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# Why invest in gas?

## Benefits of natural gas infrastructure for the North West



**WDC Policy Briefings:** The Western Development Commission (WDC) is a statutory body promoting economic and social development in the Western Region of Ireland (counties Donegal, Sligo, Leitrim, Mayo, Roscommon, Galway and Clare). WDC Policy Briefings highlight and provide discussion and analysis of key regional policy issues.



## Natural gas infrastructure for the North West

In Ireland demand for natural gas has grown rapidly since Kinsale gas was brought ashore in the 1970s. As the grid infrastructure has expanded there has been major industrial uptake wherever gas is available. Yet natural gas infrastructure is not available throughout the state. Large areas of the North West have no access to this fuel.

Natural gas is a clean, efficient fuel which is cheaper than most alternatives. In regions such as the North West where there is no natural gas, businesses have higher energy costs and the region is less attractive to those seeking to set up business. This impacts on creating and sustaining jobs in the region.

There needs to be a commitment to invest in natural gas infrastructure in the North West, when funds become available, and an immediate investigation of alternative funding options to ensure that this investment can be made as soon as possible.

As noted in the Western Development Commission (WDC) Policy Briefing, *Why care about regions? A new approach to regional policy*<sup>1</sup> quality infrastructure is one of the necessary conditions for regional development. Lagging regions need to have a similar quality of infrastructure as is available in more successful regions, both to attract new industries and to allow those already established to be competitive both nationally and globally.

The focus of this WDC Policy Briefing<sup>2</sup> is the North West and in particular the need for natural gas infrastructure in towns in counties Donegal, Sligo, Leitrim and Roscommon. Eleven towns<sup>3</sup> in the North West were recently found not to be eligible for connection, and these are examined in this Briefing.

Although there are severe financial difficulties facing the country at present, the WDC believes it is important that there is a commitment to review regional energy infrastructure needs, examine the benefits of natural gas infrastructure and to invest in this infrastructure as funds become available. In the immediate term it is essential to fully investigate the possibility of using investment funds from alternative sources.

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1 WDC, 2010, *Why care about regions? A new approach to regional policy*

2 The WDC would like to acknowledge the help and input of Peter Duffy, Enercomm International, in the preparation of this Briefing. The views expressed are those of the WDC.

3 Gaslink, 2010, *New Towns Analysis Phase III*

Significant parts of the North West have no natural gas infrastructure

## What areas have natural gas?

Natural gas is widely available throughout Ireland and most larger towns and cities are connected to the natural gas grid (Fig. 1). There are, however, significant parts of the North West which have no natural gas supply.

Fig. 1: Map of natural gas infrastructure in Ireland 2011



Source: Bord Gáis Networks <http://www.bordgais.ie/networks/index.jsp?p=104&n=141>

Most of the natural gas used in Ireland is imported, but once natural gas from the Corrib field comes ashore, a substantial share will come from this source, providing Ireland with greater fuel security.<sup>4</sup> Discovery of gas in the Corrib field has already brought benefits with extension of natural gas transmission infrastructure<sup>5</sup> to the west and the connection of towns along the pipeline from Galway to Mayo.



4 ESRI, 2011, *Review of Irish Energy Policy*

5 The natural gas transmission system transports gas around the country. The natural gas distribution system operates at lower capacity to bring gas from the transmission network to towns and end users. The whole system may be referred to as a grid or network.

## Benefits of natural gas

Natural gas availability improves competitiveness in a wide range of industrial applications, including food processing and pharmaceuticals, both of which are key sectors in the Western Region. It provides greater choice for consumers, which leads to greater competition and potentially lower energy prices. Natural gas produces fewer greenhouse gas emissions than other fossil fuels and less solid waste and particulate emissions than other fuels. When used for Combined Heat and Power (CHP) it can reduce total energy demand by over 25%.<sup>6</sup>

**Industries and business in areas without natural gas face higher energy costs, lack choice in energy supply and face higher carbon charges.** Homeowners in such areas likewise face higher costs and use less energy efficient systems.

Where natural gas has recently become available large users (e.g. Allergan in Westport, Baxter Healthcare in Castlebar) quickly switched to natural gas. As the gas grid expands nationally and more consumers (both industrial and domestic) gain access, the availability of natural gas will be taken for granted. **Lack of gas infrastructure may become a disincentive to investment, reducing a region's competitiveness and increasing existing disparities.**

The economic benefits of natural gas for towns in the North West are estimated in this Briefing, they are summarised in the box below and discussed in detail later.

### Benefits of access to natural gas for users in 11 towns in the North West

◀ Fuel cost savings for Industrial and Commercial users annually	€16.2 m
◀ Fuel cost savings for new Domestic connection users annually	€4.4 m
◀ Savings in carbon charges for users annually	€0.5m
◀ CO <sub>2</sub> equivalent emissions saved annually (tonnes)	60,871 t
◀ Value of CO <sub>2</sub> emissions saved annually (at €15/t)	€0.9m

There are also social benefits associated with natural gas. Evidence from the UK<sup>7</sup> shows that access to natural gas reduces fuel poverty. In addition the option for 'pay as you go' metering allows for regular small payments for central heating and is easier to budget for than bulk oil purchases.

In tandem with its work on natural gas, the WDC has also been encouraging the use of renewable energy, in particular wood heat, under the EU funded RASLRES programme.<sup>8</sup> Wood is an important fuel for heating and its market must be developed. It is particularly suited for use in more rural areas where natural gas will not be available but natural gas access is needed in larger towns in the region.

**Industries and business in areas without natural gas face higher energy costs, lack choice in energy supply and pay more in carbon charges**

**Lack of gas infrastructure may become a disincentive to investment in businesses and reduce a region's competitiveness**

**Access to natural gas reduces fuel poverty**

6 Department of Trade, Enterprise and Investment, 2011, *Energy: Consultation on the potential for extending the natural gas network in Northern Ireland*  
7 Interdepartmental Group on Fuel Poverty, 2002, *Report of the Working Group on Extending the Gas Network*  
8 See [www.raslres.eu](http://www.raslres.eu) for more information.

**Balanced regional development is an important government objective, achieving it requires infrastructure to be in place to allow regions to achieve their potential**

**Where overall economic and societal benefits exceed the cost of a project there is a strong case for public investment**

**Connection policy requires that towns, or a group of towns, must have a positive NPV to be deemed eligible for connection**

## Policy for natural gas infrastructure

Natural gas infrastructure is owned by Bord Gáis Éireann (BGÉ), a state owned commercial enterprise. Gaslink<sup>9</sup> is the Transmission System Operator (TSO) and Distribution System Operator (DSO) for the gas network. Decisions on investment in natural gas infrastructure are made by BGÉ and Gaslink but are regulated by the Commission for Energy Regulation (CER).

The Department for Communications, Energy and Natural Resources (DCENR) is responsible for energy policy and for ensuring that it reflects wider government policy objectives. **Balanced regional development is an important government objective and achieving it requires infrastructure to be in place to allow regions to achieve their potential.** This is a key objective of the *National Development Plan (NDP)*<sup>10</sup> while the *National Spatial Strategy (NSS)*<sup>11</sup> recognises that regions should have similar quality energy infrastructure to be competitive. Energy policy is outlined in the White Paper *Delivering a Sustainable Energy Future for Ireland*. It recognises the importance of natural gas infrastructure for regional development and the requirement to extend and upgrade the electricity and gas network infrastructure in line with economic, social and regional development imperatives. It supports the connection of other new towns in line with regional growth and development objectives, having regard for BGÉ's economic criteria.<sup>12</sup>

The commitment to investment in energy infrastructure is important to achieving regional development goals. While BGÉ investment, in line with its economic criteria, is important the WDC believes that government investment is also essential. Such **public infrastructure provision is a response to market failure.** Private operators, or those operating on a commercial basis, will either under provide or not provide infrastructure if the revenue benefits they will receive are less than the cost of providing it, even if the overall economic and societal benefits are greater than the cost. In these circumstances there exists a strong case for government investment. The White Paper is expected to be reviewed in 2012 and further expansion of natural gas transmission infrastructure should be given more detailed consideration at that time.

A decision to extend natural gas to the North West by investing in transmission infrastructure to Letterkenny and Sligo was previously announced by government in 2001. Despite the availability of substantial funding from Interreg for the Letterkenny connection, and a €12.7m investment by the Irish government in extending natural gas from Belfast to Derry, decisions were made, on the basis of Cost Benefit Analyses, not to proceed with the connections to either Letterkenny (2005) or Sligo (2008). The WDC believes that some economic benefits (including the cost savings for users and impact on regional development) were not fully taken into account in these analyses.

## How can towns get connections?

In 2003 the CER drew up a policy to determine which towns should be connected to the natural gas grid. Under that policy<sup>13</sup> none of the towns in Mayo or Galway would have been eligible to connect to the Mayo Galway transmission pipeline. Following work by the WDC and others, a change to connection policy was introduced in 2006.<sup>14</sup> This policy requires assessment of the present values of the costs associated with the connection to the gas grid and the revenues associated with the projected load. **Towns, or a group of towns, must have a positive net present value<sup>15</sup> (NPV) in order to be deemed eligible for a connection.** Towns which are likely to meet the economic criteria are those which are relatively close to the network, or have large loads.

A series of studies of towns seeking connection to the natural gas grid has been undertaken to assess their eligibility under this policy:

9 Gaslink is an independent subsidiary of BGÉ. It has responsibility for developing, maintaining and operating the natural gas transportation system in Ireland.  
 10 Government of Ireland, 2007, *National Development Plan 2007-2013: Transforming Ireland – A Better Quality of Life for All*  
 11 Department of the Environment and Local Government, 2002, *National Spatial Strategy 2002-2020*  
 12 DCENR, 2007, *Delivering a Sustainable Energy Future for Ireland: The Energy Policy Framework 2007 – 2020*, p 29 & 30  
 13 CER/03/141  
 14 CER/06/032  
 15 Net Present Value (NPV) is the present value of an investment's future net cash flows minus the initial investment.

- ◀ *New Towns Analysis Phase I Report* in 2006 identified 11 towns which proved eligible for connection to the grid (Castlebar, Westport, Ballina, Crossmolina, Ballyhaunis, Knock and Claremorris in Co. Mayo; Athenry, Craughwell, Tuam and Headford in Co. Galway).<sup>16</sup> All the towns are in the Western Region.
- ◀ *New Towns Analysis Phase II Report* in 2007 analysed a further 15 towns. Six towns proved eligible for connection in the Phase II study including Gort, Loughrea and Ballinrobe in the Western Region.<sup>17</sup>
- ◀ *New Towns Analysis Phase III: Final Report* published by Gaslink in 2010 is the last anticipated planned review of gas connections for New Towns.<sup>18</sup> It contains the results for 39 towns, 12 of which are in the Western Region. Only four towns nationally were found to qualify for connections,<sup>19</sup> none in the Western Region.

The *Phase III* report included analyses for the **Sligo** and **Letterkenny** NSS Gateways (following the previous Cost Benefit Analyses) as well as other towns in Donegal (**Ballyshannon**, **Bundoran**, **Donegal** and **Lifford**). It also examined towns in Roscommon (**Ballaghaderreen**, **Boyle**, **Roscommon** and **Strokestown**) and Leitrim (**Carrick on Shannon**). These 11 towns are the focus of this Briefing.<sup>20</sup>

The distance of these towns from the existing transmission network (Fig. 1) means they have very high negative NPVs when compared to those western towns which were relatively close to the Mayo Galway pipeline. The estimated loads and the NPVs are shown in Table 1.

**Table 1: Estimated loads (Industrial and Commercial, New Housing) and NPVs for 11 North West towns in *New Towns Analysis Phase III Report*<sup>21</sup>**

TOWN	ANNUAL LOAD (MWh)	DISTRIBUTION NPV (€m)	TRANSMISSION NPV (€m)	TOTAL NPV (€m)
Ballyshannon	14,008	-0.76	-15.38	-16.13
Bundoran	13,397	-1.18	-15.43	-16.61
Donegal	47,592	1.24	-14.06	-12.82
Lifford	6,784	-2.86	-15.77	-18.63
Letterkenny	90,898	2.75	-11.53	-8.78
Sligo	134,387	7.27	-9.37	-2.1
Boyle	10,882	-2.61	-7.89	-10.5
Carrick on Shannon	254,230	-1.47	0.32	-1.15
Roscommon	40,745	-2.87	-6.46	-9.33
Strokestown*	5,626	-2.96	-8.16	-11.12
Ballaghaderreen	91,499	-2.51	-15.54	-18.04

Source: Gaslink, 2010, *New Towns Analysis Phase III: Final report*  
Note: Estimated loads for I&C year 7, New Housing year 10.

## Options for ineligible towns

Following the *New Towns Analysis Phase II Report* the WDC examined the options for towns whose connection had been appraised as having a negative NPV (the ineligible towns).<sup>22</sup> It found the connection of uneconomic towns may take place where the amount of the negative NPV (a supplemental contribution) is funded from another source and where customers with significant loads commit to connect. Both the CER and BGE recognise that this supplemental contribution is allowable.<sup>23</sup>

There are a **number of possible funding options for supplemental contributions to allow for the connection of ineligible towns**. These include private investment of the amount of the supplemental contribution. Local Authorities can also make a contribution by waiving road opening licensing fees.

**If the amount of the negative NPV is provided from another source, as a supplemental contribution, then towns may be connected. This may come from a private or public investment**

|||||

16 They have all been connected except Ballyhaunis, Knock, Athenry and Tuam.  
17 The others were Cashel, Cahir and Monasterevin. All these towns have been connected.  
18 The 'New Towns' studies have considered the viability of 70 towns across the country, of which 21 have proven viable for a connection.  
19 Tipperary town, Kinsale, Innishannon and Kells.  
20 Portumna was also analysed but the focus of this Briefing is the North West.  
21 When the towns are grouped the amount of the negative NPV for the 'Roscommon' Group, (which includes Longford and Carrick on Shannon but excludes Ballaghaderreen) is -€33.31m and for the 'Donegal' Group (which includes Sligo) is -€75.08m.  
22 WDC, 2007, *Gas for 'Ineligible' Towns: A review of the options*.  
23 This was confirmed in 2011.

**Natural gas is cheaper than most alternative fuels so access to it saves businesses money**

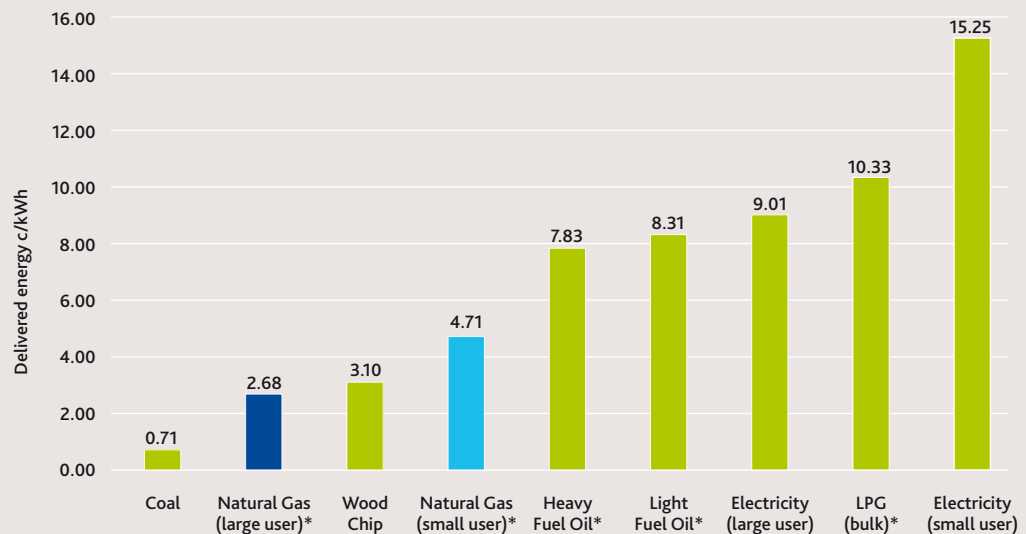
Options for public investment include making a strategic investment under the NDP, or through the European Regional Development Fund (ERDF), or a European Investment Bank (EIB) loan (for example to Gaslink). In 2001 BGÉ borrowed €200m from the EIB for the development of a second interconnector, the pipeline to the West and the Mayo Galway pipeline and has recently borrowed from the EIB to fund investment in electricity generation. The EIB has also recently provided a loan for an extension to the natural gas transmission grids in Scotland and Southern England.<sup>24</sup>

## Is natural gas cheaper for business?

Natural gas is cheaper than most alternative fuels so access to it saves businesses money. When the full value of these savings is calculated it demonstrates that there would be very significant benefits from investing in transmission infrastructure.

The Sustainable Energy Authority of Ireland (SEAI) produces data for comparison of Industrial and Commercial (I&C) fuels in cent per kilowatt hour (kWh). In July 2011 natural gas was cheaper than the most commonly used fuels (Fig. 2). For example, small users using Light Fuel Oil would pay 3.6 cent (76%) more per kWh of heat, using LPG they would pay 5.6 cent (119%) more, and for electricity they would pay 10.5 cent (224%) more than for natural gas for the same amount of energy.

**Fig. 2: Comparison of commercial and industrial fuel costs (July 2011)**



\* includes carbon tax

Source: SEAI, Commercial and Industrial Fuels Comparison Energy Costs, July 2011

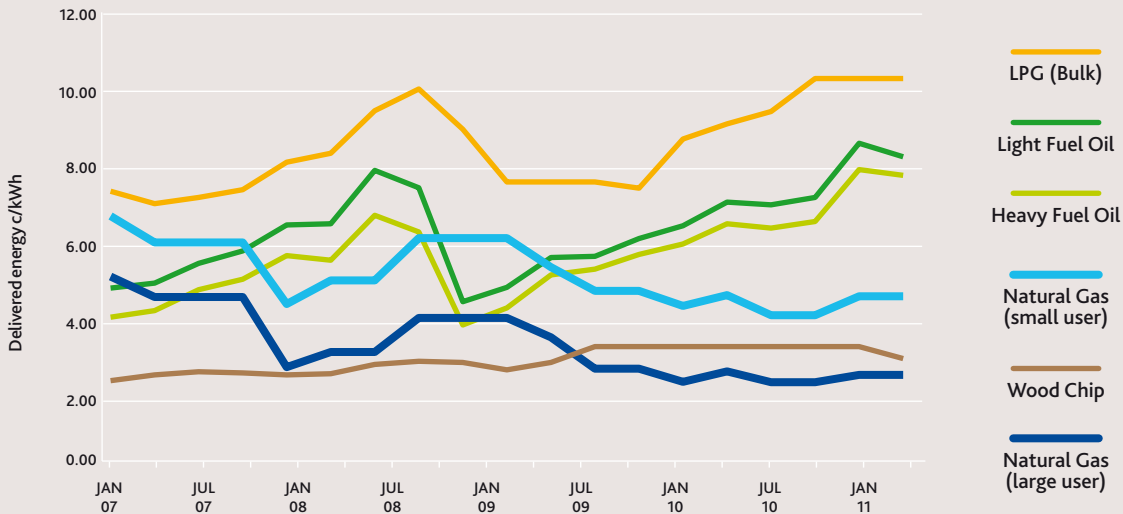
**Despite price variation over time natural gas is consistently competitive**

Only coal 'fines' (which are not suitable for many users) and wood chips were cheaper than natural gas for small users. At a larger scale natural gas is cheaper than wood chips because of the lower tariffs available to larger gas users. The consistent competitiveness of natural gas as a fuel can be seen in Fig. 3 which shows the cost of fuels since 2007.



<sup>24</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=BEI/10/146&type=HTML>

Fig. 3: Commercial and industrial fuel cost comparison 2007-2011



Source: SEAI, Commercial and Industrial Fuels Comparison Energy Costs, 2007- 2011

Although the cost of natural gas will increase significantly for many users from October 2011, a recent report from the International Energy Agency and the OECD suggested that “the factors that drive natural gas demand and supply increasingly point to a future in which natural gas plays a greater role in the global energy mix”.<sup>25</sup> This emphasises the importance of natural gas in the long term and the need to extend access to natural gas more widely. In future there is also the possibility of using the natural gas network for biogas transmission.

### How much could industrial and commercial enterprises in the North West save?

It is argued in this Briefing that investment in natural gas infrastructure in the North West would bring significant regional and national economic benefits. The most important of which would be the savings in fuel costs for businesses. Using the load estimates for the 11 North West towns examined in *New Towns Analysis Phase III* and the fuel cost comparison figures from SEAI it is possible to estimate the value of the savings in fuel costs that would be available to I&C users in these towns if they had access to natural gas (Table 2).<sup>26</sup>

Table 2: Estimated fuel cost savings in 11 North West towns if I&C users can access natural gas<sup>27</sup>

FUEL	ESTIMATED LOAD (MWh)	PRICE €/MWh*	TOTAL COST
Medium Fuel Oil (MFO)	395,199	**€64.72	€25,577,277
Gas Oil	138,419	**€73.28	€10,143,344
Electricity	36,983	€127.50	€4,715,338
<b>Total</b>	<b>570,601</b>		<b>€40,435,959</b>
Natural gas	570,601	€42.50	€24,250,543
<b>Annual Saving</b>			<b>€16,185,416</b>

\* SEAI Commercial and Industrial Fuel Cost Comparison July 2011 (converted from c/kWh to €/MWh)

\*\*20% rebate assumed, see SEAI Fuel Cost Comparison Note 2

Note: Any differences in totals is due to rounding

In the future natural gas is likely to play an even larger role in the global energy mix

Investment in natural gas would bring significant regional and national economic benefits

25 International Energy Agency, 2011, *Are we entering a golden age of gas?* Special Report, OECD/IEA, p7  
 26 It is assumed users switch from fuels at the rates used in Fingleton White et al., 2007, *Gas to the Northwest Feasibility Study* commissioned by DCMNR. Full detail of the calculations is available from the WDC or at <http://www.wdc.ie/publications/reports-and-papers/>  
 27 WDC calculations based on data from Gaslink *New Towns Analysis Phase III*, SEAI *Fuel Cost Comparison* and Fingleton White et al. *Gas to the Northwest Feasibility Study*

**Industrial and commercial users in the 11 towns are spending €16.2m more on fuel every year than if they had access to natural gas**

**Industrial and commercial users in the 11 towns are spending €16.2m more on fuel annually than if they had access to natural gas.** These higher costs influence the competitiveness of these businesses, and the numbers they can employ and so affect the economy of both the region and the country as a whole. Any Cost Benefit Analysis of investment in natural gas infrastructure should include these cost savings which bring significant benefits to the national economy.

### Experience of users

Having measured the overall savings for I&C users in the North West, it is useful to look at some individual cases. In 2009, to highlight the higher costs faced by enterprises without access to natural gas, the WDC commissioned three case studies of commercial users (an agribusiness, a manufacturer and a bakery).<sup>28</sup> Actual energy costs were compared with the energy costs that would have been incurred if these companies were using natural gas. All three case studies show that, had the companies been able to use natural gas, they would have made significant savings in the energy year 2007-2008. Fig. 3 above shows that the relative difference in fuel costs has remained since that time so the benefits of switching to natural gas for these companies are still present.

### The Agribusiness

This is a large agribusiness. The company has two adjacent plants, the larger of which is a milk plant and the smaller produces animal feed in a milling plant. There is a substantial heat demand resulting in a very favourable heat to electricity ratio which makes the site suitable for a CHP plant. It was assumed that natural gas would be consumed for CHP and that additional gas would be used to provide heating in parallel to the CHP.

**Estimated fuel cost savings for the company for one year were €1,375,267**

### The Manufacturer

The manufacturing facility is located in a small town in the Western Region. The plant process involves milling, heating and moulding using three ovens which are fired on LPG. The plant uses electricity to power equipment used in the manufacturing process. There is no potential for CHP in this process. It was assumed that the manufacturer would switch all LPG use to natural gas. Electricity consumption would not change.

**Estimated fuel cost savings for the company for one year were €103,983**

### The Bakery

The bakery has seven ovens of which six are heated using electricity, the seventh is operated using Light Fuel Oil (LFO). If the bakery were to have access to natural gas then all of the ovens could be switched over to natural gas and there would be no further oil consumption. Electricity would still be needed to power equipment such as dough mixers. It was assumed that the bakery would have all ovens operating on natural gas with electricity used for motive power, office equipment and lighting.

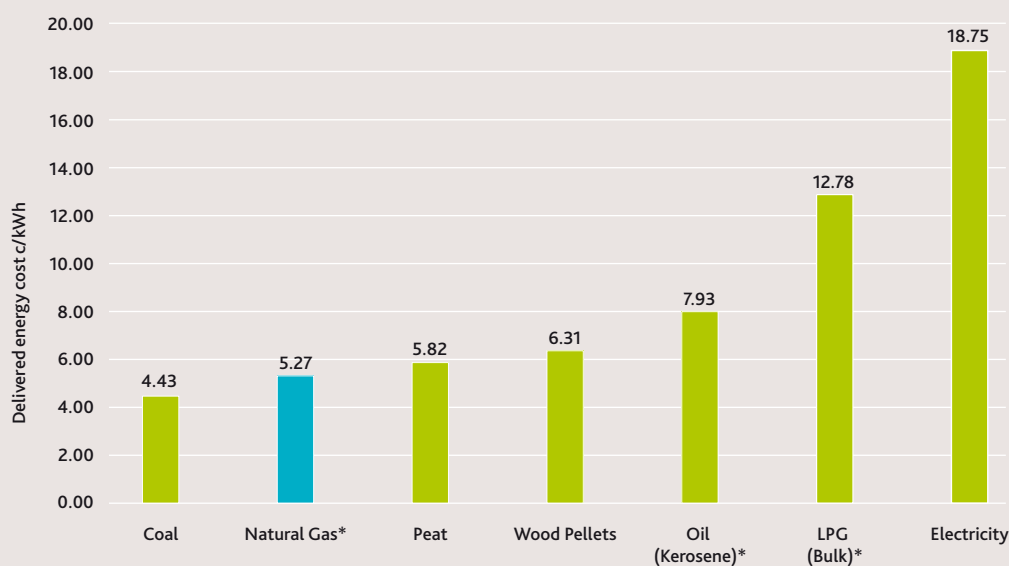
**Estimated fuel cost savings for the company for one year were €43,867**



## Is natural gas cheaper at home?

Savings would also be available to domestic users. Although significant natural gas price rises are expected in October, over time natural gas has remained cheaper than most other home heating fuels. Currently, apart from coal (which does not incur a carbon charge at present), natural gas is the cheapest domestic fuel (Fig. 4) for the same amount of heat delivered.

Fig. 4: Comparison of domestic fuel costs (July 2011)



\* includes carbon tax.

Source: SEAI, Domestic Fuel Cost Comparison, July 2011

Natural gas is significantly cheaper than kerosene (home heating oil) which costs 2.7 cent (50%) more than natural gas, LPG which costs almost 7.5 cent (143%) more than natural gas, or electricity which is 13.5 cent (256%) more expensive than natural gas per kWh of heat.

Clearly a substantial saving would be made by domestic users in the 11 North West towns if they had access to natural gas. An estimate of the total amount which could be saved was calculated<sup>29</sup> using the domestic demand figure for towns in *New Towns Analysis Phase III* (this is for new housing connections, rather than for any existing users switching over). **The estimated saving for new domestic users in the 11 North West towns annually is €4.4m.**

Combining both I&C (€16.2 m) and domestic (€4.4m) savings gives an estimated total fuel cost saving in the 11 North West towns of €20.6m annually, which is a significant economic benefit.

## Switching to natural gas: carbon charges and emissions

Natural gas emits the lowest level of greenhouse gases of any fossil fuel so switching to natural gas will lower emissions, and users of natural gas pay lower rates of carbon charge (or carbon tax as it is generally known).

### Carbon charges

The carbon charge is based on the level of carbon emissions from fuel and aims to incentivise switching to fuels with fewer carbon emissions, so reducing overall greenhouse gas emissions, benefiting the environment, and helping Ireland to meet emissions targets. **For energy users in the North West switching choices are**

Over time natural gas has remained cheaper than most other home heating fuels

The estimated saving each year for new domestic users, if they could connect to natural gas, in the 11 North West towns would be €4.4m.

For energy users in the North West switching choices are limited, and so users pay higher carbon charges

29 See footnote 26 and 27

**limited, and so users must pay higher carbon charges.** Carbon charges are included in fuel costs but they are considered separately here as they are an additional tax on users who do not have the choice of switching to natural gas.

The carbon charges (at a rate of €15 per tonne CO<sub>2</sub>) for key industrial and commercially used fuels are shown in Table 3. The difference in the carbon charge compared to natural gas is also given.

**Table 3: Rates of carbon charge for different fuels and compared to rate for natural gas**

FUEL	RATE OF CARBON CHARGE <sup>30</sup>	RATE IN CENT PER KILOWATT HOUR c/kWh <sup>31</sup>	PERCENTAGE DIFFERENCE TO RATE FOR NATURAL GAS 2011	EXPECTED RATE OF CARBON CHARGE IN 2014 c/kWh
Natural gas	€3.07 per MWh	0.307	-	0.512
Kerosene	€38.02 per 1,000 litres	0.387	+26.1%	0.645
Heavy Fuel Oil	€45.95 per 1,000 litres	0.426	+38.8%	0.709
LPG	€24.64 per 1,000 litres	0.360	+17.3%	0.599

Source: Finance Act 2010, SEAI Energy Statistics, WDC calculations.

The difference is quite significant, those using kerosene pay 26% more tax per kWh while users of Heavy Fuel Oil pay almost 39% more in tax. Users of LPG pay 17% more tax than if they had been using natural gas.<sup>32</sup>

The difference in the tax payable particularly affects large users and those using Heavy Fuel Oils. The carbon charge is expected to increase from its current a rate of €15 per tonne CO<sub>2</sub> emitted to €25 per tonne by 2014<sup>33</sup> which will substantially increase costs for I&C users. Hence those users who do not have the option to switch to natural gas are again at a clear competitive disadvantage.

**Each year an estimated additional tax of €443,819<sup>34</sup> is payable by users in the 11 towns in the North West compared to what they would pay if they were using natural gas.** Increases in carbon charges will have a disproportionate competitive effect on businesses which do not have the same opportunities to switch fuels.

### Carbon emissions savings

While the carbon charges cost companies more, the higher rate of emissions from users who cannot switch to natural gas makes it harder for Ireland to meet greenhouse gas targets and at the same time adds to the global excess of CO<sub>2</sub> emissions. If I&C users in the 11 towns in the North West could switch to natural gas then it is estimated that 47,052 tonnes of CO<sub>2</sub> emissions would be saved annually, while domestically some 13,819 tonnes of CO<sub>2</sub> would be saved annually if new housing in the 11 towns were to use natural gas.<sup>35</sup> **The total CO<sub>2</sub> saving is therefore 60,871 tonnes annually with a value of €913,062** (€15 per tonne of carbon).

### Public investment in natural gas infrastructure in other countries

Public investment in extending natural gas infrastructure to the North West would bring regional and national benefits. This has been found to be the case in other countries which have made similar investments. Examples are given below from Canada, the US and Australia, where the investments were made to stimulate development in remoter localities.

30 Finance Act 2010 <http://www.irishstatutebook.ie/pdf/2010/en.act.2010.0005.PDF>

31 Conversion to c/kWh calculated using SEAI net calorific values. The rates of carbon tax are given in the 2010 Finance Act but in order to compare across fuels the amount of the carbon charge was calculated in c/kWh.

32 The carbon charge has not yet been introduced for coal and peat, and there is no carbon charge payable on renewable fuels such as wood or other biomass.

33 Both Fine Gael and Labour Manifestos for Election 2011 committed to raising the carbon charge to €25 per tonne CO<sub>2</sub> by 2014.

34 Based on Gaslink *New Towns Analysis Phase III* and WDC calculations, see footnote 26 and 27

35 See Footnote 26 and 27

If users in the North West were connected to natural gas there could be an estimated saving of 60,871 tonnes of CO<sub>2</sub> each year

Other countries have invested in natural gas infrastructure to stimulate regional economic development

## Examples of public investment in natural gas transmission infrastructure

### Canada

In 1998, in Manitoba, Canada the Federal and Provincial Government provided a contribution of CAN\$3.2m (€2.3m<sup>36</sup>) to a CAN\$9m (€6.4m) investment in a transmission pipeline to extend the natural gas service to two rural municipalities Hanover and La Broquerie.<sup>37</sup> The pipeline involved the installation of more than 600km of new pipeline to provide gas to a potential 1,500 customers. This investment is part of a Federal-Provincial Agreement to direct CAN\$40m (€28.3m) into strategic projects that will expand the international competitiveness of Manitoba's key growth sectors.

### USA

In North Carolina<sup>38</sup> it is the public policy of the State to facilitate the construction of facilities in and the extension of natural gas service to unserved areas. An Expansion Fund was created to support the infeasible portion, or the negative NPV of the project. Since the inception of the legislation for the expansion of the natural gas service 15 projects have been completed extending the natural gas service to 34 previously unserved counties. Nearly US\$510m (€353m) has been invested and natural gas is now available in 96 of the 100 North Carolina counties.

### Australia

The Natural Gas Extension Program (NGEP) was introduced in 2004 to extend gas connection availability. It provided public investment to expand the natural gas network in 'regional' Victoria and has brought natural gas connections to 34 towns, and more than 70,000 users. The scheme involved both public and private investment. Economic analysis<sup>39</sup> of the impact of the scheme indicate that the state investment of AUS\$70m (€52m) brings benefits of AUS\$427.6m (€316m) over 20 years. A large proportion of this is associated with the energy savings from connecting to natural gas.

In Northern Ireland, the Minister at the Department for Enterprise, Trade and Innovation (DETI) has launched a public consultation<sup>40</sup> on extension of the natural gas network in Northern Ireland. A study<sup>41</sup> has recently been completed on the technical and economic feasibility of bringing natural gas to additional towns in the West and North West of Northern Ireland. **Options for cross border funding of natural gas infrastructure should be considered as this could bring benefits to the North West** of both Northern Ireland and the Republic of Ireland.

## What should be done to expand access to natural gas?

In order for regions to develop and contribute more to the national economy they must have access to quality services and infrastructure, such as those for energy. Investment in natural gas infrastructure will bring benefits to the North West and to the wider economy.

As demonstrated in this Briefing there are significant fuel cost savings for users associated with connection to the natural gas network (€16.2m for I&C users and €4.4m for domestic users), as well as reduced carbon charges, emissions and a variety of other environmental benefits. In addition, businesses in the region would operate on a more level playing field and the region would be made more attractive as a location for new industry. Conversely, without natural gas it is harder to maintain enterprise in the region, or to attract new enterprise, and to maintain and create jobs.

**Options for cross border funding of natural gas infrastructure should be considered as this could bring benefits to all of the North West**

**There should be clear commitment to investing in natural gas infrastructure in the North West**

36 1 CAN\$= €0.707; 1 US\$= €0.692; 1 AUS\$= €0.739. [www.XE.Com](http://www.XE.Com) currency converter 31.08.11

37 [www.wd.gc.ca/mediacentre/1998/nov06-1a\\_e.asp](http://www.wd.gc.ca/mediacentre/1998/nov06-1a_e.asp)

38 [www.pubstaff.commerce.state.nc.us/psngas/publications/bireport.pdf](http://www.pubstaff.commerce.state.nc.us/psngas/publications/bireport.pdf)

39 KPMG, 2005, *Economic Impact of the Natural Gas Extension Program*, submitted to the Department of Innovation, Industry and Regional Development

40 [www.detini.gov.uk/consultation\\_on\\_the\\_potential\\_for\\_extending\\_the\\_natural\\_gas\\_network\\_in\\_northern\\_ireland](http://www.detini.gov.uk/consultation_on_the_potential_for_extending_the_natural_gas_network_in_northern_ireland)

41 [www.detini.gov.uk/3331.pdf](http://www.detini.gov.uk/3331.pdf)

**There are a variety of options for funding natural gas infrastructure investment which should be investigated**

It is therefore essential that government considers the best way to ensure that such infrastructure is provided in the future. Although funding is not likely to be available for government investment in the immediate term, things can be done in the short term to ensure that when such funding does become available, development of natural gas infrastructure can take place as soon as possible. These are:

1. A **clear commitment** by government to developing natural gas infrastructure in the North West and to making it part of any future capital investment programme such as a new NDP.<sup>42</sup> The review of energy policy, outlined in the White Paper and due in 2012, presents an ideal opportunity to consider planning for investment in the natural gas grid as part of a series of measures to stimulate development and growth of the regional and national economy.
2. The **options for funding** natural gas infrastructure should also be investigated. As the new ERDF programme is prepared for the post 2013 period, the possibility of co-funding through the ERDF should be explored (the Fund was previously used for the development of the natural gas transmission grid in Northern Ireland). The possibilities for Interreg or other cross border funding should also be considered. Co-ordination with the Northern Ireland Executive on options for joint development and funding of natural gas infrastructure in the North West must be explored. It is also possible that a loan from the EIB might be sought. This needs to be examined.
3. The options for **ring fencing a portion of the dividend payable by BGÉ** to the government to fund investment in natural gas infrastructure in the North West, for regional economic development should also be considered. Now that BGÉ investment is regulated, and the criteria for investment are more commercially based than previously, funding for the public good element of infrastructure may not come directly from BGÉ. However, by keeping a portion of the BGÉ dividends or a portion of any profit from a sell off of the company for this purpose, such investments could be funded by government.

42 As included in the *Programme for Government 2011* <http://www.taoiseach.gov.ie/>

### For further information

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