ANNEX 3

REMEDY 2B – FURTHER ANALYSIS ON NON-ADDITIONALITY

CASE STUDY OF THE REPUBLIC OF IRELAND MARKET

19 December 2017



About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs; Electricity; Gas; Retail and Social; and Water. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

Our Mission	Value and sustainability in energy and water.
Our Vision	We will make a difference for consumers by listening, innovating and leading.

Our Values

Be a best practice regulator: transparent, consistent, proportional, accountable, and targeted

Be a united team

Be collaborative and co-operative

Be professional

Listen and explain

Make a difference

Act with integrity

Contents

1 ROI Market

Reasons for using the ROI market as a suitable comparator

1.1 We consider that the Republic of Ireland Gas market given its current development phase and relative maturity, close proximity to Northern Ireland and uptake of gas connections to be an appropriate and valid comparator for Northern Ireland GDNs. As part of the CMA referral of FE's GD17 price control, the UR provided some analysis based on connections in the Republic of Ireland that it considered supported the 25% non–additionality rate. It submitted that 4,676 'one off residential' properties connected to the gas network in the Republic of Ireland in 2014, were achieved *'without any spend by the network operator on sales, marketing or incentives'*. The UR submitted that this supported the 25% assumption for non additionality.

1.2 Unlike the situation in Northern Ireland where there are three distribution network companies i.e. PNGL, firmus and SGN (NI) developing and managing three separate gas distribution networks, there is a single gas distribution network in the Republic of Ireland and this is managed by Gas Networks Ireland (GNI).

1.3 Gas Networks Ireland is responsible for the safe, reliable and efficient transportation of natural gas through its network of all gas customers. Development of the national gas network began in 1976 and the network now consists of:

- 1,724km of high pressure onshore transmission pipelines in Ireland and Scotland
- 412km of subsea interconnectors between Ireland and Scotland
- 11,499km of low pressure distribution pipelines
- Three compressor stations
- Connection to three entry points, including the newest entry point, the Corrib gas field
- 176 above ground installations on the transmission network
- 933 district regulator installations on the distribution network
- Connections to the transmission system for 51 large industrial and commercial installations, including 12 power stations; and
- Connections to the distribution system for c.678,000 users across Ireland.

1.4 Gas Networks Ireland and Irish water are part of the Ervia organisation. Ervia is led by Ervia Group Centre, which sets the strategic direction of the Group. Ervia Group Centre, Gas Networks Ireland and Irish Water are supported by the Shared Services Centre and Major Projects divisions.

1.5 Gas Networks Ireland is regulated by Commission for Regulation of Utilities (CRU), formerly known as Commission for Energy Regulation (CER). Gas Networks Ireland has recently it's completed its third price control period (i.e. it ended in October 2017). CRU issued its final decision for the fourth regulated period for GNI i.e. October 2017 to October 2022 on the 30 August 2017.

1.6 The PC4 decision paper highlighted four key objectives for GNI in the PC4 period i.e.

- Operate to the highest safety standard
- Ensure reliability and security of demand
- Ensuring competitive tariffs and support Ireland's least cost transformation to a low carbon economy; and
- Respond to changing customer service demands.

1.7 The UR notes that in support of the objective to ensure competitive tariffs and support Ireland's least cost transformation to a low carbon economy that GNI intends to continue its growth strategy which commenced in PC3 and intends to deliver over 100,000 additional domestic and commercial customers over the period of PC4. Of these GNI has a target of achieving 46,244 mature housing connections in the PC4 period1.

1.8 The Utility Regulator considers that there are a number of aspects of the ROI market which are of relevance to this consultation on ground 2b non additionality. These are as follows:

Network Maturity

1.9 The GNI gas distribution network is older than the firmus network but is not mature. GNI stated in its PC4 executive summary that '*GNI commenced development of the natural gas infrastructure in 1976. Over the following 40 years, GNI expanded the transmission and distribution networks across Ireland and built interconnection with Great Britain. During this time, network expansion has not been completed at a constant rate, but in a series of investment tranches. The 1990s and 2000s, in particular, saw periods of large scale infrastructure additions to the network'*. We observe that this continues to be the case as GNI are forecasting an increase in annual connections for domestic owner occupied properties in the PC4 period (i.e. October 2017 to October 2022) than was the case in the PC3 period (i.e. October 2012 to October 2017).

1.10 We have taken the opportunity for the purposes of this consultation to update our analysis on the maturity of the firmus network, PNGL, and Northern Ireland as whole and compare this to the GNI network. Our original analysis on network maturity was based on number of connections versus population figures.

[1] Table 1: forecast connections in PC4, page 14, GNI PC4 Executive Summary@ PC4 SD001, 02/12/2016

	Cumulative OO connected	Cumulative OO properties passed	%age of OO prop passed connected	Long term target OO connections as %age of prop passed
PNGL	89,185	198,051	45%	81%[2]
firmus	7,596	48,998	16%	66%[3]
GNI	636,012[4]	936,012[5]	68%	No specific target

Table 1: OO connections as percentage of OO properties passed for firmus, PNGL and GNI (2014)

1.11 We have updated our analysis to take account of data provided by firmus and PNGL in their annual cost reporting and from GNI information on the network in ROI. This data is shown in table 1. This shows that in 2014 the maturity of the firmus network was 16%, the PNGL network 45% and the GNI network was 68%. However it is worth noting that the firmus long term target for OO connections as %age of prop passed is significantly less than that for PNGL at 66% v 81% for PNGL.

1.12 A further way to measure the maturity of the gas distribution network is to measure the number of OO connections versus the total number of OO domestic properties. A comparison of the maturity of the ROI v N.I. network is shown on this basis in table 2.

	Cumulative OO connected	Total OO properties	%age of OO connected
Northern Ireland	97,409	654,430[6]	15%
GNI	649,445	1,554,487[7]	42%

Note: Total OO properties excludes social housing e.g. housing executive properties and equivalent in ROI

Table 2: OO connected versus OO properties (2016)

1.13 Using this measure of maturity shows that network is Northern Ireland is 15% while in the Republic of Ireland is 42%, however this measure of maturity will include properties that may never connect to the gas network.

[2] PNGL GD14 BP submission + GD17 BP submission (East Down) anticipated connections as %age of properties passed.
[3] Firmus GD17 business plan submission: supplementary paper – connection incentive extract 'Our long-term plan is to extend the benefits of natural gas to many more customers over time. Although the analysis of our network build programme is ongoing, we indicatively expect that it will be economic for our network to be extended to pass approximately 175,000 properties by 2045. We aim to achieve an overall penetration rate of 66% of properties passed, leading to total connections in 2045 of approximately 115,000'
[4] Table 9.2, page 66 of the 2016 GNI Systems Performance Report
[5] 636,012 properties already connected plus 300,00 readily connectable
[6] 2016 NIHE preliminary report: table 2 i.e. 464,740 + 128,120+ 34,650 + 26,920
[7] From 2016 ROI central statistics office i.e. 1,697,665 domestic properties – 143,178 social housing properties

1.14 We maintain our view that while the gas distribution network in GNI is more advanced than that in either PNGL or the firmus area, it cannot be considered mature. This is evidenced by the fact that GNI are forecasting a significant increase in its domestic owner occupied connection activity in the PC4 period as compared to the PC3 period and this includes potentially extending the distribution network into new areas[8].

1.15 However we do not consider that the maturity of a network in of itself to be a key driver of the decision making process of a domestic owner occupied property owner in deciding whether or not to connect to the gas network. Rather, that as the network makes a rapid expansion in the start-up years, the connections do not follow at the same pace. As time moves on, this establishes into a more consistent trend, whereby properties passed and consumers join on a more regular basis.

Connection charges

1.16 According to the firmus energy distribution connection policy (v3.1 – 1st May 2017) [9] firmus does not charge domestic owner occupied properties a connection charge for connecting to the gas network for connections up to 30 metres. The exception to this is for housing association properties where by '*Housing Association developments will be subject to financial appraisal (based on costs, Regulatory allowances and expected volume of gas to be burned). Any shortfall in payback from the financial appraisal may be requested from the Housing Association'*[10].

1.17 In contrast to the situation in Northern Ireland (including the firmus area), Gas Networks Ireland charge a connection fee for domestic owner occupied properties in the Republic of Ireland. The current charge is €249.70 for connections up to the first 15 metres. The rate per meter for connections above 15 metres is €51.32 (if the relevant trench work is completed by GNI). We understand from GNI that around 8% of its domestic owner occupied customers who connect each year to its network would pay more than the standard is €249.70 connection charge.

1.18 A summary of the costs of domestic owner occupied connections in the firmus area versus that in the Republic of Ireland for connections over 14m, 20m and 29m distances are shown in table 3.

[8] Page 42 of the GNI 2016 network development plan states in relation to residential new connections growth 'A number of new towns have been connected (e.g. Nenagh and Wexford) and further towns are currently under assessment'.
[9] https://www.firmusenergy.co.uk/publications/category/distribution-connection-policy/specific/firmus-energy-distribution-connection-policy-document
[10] Para 2.12.3 of the firmus 2017 connection policy

Connection scenario	Firmus charge	GNI charge[11]
Connection of 14 metres	£0	£224.73
Connection of 20 metres	£0	£455.67
Connection of 29 metres	£0	£869.74

Note: we have assumed an exchange rate of €1 = 90p

Table 3: Comparison of Connection charges in the firmus area and GNI area

1.19 We consider that connection charges are a relevant factor in the decision making process by domestic owner occupied property owners in deciding whether to connect to the gas network. It is clear from table 3 that domestic owner occupied property owners in the Republic of Ireland face a significant additional cost burden compared to domestic owner occupied property owners in Northern Ireland in deciding whether to make a connection to the gas distribution network. Our understanding is that in the Republic of Ireland once the connection rate increases above the standard €249.70 this can become an increasingly negative consideration for a potential domestic owner occupied property owner in deciding if they want to connect to the gas network.

Regulatory incentives for domestic owner occupied connections, including the extent of marketing and advertising for owner occupied connections.

1.20 In the PC3 period there were no regulatory incentives for GNI to connect domestic owner occupied properties to the gas distribution network, nor where there any specific allowances for market development for the domestic owner occupied section. Therefore any expenditure by GNI on marketing and development in the PC3 came from within its overall opex allowance.

1.21 The 2015 GNI Systems Performance Report discusses its promotion of gas connections to domestic owner occupied properties on pages 33 to 35, for example:

'*The Gas Networks Ireland sales team continues to promote connecting to natural gas in the residential sector to households that are on the network but not connected to natural gas. These are categorised as "mature housing". Many external factors influence this household type in choice of energy, more recently low oil and coal prices have acted as a deterrent in replacing older heating systems. Similarly access to finance, choice of alternative fuels and investing in energy efficiency have been impacting the figures.*

Through the Gas Networks Ireland Connections Policy, Gas Networks Ireland continually brings the benefits of natural gas to new towns. The Connections Policy is a Gas Networks Ireland policy that is approved by the Commission for Energy Regulation (CER). The Connections Policy was revised in 2015, it encourages the connection of new customers, offers transparency around charges, treats connections consistently and minimises the impact on tariffs. The more customers that are connected to the gas network, the more throughput on the system which in turn reduces the tariffs for all gas customers. Gas

[11] https://www.gasnetworks.ie/home/get-connected/connection-costs/

Networks Ireland actively promotes natural gas as a fuel of choice for homes, businesses and industry, greater utilisation of the natural gas network and looks for opportunities to expand the network where economically viable'.

1.22 It is however important to note that some of this commentary relates to GNI achieving connections in new areas. In this context it is important to note that the UR provided firmus with a new area allowance for the GD17 period and this was not appealed by firmus. We also understand from GNI that in relation to its promotional activities for domestic owner occupied connections it is placing less emphasis on its sales forces and more focus on its online activity e.g. through development of its website and through the use of social media.

1.23 This would appear to be consistent with evidence provided by firmus in the course of the CMA appeal[12] where the examples provided by firmus of GNI promotional activity were based on either GNI website material or social media based advertising such as Youtube, twitter and linkedin. We also note that one of the examples provided by firmus in its evidence to the CMA had no relationship to promoting gas connections to domestic owner occupied properties but rather was about gas safety.

1.24 The situation in terms of regulatory incentives for GNI to connect domestic owner occupied properties in the PC4 period has changed in comparison to the PC3 period. CRU has developed an incentive mechanism that rewards GNI if it exceeds its business as usual (BAU) targets, but GNI suffers a penalty if it fails to meet its BAU target.

1.25 CRU based the BAU numbers upon the volume of connections made in the first 4 years of PC3 and the first 5 months of 2016/17. Table 4 shows the connection targets submitted by GNI for the PC4 price control. The CRU has expressed some doubt over the level of new connections forecast by GNI in PC4. CRU set the PC4 connection targets at the business as usual rate but provided a reward / penalty mechanism to incentivise GNI to outperform the BAU targets.

	2017/18	2018/19	2019/20	2020/21	2021/22	Average
GNI forecast connections	7,181	8,006	7,878	8,114	8,327	7,901
BAU connections	4,519	4,519	4,519	4,519	4,519	4,519
%age BAU	62.9%	56.4%	57.4%	55.7%	54.3%	57.2%

Note: above figures will include social housing but this does not affect %age BAU calculation.

Table 4: PC4 BAU and target domestic owner occupied connections for GNI

1.26 The CRU decided on a symmetric marginal incentive (reward/penalty) rate for each connection that falls below or exceeds the PC4 BAU target. So for example, if the marginal incentive rate was €22 per domestic housing connection, then if actual

[12] See Annex 4 FE submission 14 March on ROI GNI advertising for OO connections

connections were to fall below the PC4 target by 100, the penalty applied under the scheme would be €2,200[13].

1.27 The CRU also noted that 'a *priority of the commercial function with GNI was to maximise the potential of the existing gas network while seeking opportunities to expand and diversify into new markets through research and innovation'*. The CRU noted that during PC3 there has been the creation/growth of the Commercial Department to specifically provide the focus on growth of customer numbers and other new and innovative approaches to increase gas demand. The object of this being to maximise the benefit from the installed network asset base[14]'.

1.28 Our understanding is this covered promoting gas connections to all customer groups e.g. domestic owner occupied, industrial and new homes. The increased expenditure by GNI in this area was partly to cover for the envisaged increase in domestic owner occupied connections in the PC4 period versus those connections delivered in the PC3 period.

1.29 We note that while it could be inferred that the %age BAU in table 4 could reflect non additional connections in the PC4 period these figures may reflect the upper boundary of a possible non additional %age assumption as it would not take into account the level of any promotional activity undertaken by GNI in the PC3 period.

Figure 1: PNGL billboard on Boiler Replacement Allowance

[13] Page 117 CER Decision on October 2017 to September 2022 Distribution Revenue for Gas Networks Ireland (CER/17/259, 30/08/2017)
[14] Page 18 of the PC4: REVIEW OF DISTRIBUTION REVENUES COMMISSION FOR ENERGY REGULATION (CER), June 2017, Technical and Economic Review, Final Report

1.30 We consider however there are aspects of advertising and marketing undertaken by firmus and PNGL that is different to the Republic of Ireland i.e. some advertising and marketing undertaken by firmus and PNGL features government assistance to connect to the gas network. An example of this form is advertising in shown in figure 1. A further example can be found on the firmus website[15] part of which states '*Boiler Replacement Scheme – with the government's Boiler Replacement Scheme if you're an owner occupier you could claim up to £1,000 towards the cost of a new SEDBUK 'A' rated natural gas boiler and heating system. So hurry there's never a better time to convert to natural gas just in time for winte*r!'

Comparison of owner occupied connection incentives for GNI versus those for firmus

1.31 We understand the incentive provide by CRU to GNI for owner occupied connections in the PC4 period is €125 per connection (or £112.50 assuming exchange rate of €1 = 90p) for those connections gained over and above the BAU target. There is also a penalty of €125 per connection for each connection below the BUA target connection number.

1.32 For firmus the UR decided in the GD17 FD to provide for a connection incentive of an average of £635 per connection over the annual connection target. This is 5.6 times the connection incentive provided by CRU for GNI in the PC4 period. The UR also provided for a collar as part of the connection incentive regime in the GD17 period which is an average of £158.75 over the GD17 period. The collar comes into effect where firmus to underperform by over 50% in its annual connection target. Consequently it can be seen that the collar amount in the connection incentive regime provided by the UR is above the connection incentive provided by CRU to GNI. Firmus did not appeal this this aspect of the connection incentive to the CMA.

1.33 The UR also notes that the 'new area' allowance it provided to firmus in the GD17 period of an average of £150 per connection (if calculated across all OO connections) is also above the connection incentive provided by CRU for GNI in the PC4 period.

Fuel Poverty and Government assistance to connect to gas

1.34 GNI note in their PC4 executive summary that 'Energy poverty affects more than 460,000 households in Ireland[16]'. If we divide this into the total number of occupied properties in the Republic of Ireland of 1,697,665 then circa 27% of households in the Republic of Ireland are in fuel poverty if we define fuel poverty as those households spending more than 10% of income on energy. This is consistent with information on

[15] https://www.firmusenergy.co.uk/home/firmus-energy-network/switching-to-firmus-energy/firmus-energy-incentives-natural-gas-heating-grants

[16] Page 9 of GNI PC4 executive summary, PC4 SD001, 02/12/2016

the ROI Department of Communities, Climate Change and Environment website which puts the fuel poverty figure at 28%[17]. This rate of fuel poverty would be marginally higher than in Wales at 23%[18] but below that which exists in Northern Ireland.

1.35 The equivalent level of fuel poverty in Northern is 42%[19] and is also defined as those households spending more than 10% on income on energy. One reason why the rate of fuel poverty may be higher in Northern Ireland in comparison to the Republic of Ireland is that the average salary in the Republic of Ireland is higher than in Northern Ireland[20]. However we consider that the difference in disposable income levels between Northern Ireland and the Republic of Ireland to be less than the difference in salary levels due to for example differences in the personal tax regimes and in relation to input prices e.g. housing costs.

1.36 We note that Eurostat provides data on disposable income of private households per EU region. The units used by Eurostat are Purchasing Power Standard based on final consumption per inhabitant. According to Eurostat[21], Northern Ireland has a disposable income per inhabitant of around 91% of the Republic of Ireland average i.e. 9% less. A comparison of Purchasing Power Standard based on final consumption per inhabitant for Northern Ireland, the UK and regions of the Republic Of Ireland are shown below in table 5. The information is also shown graphically on page 13.

Region	PPS disposable income per inhabitant
UK	16,900
Northern Ireland	13,800
Republic of Ireland	15,100
Republic of Ireland (Border, Midland and Western)	13,800
Republic of Ireland (Southern and Eastern)	15,600

Table 5: Purchasing Power Standard disposable income per inhabitant (2014)

17 https://www.dccae.gov.ie/documents/An%20Objective%20Analysis%20of%20Energy%20Poverty%20in%20Ireland.pdf

18 http://fuelpovertyni.org/

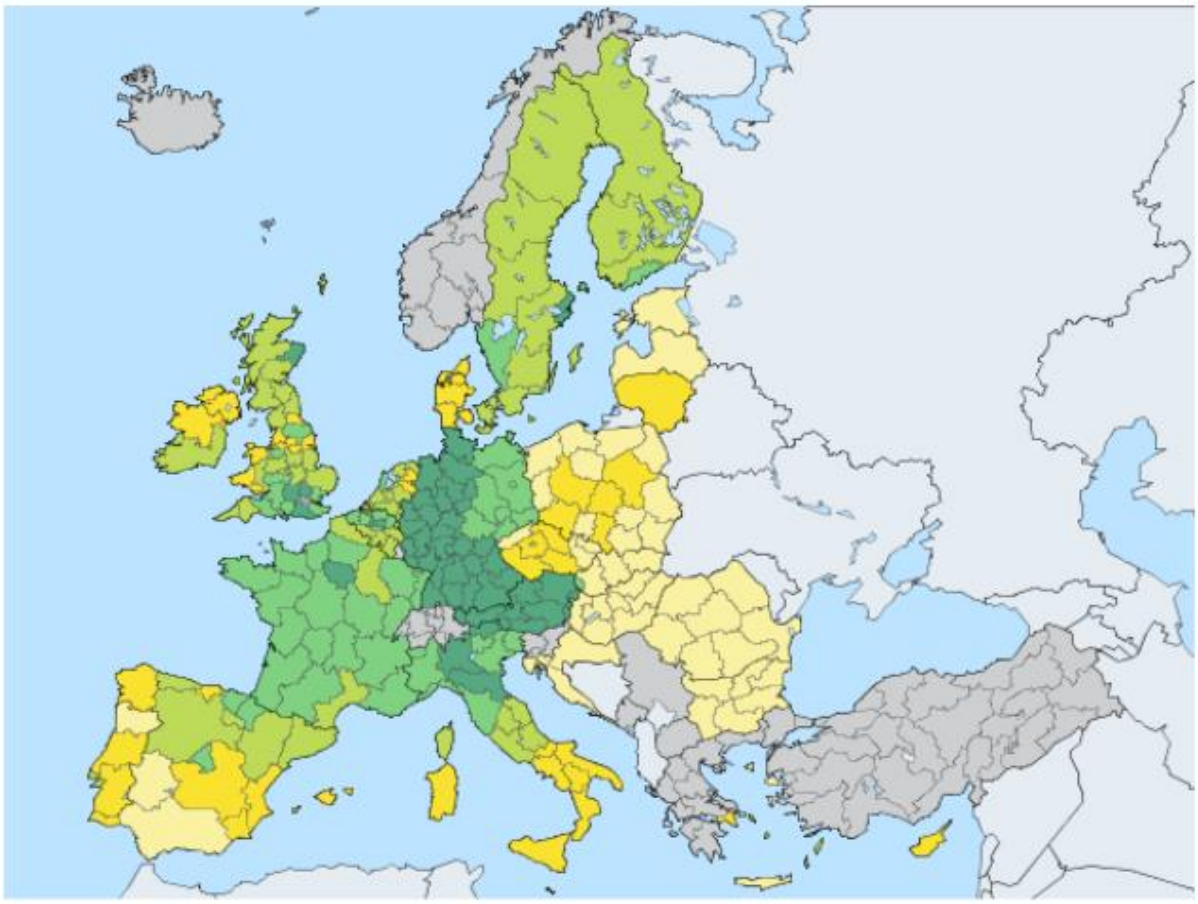
19 https://www.communities-ni.gov.uk/topics/housing/fuel-poverty

20 https://www.belfasttelegraph.co.uk/news/northern-ireland/northern-irelands-average-pay-packet-is-8000-lighter-than-one-earned-in-the-republic-29901251.html

21 http://ec.europa.eu/eurostat/en/web/products-datasets/-/TGS00026

Disposable income of private households by NUTS 2 regions

PPS (based on final consumption) per inhabitant - 2014



Source of Data Eurostat
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Last update: 28.11.2017
Date of extraction: 30 Nov 2017 11:51:29 CET

1.37 We note that while the average Purchasing Power Standard based on final consumption per inhabitant for Northern Ireland is lower than the Republic of Ireland average it is similar to that for the border, midland and western regions of the Republic of Ireland.

1.38 In conclusion we do not consider that the difference in average income levels between NI and ROI (as measured by Purchasing Power Standard based on final consumption per inhabitant) is a major factor in the different level of connection rates between NI and ROI.

1.39 In relation to the measures available from the respective governments' to support domestic owner occupied to convert to natural gas the measures in Northern Ireland appear to be more generous than in the Republic of Ireland and some of their measures are specifically targeted at encouraging domestic owner occupied properties to connect to gas whereas the measures in ROI do not specifically target conversions to the natural gas network.

1.40 For example in Northern Ireland a significant outlay of expenditure was undertaken by the NI Executive on various 'social schemes' to assist customers in modernising their heating systems and insulating their homes. These schemes operated throughout all of Northern Ireland, including the firmus network area. This is in addition to GDNs' AMPR spend.

1.41 One such scheme is the Boiler Replacement Allowance. The scheme is open to Owner Occupiers whose household income is less than £40,000 and who have an inefficient boiler of at least 15 years old. You are only be eligible to replace your existing gas boiler if the gas connection to your property was made at least 15 years ago. The allowance does not apply to Economy 7 heating, stoves used only for cooking, back boilers or room heaters.

1.42 The grant of up to £1,000 dependent on total gross annual income is available to help with replacing an inefficient boiler with a more energy efficient condensing oil or gas boiler; switching from oil to gas; or switching to a wood pellet boiler[22]. The customer needs to submit a Boiler Replacement Application Form to begin the process[23].

1.43 Between September 2012 and March 2016 grants for 31,255 replacement boilers were approved under the Boiler Replacement Scheme, amounting to £21.4 million. This equates to an average grant of £684 per household. Of these, 25,855 replacements have been completed.

1.44 In the Republic of Ireland grants under government energy support schemes are administered by the Sustainable Energy Authority of Ireland (SEAI). The UR is not aware of any grants that are specifically linked to domestic owner occupied customers connecting to natural gas. Rather there are a range of grants available but none that give an enhanced grant for choosing gas rather than alternative such as oil, for example the grant available for installing heating controls as well as a new boiler is €700 whether the property owner upgrades to gas or oil[24].

1.45 The UR also notes that in Northern Ireland Phoenix Gas and Firmus have linked their advertising campaigns[25] to government incentives for domestic owner occupied property owners to connect to natural gas but that this has not been the case in ROI.

[22] https://www.nidirect.gov.uk/articles/grant-to-replace-your-boiler
[23] https://www.nihe.gov.uk/boiler_replacement_leaflet.pdf
[24] https://www.seai.ie/resources/publications/Better_Energy_Homes_Application_Guide.pdf
[25] For example advertising related to boiler replacement scheme.

Gas Supply Competition

1.46 Historically and currently there is only one gas supplier in the firmus network area i.e. Firmus Energy Supply Limited.

1.47 In contrast to the situation in the firmus network area there are seven suppliers[26] to the domestic gas market in the Republic of Ireland (at time of writing) and these companies advertise to attract customers. The CMA considered that '*advertising undertaken by gas supply companies in the Republic of Ireland is likely to increase potential customers' awareness of gas, and is therefore likely to have an impact on the level of connections to the gas network. As a result, we consider that it cannot be assumed that all connections in the Republic of Ireland should be considered as non additional, in the Republic of Ireland*'.

1.48 It is for this reason that we have concluded that the our analysis on the connection rate in ROI should be amended before determining an upper bound for the non additional rate for firmus. However we note that this advertising as referred to by the CMA is undertaken by the gas suppliers and not GNI and therefore could be regarded as free related advertising which is beneficial to GNI i.e. it is advertising for which GNI does not incur a cost.

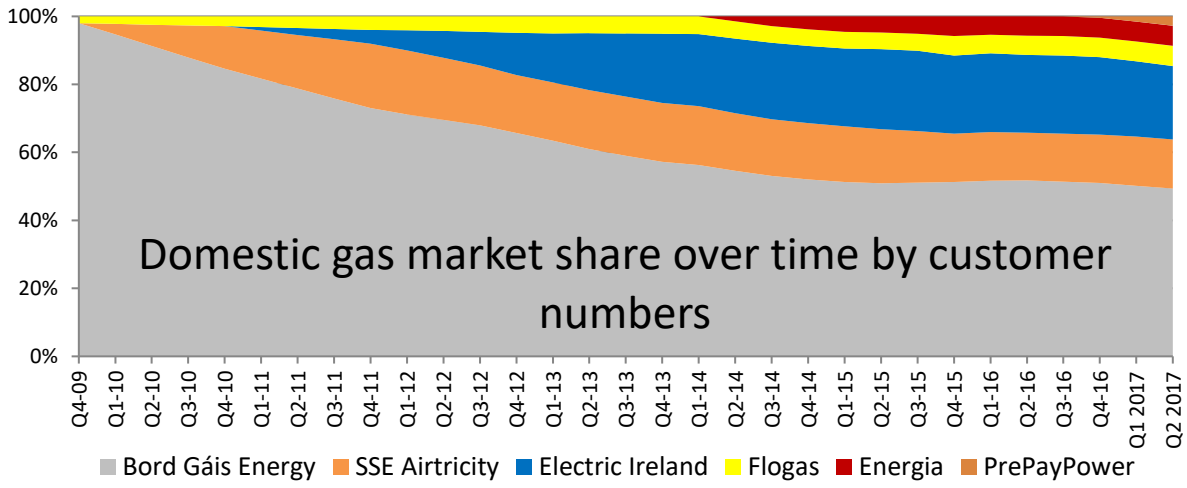

Figure 2: ROI Domestic Gas Market to Q2 2017[27]

1.49 Figure 2 shows the development of retail competition in the natural gas market in ROI since quarter 4, 2009. We have taken account of the potential impact of advertising associated with retail competition on owner occupied connection numbers

[26] CRU Communication Guidelines for Suppliers and Network Operators
[27] https://www.cru.ie/wp-content/uploads/2017/07/CER17019-Review-of-Competition-in-the-Electricity-and-Gas-Retail-Markets-1.pdf

by reducing the adjusted 2014 owner occupied connection numbers recorded by GNI by 22.8%.

1.50 We calculated the potential impact of the advertising associated with retail competition on owner occupied connection numbers as follows:

Average of 2009 and 2010 one off residential connections i.e. (3997 + 3467) / 2 = 3,732 representing the average number of connections prior to retail competition taking hold in the ROI.

The average of 2012 to 2014 inclusive one off residential connections i.e. (4,441+ 4,631 + 4,676) / 3 = 4583 representing the average number of connections in the period when retail supply competition became more embedded in ROI.

Therefore the potential percentage age increase due to impact of retail competition = (4583 - 3732) / 3732 = 22.8%.

We consider that the 22.8% figure to be a maximum potential impact from advertising in the retail sector and from the evidence in the Greater Belfast area we consider that the potential increase in connection numbers due to retail competition is likely to dissipate over time and from our analysis of the Greater Belfast area this could be by up to 15%.

We have taken account of the potential impact of retail supply competition on connection numbers by the reducing the actual 2014 mature housing connection number of 4841 (adjusted for 10% social housing) equals 4357, by 22.8% to give a figure of 3538. We have used the 3538 figure in our calculation to determine a revised connection rate in ROI.

Rate of domestic owner occupied connections in ROI

1.51 The UR said in its evidence to the CMA on the non additional assumption, that '*in addition in the Republic of Ireland, where there is no allowance for connections, there were 4,676*[28] *'one off residential' connections in 2014 (and we understand this category broadly aligns with DOO Connections). If we use the 15% assumption*[29] *to determine the number of properties available to connect and calculate a connection rate, that rate is 1.83%. In other words, 1.83% of properties in the Republic of Ireland in 2014 connected without any spend by the network operator on sales, marketing or incentives. This again supports the 1.25% assumption in the case of FE's area as being reasonable'*.

[28] Table 2.5.1 New Connections, page 32 of the 2014 GNI Transmission and Distribution System Performance Report

[29] The CMA FD in para 5.102 concluded that the UR was not wrong in using its 15% assumption as part of its methodology in deriving target OO connection numbers for firmus for the GD17 price control period.

1.52 Paragraph 5.139 to 5.143 of the CMA FD[30] discusses the UR evidence derived from OO connection numbers in ROI to support its 25% non additional assumption for firmus OO connections in the GD17 period. In relation to the 1.83% figure the CMA stated, '*it is also not clear how the UR derived its 1.83% figure. While the UR included a reference to the number of properties that connected in the Republic of Ireland in 2014, it did not include a reference to the number of properties passed, which would be required to calculate the connection rate. As a result, we were unable to verify this calculation'*.

The basis of the 1.83% figure

1.53 The basis of the 1.83% referred to be the UR in its evidence to the CMA was calculated as follows.

1.54 If we take the 2014 connection numbers in ROI for 'one of residential' i.e. 4,676 and divide this by the number of households using oil that have a gas network nearby, or in other words properties passed but not connected i.e. 300,000[31] * 85% and which could be readily connected to gas we get a figure of 1.83% i.e. 4676 / 255,000.

1.55 If we compare this to the 5% connection rate discussed in para 6.149 in the GD17 FD i.e. 'in our view the increased connection target for GD17 reflects the planned extension of the network. The connection targets are commensurate with the increase in the number of properties passed but not connected. The 5% connection rate (of properties passed and not yet connected) is supported by an analysis of historical connection rates in both the firmus area and PNGL and reflects local expertise.'

1.56 If we compare the connection rate in ROI based on 2014 data i.e. 1.83% and compare this to the 5% discussed in the GD17 FD we arrive at 1.83 / 5 = 36.6% or in other words it could be inferred that in comparing the OO connection rates in ROI to Firmus and PNGL we can extrapolate that the connection non additional rate in ROI is 36.6%.

Source of ROI information:

1.57 The main source of data for our calculations that we provided to the CMA for domestic owner occupied connections in the Republic of Ireland has been obtained from GNI system performance reports.

[30] https://assets.publishing.service.gov.uk/media/5953bfd8e5274a0a69000079/firmus-final-determination.pdf

[31] Page 39 of the 2015 GNI Network Development Plan and page 42 of the 2016 GNI Network Development Plan

	2009	2010	2011	2012	2013	2014	2015	2016
Total length (km) distribution system[32]			11,030	11,131	11,218	11,288	11,339	11,527[33]
One off residential[34]	3,997[35]	3,467[36]	5,983	4,441	4,631	4,676		
Mature housing new connections[37]			5,378	4,722	5,321	4,841	4,544	4,314[38]
Total distribution connections for Dx NDM RES[39]		618,088[40]	622,573	626,791	630,921	636,012	642,836	649,445[41]

Table 6: OO connection data in ROI 2010 to 2016

1.58 The UR notes that footnote 12 of page 34 of the 2015 GNI systems performance report states '*there is often a time lag from when a new connection order is received to when it is installed. To ensure that the numbers reported are for connections only rather than a mix of orders and connections there has been an adjustment in how new connections are reported in 2015. This is to ensure consistency across the business units that record connections'*.

1.59 The UR understands that this explains the variation between 'mature housing new connections' and 'one off residential' numbers in the period 2011 to 2014 and that GNI now records owner occupied new connections only using the mature housing new connections reporting line.

Update to the 1.83% figure

1.60 Given that we are now aware that GNI now records its domestic owner occupied new connections against a new reporting line i.e. 'mature new housing connections' we can have updated the calculation we provided in our evidence to the CMA. The updated calculation also takes account of the fact that GNI estimate that 10% of its historic mature housing connection figures are related to social housing. GNI also informed us that this trend is likely to continue in existing areas, although the percentage of domestic properties for any new areas which are related to social housing could be higher i.e. up to 30%.

1.61 Our revised calculation therefore takes account of the 10% assumption for social housing in both historic OO connection numbers as well as for readily connectable property numbers. We have also sense checked the 10% social housing assumption

[32] Table 9.3, page 50 of the 2015 GNI Systems Performance Report (except for 2016 year)
[33] Table 9.3, page 66 of the 2016 GNI Systems Performance Report
[34] Table 2.5.1 page 32 of the 2014 GNI Transmission and Distribution System Performance Report (except for 2010)
[35] Page 29 of the 2010 GNI Transmission and Distribution System Performance Report
[36] Table 2.5.1 page 30 of the 2011 GNI Transmission and Distribution System Performance Report
[37] Table 9.4 page 50 of the 2015 GNI Systems Performance Report (except for 2016 year)
[38] Table 9.4, page 66 of the 2016 GNI Systems Performance Report
[39] Table 9.2, page 49 of the 2015 GNI Systems Performance Report (except for 2010 and 2016 year)
[40] Table 2.2.2, page 28 of the 2011 GNI Transmission and Distribution System Performance Report
[41] Table 9.2, page 66 of the 2016 GNI Systems Performance Report

provided by GNI. We used data from the Republic of Ireland Central Statistics office as follows:

- No of domestic occupied properties in 2016: 1,697,665 [42]
- No of domestic properties rented from local authority: 143,178[43]
- 143,178 / 1,697,665 = circa 8.4%.

1.62 This updated calculation gives a revised connection rate in ROI of 2.3% and a non-additional rate of 46%. The calculation is revised to take account of a 10% assumption for social housing and to align with the GD17 connection model. It also takes account of the potential impact of retail supply competition in ROI on owner occupied connection numbers.

2 Conclusions from available evidence in ROI

1.63 We have considered the use of connection data from other jurisdictions as a basis for estimating non-additionality. To do so requires data from a developing network and sufficient differences in the way connections are promoted to allow non-additionality to be tested.

1.64 We do not believe that there is any useful data in GB where the gas network has been developed for many years and connection penetration rates are already very high. There is no need in GB to drive connections of existing properties and no comparable incentive schemes to promote such connections.

1.65 However, the gas network in the Republic of Ireland is similar to the firmus network in that it continues to expand and there are still connections of existing properties to be made, although the development of the network in ROI is well in advance of firmus energy in terms of age (40 years compared to 10 years) and proportion of properties passed which have been connected (68% compared to 16%).

1.66 We obtained information on connection numbers and 'properties passed' for ROI drawing on publically available reports published by GNI which provided data back to 2009. We recognised that there are differences between the way properties are categorised for the purpose of reporting in ROI and NI. We also noted changes in reporting methodologies in ROI data over the years. As a result, it was necessary to make a number of assumptions to align data used in our analysis and this introduces a degree of uncertainty into any comparison.

1.67 We used the connection model developed for GD17 to calculate a connection rate for the ROI data. This made the same assumptions used in GD17, that 15% of

[42] Infographics - CSO - Central Statistics Office
[43] http://www.cso.ie/en/releasesandpublications/ep/p-cp1hii/cp1hii/tr/

properties would never connect and that a constant connection rate would apply to the remaining properties passed but not connected. This assessment gave a connection rate for ROI of 2.8% compared to an equivalent connection rate in the firmus area of 5%.

1.68 The fact that the rate of connections in ROI is lower than that in the firmus area could be attributed to a number of factors.

- GNI has not had the same incentive based funding for advertising and marketing available to firmus energy. The CRU introduced an incentive for GNI for connections it attains over and above its projected Business as Usual connections as part of its PC4 determination which began in October 2017, however this connection incentive is much more limited than that which is available to firmus in the GD17 period.
- The general level of advertising and marketing activity by GNI is not of the same type and scale as that experienced by firmus energy.
- GNI consumers have to contribute €250 for connections whereas firmus are funded to provide these free of charge with the cost recovered over time through consumer bills. This is likely to act as a disincentive which will depress connection rates.
- Unlike the situation in NI there is no dedicated government incentives in ROI to target connections to the gas network, rather there are grants in ROI for installing heating controls as well as a new boiler but the grant doesn't favour gas over oil.

1.69 Adjusting the ROI connection rate for supply competition gives a connection rate of 2.3% compared to an equivalent connection rate in the firmus energy area of 5%. This suggests that non-additionality could be as high as 46%.

1.70 While GNI does not have the same incentive based funding for advertising and marketing available to firmus energy, and the connection charge in ROI will act as a disincentive to connections, it is possible that GNI's activities will have some impact on connection rates. It is reasonable to assume that some part of the connection rate in ROI will be attributable to GNI activities but this will not be high. Assuming that up to 50% of connections would not be made without GNI's limited marketing activities, we arrive at a range for non additionally of 20% to 45%. Taking account of the awareness and influence of advertising / activities revealed in our survey of firmus energy consumers it is reasonable to conclude that non-additionality is at the upper end of this range.