that period. These invoices are reviewed in detail to ensure all work included has been appropriately approved and when satisfied, the invoice is approved for payment by both the Construction Manager and the Head of Engineering. The monthly payment then also requires approval by two senior members of staff.

Pavroll

All salaries follow the normal salary approval process with entries made onto the CORE payroll system and uploaded monthly to the Oracle accounting system.

Payroll costs are reviewed by the Finance Manager and Financial Controller and the BACS payment then also requires approval by two senior members of staff.

Other operating costs

Other external third party payments for operating costs will flow through the firmus energy contract management and invoice routing systems (Oracle), whereby purchase orders are raised and approved before any work Page I 83

commences or materials/services are purchased and then invoices are then checked and agreed to these purchase orders and approved if in accordance.

Cheque payments and BACS payments then also require approval by two senior members of staff.

These systems manage and report on firmus energy's four separate licences. The addition of a fifth licence can be accommodated.

8.5 Efficiency improvement plans

8.5.1 Set out efficiency improvement plans and explain the rationale for this and justification, including with reference to the workbook submission

Should we be successful in our application we will combine GTTW and Ten Town contracts to ensure best value in terms of economies of scale and competitive tendering and we have built these potential savings into our cost forecasts.

As GTTW sits in immediate proximity to our current area of operations it represents an opportunity for continuous development rather than a step change in what we do, leading to cost efficiencies which include:

- Manpower we have evaluated GTTW manpower requirements in the context of our existing Ten Towns resource and we have identified synergies of 14 less staff (c.40%) compared to developing the network on a standalone basis;
- IT systems extension rather than new system;
- Maintenance savings existing Period Contract arrangements;
- Emergency calls leverage existing emergency call arrangements;
- Marketing strong brand presence, agency/media contract arrangements and existing positive customer relationships; and
- Buildings existing footprint and location close to GTTW.

As noted in GD14, there could also be additional cost efficiencies by firmus energy working with other network operators as well as identifying where synergies could be derived in rolling out uniform natural gas brand messaging for Northern Ireland.

8.5.2 Explanation of how innovation and technology transfer will contribute to efficiency improvement and cost reduction

We have included a separate section on Innovation and Technology Transfer, see Section 11 which sets out cost efficiencies.

Two other measures to assist with the reduction of costs that are currently being evaluated:

- Smart meters reduce the need for regular meter readings and ensure customers are billed accurately based on usage. Understand testing period which will be completed before the use of smart meters in GTTW across all customer sectors;
- Computer Tablets reduce manual data input, allow decisions on connections on the door, reduce environmental impact with less use of hardcopy application forms.

We would also promote internal efficiency savings through the regular review of internal processes and the identification of possible improvements. We would work with IT partners to ensure the best solution is input for the business and all new technologies are considered, where viable.

8.5.3 Set out the proposed process to benchmark performance against comparable businesses

In operating the Ten Towns network, we are uniquely placed to benchmark GTTW performance and cost activities against a comparable business and should we be successful in this application, there will be synergistic savings in operating both networks that would help derive additional savings and provide value-formoney for consumers.

firmus energy has also the considerable benefit of being able to benchmark costs and performance against Bord Gáis in the Republic of Ireland and this has enabled us to better determine appropriate costs and suppliers for cost activity. Going forward, we also expect the benefit from the experience of iCON Infrastructure, whose portfolio includes a mature gas distribution network in the United States and who are experienced investors in regulated utilities in the UK and further afield.

We do, however, constantly review costs and suppliers against other gas providers in the UK and Ireland and have recently employed consultants to ensure manpower costs are appropriate to the industry.

9. Capital Expenditure Costs

- Capital expenditure costs are based on the Fingleton McAdam network design;
- GTTW is a capital intensive project and should we prove successful in our application, we will leverage our key engineering competencies to meet commissioning and "go-live" dates;
- Range of activities have been outlined relating to mains laying and service laying works;
- A full suite of cost management and management reporting processes are in place;
- No incremental capital IT spend is required for GTTW; and
- We have identified alternative, cost efficient, network configuration opportunities for both transmission and distribution as outlined within Section 3.6.2 and Innovation & Technology Transfer.

9.1 Alignment with the business plan

9.1.1 Explanation of how activity and cost forecasts in the workbook accord with stated objectives of this business plan

The objective of this business plan is to demonstrate how firmus energy will deliver the efficient planning, economic construction and subsequent safe operation of a low pressure gas network in GTTW in line with all relevant legislation, recommendations and industry best practice.

We have a close working relationship with our contractor, McNicholas Construction Services and we are cognisant that it is essential to have a detailed construction programme in place prior to the commencement of construction activity to ensure efficient delivery of the capital expenditure element of the project. The gas network roll out is based on a 'FAT' model connecting a large number of customers (43,000) to the network and as such the construction activity will be high in the first few years of the build. From the connection figures stated it is recognised that the target for year 1 of the roll out is the large I&C contract customers. firmus energy have carried out a detailed survey of the towns and the customers and are confident of meeting the requirement to connect all the large I&C contract loads within the first 2 years. It will be necessary to install an amount of large feeder/spine mains within several of the towns during the mobilisation period to ensure that contract customers can be connected in the shortest possible timeframe following gas live date at the outlet of the AGIs on the transmission network.

The high connection numbers proposed for each category will require a significant amount of network build and infill mains in areas of existing housing and NIHE areas in year 1 to facilitate connections in year 2. firmus energy has carried out a survey of where these connections will be realised and have detailed information on proposed I&C connections, NIHE conversion programmes, proposed new build areas and potential areas of existing housing where demand for conversion to natural gas is envisaged to be high. In these areas we will batch work to maximise productivity. It is envisaged that we can exceed the proposed network connection targets past year 2 as we have done across the Ten Towns network.

We have an excellent working relationship with the DRD Roads Service and have extensive experience rolling out the gas network through small towns across Northern Ireland. We recognise the need for close coordination with respect to working hours, traffic control, potential disruption and the need to interact with all stakeholders prior to carrying out major construction works in GTTW.

firmus energy has surveyed the routes of the main feeder mains/spine mains within each of the towns. It is the intention of fimus energy to utilise directional drilling where ground conditions permit to minimise the installation costs and to maximise productivity. firmus energy has used this technique to great effect in the roll out of the 870km of gas network within Ten Towns. Gas main installation using the directional drilling technique is more efficient than an open cut method of trench and this, coupled with lower amounts of excavated material being transferred to landfill, low reinstatement costs and lower disruption to the local public make it the optimal installation method. We will install mains within grass verge areas, where possible, in order to keep costs to a minimum. Effective planning and traffic management will ensure that out of hours costs are kept to a minimum.

fimus energy has had discussions with other utility operators with the intention of sharing trenches where possible to reduce costs. The potentially long mobilisation period will afford a great deal of planning time that will ensure the best possible network design and economic build can be developed prior to the commencement of the distribution roll out.

There was a Towns Gas network in several of the towns closing down in late 1980's. We have investigated and can confirm to the best of our knowledge there are no records available and the design of the gas network is such that it is unsuitable for use as a conduit for the distribution mains.

We have met with DRD Structures to discuss the many river crossings throughout the proposed towns. firmus energy has a great deal of experience in this area having completed a large number of crossings within the Ten Towns. The DRD have agreed to redesign a number of bridge crossings at no additional cost to facilitate the installation of a gas main at a later date thus saving on significant expense.

firmus energy has held discussions with the DRD Roads Service with regard to public realm schemes within the town centres in the GTTW and it would be our intention to trench share with other utility providers to minimise installation costs and disruption.

It is our intention to maximise the medium pressure network and to minimise the low pressure network within the towns thus saving on the costs associated with pressure reduction equipment and the resultant maintenance costs. We also plan to install pressure reduction equipment above ground rather than below ground which has historically been the case in in Northern Ireland, thus reducing manufacturing, installation and resultant maintenance costs.

9.2 Activity Build Up

9.2.1 Range of activities set out covers all capital expenditure costs which will be incurred under the licence

In developing the network, we will anticipate capital expenditure costs under the following activities which are outlined in greater detail in Section 9.2.2:

- Medium pressure mains;
- Low pressure mains;
- Line valves;
- Pressure reduction stations (PRS);
- I&C services;
- I&C meters (inclusive of pressure regulation equipment);
- Domestic services;
- Domestic meters (inclusive of pressure regulation equipment);
- Service valves;
- Steel/PE risers;
- Steel mains;
- Telemetry;
- IT & office (including Network Code);
- Traffic Management Act; and
- Capitalised salaries.

9.2.2 Each activity fully detailed

In developing the network we will anticipate capital expenditure costs under the following activities:

4 barg mains - the majority (in excess of 80%) of the proposed network will be made up of 4 barg mains. Due to the proposed connection numbers and proposed model the majority of the mains will be small diameter 90mm and 63mm infill mains. Associated costs will cover cost of pipe, installation method (open cut or directional drill), dust surround to pipe, backfill material and reinstatement to NIRAUC specification.

Low pressure mains – the installation of low pressure mains will be confined to town centres where the gas meter needs to be sited internally due to frontage type on property and areas where the required clearance of medium pressure gas main with existing properties cannot be achieved. In areas of multi occupancy building such as apartments and flats it may be necessary to install low pressure mains. Associated costs will cover cost of pipe, installation method (open cut or directional drill), dust surround to pipe, backfill material and reinstatement to NIRAUC specification.

Line valves – these will be installed on all feeder/spine mains in accordance with the recommendations of the IGEM at intervals of between 800m and 1,000m and at main road junctions. Associated costs to cover cost of valve, suitable concrete base to support valve, GRP chamber and road/footway cover. Suitable wrapping will also be used on metallic valves. Valves to be sited where they can be operated safely and if possible in grass verge to minimise installation costs.

Pressure reduction stations (PRS) – these will be installed to reduce pressure in the mains network from medium to low pressure to facilitate the placing of gas meters internally where no garden frontage is available at the property or in town centre locations where all properties are of a terrace nature. The associated costs will cover the cost of the pressure reduction unit, suitable drainage and concrete support, GRP chamber sections and road/footway cover. The number of these units to be used will be minimised through good engineering network design and hence will keep construction and installation costs low and will minimise future maintenance costs.

I&C services – these will vary in diameter from a small 32mm I&C service to a 125mm/180mm service for contract I&C customer. Dependant on ground conditions and length the service may be installed by a variety of methods, open cut trench, directional drill or impact moling. It would be the intention of firmus energy to utilise directional drilling and impact moling dependant on ground conditions and the location of other utility apparatus as this is more productive, cheaper than open cut and will minimise disruption to customers and the amount of spoil to be transported to landfill. The associated costs include the connection to the main, the PE pipe, dust surround and termination at the meter control valve. It would be the intention of firmus energy to install services to the contract I&C and large I&C at the same time as the mains in the roadway to minimise connection costs and live gas connections. On small I&C services (up to u65 meter) a flow limitor device is fitted inside the connection tapping that automatically cuts off the flow of gas should the service pipe be damaged between the connection to the main and the customer's meter. It is the intention of firmus energy to use flow limitors on all small I&C services on the GTTW development as they are less expensive than service isolation valves, are easier to install and require no maintenance.

I&C meters – all I&C meter are sized by our sales team and ordered through our contractor who has a supply chain in place. The units are delivered to site pre-assembled to minimise connection time on site. The larger meter rigs have lifting eyes in place to crane into position onto a pre prepared concrete base. There are a number of differing meter rig configurations depending on the size of the meter rig and flows to be managed but a simple meter unit contains emergency control valve, inlet filter, regulator, over pressurisation protection and meter itself. All parts are housed within a meter enclosure that affords the meter protection from weather, vandalism and fire. In conjunction with our contractor we have dual sourced the meter range and spare parts required for maintenance purposes thus ensuring lower costs going forward.

Domestic services – these can be 20mm or 32mm low pressure or medium pressure PE pipes installed by either open cut or impact moling technique. Associated costs include connection to parent main, pipe cost and the connection at the Meter Control Valve. Inserted into the connection tapping tee is a flow limitor device that automatically cuts off the flow of gas should the service pipe be damaged between the connection to the main and the customer's meter.

Domestic meters – there are two types of meter in use across the Ten Towns network, credit and prepay. It is proposed that similar meters would be used on the GTTW development. We are at present investigating smart

meter technology and the benefits that it would bring in relation to customer interaction, consumption monitoring and reduce costs in relation to engineer call outs.

Service valves – these are installed on all I&C services that do not have a flow limitor device fitted and are used to shut off the flow of gas in an emergency, should the service pipe be damaged or the building is at risk from fire. The associated costs include the valve costs, Group (GRP) chamber and road/footway cover.

Steel/PE risers - these are installed to make gas available to multi-storey properties should it be apartments, offices etc. they can be of screwed steel, welded steel or PE construction. Experience has shown that steel risers of a welded construction offer the optimal solution with regard to installation, safety and maintenance costs.

Steel mains – these are used where there is no other engineering option and the gas main is exposed – such as river crossings where the gas main is attached to a bridge. There are a small number of these on the firmus energy Ten Towns network and it would be the intention of firmus energy to minimise the number of steel crossings on the GTTW development by using good engineering design and working in tandem with the Structures Division of the DRD to find alternative lower cost solutions to river crossings, be it directional drilling or the installation of the gas mains within the structure of the bridge itself.

Telemetry – firmus energy have an existing telemetry system (see Section 5.5) within the Ten Towns network and it would be our intention to roll out a similar system for the towns on GTTW. To reduce costs it is proposed to use I&C customers (where they are in close proximity to network extremities) for the location to monitor pressures within towns.

IT and office (including Network Code) – we do not foresee any major spend on IT infrastructure/hardware or office equipment, however any such costs would be capitalised as part of plant and machinery costs in the month that the expenditure is incurred.

Traffic Management Act – as the legislation has not been enacted in Northern Ireland there are no costs at present.

Capitalised salaries (in relation to the above activities) – firmus energy staff whose activities and hence salary costs are directly attributable to the construction of the network are capitalised on a monthly basis as a cost of the network. Wilcock Consulting will be employed to accelerate industrial connections to the network and to project manage industrial customers through the conversion process and similar to capitalise salaries, these costs will be capitalised, as and when they are incurred.

9.2.3 Rationale is set out

The rationale for the activities described above is based on our experience in rolling out the network build across the Ten Towns network in the past nine years. Over this time we have sought to maximise our network design and to drive cost efficiencies through innovation without compromising safety and the quality of the network build. In addition to this we have staff and contractors with extensive experience within the gas industry and who have used this experience to put in place plans and processes, choice of materials, construction methods and new technology to deliver benefits for the customer, firmus energy and our contractor.

9.2.4 Proposals for which activities will be tendered

As set out in Section 6 it is the intention of firmus energy to utilise our current Period Contractor, McNicholas Construction Services to carry out activities in relation to the network build, mains, services, meters, valves, pressure reduction stations and riser installations. We have recently completed a tender process for the period contract within the Ten Towns network and this contract is in place until March 2020 so we see this as an extension of current arrangements.

To deliver the contract I&C connections within the specified timeframe of two years a I&C Sales Engineer with extensive downstream experience in relation to industrial gas systems will be employed to manage the conversion programme and to provide assistance to the contract customers during the transition process to natural gas.

9.3 Cost Management

9.3.1 Explanation of the review processes for costs incurred

For the majority of capital expenditure (the contracted—out activities), firmus energy engineering staff will agree a work schedule with the Period Contractor for the forthcoming months.

Each item of capital work is given an individual code (a "tracksheet"). The contractor charges time and materials to this. Tracksheets (and the associated capital works) are regularly monitored by firmus energy engineers to review progress. Costs are included in our financial accounting system as work-in-progress and are also monitored on a monthly basis.

Once a tracksheet has been certified as complete by a firmus energy engineer, the costs are then capitalised and will form part of the monthly invoice from the Period Contractor for all works certified in that period. These invoices are reviewed in detail to ensure all work included has been appropriately approved and when satisfied, the invoice is approved for payment by both the Construction Manager and the Head of Engineering. The monthly payment then also requires approval by two senior members of staff. All capitalised salaries follow the normal salary approval process with a monthly journal being posted for the proportion of capitalised labour in the month.

Other external third party payments for capital expenditure will flow through the firmus energy contract management and invoice routing systems, whereby purchase orders are raised and approved before any work commences or materials/services are purchased and then invoices are then checked and agreed to these purchase orders and approved where appropriate.

9.3.2 Explanation of the information systems for managing costs

As noted above, firmus energy currently has information systems in place to manage costs, both in terms of job costing (felive system) and an invoice routing system (Oracle) for managing contracts, purchase orders and invoices. These systems have been in use for several years and will be more than adequate for managing the costs for GTTW.

10. Finance Costs

- A project WACC for GTTW of 5.47%; and
- WACC has been calculated based on a bottom-up build up based on the Capital Asset Pricing Model (CAPM).

10.1 WACC (Workbook Submission)

10.1.1 Explanation of build-up of the WACC

In this section we set out the build-up of our estimate of the WACC calculation for the low-pressure GTTW project. The WACC is calculated as follows:

Pre-tax WACC = Pre-tax Cost of Equity x (1 - Gearing) + Cost of Debt x Gearing

The Capital Asset Pricing Model (CAPM) has been used to calculate the cost of equity, where:

$$r = r_f + (r_m - r_f) \times \beta$$

r is the expected return on the asset r_f is the risk free rate r_m is total market returns $(r_m - r_f)$ is the Equity Risk Premium β is the beta – exposure to systematic risk

Using analysis from Frontier Economics we have determined that the appropriate range for WACC bid is 5.47% to 7.73% (pre-tax, real). We choose the lower of this range, **5.47%**, for our bid on the basis that:

- firmus energy has unique experience and track record in successfully building a provincial greenfield distribution network in Northern Ireland;
- firmus energy has a strong and trusted relationship with our Period Contractor (McNicholas Construction);
- firmus energy has a good and existing working relationship with many of the large I&C customers within the proposed GTTW network;
- The economies of scale that can be developed from maximising synergies with our adjacent existing network; and
- Our recognition that this is a key infrastructure project for Northern Ireland and we wish to ensure that the chosen WACC gives the best possible value to Northern Ireland and consumers as a whole.

We note the UR workbook asks for the required WACC over the first 10 years of the project¹⁴ and the tender document states that WACC may be revised after first 5-year price control period. We believe it is prudent to retain this option to revise the WACC in future given that current WACC parameters being used by regulators in the UK are unprecedentedly low and may rise again in the future. In addition, assessments of the true risk around the GTTW project are likely to change over time with the benefit of experience.

10.1.2 Explanation of assumptions used and their appropriateness

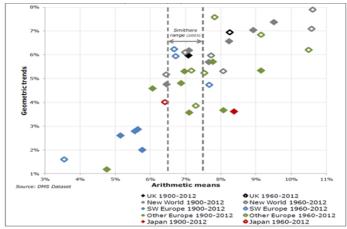
In this section we set out the element of the ranges for our WACC, as informed by Frontier Economics.

Risk-free rate, equity risk premium and equity market return

The long-term historical market return on equity (the sum of the risk free rate and the equity risk premium) is in the range 6.5% to 7.5% (post-tax, real) as shown in Figure 10.1.2a. Our calculations are based so that the risk-free rate and equity risk premium are set so that the overall equity market return is in this range as this is what investors require.

http://www.uregni.gov.uk/uploads/publications/Gas_to_the_West_Annex_8.pdf

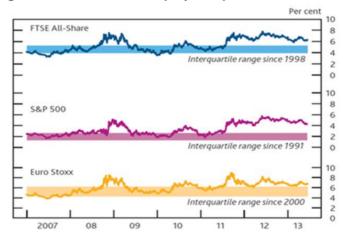
Figure 10.1.2a International history of real equity market returns



Source: Ofgem, 2013, Consultation on our methodology for assessing the equity market return for the purpose of setting RIIO price controls

In recent years the observed risk-free rate has fallen and this is reflected in recent regulatory determinations (see Figure 10.1.2c). We have adopted a risk-free rate of 1.5% which is in line with these, and which lies at the top end of the range set by the Competition Commission for NIE. We note this assumption appears conservative relative to those historically adopted by Ofgem. There is good theoretical evidence that there in an inverse relationship between the risk-free rate and the equity risk premium such that the overall equity market is relatively stable. Figure 10.1.2b shows that the equity risk premium has risen in recent years as the risk-free rate fell.

Figure 10.1.2b Bank of England estimates of the equity risk premium



Source: Bank of England

Asset beta

We adopt a range for the asset beta in line with that used by Ofgem for RIIO G1 (0.42) and RIIO T1 (0.4). The bottom of this range is in line with the top of the range adopted by the Competition Commission for NIE (0.35 to 0.4) and their view that there is more evidence to support the top of their range.

Cost of Debt

To estimate the cost of debt applicable for the GTTW project we use two methods.

- For the lower bound we use a risk-free rate of 1.5% plus a premium of 1.0%. This gives a total cost of debt of 2.50%; and
- For the upper bound we use the ten-year trailing average of iBoxx indices (A and BBB 10-year+ Corporate Non-financial) which Ofgem uses. Their most recent published estimate of this is 2.6% for 2015/16¹⁵.

https://www.ofgem.gov.uk/press-releases/equity-market-return-consultation-reducing-cost-capital-electricity-distribution-companies

Both these estimates provide a conservative estimate of the likely long-term cost of debt over the life of project. Spot estimates (i.e. current bond yields) are not appropriate for measuring the cost of debt over the lifetime of the project as these can be expected to normalise to higher levels over the next few years (for example, as central bank base rates rise).

Gearing

We set out below a summary of recent regulatory determination, and we have assumed a gearing level in line with these recent determinations. Since the equity beta is adjusted according to the level of gearing, the overall WACC is relatively insensitive to the level of gearing set.

Figure 10.1.2c Recent allowed returns for mature utilities (who do not face significant volume or construction risk)

	Ofgem GDPCR1	Ofgem RIIO T1	Ofgem RIIO GD1	Ofwat guidance	Ofgem RIIO ED1 WPD fast- track	CC NIE final determination
Year	2007	2012	2012	2014	2014	2014
Gearing	62.50%	62.50%	65%	62.50%	65%	45%
Cost of equity	7.25%	6.80%	6.70%	5.65%	6.40%	3.4%-5.0%
Risk-free rate	-	2.00%	2.00%	1.25%	-	1.0%-1.5%
ERP	-	5.25%	5.25%	5.50%	-	4.0%-5.0%
Asset beta	-	0.4	0.42	-	-	0.35-0.40
Equity beta	-	0.91	0.9	0.8	-	0.6-0.7
Cost of debt	3.55%	2.92%	2.92%	2.75%	2.60%	3.10%
Vanilla WACC	4.90%	4.40%	4.20%	3.80%	3.90%	4.10%
Pre-tax WACC	5.70%	4.90%	5.10%	4.40%	4.50%	4.80%

Note: The pre-tax WACCs are calculated on the basis of the current 2014 corporation tax rate of 21%. This rationale for this is to ensure pre-tax rates are comparable given that investors are ultimately concerned with post-tax returns.

Volume risk premium

The GTTW regime will be a 'price cap' rather than the 'revenue cap' regime that GB DNOs operate under and on which our mature WACC estimate is based. This means the GTTW owner will be exposed to revenue risk associated with fluctuations in volume demanded and they must be compensated for this. Ideally the risk premium associated with 'price cap' versus 'revenue cap' would be estimated using the CAPM framework (i.e. through an observed difference in equity betas). However, as firmus energy's stock is not traded we cannot compare it's beta with other network firms who are not exposed to volume risk. Nor is there reliable data on the correlation between volume-driven returns and the market return which could be used to estimate an incremental beta. Nevertheless volume risk is a major driver of volatility in equity returns so it is appropriate to factor in a risk premium to reflect this risk, and therefore we would request that the WACC on any GTTW under-recoveries reflects that of our overall application of a pre-tax, real WACC of 5.47%.

To quantify the impact of volume risk on the WACC, we have made use of the implied relationship between risk and return in Ofgem determinations. This draws on the relationship between risk and return implied by recent Ofgem determinations to translate the additional volume risk (as measured by firmus energy's current business) into a premium on required equity returns ¹⁶.

¹⁶ This approach follows a three-step procedure:

^{1.} Quantifying the volume risk. We calculate the standard deviation in volume-driven equity returns for the existing firmus energy network. We calculate a standard deviation in equity returns of 6.34%.

^{2.} Quantifying the ratio of incremental risk to incremental equity return from the RORE analysis in recent Ofgem determinations.

a. RIIO ED1 v DPCR5. This assumes that the risk-return ratio is consistent across the two price controls and so, extra risks built in RIIO ED1 compared with DPCR5 are rewarded by the incremental difference between expected RORE and allowed cost of equity.

Construction risk premium

As a new build network, the GTTW project involves much greater Capex expenditure (as a proportion of existing RAB) than mature gas networks and there is greater uncertainty around the outturn costs for this. Therefore investors need to be compensated for additional construction risk relative to mature networks. Three methods help give an indication of the appropriate construction risk premium:

- Estimating the construction risk premium for PFI projects. Using published data on equity returns, debt costs and gearing levels for PFI projects pre- and post-construction we estimated a risk premium of 1.3% (pre-tax) for building and operating a PFI assets versus a fully constructed asset.
- Comparing asset betas for firms taking substantial construction risk versus mature energy networks. Figure 10.1.2d shows asset betas by firm type. Comparing the betas for mature gas assets with other firms which take more construction risk suggests construction risk could represent an incremental asset beta of at least 0.1 to 0.2. This could represent a WACC risk premium of 0.7% to 1.4%.
- Regulatory precedent. For the 2003 to 2008 price control for BAA London Airports the CAA proposed a WACC for Terminal 5 (which was under construction) which was 1.5% higher than the rest of Heathrow. In their final determination the CC allowed a premium of approximately 0.5% for T5.

Figure 10.1.2d Asset betas by firm types

	Asset beta	Source/notes
Gas distribution (GB)	0.42	This is based on the equity beta estimate of 0.9. Gearing is
Cas distribution (CD)		notional.
Gas transmission (GB)	0.4	This is based on the equity beta estimate of 0.91. Gearing is
Gas transmission (GD)		notional.
		CCA (2002). These are proposal from the regulator rather
Heathrow T5	0.76	than actual figures. Asset beta based on an equity beta of
		1.3.
Traditional Energy	0.44 – 0.53	Grant Thornton (2011). Sample: Centrica, E.ON, RWE,
Traditional Energy	0.44 - 0.55	SSE, Statoil. 2-5 years of data.
		Grant Thornton (2011). Sample: Nordex, Gamesa, Repower,
Renewable Energy	0.65 - 0.97	Vestas, Iberdrola Renovable, Terna. 2- 5 years of data.
	***************************************	-
Construction (US)	0.77	NYU/Stern (2014). Based on S&P Capital IG and Bloomberg
	····	data.
Engineering (US)	1.13	NYU/Stern (2014). Based on S&P Capital IG and Bloomberg
Linginieening (03)		data.

These estimates suggest a substantial construction risk premium is appropriate for GTTW. In practice construction risk can be passed on to contractors through effective contracting (although we note there is a trade-off here: the more risk that is transferred to contractors, the greater the cost of construction tenders).

10.1.3 Conclusions

We have set out the build-up of our WACC parameters in a clear and transparent way. We have considered the appropriate WACC for a mature NI utility and then added premiums associated with volume and construction risks specific to the GTTW licence. We have used the Competition Commission parameters to estimate NIE's WACC to set our low estimate for a mature utility. Similarly, we have clearly set out the premiums which we think could be added to take into account construction and volume risk. In our assessment of the relevant WACC for GTTW we believe much risk can be efficiently transferred to contractors, and believe our recent experience with our existing Period Contractor means firmus energy are well placed to bear the residual risk without cost to customers. However, we believe there should be a premium for volume risk for a price controlled entity, but note that that there are significant potential differences in the size and nature of the customer base

b. RIIO GD1. The second approach assumes that within RIIO GD1, the wedge between the expected RoRE and the allowed cost of equity is the impact of the additional risk, over and above normal operational (totex) risk.

Translating the incremental volume risk to an uplift on the return on equity and WACC. Applying the two ratios to the incremental
risk quantified in step 1 yields a range for the uplift in the return on equity, which translates to an uplift to the WACC of 1.05%1.4%

for GTTW and our existing business, and hence differences in the volume risk premium which may be relevant. In addition to this, firmus energy has taken into account our success in the Ten Towns network of attracting customers to convert to natural gas, and the potential for economies of scale and scope throughout our current business as a result of the award of the GTTW licence.

Based on all these factors, and the desire to ensure that the chosen WACC gives the best possible value to Northern Ireland's customers and therefore our application is based on a pre-tax, real WACC of 5.47%.

Glossary

Term	Definition/Meaning
AGI	Above Ground Installation
AMS	Asset Management System
B&RP	Business & Regulatory Projects
BGTL	Belfast Gas Transmission Limited
BS	British Standards
САРМ	Capital Asset Pricing Model
СВІ	Confederation of British Industry
CCNI	Consumer Council for Northern Ireland
CDM	Commercial Development Manager
СНР	Combined Heat & Power
CNI	Critical National Infrastructure
CORE	Business in the Community's Standard for Responsible Business
CPD	Continuing Professional Development
CPNI	Customer Proprietary Network Information
CRM	Customer Relationship Management
CSR	Corporate Social Responsibility
DETI	Department of Enterprise Trade & Investment
DRAUC	Divisional Roads Authority and Utilities Committee
DRD	Department for Regional Development
DSD	Department for Social Development
EA	Energy Advisor
FAAR	Field Access to Automated Records
FES	Family Expenditure Survey
FOCD	First Operational Commencement Date
GAF	Gas Application Form

Term	Definition/Meaning
GIS	Geographic Information Systems
GMOG	Gas Market Opening Group
GRP	Group
GSR	Gas Safe Register
GTTW	Gas to the West
HP	High Pressure
HSENI	Health and Safety Executive Northern Ireland
IGEM	Institute of Gas Engineers & Managers
ITT	Invitation-To-Tender
KAM	Key Account Manager
KPI	Key Performance Indicator
KRI	Key Risk Indicator
LP	Low Pressure (<75mbar)
M2M	Machine 2 Machine
MLA	Member of Local Assembly
MP	Medium Pressure (>75mbar, <4 bar)
NC	Non-Conformance
NEANI	National Energy Action Northern Ireland
NEBOSH	National Examination Board in Occupational Safety and Health
NGEC	National Gas Emergency Centre
NIE	Northern Ireland Electricity
NIFRS	Northern Ireland Fire & Rescue Service
NIHE	Northern Ireland Housing Executive
NINEC	Northern Ireland Network Emergency Co-ordinator
NIRAUC	Northern Ireland Road Authority and Utilities Committee
NISRA	Northern Ireland Statistics and Research Agency

Term	Definition/Meaning
NISRANS	Northern Ireland Street works Registration and Notification System
NIUSPG	Northern Ireland Utilities Safety Practitioners Group
NIXIE	Northern Ireland Cross Sector Information Exchange
NPV	Net Present Value
O&M	Operations & Maintenance
OJEU	Official Journal of the European Union
PCR	Price Control Agreement
PMAC	Pressure Monitoring and Control
PNG	Phoenix Natural Gas
PQQ	Pre-Qualification Questionnaire
PRE	Public Reported Escape
PRS	Pressure Reduction Station
PRSE	PR Sponsorships and Events
PSSR	Pressure Systems Safety Regulations
PTL	Premier Transmission Limited
RIDDOR	Reporting of injuries, Diseases, and Dangerous Occurrences Regulation
SCADA	Supervisory Control And Data Acquisition
SED	Special Engineering Difficulty
SLA	Service Level Agreement
SME	Small and Medium Enterprises
SMP	Supply Meter Point
SMT	Senior Management Team
UR	Northern Ireland Authority for Utility Regulations
ТВ	Technical Bulletin
WACC	Weighted Average Cost of Capital

Appendix 1 - Gas to the West Roll Out.

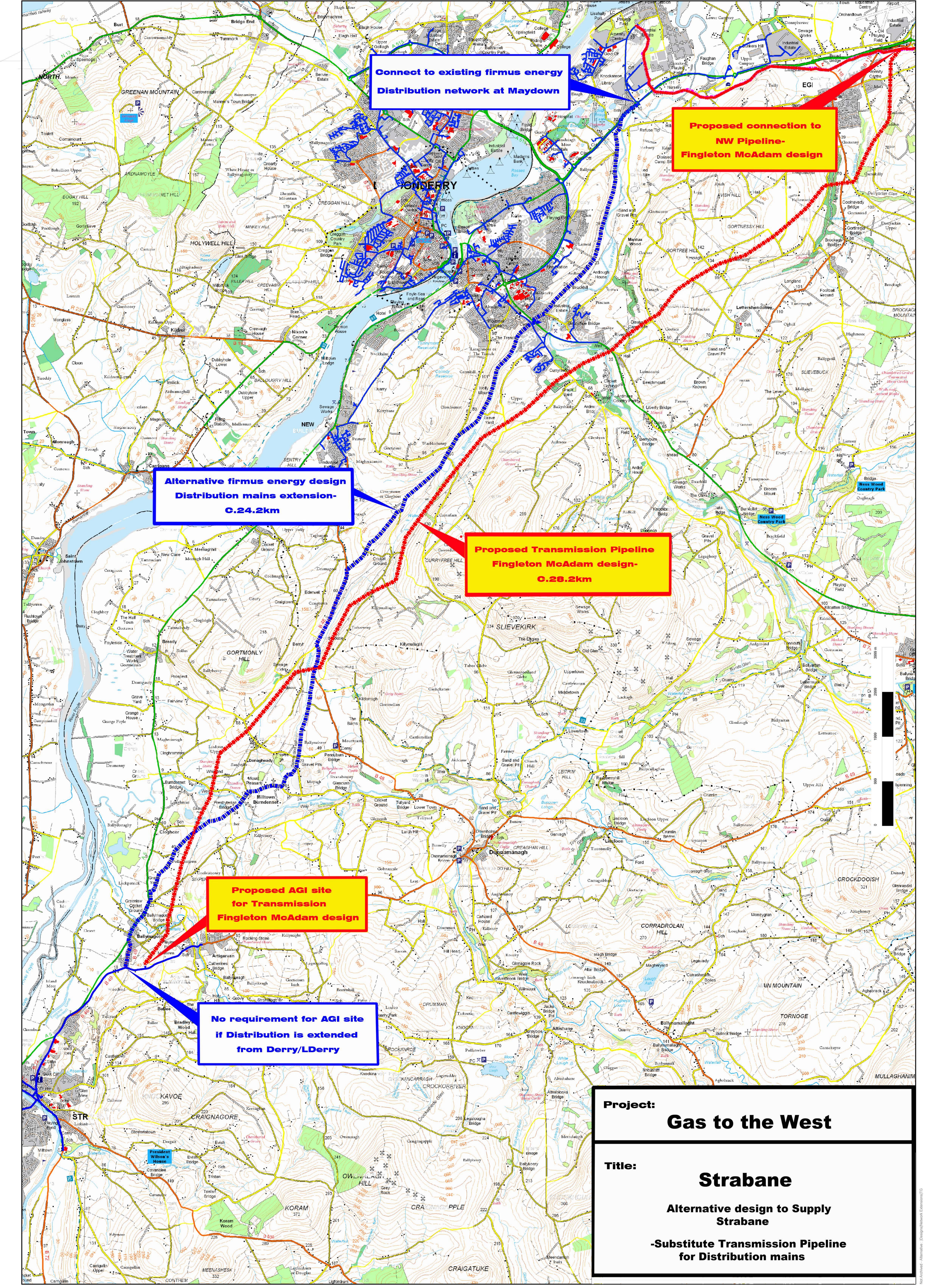
This appendix contains several maps.

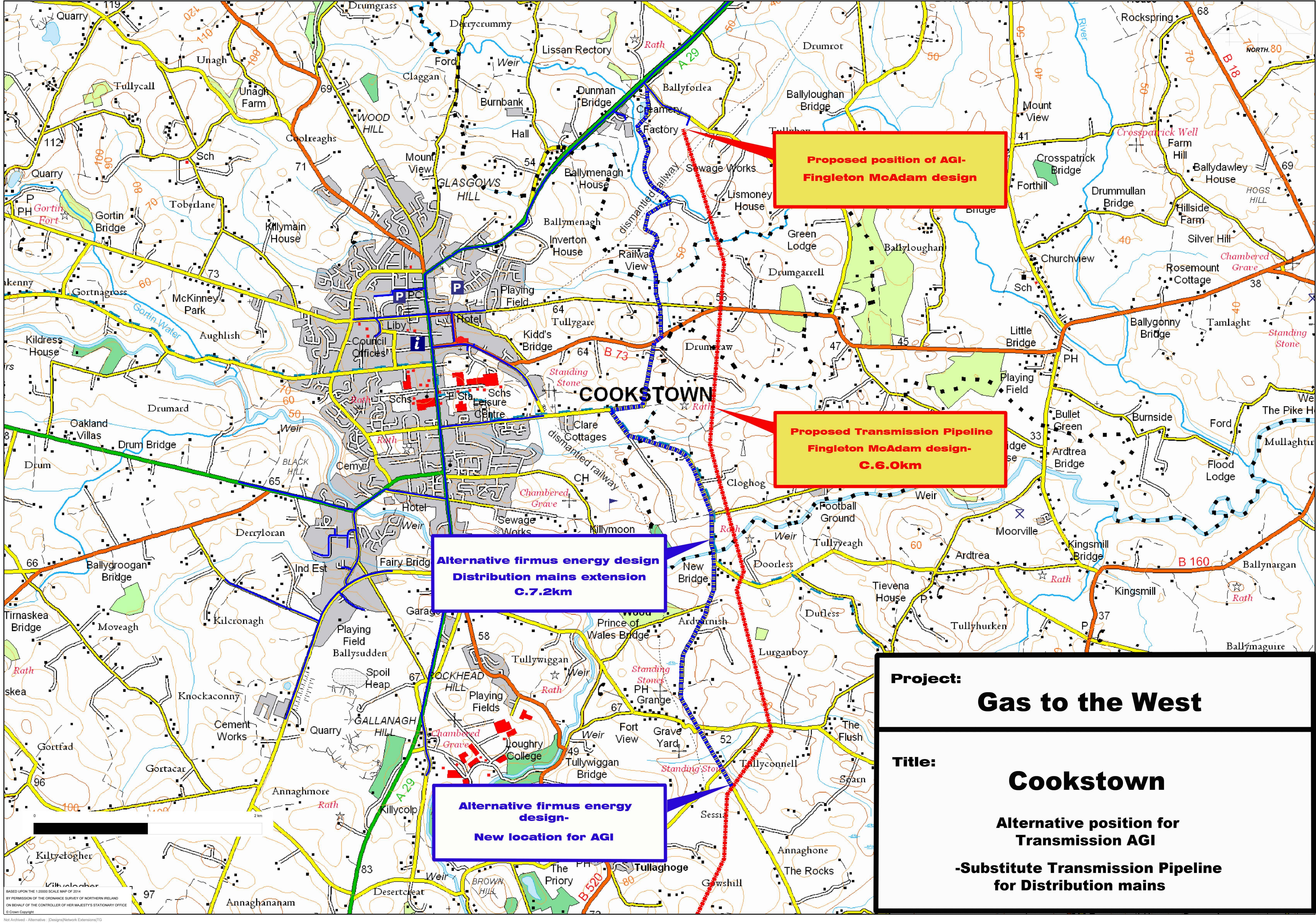
It has not been possible to upload this document due to size constraints. If you require access to these maps, please contact

Karen.McConnell@uregni.gov.uk.

Appendix 2 – Connection Sales Booklets

Examples are located in Section 3, Appendix 2 in Submission folder.





Policies and Procedures
Incentivisation
Tariff Structures
Service Rates for Connection Policy
Customer Designation
Distribution Connection Policy
Connection Policy Approval letter
Accounts Access
Data Protection Awareness
Data Protection Procedure
Project Approvals
Creating and Estimating of Mains Extensions Projects
Appraisals
Re-estimation Re-approval
Engineering Training Procedure
Site Specific Risk Assessment
Design Drawing
Managing New Works, Modifications & Repairs compying with IGE/GL/5 Edition 2
Accident Incident Reporting - Immediate Reporting Procedure
Emergency Evacuation Procedure
Accident Incident Reporting - Management Reporting Procedure
Occupational Driving & Vehicle Safety
Accident Incident Investigation - Management and Administration Procedure
Procedure for Risk Assessment and Management
Accident Incident Investigation - Conducting Investigations
Requirements for the Appointment of Investigators
Register of Investigators
Generic Terms of Reference for Investigations
Investigating Gas-Related Accidents Incidents
Guidelines for Conducting Interviews
Contractor Leading Hand Competency and Approval
Safety Advice fpr working in the Vacinity of Natural Gas
EHS Audit
Stakeholders Meetings
Electricity Transactional Charges Procedure
Account Statements
Meter Reading Work Days Work Books
Energy Value
Final Billing
Meter Reading and Billing Frequency
Meter Tampering
Credit Vetting
Small Claims Court Procedure
Credit Control Operations
Document Control
Goods Received
Internal Training
Electricity Pricing Procedure
, , , , , , , , , , , , , , , , , , , ,

Processes
Gas supply interruption
Gas supply resumption
Daily Update of Allocation and CV Data for Belfast Contract Customers
Monthly Collation of Billing-Relevant Data for Belfast Contract Customers
Contract Evaluations
Tariff Change
Site access and security
Communications infrastructure
Dial before you dig
Internal communication (business continuity) FINAL
External communication (business continuity)
Interruption and resumption
Leak management and gas-related emergencies
Handling of construction-related complaints
Systems and data recovery
firmus energy business continuity presentation
Handling of Connection Enquiries by Phone
Handling of Connection Enquiries by Email
Handling of Connection Enquiries by Fax or Letter
Appendix 1 Checklists for Clarification of Enquiry Details
Appendix 2 Checklists for Recording of Enquiry Details
Follow-Up on Connection Enquiries
Appendix 2 Checklists for Setting-Up of Customers and Jobs - Firm Fixed-Price Contract Customers
Appendix 2 Checklists for Setting-Up of Customers and Jobs - Index-Linked and-or Interruptible Contract Cust
Appendix 2 Checklists for Setting-Up of Customer and Fit Meter Job
Appendix 1 Checklists for Handover of Projects and Jobs from Commercial to Engineering
Follow-Up on Domestic One-Off Connections
Handover Commercial to Engineering
Follow-Up on Approved Housing Association Projects
Allocation of Jobs to McN
Fitting of Corrector Equipment
Fitting of Chatterbox
Follow-up on Approved Mains Projects
Commissioning of Meters (65scmh and above)
Firmus Energy-Initiated Changes to Jobs Released for Allocation to Period Contractor
Period Contractor-Initiated Changes to Jobs
Appendix 1 Checklists for Contract Sign-Off - Index-Linked and-or Interruptible Contract Customers
Wayleaves for Mains
Wayleaves for Services
As Laid Process
IUS Estimates
Network Work Management
Monitoring Onsite Construction Activities
Set-up of New Built Streets and Meterpoints
Set-up of Existing Streets and Meterpoints Based on Individual Request
Billing
Change of Account Holder
Handling of Self Reads

Processes continued
Handling of Bill Invoice Statement Corrections
Customer De-Assignement - Tariff Customer
Handling of Meter Mix-Ups
Statement Generation
Change of Site-Specific Correction Factors
Customer Take-on Tariff Customer
Handling of Sundry Invoices - Sundry Credit Notes
Accounting for Prepayment Gas and Gas Card Sales
Change of Resident - Credit Customer
Change of Resident - Builder Handover to Domestic Customer
Customer De-Assignment - Contract Customer
Appendix 1 Checklists for Change of Resident - Builder Handover to IC Customer
Change of Resident - Builder Handover to IC Customer
10 Towns Telemetry Monitoring
Direct Debit Management
Payment Processing
Monitoring of Unclaimed Incentives
Payment of Incentives
Handling of Deposits
Follow Up on Aged Debt (escalation for customer with closed accounts and sundry customers)
Follow Up on Aged Debt (escalation for live gas customers)
Follow Up on Aged Debt for IC and Sundry Customers (standard)
Follow Up on Aged Debt for Domestic Customers (standard)
Follow Up on Outstanding Securities
Follow Up on Payment Arrangements
Follow Up on Change of Credit Status
Credit Vetting of Domestic Credit Customers
Cash Management
Credit Vetting of IC Tariff Customers - Existing Connections
Credit Vetting of IC Tariff Customers - New Connections
Credit Vetting of IC Contract Customers
Credit Vetting of Builders
Work Scheduling - Domestic One-Off
Work Scheduling - housing Projects and Jobs
Appendix 1 Checklists for Identification of Housing Projects and Jobs to be Scheduled
Appendix 1 Checklists for Singing-Up of Customer
Follow-Up on Approved New Build Projects
Follow-Up on Approved Housing Executive Projects
Contract Price Update
Contract Renewals
Follow-Up on Approved IC Projects - Tariff Customers
Follow-Up on Approved IC Projects - Index-Linked and-or Interruptible Contract Customers
Appendix 1 Checklists for Contract Sign-Off - Firm Fixed-Price Contract Customers
follow-up on approved ic projects - firm fixed-price contract customers
Appendix 1 Checklist for Identification of IC Tariff Projects to be Scheduled
Work Scheduling - IC Tariff Projects
Managing MessagePad Call Centre



Mr Terry Rice Commercial Development Manager Firmus Energy A4-A5 Ferguson's Way Kilbegs Road Antrim BT41 4LZ

29th April 2014

Dear Terry,

Huhtamaki (Lurgan) converted from HFO and LPG to piped gas supplied by the new Firmus ten towns network in 2006. As a large user of energy the strategic switch was made with a long term view to reduced energy costs versus alternatives. The site was the first large user in the Lurgan area to make the conversion.

Firmus have a proven track record in managing the conversion process and largely managed the whole process using their experienced and knowledgeable staff.

Our conversion process was complex and lengthy and given the extent of the required work, needed to be carried out in two stages. Firmus was able to commit dedicated staff resource to both our conversion projects to ensure they were managed and delivered on time. This was very important to us as any potential delay could have resulted in significant loss to our business. By working closely with the Firmus sales and engineering staff we were able to plan the conversion in a manner that caused minimal disruption to our normal business.

Since switching to Firmus we have won a number of competitive tenders and have continued what we see as a very valued business relationship with Firmus. With such a large part of the gas cost made up of the commodity cost, Firmus has made available numerous flexible buying options within their contracts in order to allow the purchase of the gas at as low a cost as possible.

Firmus work closely with us to provide daily updates on the gas commodity markets. Bi-annual briefings are also held with the energy trading analysts giving in depth updates on the medium to long term markets. This is very important to us as a business to help us not only budget going forward but also to remain as competitive as we possibly can.

Best Regards

Logistics Manager Huhtamaki (Lurgan) 02838327711



Moy Park Ltd., 39 Seagoe Industrial Estate, Craigavon Co. Armagh, Northern Ireland BT63 5QE

INVESTOR IN PEOPLE

Tel. 028 38368041 Fax.028 38368024

Firmus Energy Killybegs Business Park Antrim Northern Ireland BT41 4NN

29.04.14

Dear Sirs.

Ref. Moypark Craigavon Conversion to Natural Gas

I want to introduce myself. My name is David Mc Dowell, and I work as a Project Manager at the Moypark Group Headquarters site in Craigavon.

I was responsible for the conversion of our Craigavon Site to Natural Gas. I want to confirm the process and the role played by our supplier Firmus Energy.

- Commercial The information we required to evaluate and proceed with the conversion project were clearly presented to us. Various ways to procure Natural Gas were fully explained to our team.
- Conversion Strategy This was developed in conjunction with Firmus, and involved moving
 from Medium Fuel Oil, Gas Oil, and LPG. All heat generating boilers were converted to dual
 firing which provided us with a very secure position as we moved to Nat. Gas.
- Technical Support This was provided by Firmus and was always of the highest standard and within required timescales.
- Firmus Contractors The installation teams were prompt and always bought into specific site safety operating procedures.
- Invoicing Very satisfactory procedure and clear visibility for Moypark and Firmus.

The Firmus Energy Engineering Support Team provided great experience and knowledge to the entire Process. As always in the food business the timing and shut down windows provided scheduling challenges, but we found the Firmus contractors and support teams to be completely reliable. I have no hesitation in recommending Firmus Energy to any prospective business thinking of converting to use Natural Gas.

Yours Sincerely

Project Manager

+447775577093

15 April 2014

To whom it may concern,

Foyle.

Installation of gas supply

From our initial discussions regarding the conversion to natural gas of our steam boiler and thermal

oxidiser at our Foyle Meats and Foyle Proteins sites, I have found Firmus Energy staff to be

knowledgeable, professional, and very helpful.

The Firmus Energy team not only designed the installation of the two gas meter supplies but also co-

ordinated the pipework between the meters and our appliances. They were also able to provide

guidance on all the relevant industry codes and standards to ensure our completed installation

would be in full compliance with all the relevant industry standards.

"The project was managed in a manner that made the switchover process extremely straightforward

and seamless without any significant disruption to the running of our two Foyle plants."

Communication between Firmus and our specialist conversion contractor was crucial to the success

of this project. Firmus worked closely with our contractors to ensure expectations were met all

round. The projects were completed efficiently and more importantly on time.

Gas supply

A number of gas purchasing options were offered to us by Firmus from the outset. We opted for a

fully flexible arrangement that has enabled us to get what we believe to be the best value from the

wholesale gas market. Daily /weekly market intelligence reports are provided by Firmus to me so

that I can be kept informed of market developments

Account management

A dedicated Firmus account manager works with us to help manage gas procurement. Weekly

reports are provided to help us manage and record our costs on a daily basis. The accuracy and

timeliness of this information is vital to our business.

Making Choice Easy

Foyle Food Group

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Given our substantial energy usage, we were very keen to look at ways to keep us competitive and secure jobs at our facilities. We recognised that switching to natural gas with Firmus Energy would enable us to reduce our overheads and thus improve our energy efficiency, as well as improving our environmental credentials.

"We now have full visibility of exactly how much energy we actually use from the data provided by Firmus and can closely monitor any variations and compare them on a like-for-like basis. This is backed up with first-class customer care and opportunities to meet with other energy buyers and understand more about global trends during regular informative energy briefings.

"We are also pleased to be doing our bit to reduce global warming as natural gas delivers less carbon dioxide emissions versus oil for the same energy output."

Yours sincerely,



Group Finance and HR Director

Foyle Food Group of companies



2 May 2014

To Whom It May Concern

At the time of conversion in 2007, Armaghdown Creameries, had one of the largest industrial gas loads in the province. Part of the Fane Valley group, the company employed more than 1250 people on 19 sites throughout Ireland with the Creamery manufacturing around 30,000 tonnes per annum of milk powder plus butter, both bulk and retail, together with chilled foods warehousing and distribution.

Energy was and continues to be one of the major factors contributing to the substantially higher costs of manufacturing in Northern Ireland in recent years. It was therefore very positive for business to have greater choice and competition in the energy market place.

We had an immediate benefit for Armaghdown Creameries as the conversion delivered significant business benefits through an 18% energy cost saving and a 35% improvement in environmental performance by reducing our CO2 emissions by 4,692 tonnes per annum.

Other important considerations which influenced our decision were the ease of use and reduced risk of environmental pollution associated with natural gas as compared with fuel oil both of which contribute to the competitiveness of a company. Right from the inception through to the conversion, all the work was carried out with the utmost professionalism and to the highest standards. The team worked with us to ensure that the project was completed on time and to budget and nothing was too much trouble. Right from the design, they were on hand to ensure that the whole process was carried out very smoothly and critically that there was no disruption to supply.

As we were the first connection off the South-North transmission pipeline, a celebration event was held at the Creamery in Banbridge, and was attended by senior representatives of DETI and their counterparts in DCENR (Department of Communication, Energy and Natural Resources), the Utility Regulator and representatives from other organisations and individuals involved in the project.

Yours sincerely for Fane Valley Co-operative Society Ltd



CHIEF EXECUTIVE



Irwin's Bakery is located in Craigavon and at the time of converting to natural gas had a significant oil and LPG usage. Irwin's nearest main competitors are located within the greater Belfast area and at that time had access to much cheaper energy as natural gas was made available to them about ten years earlier. For those 10 years Irwin's Bakery was operating at a cost disadvantage in terms of energy costs.

Energy was and continues to be one of the major factors contributing to the substantially higher costs of manufacturing in Northern Ireland in recent years. It was therefore very positive for our business to be offered natural gas when Firmus introduced it into the Craigavon area.

There was an immediate benefit for Irwins Bakery as the conversion to natural gas offered significant cost and environmental benefits for our business.

Right from the inception through to the conversion, all the work was carried out with the utmost professionalism and to the highest standards. The Firmus Energy team worked with us to ensure that the project was completed on time and to budget and nothing was too much trouble. Right from the design, they were on hand to ensure that the whole process was carried out very smoothly and critically that there was no disruption to supply.

Firmus Energy has the ability to forward purchase gas on our behalf and we recently made a decision to extend our gas supply arrangements with Firmus to enable us to take full advantage of the wholesale commodity market.

Firmus were also able to offer the same flexible purchasing arrangements for electricity and in 2013 we moved our electricity supply to Firmus.

The business partnership we have with Firmus and the flexible purchasing arrangements offered are very important for our business to ensure we get the best value and remain competitive with our nearest rivals.

Technical Director

Irwin's Bakery Registered Office WD Irwin & Sons Ltd. 5 Diviny Drive, The Food Park, Carn Portadown, Co. Arrnagh Northern Ireland BT63 5WE



Gas Network Extension to the West

17 April 2014

H&A Mechanical Services have been delivering Heating Contracts and individual installations within the Social Housing and Private Housing Sectors since 1993, our Head Office is located in Draperstown and have satellite branches located in Mallusk, Co Antrim and Clane, Co Kildare, employing in the region of 300 people we deliver approximately 3000 heating installations per annum

Our Client base consists of the NIHE, Housing Associations, DSD, Private Landlords and County Councils throughout ROI

During the past 7/8 years we have developed a strong relationship with firmus energy in delivering energy efficient heating solutions in the Gas Network throughout their Contract Area. The commitment, energy and professionalism shown by firmus energy in the programming and sequencing of their delivery model has helped H&A deliver numerous Schemes and 'one off' installations enabling many of the fuel poor in Northern Ireland to benefit from the efficiencies of Natural Gas

Their business principles and ethics have been exemplary and along with their long term vision has allowed H&A Mechanical Services to develop in employment numbers and the skill sets of our staff, I have no doubt that their business model, should they be successful in their submission, will provide numerous opportunities for local businesses to develop and create sustainable job opportunities

In conclusion it is warming to note that the Company 'firmus energy' has shown particular commitment and involvement throughout the communities it has worked in, its eagerness to support and recognise local communities is highly commendable

We wish firmus energy every success with their submission in taking Natural Gas to the West



Business Development Manager

Paul - please see below approved Carbon Trust testimonial.

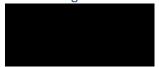
Hi Angeline – further to our earlier correspondence, I would be delighted to serve as a reference regarding the beneficial partnership that has existed between firmus energy and the Carbon Trust over the years.

Right from the early days of their entry into the Northern Ireland market, I have been impressed with how proactive firmus has been in engaging with the Carbon Trust to promote the energy efficiency, environmental and economic benefits of natural gas to the business community. On numerous occasions since 2005 firmus has invited the Carbon Trust to participate in seminars, workshops and briefings aimed at explaining the advantages of natural gas — and energy efficiency more broadly — to business users, engineering professionals and contractors responsible for the design and installation of heating systems.

firmus energy clearly understand the businesses benefits that flow to and from their customers using natural gas efficiently and have proven adept in communicating this effectively through seminars and case studies promoting best practice energy management. Working together, firmus and Carbon Trust have been able to highlight the application and advantages of various low carbon technologies including combined heat and power (CHP), radiant heating, direct-fired water heating and gas-fired heat pumps to relevant targeted audiences. Additionally, firmus has been active in promoting the (Invest NI funded) Carbon Trust Interest-Free Loan scheme to their business customers in order to encourage and incentivise the uptake of energy saving technologies.

I look forward to continuing to work with firmus to promote the transition to a lower carbon economy in NI.

Kind regards



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Whether you're a supplier of green technologies or a company looking to cut energy costs, our Green Business Directory can help.



Help cut carbon...Don't print this email unless you really need to

From: @nea.org.uk]

Sent: 28 April 2014 16:07

Subject: RE: Partnership Testimonial

NEA NI has worked with firmus energy since they entered the Northern Ireland market in 2005. NEA NI, the fuel poverty Charity campaigning for warm homes, has always been impressed with the firmus energy approach to partnership working, for example their sponsorship enabled us to hold a key event at the House of Lords to directly access those with political influence in Northern Ireland. Unlike any other energy supplier in the United Kingdom, firmus energy has trained all their people including the CEO to the national recognised standard for giving energy advice. While this brings benefits to their customers it also demonstrates their genuine interest in working in partnership with other organisations to provide tangible measures to support all households including the fuel poor. firmus energy also demonstrates their commitment to keeping up to date in fuel poverty and domestic energy efficiency matters through their membership of NEA's Business Supporters Group which also enables them to work with NEA an established effective campaigning body. We look forward to working with firmus energy in the future, where together, we can continue to bring social and environmental benefits to people and local communities in Northern Ireland.

NEA Northern Ireland 64-66 Upper Church Lane, Belfast, BT1 4QL t: 028 9023 9909 f: 028 9043 9191 m: 07703210390

Campaigning for Warmth in Northern Ireland

From: <u>@est.org.uk</u>]

Sent: 30 April 2014 09:42 **To:** Angeline Sloan

Subject: EST Testimonial

Hi Angeline,

See below;

"Energy Saving Trust (EST) has been working with firmus energy, since its inception in 2005. During the last nine years we have built up an excellent partnership with firmus, offering its customers impartial advice on how to reduce carbon emissions and save money on their energy bills. By working together we pro-actively encourage its customers to become more energy aware.

Specific projects we have assisted firmus energy with include the 'Toasty Homes' Grant Scheme and more recently the 'Home Comfort' Scheme which offers customers money off their conversion to natural gas. Designing and securing funding for schemes like these highlight firmus energy's commitment to reducing NI's carbon footprint as well as keeping a focus on tackling fuel poverty throughout Northern Ireland.

We highly value our relationship with firmus energy and see our partnership evolving in the future to become an even greater benefit for both homeowners and businesses in Northern Ireland.'

Good luck.

Operations Manager, Northern Ireland

Energy Saving Trust | Titanic Suites | 55-59 Adelaide Street | Belfast | BT2 8FE Direct 028 9072 6006