Consultation on October 2017 to September 2022 Distribution Revenue for Gas Networks Ireland

Consultation Paper

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Regulating Water, Energy and Energy Safety in the Public Interest

The Exchange, Belgard Square North, Tallaght, Dublin 24, Ireland
+353 1 4000 800  |  info@cer.ie  |  www.cer.ie
Executive Summary

The Commission for Energy Regulation (CER) is the independent economic regulator for the natural gas, electricity and water sectors in Ireland. Our mission is to regulate water, energy and energy safety in the public interest.

The CER seeks to ensure that Gas Networks Ireland (GNI) supplies gas in a safe and reliable way to customers, while operating the network in an efficient manner. This price control (PC4) will drive GNI to be more efficient so that they are in line with best international practice.

Part of the CER’s responsibilities involves regulating the level of revenue which GNI in its role as the gas network operator can recover from its customers. The CER does this by reviewing the GNI business and setting appropriate revenue allowances for operating costs, capital costs and other items. The CER’s main goal in this area is to protect the current and future interests of consumers, while ensuring a stable environment for investors.

This consultation paper begins the phase of public consultation in the process of setting GNI’s Distribution revenues for the period October 2017 to September 2022 (known as PC4). The CER outlines the current position and calls for public comment at this stage, while acknowledging that further interaction with GNI and other stakeholders is expected to take place over the course of the consultation phase. Depending upon the outcome of the consultation process, there may be adjustments in the revenues outlined here.

Context for PC4

In carrying out this review the CER has taken into account the wider policy and regulatory landscape and is mindful that GNI will face challenges, such as continued utilisation of the gas network over the course of PC4. GNI will be required to continue to maintain the gas network to the highest safety and security of supply standards, whilst robust efficiency targets are realised. In addition the landscape of the energy sector is constantly evolving as Ireland moves towards a decarbonised economy. With this in mind, there will be an onus on GNI to ensure that investments in the network are thoroughly analysed and are beneficial for gas customers.
Although there is a move to decarbonised economy Government policy\(^1\) indicates that gas will continue to play a key role as a transitional fuel due to its ability to provide a flexible base load for the electricity network, with the benefits of a reduced carbon footprint when compared to oil, peat and coal.

Since the sale of the energy business GNI has become a pure networks company. With this change in mind it is reasonable to assume that GNI will be able to draw on economies of scale and enhance the business’ ability to achieve greater efficiencies. In addition, GNI’s position within the Ervia group is intended to provide the benefit of shared services across the group leading to further efficiency improvements. The following strategic challenges have been reflected in GNI’s opex and capex proposals for the PC4 period:

- GNI states that more than 40 per cent of its network is now more than 20 years old; presenting a maintenance and capital investment challenge during PC4.
- Due to the ageing asset base and GNI’s projected increase in customer numbers, GNI’s PC4 business plan involves a significant increase in work-loads and activities.
- GNI has also developed a growth and innovation strategy for PC4 to help increase the future utilisation of the gas network.

Key Areas of Review

PC4 Revenues

The CER currently proposes to allow €992m to GNI for distribution over the period of PC4 with a WACC of 4.63%. GNI sought revenue of €1.1b based on their proposed WACC of 4.96%, over the period.

<table>
<thead>
<tr>
<th>Revenue Allowance</th>
<th>GNI Request</th>
<th>CER Proposal</th>
<th>Saving</th>
</tr>
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<tbody>
<tr>
<td>Total PC4 revenue</td>
<td>€1122.6m</td>
<td>€992.0m</td>
<td>€130.6m</td>
</tr>
</tbody>
</table>

Distribution Total Revenue:

- Revenue to reimburse depreciation and capital expenditure
- Revenue to reimburse opex incl. PC3 adjustment (-€11.9m)
PC4 Capex

GNI Requested a Capex Revenue Allowance of €529m\(^2\). The CER currently proposes to allow €331m.

The CER has proposed a 37\% reduction to GNI’s request for distribution capex. The CER is of view that the growth strategy, which includes GNI’s forecast for new connections, is overly ambitious and has as a consequence reduced the number to a more prudent number which is slightly above the actual number for connections that took place in PC3. A summary of GNI’s distribution capex\(^3\) over PC3 and the CER’s proposed capex for PC4 relative to GNI’s request is shown in Figure 0.1 below.

**Figure 0.1: Total net capex over PC3 and PC4**

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\(^2\) This figure is net of customer contributions.

\(^3\) Net of customer contributions.
PC4 Opex

GNI Requested an Opex Revenues Allowance of €385m. The CER currently proposes to allow €340m.

The CER has reduced the allowance in this area to 11.7% less than GNI requested but still above the allowance in PC3. The CER is committed to continuing to ensure that there is pressure on GNI to reduce costs where possible so that GNI operates as efficiently as possible and therefore has set challenging efficiency targets for GNI over the PC4 period. Ensuring that GNI operates efficiently helps contain tariffs for consumers.

The CER has proposed a number of reductions in GNI’s requested opex as stated in their business plan, including challenging efficiency targets where the CER consider there is scope for GNI to improve during PC4. These efforts to reduce costs must, however, be balanced against the requirements to deliver a reliable and safe service, thus CER will continue to examine the appropriate level of operating costs and welcomes comments from all parties, including GNI, on this matter. A summary of GNI’s distribution opex over PC3 and the CER’s proposed opex for PC4 relative to GNI’s request is shown in Figure 0.2 below.
Figure 0.2: Total controllable opex over PC3 and PC4
**PC4 - Innovation**

GNI has requested €25m of innovation funding for PC4 which will be split 90/10 across the GNI’s transmission and distribution business respectively (the €25m is inclusive of €12.83m already allowed for the Causeway Study). The Causeway Study will see the roll out of a number of Compressed Natural Gas (CNG) stations across the Ten T Core Network.

The CER has carefully considered GNI’s request for this allowance and is mindful that ongoing utilisation of the gas network is important so as to ensure that gas remains competitive as a fuel and that tariffs are contained for customers. However, careful consideration needs to be given to requests allowing GNI to invest in certain innovative technologies which may or may not be to the benefit of gas customers in the medium to longer term. That said, the CER is of the view that it is important for GNI to continue to explore other types of technologies through the operation of the Innovation Group which was established during PC3 and has allowed funding of €17.5m of opex in this regard. The CER will seek regular reports from GNI over the course of PC4 on the outputs from the various studies and the benefits to gas customers.

**Incentives for PC4**

A number of changes are proposed to the incentive regime that applies to GNI, these include a growth incentive and a customer performance incentive, other incentives that were part of the previous gas price control (PC3) will continue for PC4

- **Growth** - GNI set initial ambitious targets for new connections, which were challenged by the CER. In response, GNI proposed a reduced target figure which the CER has provided allowances for. However, the CER is proposing to introduce an incentive mechanism to challenge GNI to reach their original targets. This will be reviewed in the last year of PC4 and will carry a reward /penalty for GNI. There will be a cap on the amount of money, which will be the subject of the reward or penalty, this will be €4m.

- **Customer Performance Indicators** - The CER recently published a decision paper on a number of customer performance indicators against which GNI will be incentivised.

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4 [CER/17096 GNI Customer Performance Indicators Decision Paper](#)
over the course of PC4. The CER is proposing that 0.25% of allowed revenue used for this incentive.

- **Capex** - Capex incentives are in place to increase efficient capital expenditure. When GNI come under the budget on a project or justifiably avoid carrying out a project in its entirety they receive a financial reward. When GNI go over budget, but can justify and explain the increase, the increase is allowed but there is a small penalty applied (to encourage more accurate budgeting). It is also possible that some spend might be disallowed because it was not spent efficiently, in which case GNI would suffer the loss of that money, although spend of this type did not occur in the PC3 review period. It is difficult to specify figures for this incentive, these are quantified at the end of each price control.

- **Pass-through Costs** – Some pass-through items are have an incentive mechanism to encourage GNI to reduce costs in the areas over which they have some control e.g. commercial rates 25% of any over or underspend is incurred by GNI.

The CER has also reviewed the current incentive framework to ensure it remains fully appropriate for PC4 and beyond. The CER is mindful that a review of the incentive framework pertaining to the recent electricity price review (PR4) is currently underway. The CER will use this review as a guide to help inform future incentive mechanisms and the reporting associated with them for PC5.

In addition the CER and its advisors will develop a workbook as part of the PC4 final determination, which will provide a clear summary of the projects, work programmes and assumptions (e.g. unit rates) that have been used to set the determination and would then form a key input to the PC4 close-out during the next price control (PC5). This will allow CER to assess what GNI has delivered for customers with the money it has spent.

**PC4 Efficiency Targets**

Following a review of GNI’s relative efficiency to other gas network distribution operators the CER is proposing an annual efficiency target of 1.75% to be applied to GNI’s distribution business. This is made up of a catch-up efficiency of 0.75% and a 1% ongoing efficiency, which will be applied each year over PC4. The CER has measured GNI’s performance against the industry average and is considering whether to measure GNI’s performance against other operators who are in the upper quartile range.
WACC

The CER currently proposes to allow a WACC (Weighted Average Cost of Capital) of 4.63% pre-tax real, from 5.2% in PC3. The analysis of GNI’s cost of capital is being undertaken in a period of recovery following one of the most severe economic downturns in recent decades. Forecasts\(^5\) continue to suggest that the economy is going through a period of strong growth with a GDP of 5.2%\(^6\) in 2016 outstripping other Eurozone countries. Ireland continues to benefit from a historically low cost of finance and this has influenced CER’s view of an appropriate WACC but our approach is also balanced by a wish to ensure that regulatory precedence and stability is maintained. Detailed analysis supporting our decision is set out in Chapter 9 and the Transmission Consultation Paper which has been published alongside this document.\(^7\).

PC4 Tariffs

Given the forecast gas demands CER’s current proposal would lead to a 2.62% increase in distribution tariffs (15/16 monies).

Please note that there would be different price changes for different customers categories based on their consumption and bookings.

It is intended that the actual tariffs for the October 2017 to September 2018 period will be published following the PC4 decision.

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\(^7\) The detailed analysis supporting this is contained in the accompanying FTI report.

**PC3 Capex**

GNI reported Capex spend of €280m over the PC3 period. This compares to the PC3 forecast capex expenditure of €280m\(^8\) (as forecast in the PC3 decision in 2012 adjusted to include any additional allowances granted by the CER since then).

**PC3 Opex**

GNI reported an Opex spend of €304m\(^9\). This compares to the PC3 forecast opex expenditure of €300m\(^10\) (as forecast in the PC3 decision in 2012 adjusted to include any additional allowances granted by the CER since then). GNI’s opex outturn for the period was 1% higher than originally allowed. The review of PC3 opex does not involve making a judgement on the efficiency of the incurred expenditure. GNI bear in full any differences from the allowance, either over- or under-spends, for opex that is not classified as pass-through under the price control. GNI state that the issue which resulted in this overspend is due to an increase in resourcing and maintenance activities which manifested in PC3 and will continue to arise in PC4.

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\(^8\) This figure is presented in real 2015/16 values.

\(^9\) This figure excludes innovation and pass-through costs.

\(^10\) This figure is presented in real 2015/16 values.
Public/ Customer Impact Statement

Gas Networks Ireland (GNI) owns and operates the gas network which supplies all gas customers in Ireland. GNI charges gas customers an amount towards the cost of safely operating and maintaining the gas network through gas customers’ bills.

The CER’s role is to protect gas customers by ensuring that GNI spends customers’ money appropriately and efficiently to deliver necessary services. The CER does this through what is called a Price Control which is carried out every 5-years, the next 5-year period starts on the 1st of October 2017 (PC4).

- A Price Control is an important process because the CER must carefully consider the level of money GNI needs to safely operate, maintain and invest in the gas network for the next 5 years.

The CER will continue to monitor GNI’s performance and will challenge GNI to become more efficient over PC4. The benefits to gas customers will be:

- A gas network that is operated to the highest safety standards, ensuring safe supply of gas to customers;
- A reliable and secure supply of gas to homes and businesses;
- The efficient management of the gas network resulting in stable tariffs; and
- A high standard of customer service at all times with timely resolution to complaints.

If the proposals in this consultation and the transmission consultation document are carried out the average domestic customer’s bill will rise by €7.60.
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## Glossary of Terms and Abbreviations

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<tr>
<td>BGÉ</td>
<td>Bord Gáis Éireann</td>
</tr>
<tr>
<td>BGN</td>
<td>Bord Gáis Networks</td>
</tr>
<tr>
<td>BPQ</td>
<td>Business Planning Questionnaire</td>
</tr>
<tr>
<td>CAPEX</td>
<td>Capital Expenditure (Capex) is the initial expenditure on investment in network infrastructure, such as underground cables.</td>
</tr>
<tr>
<td>CER</td>
<td>Commission for Energy Regulation</td>
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<tr>
<td>DBU</td>
<td>Distribution Business Unit</td>
</tr>
<tr>
<td>DSO</td>
<td>Distribution System Operator</td>
</tr>
<tr>
<td>GB</td>
<td>Great Britain</td>
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<tr>
<td>GDN</td>
<td>Gas Distribution Network</td>
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<tr>
<td>GNI</td>
<td>Gas Networks Ireland</td>
</tr>
<tr>
<td>ITO</td>
<td>Independent Transmission Operator</td>
</tr>
<tr>
<td>RAB</td>
<td>Regulated Asset Base</td>
</tr>
<tr>
<td>REPEX</td>
<td>Refurbishment and replacement expenditure</td>
</tr>
<tr>
<td>OPEX</td>
<td>Operating Expenditure (Opex) is expenditure on operating and maintaining the network infrastructure, e.g. maintenance, inspection and IT.</td>
</tr>
<tr>
<td>PC</td>
<td>Price Control</td>
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<tr>
<td>TBU</td>
<td>Transmission Business Unit</td>
</tr>
<tr>
<td>TSO</td>
<td>Transmission System Operator</td>
</tr>
<tr>
<td>WACC</td>
<td>Weighted Average Cost of Capital is the amount that GNI can earn on the RAB to fund the capital requirements of the business.</td>
</tr>
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1 Introduction

This chapter outlines the process of regularly reviewing the revenues that GNI is allowed to recover from customers.

To give a fuller picture of the process involved, it also lists the other papers that are published alongside this paper.

Finally it sets out the way in which people can respond to this consultation so that they can have their say in the process.

1.1 The Commission for Energy Regulation

The Commission for Energy Regulation (CER) is Ireland’s independent energy and water regulator. The CER was established in 1999 and now has a wide range of economic, customer protection and safety responsibilities in energy. The CER is also the regulator of Ireland’s public water and wastewater system.

Our mission is to regulate water, energy and energy safety in the public interest. CER regulates the revenues that GNI receives from gas tariffs. CER ensure that revenues provide for the safe, efficient operation and maintenance of the gas networks. This is done on a 5-yearly basis, with the next 5-year control period due to start on October 1st 2017.

As part of its regulatory role the CER, every 5 years, carries out a review of the revenues that GNI are allowed to recover through gas tariffs for the ongoing operation and maintenance of the gas network. In reaching its decision the CER has reviewed expenditure by GNI over the previous price control (PC3), to ensure that revenue was spent efficiently, and has reviewed forecast revenue required by GNI over next Price Control (PC4).

1.2 Regulatory Review Process:

The process followed by the CER in completing this review mirrors that used in the three previous gas price controls and is in line with those carried out by other utility regulators worldwide. Further detail on the review process can be found in Appendix A of this document.
1.3 Purpose of this paper

This consultation paper sets out the CER's proposals on the level of revenue that the distribution business\textsuperscript{11} should be allowed to recover from its customers over the period from October 2017 to September 2022 (PC4) to allow it to finance its activities associated with owning operating, and maintaining the gas distribution system in Ireland.

Further information on the CER’s role and relevant legislation can be found on the CER’s website at www.cer.ie.

1.4 Key assumptions for PC4

Given the five-year scope of the review, it has been necessary to make a number of assumptions regarding the environment within which the distribution business will operate for the price control period. The key assumptions made by the CER are as follows:

- There will be no substantial change in the functions of the distribution business; and,
- There will be no material changes in the circumstances within which the distribution business is operating, e.g. change of ownership.

A change to these assumptions may lead to a reopening of the revenue control.

\textsuperscript{11} The relevant elements of Gas Networks Ireland business are referred to within this paper as the ‘distribution business’.
1.5 Legislative basis

The specific legislation under which the CER determines the distribution business’s revenue and tariffs is detailed below.

Under Section 10A of the Gas Act 1976 (the ‘Act’) the CER may direct the distribution business on the basis for charges for transporting gas through the distribution system. In accordance with Section 10A of the Act, this consultation paper outlines the CER’s proposals regarding the revenue that the distribution business will be allowed to recover from its customers during the period from October 2017 to September 2022.

1.6 Structure of Paper

The structure of this consultation paper is outlined in this section:

- Chapter 1 details the purpose of, and how to respond to, this paper;
- Chapter 2 details the corporate structure that GNI sits within today. How that structure has changed during the course of PC3 and the strategic challenges GNI faces during PC4 and beyond;
- Chapter 3 outlines a review of the distribution business’s historic operational expenditure and performance for the October 2012 to September 2017 period;
- Chapter 4 outlines the benchmarking carried out to determine the appropriate level of opex for PC4.
- Chapter 5 outlines a review of the distribution business’s forecast operational expenditure for the October 2017 to September 2022 period;
- Chapter 6 outlines a review of the distribution business’s historical capital expenditure for the October 2012 to September 2017 period;
- Chapter 7 outlines a review of the distribution business’s forecast capital expenditure for the October 2017 to September 2022 period;
- Chapter 8 provides information on proposed incentives for the October 2017 to September 2022 period;
- Chapter 9 provides information on the cost of capital that is proposed for application to the distribution business’s RAB over the October 2017 to September 2022 period.
- Appendix A
- Appendix B
1.7 Related documents

Reports provided by two consultancy advisors engaged by the CER to assist with this project have also been published alongside this paper\(^\text{12}\). These are:

- Two reports (one reviewing the distribution business and one reviewing the transmission business CER/17/128) by Cambridge Economic Policy Consultants (CEPA)\(^\text{13}\) providing recommendations on an appropriate level of operating and capital expenditure for the distribution business; and,
- A report by FTI consultants on the appropriate cost of capital for GNI.

The views put forward in this consultation paper draw from the recommendations provided in those reports.

- GNI’s Executive Summary which accompanied the PC4 submission documents is also published with this paper.

Information on the CER’s role and relevant legislation can be found on the CER’s website at [www.cer.ie](http://www.cer.ie).

1.8 Responses

Responses on this paper should be received by **Friday, 28 July 2017**. The responses should be sent to:

Sarah Mc Cauley,
Commission for Energy Regulation,
The Exchange,
Belgard Square North,
Tallaght,
Dublin 24.

Email: smccauley@cer.ie

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\(^{12}\) Further information on the role of these advisors is provided in Appendix A.

\(^{13}\) In association with Rune and Wavestone.
Tel: (01) 4000800

Submissions on any of the points listed in this paper should be clear and specific, with analysis or rationale to support the views provided.

Unless marked confidential, all responses may be published on the CER’s website at the following address: www.cer.ie.

Respondents may request that their response is kept confidential. The CER shall respect this request, subject to any obligations to disclose information. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality.
2 Corporate Structure and Strategic Challenges for PC4

This chapter sets out the way that GNI’s business is organised and how it sits under its parent company Ervia.

GNI’s gas distribution system feeds individual homes and residential customers pay both transmission and distribution charges through their gas bill.

It briefly outlines GNI’s objectives for the next 5 years and the context as they see it.

It clarifies that this document reviews both period 2012-2017 (known as Price Control 3 or PC3) and also the final year of the previous price control (2011 the last year in PC2).

Finally it briefly outlines the challenges that GNI sees over the next 5 years.

2.1 Introduction

When reviewing efficient expenditure and setting the allowances that GNI requires to deliver gas distribution services, it is important to understand the organisational structure in which GNI now sits. Ervia, (formerly Bord Gáis Eireann) is the parent company of GNI, it is a commercial semi-state multi-utility company responsible for the delivery of Ireland’s national gas and water infrastructure and services. The restructuring of Ervia, which was in line with the requirements of EU Third Energy Package, saw the creation of GNI as a standalone gas network business within the Ervia group.

In January 2014, Ervia established a Shared Services Centre to deliver common processes and consolidated systems across both GNI and Irish Water (IW). GNI estimate that the provision of Shared Services has resulted in cost savings for GNI of c. €6.4m in PC3.

At the time of the PC3 final determination, the gas network operator was part of Bord Gáis Éireann Group (BGÉ) and operated alongside an energy supply business Bord Gáis Energy. Significant change had occurred in the gas networks businesses in the previous price control period PC2. This included the implementation of an asset management transformation
programme Networks Transformation Programme (NTP) and the High Performance Utility Model (HPUM) and the changes required by the European Third Energy Package including the unbundling of energy production and supply from transmission networks. The unbundling option chosen by BGÉ was to establish Bord Gáis Networks (BGN) as an ITO. The expectation was that the adoption of an ITO business structure would increase GNI’s expenditure as it significantly reduced the extent of group shared service activities by creating standalone support activities within the ITO.

2.2 Independent Transmission Operator (ITO)

The restructuring brought about changes to GNI’s business during PC3, with GNI’s business being integrated into the Ervia Group, along with Irish Water (IW). The number of key business support functions (e.g. IT, HR and Finance) that have been delivered during PC3 is very different from what was envisaged at the time of the final PC3 determination.

In line with the EU 3rd Internal Energy Market Legislation the gas networks business was required to be separated from the energy business. While it was originally decided to adopt the ITO model, the subsequent sale of the Bord Gáis Energy business meant that GNI became a fully ownership unbundled networks company.

2.3 Distribution Business

GNI now delivers many of its indirect activities through a combination of internal network resources and group services. This means that there are significant costs allocated to GNI from the Shared Services Centre and the Ervia Group Centre. The organisational structure of the Ervia Group is illustrated in Figure 2.1 below.
2.4 GNI objectives and business context

GNI have outlined in their submissions, that PC4 will not be a simple continuation of PC3 and that the nature of its business activities and the environment in which it operates will change significantly during the forthcoming price control period.

2.4.1 GNI – PC4 objectives

GNI have identified five criteria that they must fulfil in PC4

- operate to the highest safety standard;
- ensure reliability and security of supply;
- ensure competitive tariffs;
- support Ireland’s least cost transformation to a low carbon economy; and
- respond to changing customer service demands.

2.4.2 GNI - Context for PC4

To provide context to the analysis undertaken, the CER notes the key challenges identified by GNI for PC4 as the driving focus of its price control business plan. Looking forward into PC4, GNI have noted five key challenges:
2.4.2.1 MAINTAINING UTILISATION OF THE GAS NETWORK.

Longer term independent modelling suggests that gas demand could reduce by 40% - 60% or more by 2050 due to climate change policies, EU directives, and technological developments in areas such as energy storage, increased renewables, greater electrification and energy efficiency dynamics. If GNI is able to increase utilisation of its network without increasing costs, this will help keep tariffs competitive.

2.4.2.2 SUPPORTING ENERGY POLICY BY BUILDING ON THE INNOVATION FUNDING IN PC3.

GNI has undertaken projects to expand the role of natural gas in transportation and to develop the renewable gas sector in Ireland. To play its role in supporting a low carbon energy policy, GNI state that an ongoing challenge for its business is to adapt its network and leverage its assets and expertise to support and enable an ever increasing penetration of renewables in Ireland’s energy system.

2.4.2.3 RESPONDING TO CHANGING GAS FLOWS.

At the end of 2015, the first gas flows from the Corrib entry point were introduced to the gas network. Corrib replaces Moffat as the dominant gas supply point in Ireland. This new entry point has created a number of operational challenges for GNI's networks business related to changing network flows. Plans are also being developed to decommission key network assets as production operations cease at the Inch supply point, which will have a knock-on effect to other parts of the network.

2.4.2.4 MANAGING AN AGEING ASSET BASE.

More than 40 per cent of GNI's network is now more than 20 years old. This presents a maintenance and capital investment challenge during the upcoming control period to ensure the long-term reliability and security of gas supply.

2.4.2.5 RESOURCING FOR A LOW VALUE HIGH VOLUME DELIVERY COMPANY.

Due to the ageing asset base and GNI's projected increase in customer numbers, the required PC4 work programme is potentially larger and more challenging than the programme delivered in PC3. GNI has prepared a resource strategy which it believes
will enable the delivery of PC4, but the strategy requires recruiting additional staff in critical technical and engineering roles.
3 Review of GNI’s PC3 Historical Operational Expenditure

This chapter describes the operating costs (called Opex) of GNI for the last 5 years (the PC3 period). The operating costs represent the money that GNI spent to maintain the distribution system so that it could safely and securely continue to transport gas to customers.

It outlines the ways in which CER examines the opex costs breaking it down under various different headings for the different activities that GNI undertake.

It describes how GNI have full control over some costs (and are held to account for these costs) but have less control over some other costs (called pass through costs) and outlines how these pass through costs are updated regularly to reflect changes in these costs.

The CER set a total\textsuperscript{14} allowed opex spend of c. €404m for the distribution business during the PC3 period. GNI’s outturn\textsuperscript{15} for the period was c. €408m or 1% higher than originally allowed.

This chapter examines the historical operational expenditure of the distribution business over PC3. The outturn expenditure is assessed and compared to the revenue allowed by the CER as part of the PC3 determination.

The review of PC3 opex does not involve making a judgement on the efficiency of the incurred expenditure. GNI bear in full any differences from the allowance, either over- or under-sPENDs, for opex that is not classified as pass-through under the price control. This historical review of operating expenditure is used to derive normalised or ‘business as usual’ costs that form the basis for proposed PC4 operating expenditure allowances. As a consequence, a

\textsuperscript{14} Includes innovation and pass-through costs.

\textsuperscript{15} It should be noted that actual cost figures are used for the period to September 2016. Figures used from October 2016 to September 2017 are estimated costs. This applies to all PC3 totals presented in this paper.
high-level commentary of the activities undertaken in each category of opex is provided below, as well as the key trends in the phasing of GNI’s expenditure during PC3. Further information can be found in the CEPA reports that are published alongside this document.

The distribution business has over-spent the original PC3 allowance by €3.7m in opex over PC3. Key features of the outturn and over-spend are highlighted by Table 3.1 and Table 3.2 below:

Table 3.1 PC3 outturn - distribution opex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>32,956</td>
<td>33,070</td>
<td>36,543</td>
<td>35,270</td>
<td>41,368</td>
<td>179,208</td>
</tr>
<tr>
<td>Business Support</td>
<td>16,759</td>
<td>21,214</td>
<td>17,000</td>
<td>18,460</td>
<td>19,924</td>
<td>93,357</td>
</tr>
<tr>
<td>IT</td>
<td>5,423</td>
<td>4,852</td>
<td>5,208</td>
<td>6,305</td>
<td>6,502</td>
<td>28,291</td>
</tr>
<tr>
<td>Gaslink</td>
<td>532</td>
<td>626</td>
<td>586</td>
<td>550</td>
<td>448</td>
<td>2,742</td>
</tr>
<tr>
<td>Total controllable</td>
<td>55,671</td>
<td>59,762</td>
<td>59,337</td>
<td>60,585</td>
<td>68,242</td>
<td>303,597</td>
</tr>
<tr>
<td>Pass-through</td>
<td>18,990</td>
<td>19,874</td>
<td>20,355</td>
<td>22,669</td>
<td>19,647</td>
<td>101,535</td>
</tr>
<tr>
<td>Innovation</td>
<td>21</td>
<td>146</td>
<td>242</td>
<td>920</td>
<td>1,401</td>
<td>2,731</td>
</tr>
<tr>
<td>Total</td>
<td>74,682</td>
<td>79,783</td>
<td>79,934</td>
<td>84,174</td>
<td>89,291</td>
<td>407,863</td>
</tr>
</tbody>
</table>

Table 3.2 PC3 allowed - distribution opex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>34,995</td>
<td>34,509</td>
<td>35,040</td>
<td>34,647</td>
<td>34,744</td>
<td>173,936</td>
</tr>
<tr>
<td>Business Support</td>
<td>25,097</td>
<td>22,781</td>
<td>15,613</td>
<td>19,065</td>
<td>19,749</td>
<td>102,305</td>
</tr>
<tr>
<td>IT</td>
<td>5,610</td>
<td>5,826</td>
<td>6,004</td>
<td>2,518</td>
<td>2,132</td>
<td>22,090</td>
</tr>
<tr>
<td>Gaslink</td>
<td>266</td>
<td>313</td>
<td>293</td>
<td>581</td>
<td>576</td>
<td>2,029</td>
</tr>
<tr>
<td>Total controllable</td>
<td>65,968</td>
<td>63,429</td>
<td>56,951</td>
<td>56,811</td>
<td>57,201</td>
<td>300,359</td>
</tr>
<tr>
<td>Pass-through</td>
<td>20,616</td>
<td>19,097</td>
<td>20,871</td>
<td>20,732</td>
<td>21,602</td>
<td>102,918</td>
</tr>
<tr>
<td>Innovation</td>
<td>172</td>
<td>312</td>
<td>105</td>
<td>153</td>
<td>146</td>
<td>889</td>
</tr>
<tr>
<td>Total</td>
<td>86,757</td>
<td>82,838</td>
<td>77,927</td>
<td>77,696</td>
<td>78,949</td>
<td>404,166</td>
</tr>
</tbody>
</table>

16 The disaggregated opex categories are highlighted in Appendix A.
3.1 Historical cost trends at a total controllable level

Figure 3.1 shows that in the first two years of PC3 GNI underspent compared to its allowance, but came back in line with the allowance in 2014/15. GNI is forecasting to spend above its allowance in the last two years of the price control, such that total controllable opex over the whole of PC3 (i.e. 5 year total) is circa €3m above the allowance. This is not an unusual profile for regulated networks, although the profile is more typically associated with capex where, for example, it can take a period of time to mobilise contractors / capex programmes.

![Graph](image)

**Figure 3.1: Opex (excluding pass-through costs), 2012/13 to 2016/17 (2015/16 price base)**

Opex is broadly considered to be a recurring cost in nature, which means that the level of costs in one year correlate closely with the costs in the subsequent year (this is not necessarily the case for capex). Therefore, it is important to note that there is increasing opex over PC3, whereas the trend in the allowances had GNI opex decreasing over time (decreases in allowances reflect downwards trend in network maintenance allowances and the opex efficiency glide path applied by the CER in its final PC3 decision).

The next section provides a high level summary of:

1. The operational costs approved by the CER for October 2012 to September 2017;
2. The operational costs incurred by the distribution business during that period; and,
3. The variance between the two.
3.2 Operational Cost opex (allowance €173.94m; outturn €179.21m)

GNI reported expenditure of €179.21m over the PC3 period against an allowance of €173.94m, a breakdown of the outturn by function is shown below\(^\text{17}\).

Table 3.3 PC3 Outturn - distribution operations opex (€'000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Management</td>
<td>2,140</td>
<td>2,546</td>
<td>3,076</td>
<td>2,579</td>
<td>3,390</td>
<td>13,730</td>
</tr>
<tr>
<td>Asset Operations</td>
<td>28,210</td>
<td>27,483</td>
<td>29,302</td>
<td>28,042</td>
<td>31,506</td>
<td>144,543</td>
</tr>
<tr>
<td>Commercial</td>
<td>68</td>
<td>166</td>
<td>903</td>
<td>2,045</td>
<td>3,580</td>
<td>6,761</td>
</tr>
<tr>
<td>HSQE</td>
<td>2,222</td>
<td>2,126</td>
<td>2,456</td>
<td>1,919</td>
<td>2,116</td>
<td>10,839</td>
</tr>
<tr>
<td>Technical Competency</td>
<td>316</td>
<td>749</td>
<td>807</td>
<td>686</td>
<td>777</td>
<td>3,335</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32,956</strong></td>
<td><strong>33,070</strong></td>
<td><strong>36,543</strong></td>
<td><strong>35,270</strong></td>
<td><strong>41,368</strong></td>
<td><strong>179,208</strong></td>
</tr>
</tbody>
</table>

3.2.1 Asset Management

The Asset Management function is responsible for managing the assets of the transmission and distribution businesses. The function identifies, plans, and develops programmes of work on the asset base, in line with approved asset policy, to maintain asset performance and implement appropriate network investment.

Staff costs in Asset Management account for approximately 70% of the costs in this area. Staff numbers have fluctuated during PC3 as GNI’s revised resourcing strategy has been implemented. Although there was a drop in staff numbers in 2014 this rose the following years as transfers within GNI where made due to the structure of the business. There has been an overall rising trend in asset management costs over PC3.

\(^{17}\) This follows re-allocation of IT expenses from these functional areas to the IT function to enable this to be assessed at the total level – i.e. the reported expenditure in Table 3.3 excludes IT expenses.
3.2.2 Asset Operations
The Asset Operations function is responsible for the day to day operation of the gas network in a safe and reliable condition. Asset Operations was established in 2012, following the merger of Workflow Management and Service Delivery.

Asset Operations delivers across the full lifecycle of distribution projects from work initiation through build, commissioning and maintenance. Its purpose is to interface with customers and successfully deliver all field force based work.

This area of spend represents 48% of GNI’s Distribution controllable opex spend for the PC3 period, and is 72% of the Operational Departments expenditure.

3.2.3 Commercial
The Commercial department was established in early 2015 to address the need to increase utilisation on the network. The resources in the department were a mix of transfers from other areas of the business and new hires. A priority of the function is to maximise the potential of the existing gas network while seeking opportunities to expand and diversify into new markets through research and innovation, the object of this being to maximise the benefit from the installed network asset base.

3.2.4 HSQE
This function facilitates the development, operation, integration and continuous improvement of GNI’s safety, quality and environmental management systems. HSQE works closely with all areas of GNI’s business on all aspects of occupational and process safety, quality, environmental and risk management. The HSQE expenditure has been relatively flat during PC3.

3.2.5 Technical Competency
The Technical Competency Development function was established in 2013 to develop and implement systems, processes and programmes necessary to significantly enhance the gas technical competencies within GNI, for both employees and for contract resources working on the gas network. The resources in the department were a mix of transfers from other areas of the business and new hires.

GNI has implemented a Technical Competency Framework for all gas technical roles and technical training and upskilling have then been targeted where the competency of any individual was misaligned with the desired level for that specific role.
The introduction of a structured approach to setting and assessing technical competence of all gas technical roles and addressing any shortfall through training is appropriate.

### 3.3 Business support opex (allowance €102.31m; outturn €93.36m)

GNI reported expenditure of €93.357m over the PC3 period, 9.6% lower than their allowance of €102.305m. Under business support opex, five functional areas were reviewed. A breakdown of the outturn by function is shown in Table 3.4 below. Details of the work carried out within the Business Support function is provided in Sections 3.3.1 to 3.3.5.

**Table 3.4 PC3 outturn - business support costs (€'000s)**

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Networks</td>
<td>1,786</td>
<td>5,973</td>
<td>3,791</td>
<td>2,459</td>
<td>1,627</td>
<td>15,636</td>
</tr>
<tr>
<td>Regulatory &amp; Corporate Services</td>
<td>3,646</td>
<td>4,182</td>
<td>2,732</td>
<td>4,176</td>
<td>4,357</td>
<td>19,093</td>
</tr>
<tr>
<td>Finance</td>
<td>7,140</td>
<td>6,327</td>
<td>5,323</td>
<td>7,002</td>
<td>8,133</td>
<td>33,925</td>
</tr>
<tr>
<td>Human Resources</td>
<td>1,679</td>
<td>1,767</td>
<td>2,118</td>
<td>2,098</td>
<td>2,498</td>
<td>10,159</td>
</tr>
<tr>
<td>Facilities</td>
<td>2,509</td>
<td>2,966</td>
<td>3,036</td>
<td>2,724</td>
<td>3,308</td>
<td>14,544</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,759</strong></td>
<td><strong>21,214</strong></td>
<td><strong>17,000</strong></td>
<td><strong>18,460</strong></td>
<td><strong>19,924</strong></td>
<td><strong>93,357</strong></td>
</tr>
</tbody>
</table>

A key point to note from Table 3.4 above is the significant variation in expenditure for a number of the functions (e.g. finance) during PC3. GNI has stated, this is partly driven by changes in activities or increases in workload within individual functions (e.g. increased focus on growth related activities within the Regulation and Corporate Services function).

The year-on-year variations are also driven by increased role of the Group & Shared Service Centre in delivering business support functions, with consequential changes in costs allocations across the business.

#### 3.3.1 Head of Networks

Head of Networks refers to the office of the Managing Director of GNI. Each head of the various functions reports directly to the Managing Director.
The office is responsible for defining and implementing the overall business strategy for GNI and leads the senior management team in achieving these targets.

3.3.2 Regulatory and Corporate Services

The Regulation & Corporate Services function is responsible for ensuring compliance with, and development of, all aspects of the transportation licences and regulated contracts of GNI. It also has responsibility for customer and marketing strategy, revenue protection, price control co-ordination, commercial metering and shipper services.

The function was significantly re-organised over the course of PC3.

3.3.3 Finance

The role of the Finance function is to ensure that appropriate structures are in place to support the business, ensure financial control and to manage and mitigate risks through compliance and insurance cover. In addition, the function is responsible for the management of both tariffs and commercial demand forecasting.

Finance is organised into specialised areas, namely Financial Reporting and Planning, Internal Audit, Insurance, Commercial Finance and Business Planning.

3.3.4 Human Resources

The HR function supports the business and provides generalist services and Learning and Development (L&D) services.

The HR function has changed significantly during the PC3 period with the establishment of Ervia as a multi utility company. HR Central Services moved to the Shared Services Centre, HR strategy, compensation and benefits moved to the Group Centre while the GNI HR function reduced significantly in size.

3.3.5 Facilities

The Facilities function ensures that a safe and sustainable work environment, compliant with legislation, is provided for all employees across the Ervia Group, including GNI. Facilities services were incorporated into the Shared Services Centre in 2014 where they continue to deliver a full suite of facilities capabilities and property portfolio management to GNI. All aspects of Facilities are managed centrally.
3.4 IT Opex (allowance €22.1m; outturn €28.3m)

Table 3.5 below presents the total IT opex costs for the distribution business. GNI reported IT opex of c. €28.3m. This includes the IT function costs and the IT expenses from across the other GNI functions already discussed.

Table 3.5 PC3 Outturn - IT opex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>5,423</td>
<td>4,852</td>
<td>5,208</td>
<td>6,305</td>
<td>6,502</td>
<td>28,291</td>
</tr>
</tbody>
</table>

There was a drop from the first to the second year of PC3 in opex and then a significant increase in the final two years of PC3. GNI stated that despite a growing IT user base and evolving business requirements, they had managed to control spend through improvements in processes and the establishment of the Shared Services IT function. The number of full-time equivalents (FTEs) started at 53 in the calendar year 2012 and was at 54 in calendar year 2016, remaining at this level on average during PC3.

3.5 Gaslink opex (allowance €2.03m; outturn €2.74m)

GNI reported Gaslink opex of c. €2.7m over the PC3 period against an allowance of c. €2.9m. Gaslink was historically an independent subsidiary of Bord Gais tasked with the gas system operator role in Ireland to comply with European regulations.

During PC3, Gaslink opex has been reported as its own expenditure item under the pass-through cost items of the price control, although over the course of PC3 the company has been merged into GNI. During PC4, expenditure associated with Gaslink activities is included within the Regulation and Corporate Services function of business support costs.

Table 3.6 PC3 Outturn - Gaslink distribution opex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>532</td>
<td>626</td>
<td>586</td>
<td>550</td>
<td>448</td>
<td>2,742</td>
</tr>
</tbody>
</table>
3.6 Pass-through costs (allowance €102.92m; outturn €101.54m)

Pass-through costs are opex items that receive a different regulatory treatment than core controllable opex under the terms of GNI’s price control. The subsections below describe:

- the regulatory treatment of individual pass-through costs during PC3; and
- the level of reported pass-through costs (excluding Gaslink) during PC3.

3.6.1 Regulatory treatment of pass-through costs

For distribution, there were three items which were treated as full pass-through items for PC3. These were Gaslink, CER levies and Revenue Protection.

In addition, there was a full pass-through on the price aspect of shrinkage, however, the volume difference between outturn and the target is borne in full by GNI. There is as a consequence, an incentive on GNI to reduce shrinkage against target values.

Rates and safety advertising were both subject to a 50% sharing factor which again meant that there was an incentive on GNI to reduce outturn expenditure below targets.

3.6.2 Level of pass-through costs

GNI reported Pass-through opex of c. €101.54m over the PC3 period against an allowance of c. €102.92m as highlighted by Table 3.7 below. These items are not all pure pass-through however. Further information is provided in Chapter 8 of this report on the treatment of these items and associated incentives.

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CER levy</td>
<td>1,538</td>
<td>1,563</td>
<td>1,287</td>
<td>981</td>
<td>1,246</td>
<td>6,616</td>
</tr>
<tr>
<td>Revenue Protection</td>
<td>271</td>
<td>644</td>
<td>244</td>
<td>273</td>
<td>610</td>
<td>2,042</td>
</tr>
<tr>
<td>Safety</td>
<td>1,721</td>
<td>2,026</td>
<td>1,770</td>
<td>2,520</td>
<td>2,253</td>
<td>10,289</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>3,789</td>
<td>4,227</td>
<td>4,306</td>
<td>6,804</td>
<td>4,455</td>
<td>23,581</td>
</tr>
<tr>
<td>Rates</td>
<td>11,671</td>
<td>11,414</td>
<td>12,747</td>
<td>12,091</td>
<td>11,084</td>
<td>59,007</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,990</strong></td>
<td><strong>19,874</strong></td>
<td><strong>20,355</strong></td>
<td><strong>22,669</strong></td>
<td><strong>19,647</strong></td>
<td><strong>101,535</strong></td>
</tr>
</tbody>
</table>
3.7 Innovation (allowance €0.8m; outturn €2.73m)

In its PC3 decision, the CER, set a total allowance of €8.0m for innovation, in the form of an opex allowance. This allowance covered innovation activities for both the Transmission Business Unit (TBU) and Distribution Business Unit (DBU).

The adopted treatment of innovation funding as opex avoided complications of including small capital projects in the Regulatory Asset Base (RAB) and was seen to be more consistent with the focus on innovation funding. A subsequent proposal from BGN regarding the split of the allowed €8.0m between transmission and distribution was accepted by the CER, leading to a 90/10 split between the TBU and DBU.

Detailed governance arrangements were developed for BGN’s innovation fund and used to determine which projects were funded within PC3.

This included the formation of an innovation group called the Gas Innovation Group (GIG). This was formed to get a broader view of industry and technical developments, being made up of members of leading research centres in Ireland, key policy advisory groups, government agencies and government departments.

GNI have set up evaluation criteria on how to assess projects and shared this in their submission. These are separate for research projects and other funding requests. One of the primary evaluation criteria introduced by GNI is increasing utilisation of the gas network.

The innovation funding at PC3 has been allocated to five principle areas:

- CNG;
- biogas;
- research;
- business/technical; and
- programme management services.

The split of expenditure across these categories is shown below (across both distribution and transmission). The majority of this funding is expected to be incurred in the final year of the PC3 price control period. This back-loading is said to be reflective of the time taken to establish the processes around the innovation fund.
Table 3.8 PC3 Outturn - Innovation opex for both transmission and distribution (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNG</td>
<td>0</td>
<td>157</td>
<td>224</td>
<td>1,004</td>
<td>2,615</td>
<td>4,000</td>
</tr>
<tr>
<td>Biogas</td>
<td>0</td>
<td>0</td>
<td>31</td>
<td>29</td>
<td>1,789</td>
<td>1,850</td>
</tr>
<tr>
<td>Research</td>
<td>0</td>
<td>0</td>
<td>45</td>
<td>30</td>
<td>875</td>
<td>950</td>
</tr>
<tr>
<td>Business/ Technical</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Programme management</td>
<td>95</td>
<td>222</td>
<td>252</td>
<td>303</td>
<td>78</td>
<td>950</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>95</strong></td>
<td><strong>379</strong></td>
<td><strong>553</strong></td>
<td><strong>1,366</strong></td>
<td><strong>5,607</strong></td>
<td><strong>8,000</strong></td>
</tr>
</tbody>
</table>

GNI note one of the benefits of the innovation fund is that their overall funding is expected to have leveraged additional funding from other sources. In their submission document, GNI note that funding totalling €7.7m has delivered a net benefit of over €14.5m (funding leverage of 187%). A number of projects have received full 100% funding, but the majority have involved co-funding.

GNI note benefits from this funding has included:

- development of a new source of demand for gas through the development of CNG in transport thus increasing the customer base for the gas network;
- potential for reduced tariffs to the gas customer over the long term as a result of increased utilisation of the natural gas network for transport;
- increased efficiency of the natural gas network through the potential for load management and off peak use of CNG stations;
- improved focus on the long term sustainability of the natural gas network and certainty of service;
- addressing the needs of gas customers by fostering a renewable gas industry in Ireland;
- lowering the carbon footprint of the network through the introduction of renewable gas into the gas network; and
- informing the policy debate through quality research publications and leveraging the innovation funding to secure other funding.
3.8 Summary

This chapter of the report has reviewed the outturn opex across the different functions and items of opex included in the PC3 determination. This historical review has informed the recommendations of allowed opex in PC4. In addition, the review of each functional area helps to provide a base in order to understand how the type of work and profile of opex spend is changing from PC3 to PC4.

Figure 3.2 below illustrates the overall trend in expenditure of controllable opex by individual function. For consistency with the reporting basis for PC4, we have included Gaslink opex in the Regulation and Corporate Services function.

Figure 3.2 Overall trends in controllable distribution opex during PC3

3.9 Request for Comment

Parties are invited to comment on the matters set out in this section, including the key proposals which relate to:

3A. The review of operational expenditure during PC3.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
4 Benchmarking

This chapter describes the CER’s approach to benchmarking. This is done by comparing GNI’s costs against other gas network operators’ costs in Great Britain (GB), to see if GNI are more or less efficient.

GNI’s data has been included in the top-down model development process. The CER notes that GNI operates a significantly smaller distribution network than any of its peers in GB. To reflect such limitations, the CER and its advisors have chosen to use an average industry benchmark.

The results show that GNI’s costs are above the industry average benchmark, indicating that GNI is relatively inefficient when compared with GB gas network operators.

The CER will challenge GNI to become more efficient over PC4 by setting efficiency targets.

4.1 Approach

The high-level approach taken to benchmarking uses unit rates (at a total controllable opex level) and econometric models that compare GNI’s performance against Gas Distribution Networks (GDNs) in GB. A range of unit cost comparisons have been considered using different measures of company scale: customer numbers, units distributed (GWh), network length (km) and a CSV. Through the econometric model development process two models were identified and combined through a process known as triangulation.

Historic expenditure and cost driver data for the period 2011/12 to 2015/16 for GNI and GB GDNs was used. The GNI data was taken for PC4 and the data for GB GDNs was taken

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18 The CSV is calculated as follows: CSV = Customer numbers0.25 * Units distributed0.25 * network length0.5
19 Triangulation is a process of combining different models to come to a single point estimate of costs.
20 We chose not to benchmark GNI and GB GDNs on forecast costs with the uncertainty of future expenditure levels, preferring to rely only on actual outturn expenditure data.
from annual regulatory reporting packs (RRPs) provided by Ofgem. Adjustments to the data were made prior to modelling to ensure that expenditure was on a like-for-like basis across companies. These adjustments take account of different scope of companies (in terms of the types of expenditure incurred), differences in reporting, differences in prices/ currencies, and uncontrollable regional differences affecting company costs.21

4.2 Unit cost benchmarking results

Figure 4.1 and Figure 4.2 below present unit cost comparisons using different measures of company scale: customer numbers, units distributed (GWh), network length (km) and a CSV.22

Figure 4.1 Comparison of unit cost analysis - opex per customer, 2015/16

21 Details of the assumptions and process which followed to develop the data set, including cost exclusions and adjustments can be found in Annex A of the CEPA reports which accompany this paper.

22 The CSV is calculated as follows: CSV = Customer numbers$^{0.25} \times$ Units distributed$^{0.25} \times$ network length$^{0.50}$
Overall the analysis indicates that GNI has higher unit costs than all other GDNs across all four scale variables. The results indicate that GNI may be able to achieve efficiency gains during PC4.

However, it may be the case that economies of scale allow larger (GB) companies to reduce unit costs, which may partially influence the relatively higher GNI unit costs observed in the analysis. Figure 4.3 below therefore shows an additional chart of €/ customer plotted against customer numbers which indicates that, in line with expectations, there is some evidence of economies of scale, illustrated by per customer costs decreasing as a gas distribution network’s customer numbers increase.

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23 For example, the smallest GB GDN has approximately 2.7 time the number of customers as GNI.
While Figure 4.3 above does indicate that economies of scale exist for customer numbers, if the observations below one million customers (GNI) were removed the economies of scale would be much less pronounced (i.e. a much flatter dotted line).

If a linear adjustment for economies of scale were to be made, GNI would still appear to be relatively inefficient on this partial measure i.e., its observations are above the dotted line.

### 4.3 Econometric benchmarking results

#### 4.3.1 Base results

The figure below shows GNI’s relative efficiency against GB GDNs based on the industry average.
4.3.2 Sensitivities

A sensitivity analysis was also conducted on the preferred set of models to determine their robustness to changes in input data.

Figure 4.5 and Figure 4.6 below show GNI’s efficiency gap (to the industry average) across each year and sensitivity. The sensitivity indicates that the most material impact on GNI’s efficiency gap is sensitivity 6, which excludes GNI from the benchmarking model. As discussed below, this is caused by the change in the regression line that occurs when GNI is excluded from the sample. This suggests that GNI is an important observation for estimating a cost function that is appropriate for smaller companies (i.e., GNI).
Figure 4.5: Efficiency scores generated by sensitivities for Model A

Figure 4.6: Efficiency scores generated by sensitivities for Model B
Overall the models are sensitive to excluding GNI from the sample, indicated by the large differences in coefficient estimates and GNI efficiency scores when they are excluded from the sample. This could indicate that the models suffer from a relatively limited range of observations and therefore that they may be mis-specified.

This finding is not surprising given the relative size of GNI compared to other GB GDNs, and the lack of comparator companies that are in between the size of GNI and GB GDNs. This is shown in the scatter plot below (Figure 4.7), which demonstrates that GNI is an outlier compared to other companies. The scatter plot also shows the regressions lines for Model A under the baseline scenario and sensitivity 6. As we see, excluding GNI from the sample causes the regression line to pivot (i.e., change slope).

*Figure 4.7: Model A regression line, including and excluding GNI*

"Coefficients on the CSV variable increased by circa 0.1 when GNI was excluded. These results are not shown in CEPA’s report."
4.4 Summary

The top-down model development process has identified two econometric model specifications that were used to benchmark GNI’s direct opex against GB GDNs. The short-listed models indicate that during the first four years of PC3 GNI was relatively inefficient compared with GB GDNs over the same period.

GNI’s data has been included in the top-down model development process and the sensitivity analysis indicated that the models are a better fit when GNI is included. However, GNI operates a significantly smaller distribution network than any of its GB peers.25

The CER and its advisors have chosen to benchmark against an average industry benchmark rather than an upper quartile or frontier benchmark to reflect the limitations identified in the modelling and to help mitigate the risk of identifying an efficiency target that is unrealistic. However, there is regulatory discretion in the choice of the appropriate benchmark applied and there may be reasons why in the context of the current price control in question, the CER could opt for a more challenging efficiency benchmark. On this basis, GNI was c. 4.75% off the average industry benchmark when averaging the opex predictions from our two preferred models.

The econometric modelling result identified that GNI is relatively inefficient, this is supported by CEPA’s unit cost (partial factor) efficiency analysis.

However, although the model specifications allow for economies of scale, and have tested different specifications to account for the relative size difference, the results may be affected by the limited range of company sizes in the sample. In practice, this means that we cannot definitively conclude whether GNI’s inefficiency estimates are solely down to inefficiency or whether some of the gap to an efficient frontier is due to insufficient data to allow an accurate assessment of the economies of scale present in the sector.26

What the CER consider to be the implications of the historical benchmarking for setting an efficient cost path in PC4, is discussed in the next section of the report.

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25 Although when combined with the transmission business, the regulatory asset value of the company is of a comparable size to a number of the GB GDNs.
26 In addition to any other measurement error.
4.5 Request for Comment

Parties are invited to comment on the matters set out in this section, including the key proposals which relate to:

4A. Whether GNI should be benchmarked against the upper quartile or industry average benchmark.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
5 Review of GNI’s Forecast for Operational Expenditure in PC4

This chapter describes the forecast operating costs (Opex) of GNI for the next 5 years (the PC4 period covering 2017 to 2022). The operating costs represents the money that GNI expects to spend to maintain the Distribution system so that it can safely and securely continue to transport gas to customers.

It outlines the ways in which CER examines the Opex costs breaking them down under various different headings for the different activities that GNI undertake.

It describes what GNI requested under the various headings and what CER is proposing under these headings, explaining the differences. One of the ways it does this is by comparing the proposed spend under these headings for the next period (PC4) with the actual spend over the last period (PC3).

It briefly describes how CER is setting challenging but achievable targets for GNI to become more efficient over the next 5 years.

The CER has set an allowed opex spend of c. €340m (controllable opex27) for the distribution business during the PC4 period. GNI’s requested spend for the period is c. €385m, 11.6% higher than the forecast allowance. It is noted that this is inclusive of its annual efficiency target and opex growth forecast for the period.

Table 5.1 and Table 5.2 below sets out GNI’s forecast opex for PC4. All costs presented below are in real 2015/2016 values and are rounded where appropriate.

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27 Excludes innovation and pass-through cost items.
### Table 5.1: PC4 proposed - distribution opex total (€'000s)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>86,045</td>
<td>86,163</td>
<td>85,593</td>
<td>84,813</td>
<td>83,717</td>
<td>426,330</td>
</tr>
<tr>
<td>GNI request</td>
<td>93,979</td>
<td>94,472</td>
<td>95,104</td>
<td>95,007</td>
<td>94,917</td>
<td>473,479</td>
</tr>
<tr>
<td>Variance</td>
<td>-7,934</td>
<td>-8,309</td>
<td>-9,511</td>
<td>-10,194</td>
<td>-11,201</td>
<td>-47,149</td>
</tr>
<tr>
<td>Variance (%)</td>
<td>8.4%</td>
<td>8.8%</td>
<td>10.0%</td>
<td>10.7%</td>
<td>11.8%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

**Note:** includes innovation and pass-through cost items

### Table 5.2: PC4 proposed - distribution controllable opex (€'000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>68,788</td>
<td>68,679</td>
<td>68,224</td>
<td>67,503</td>
<td>66,743</td>
<td>339,938</td>
</tr>
<tr>
<td>GNI request</td>
<td>75,218</td>
<td>75,944</td>
<td>77,211</td>
<td>77,695</td>
<td>78,489</td>
<td>384,556</td>
</tr>
<tr>
<td>Variance</td>
<td>-6,430</td>
<td>-7,265</td>
<td>-8,987</td>
<td>-10,191</td>
<td>-11,745</td>
<td>-44,619</td>
</tr>
<tr>
<td>Variance (%)</td>
<td>8.5%</td>
<td>9.6%</td>
<td>11.6%</td>
<td>13.1%</td>
<td>15.0%</td>
<td>11.6%</td>
</tr>
</tbody>
</table>

**Note:** excludes innovation and pass-through cost items. Proposed costs are net of efficiency but GNI requested costs are gross of efficiency.

A summary of the differences between the proposals and GNI’s request for each of the key areas of the opex assessment is shown in Figure 5.1. The illustrated percentages show the implied percentage reduction of the CER’s proposal relative to GNI’s request for each individual area of distribution opex. The largest absolute difference between the proposals and GNI’s request is in Operations Opex where an 8% reduction has been proposed relative to the GNI request. The largest proportionate change relative to GNI’s is for efficiency, where top-down adjustments have been applied, consisting of both an ongoing net efficiency adjustment and a catch up efficiency adjustment based on the econometric benchmarking for distribution.\(^{28}\)

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\(^{28}\) Note the change in efficiency (consortium vs. GNI) is greater than 100% as the consortium’s adopted top-down efficiency factor is 1.75% rather than 0.5% as applied by GNI in its BPQ, albeit the consortium 1.75% is applied on a lower starting opex base in light of the conclusions of the bottom-up cost assessment.
5.1 Methodology

The CER’s proposals on distribution opex allowance have been derived by combining a bottom-up and top-down cost assessment. The CER has considered the need and scope for two top-down adjustments to be applied to the bottom-up opex estimates to establish an efficient cost path for GNI’s distribution business unit (DBU) going forward. Both of the adjustments lead to a reduction in the opex allowance for PC4.

The first relates to a catch-up efficiency adjustment and the second is a net ongoing efficiency adjustment. The adjustments lead to a net 1.75% annual reduction factor relative to the bottom-up assessment. This adjustment factor is compounded each year over the five year life of the PC4 control, with the annual compounded adjustment applied to our bottom-up opex assessment to set final distribution opex proposals for each year of the price control.

5.1.1 Catch-up efficiency adjustment

The findings of the historical benchmarking outlined in Chapter 4 shows that, GNI is c.4.75% off the average efficiency benchmark, suggesting there is scope for GNI to improve its relative efficiency during PC4.
The CER and its advisors, however, recognise that there are a number of reasons to be cautious in drawing too strong conclusions from the benchmarking of GNI’s relative efficiency given the differences in regime, currency base, age of network etc., between GNI in Ireland and the GB GDNs. For this reason, we have used the industry average benchmark.

Arguably GNI should also have the ambition to be a better than average performer which is one reason why other regulators have considered or adopted the upper quartile performer as the industry efficiency benchmark, rather than the industry average.

The CER is proposing a catch-up efficiency target of 3.75% over the course of PC4 to bring GNI more in line with its peers. This range of the catch-up target is applied to the final year of PC4, requiring GNI to meet a glide-path to this efficiency factor over the period of the price control. In annualised terms, a 0.75% annual but compounding catch-up efficiency assumption has been applied to the opex proposals. This has not been applied to IT opex given that the bottom-up proposals are already based on challenging GNI to perform to an industry average benchmark.

5.1.2 Ongoing efficiency adjustment

The CER consider there is scope for GNI to improve its ongoing efficiency over the PC4 period. It is proposed that a 1.0% annual ongoing efficiency assumption will be applied, this is consistent with the precedent of the ongoing efficiency challenge that that CER adopted for GNI at the PC3 review.

This results in a net annual reduction factor of 1.75% for the distribution business, which is applied to the bottom-up assessment of controllable opex. The reduction factor is compounded each year over the five year life of the price control as depicted in Figure 5.2 below.

We note that one of the comments which was raised by GNI during the this price review, namely, that there are other factors that GNI may face during PC4 which have the effect of constraining the input price (i.e. RPE) pressures (e.g. existing wage structures or contractual arrangements that fix the input price of the gas business). Therefore it would be unrealistic for GNI to be expected to achieve efficiency gains over PC4.

The CER and its advisors are of the view that while fixed contractual arrangements (e.g. long term partnership agreements with outsourced contractors) or existing company employment arrangements may have some limit on the ability of an operator to improve its dynamic efficiency, we note that productivity improvements can also be realised through the quantity
component of productivity measures. For example, even with relatively “sticky” wage structures, GNI should still be able in principle to realise productivity improvements through adopting new working practices (e.g. asset management systems), new technologies or limiting replacement of staff as opportunities for new working practices are identified. GNI may therefore be able to limit the volume of work-load during PC4 as a consequence of new productivity initiatives.

Figure 5.2: Total controllable opex - net of reduction factor

The proposals for the first year of PC4 includes a 2% increase on 2016/17 forecast controllable opex. There are further step-ups in the bottom-up analysis, however these are offset by the applied top-down adjustments. This presents a challenge for GNI to contain future increases in opex to the allowed step-up in the last year of PC3 / first year of PC4.
5.2 Group and shared services opex

Another area where the CER view that efficiencies could be made is the function of Group and Shared Services opex. The bottom up assessment of GNI functional expenditure was undertaken with GNI’s forecast for Group & Shared Service expenses excluded from the analysis.

Ervia’s Group Centre sets the strategic direction for the company and includes functions such as the Chief Executive Office, Commercial and Regulatory, Group Finance and Group Human Resources (HR); and Shared Service Centre provides transactional services to the individual regulated and non-regulated businesses within the Ervia Group, including finance, procurement, facilities, HR and IT.

The process followed for Group & Shared Service allocations is illustrated below.

**Figure 5.3: Treatment of Group & Shared Service expenses in cost assessment**

1. Bottom-up assessment and recommendations on GNI business category expenditure excluding Group & Shared Service expense allocations.
2. Assessment of GNI BPO submission on Ervia Group Centre and Shared Service Centre expenditure (historic and forecast trends).
3. Apply adjustment to GNI forecast Group & Shared Service expenses dependent on justification for change in PC4 run-rate relative to PC3.
4. Add forecast Group & Shared Service expenses from Step 3 to recommended opex by business category in Step 1.

GNI are forecasting a general trend of increasing Group & Shared Service expenses during PC4. This might be expected given the expected growth of GNI as an organisation during PC4 and the planned step-up in work-load / activity during the forthcoming price control period. For example, it is reasonable to expect an increase in certain finance, procurement and HR initiatives to support the organisational change.
However, the CER does not believe the expected rate of increase is as clearly justified as other parts of GNI’s PC4 business plan, where increases in expenditure have been allowed. Therefore overall, the CER does not consider that GNI has sufficiently justified the forecast rate of increase in total Group & Shared Service expenses during PC4.

The CER have applied a 5.5% reduction to the forecast Group & Shared Service expense allocations for the first year of PC4 (for all business categories) with the reduction increasing in 0.5% increments to 7.5% by the last year of the price control, as highlighted below.

**Figure 5.4: Group and Shared Service Centre recommendations**

For the regulated GNI business as a whole for transmission and distribution the proposed Group & Shared Service expenses (excluding IT) in PC4 are estimated to be an increase of €1.32m per annum on average over PC4 relative to reported Group & Shared Service allocations for 2015/16. The Group & Shared Service allocations allow for a c. 8% increase (in real terms) in this expense item relative to 2015/16 outturn levels.

**5.3 Operations opex (CER €222.59m)**

The CER is proposing an operations opex of €222.59m over the PC4 period compared to a requested allowance of €241.6m, a breakdown of allowance by function is shown below.
Table 5.3: PC4 CER proposals - distribution opex (€’000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Management</td>
<td>3,142</td>
<td>3,135</td>
<td>3,136</td>
<td>3,134</td>
<td>3,133</td>
<td>15,680</td>
</tr>
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<td>34,551</td>
<td>34,970</td>
<td>35,558</td>
<td>171,889</td>
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<td>Commercial</td>
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<td>4,123</td>
<td>4,124</td>
<td>20,605</td>
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<td>HSQE</td>
<td>2,109</td>
<td>2,100</td>
<td>2,082</td>
<td>2,111</td>
<td>2,090</td>
<td>10,493</td>
</tr>
<tr>
<td>Technical Competency</td>
<td>781</td>
<td>783</td>
<td>787</td>
<td>787</td>
<td>787</td>
<td>3,925</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>43,116</td>
<td>43,980</td>
<td>44,677</td>
<td>45,126</td>
<td>45,694</td>
<td>222,593</td>
</tr>
</tbody>
</table>

Table 5.4: PC4 GNI request - distribution opex (€’000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Asset Management</td>
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<td>3,643</td>
<td>3,644</td>
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<tr>
<td>Asset Operations</td>
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<td>36,705</td>
<td>37,182</td>
<td>37,510</td>
<td>37,964</td>
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<tr>
<td>Commercial</td>
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<td>HSQE</td>
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<td>2,111</td>
<td>2,090</td>
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</tr>
<tr>
<td>Technical Competency</td>
<td>781</td>
<td>783</td>
<td>787</td>
<td>787</td>
<td>787</td>
<td>3,925</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>47,429</td>
<td>48,008</td>
<td>48,390</td>
<td>48,706</td>
<td>49,064</td>
<td>241,598</td>
</tr>
</tbody>
</table>

5.3.1 Asset Management

GNI have set out plans to increase their expenditure in this area well above the average expenditure incurred during PC3. The CER recognise the positive plans GNI are making in developing their asset management strategy, reflecting this in their asset maintenance policy. In recognition of these plans the CER is proposing to allow a 20% increase on staff costs compared to the PC3 average, this however, represents a 7% reduction to the levels requested. In addition, the CER has applied the adjustments to Group and Shared Service costs as set out in Section 5.2 above.

Figure 5.5 below shows our recommendations in the context of the trend across PC3 and PC4.
5.3.2 Asset Operations

Expenditure in this group can be split into three key areas; Management and Support Activities, Siteworks and Maintenance.

5.3.2.1 MANAGEMENT AND SUPPORT ACTIVITIES

The costs for Management and support are broadly consistent across PC3 and the PC4 forecast and therefore adjustments have not been made to these costs.

5.3.2.2 SITEWORKS

These activities are directly driven by the number of customers on the network and include emergency response, meter maintenance and other work at the customers premised.

These workloads have been slightly reduced due to assumptions on the growth in customer numbers covered in the Capex section of this report. Normalised unit costs developed from the PC3 review of years 2012/13 to 2015/16 to calculate the average unit costs for all work activities.
5.3.2.3 MAINTENANCE

These activities are associated with network plant and equipment. In the same way as siteworks, the last 4 years of actual figures were used together with a scale factor for the size of the network to calculate workloads and unit rates for the assessment.

An average unit cost for the roll-forward rates assessment for PC4 is shown in Table 5.3 and Table 5.4 above. The weighted average workloads of each category, weightings based upon the customer numbers in each year was also calculated.

Overall the proposed allowance for PC4 is lower than that requested by GNI. There is a step-up in costs compared with PC3 levels due to the expanding network and customers and new activities which GNI has identified which must be carried out.

Figure 5.6 below shows the CER proposals in the context of the trend across PC3 and PC4.

![Figure 5.6: Asset Operations Opex Trend](image)

5.3.3 Commercial

As explained in Section 3.2.3 the commercial department was established in early 2015, to address the need to increase utilisation of the gas network. A substantial element of the department’s costs is allocated to growth promotion activities, with GNI requesting €18.1m over PC4. The CER recognise the benefit to existing consumers of exploiting the installed network assets, however, the CER is proposing an allowance of €15.3m, which is a 50% increase on the annual expenditure incurred in the last full year of actuals (2015/16).
5.3.4 HSQE

The CER propose to allow GNI its full requested allowance for this area of expenditure. Figure 5.8 below illustrates the allowances in the context of the trend across PC3 and PC4.

5.3.5 Technical competency

GNI has developed a Technical Competency Framework for all gas technical roles where the competency of any individual was misaligned with the desired level for that specific role. The
CER is proposing to allow GNI its full requested allowance for this area of expenditure Figure 5.9 below illustrates the proposed allowances in the context of the trend across PC3 and PC4. The CER view the introduction of a structured approach to setting and assessing technical competence of all gas technical roles and addressing any shortfall through training as appropriate. Ensuring that in-house skills are developed will lead to a reduction in the need for out-sourcing.

**Figure 5.9: Technical Competency Opex Trend**

![](chart)

### 5.4 Business support opex (CER €100.36m)

The methodology applied to setting the allowances for business support opex has been to use GNI’s historic costs and forecast costs to derive a recommended normalised or ‘business as usual’ forecast for PC4.

The normalised cost ranges seek to remove costs not expected to occur in future e.g. reorganisation costs, or incurred costs in PC3 that are expected to be one-off in nature (e.g. a one-off regulatory or legal project). These can then be revised to reflect additional items of core opex forecast to be incurred in forthcoming years of the price control.

Table 5.5

<table>
<thead>
<tr>
<th>Year</th>
<th>PC3 Actuals</th>
<th>PC4 recommended</th>
<th>PC4 GNI requested</th>
<th>PC3 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2014/15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015/16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016/17F</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>2017/18</td>
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<tr>
<td>2018/19</td>
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<tr>
<td>2019/20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020/21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021/22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.6 below shows the proposed allowances for the functions that make up business support services opex for PC4, compared to GNI’s funding request.
### Table 5.5: PC4 Proposals business support costs (€’000s)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Networks</td>
<td>1,978</td>
<td>2,125</td>
<td>2,106</td>
<td>2,087</td>
<td>2,074</td>
<td>10,370</td>
</tr>
<tr>
<td>R&amp;C Services</td>
<td>4,363</td>
<td>4,332</td>
<td>4,333</td>
<td>4,329</td>
<td>4,326</td>
<td>21,683</td>
</tr>
<tr>
<td>Finance</td>
<td>7,971</td>
<td>7,905</td>
<td>7,917</td>
<td>7,900</td>
<td>7,894</td>
<td>39,587</td>
</tr>
<tr>
<td>Human Resources</td>
<td>2,420</td>
<td>2,402</td>
<td>2,401</td>
<td>2,398</td>
<td>2,394</td>
<td>12,015</td>
</tr>
<tr>
<td>Facilities</td>
<td>3,314</td>
<td>3,336</td>
<td>3,355</td>
<td>3,352</td>
<td>3,344</td>
<td>16,701</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,047</strong></td>
<td><strong>20,099</strong></td>
<td><strong>20,112</strong></td>
<td><strong>20,067</strong></td>
<td><strong>20,031</strong></td>
<td><strong>100,356</strong></td>
</tr>
</tbody>
</table>

### Table 5.6: PC4 GNI request - business support costs (€’000s)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Networks</td>
<td>2,022</td>
<td>2,183</td>
<td>2,169</td>
<td>2,154</td>
<td>2,145</td>
<td>10,672</td>
</tr>
<tr>
<td>R&amp;C Services</td>
<td>4,617</td>
<td>4,378</td>
<td>4,498</td>
<td>4,499</td>
<td>4,645</td>
<td>22,637</td>
</tr>
<tr>
<td>Finance</td>
<td>8,210</td>
<td>8,039</td>
<td>8,527</td>
<td>8,505</td>
<td>8,748</td>
<td>42,029</td>
</tr>
<tr>
<td>Human Resources</td>
<td>2,567</td>
<td>2,558</td>
<td>2,558</td>
<td>2,564</td>
<td>2,561</td>
<td>12,808</td>
</tr>
<tr>
<td>Facilities</td>
<td>3,437</td>
<td>3,529</td>
<td>3,643</td>
<td>3,627</td>
<td>3,654</td>
<td>17,890</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,852</strong></td>
<td><strong>20,686</strong></td>
<td><strong>21,395</strong></td>
<td><strong>21,350</strong></td>
<td><strong>21,753</strong></td>
<td><strong>106,036</strong></td>
</tr>
</tbody>
</table>

### 5.4.1 Head of Networks

The only adjustments applied to this area of expenditure are to Group & Shared Service allocations as set out in Section 5.2 otherwise the CER accept the GNI forecasts. Figure 5.10 below illustrates the CER proposed allowances in the context of the trend across PC3 and PC4.
5.4.2 Regulatory and Corporate Services

5.4.2.1 ALLOWED BASE OPEX

A range has been established for distribution Regulation and Corporate Service normalised cost of c. €1.8 - €2.7m per annum, excluding Group & Shared Services, IT expenses and a number of items identified as “one-off” in GNI’s submission. The lower end of the range is more reflective of the earlier years of PC3 and the upper end of the range more reflective of forecast increase in expenditure of the department during 16/17.

GNI has also made a provision for an increase in growth activities in its PC4 opex projections. As detailed in Chapter 7, the PC4 proposed allowances for capex have reduced growth activities in PC4 relative to GNI’s business plan. However, consistent with our comments on the commercial department (see Section 5.3.3) the CER also recognises the benefits to existing gas consumers in GNI supporting growth related initiatives. We therefore included provision for growth (market development) related support activities as part of the normalised cost ranges for the Regulatory and Corporate Service function.

The CER has adopted the upper quartile of the normalised cost range as “base” opex for PC4 opex recommendations. This reflects the ongoing growth activities undertaken in PC4 and an expected increased number of connections relative to PC3, meaning there is an expected need to support a greater scope of service in PC4.
5.4.2.2 ALLOWED STEP-UP/ DOWN OPEX ITEMS

The following step-up/down opex items have been taken into account when setting allowances:

- Additional legal staff are expected to be added in light of the growth related activities and ramp up in activities for the PC4 period. The estimated costs for the additional staff have been included in full as a step up in the opex base assumption.
- Atypical costs not foreseen at the time of this review e.g. Litigation and dispute costs have been included.
- For PC4, Gaslink costs will be included within the reported expenditure of the Regulation and Corporate Services function rather than as a separate item. The CER has accepted GNI’s forecasts in full for Gaslink opex costs.

5.4.2.3 OVERALL PROPOSALS

The proposed adjustments derive an opex trend as illustrated in Figure 5.11 below.

Figure 5.11: Regulatory and Corporate Services Opex Trend
5.4.3 Finance

5.4.3.1 ALLOWED BASE OPEX

The CER established a range for Finance function normalised cost of c. €4.6m - €5.6m per annum, excluding Group & Shared Service allocations and IT expenses.

The CER has then chosen the mid-point of the normalised cost range as a proposed base opex level which is broadly consistent with the 2015/16 outturn level but below the 2016/17 forecast expenditure (excluding Group & Shared Service allocations).

5.4.3.2 ALLOWED STEP-UP/ DOWN OPEX ITEMS

The following step-up/down opex items have been taken into account when setting allowances:

- Increases in insurance rates and premiums
- Reduction in finance function people costs to reflect lower projected people costs in GNI’s during PC4.
- GNI face additional costs from acting as a subsidiary that were previously undertaken at the Ervia Group level or within the Bord Gais Group. This includes credit rating agency fees, legal advice, costs related to the Euro Medium Term Note (EMTN) programme, statutory audit fees and administrative pension fees.
- An annual adjustment of €725k was made to distribution only\(^\text{29}\) to account for this new activity.

5.4.3.3 OVERALL PROPOSALS

The proposed adjustment (5.5% reduction in Year 1 to 7.5% reduction in Year 5) to GNI’s forecast Group & Shared Service allocations to the Finance department described in Section 5.2 to derive an opex trend as illustrated in Figure 5.12 below.

\(^{29}\) The activity is already considered to be accounted for in the normalised cost ranges for the TBU where we assumed a range of €1.2 - €1.5m “Other” infrastructure support expenses which covers GNI’s forecast for this expense item during PC4.
5.4.4 Human Resources

5.4.4.1 ALLOWED BASE OPEX

GNI states that it expects HR headcount to remain flat in PC4. The CER has used the midpoint of the normalised cost range (c. €1.1m - €1.5m per annum) as the adopted base level of opex for the HR function in PC4.

5.4.4.2 ALLOWED STEP-UP/DOWN OPEX ITEMS

The following step-up/down opex items have been taken into account when setting allowances:

- Additional initiatives (e.g. learning and Development programme)

5.4.4.3 OVERALL PROPOSALS

The proposed adjustments derive an opex trend as illustrated in Figure 5.13 below.
5.4.5 Facilities

5.4.5.1 ALLOWED BASE OPEX

GNI have stated that they expect increases in facilities opex during PC4 because there will be a rent renewal and a series of other facilities contracts will be up for renewal. Overall the function appears to be expected to operate close to business as usual. As such, the CER have used the mid-point of the normalised cost range (c. €1.9m - €2.4m per annum) to establish a base level of expenditure for PC4.

5.4.5.2 ALLOWED STEP-UP/ DOWN OPEX ITEMS

The following step-up/down opex items have been taken into account when setting allowances:

- Further step-up adjustments for changes in establishment costs and the expected rent increases in PC4, i.e. buildings and equipment maintenance, power and equipment, and rental costs.
5.5 IT Opex

GNI state that the PC4 capex projects would deliver €6.4m of opex benefits realisation and the CER notes the links between capex and opex in investment decisions. GNI is requesting an increase of 35% in IT opex in PC4 relative to PC3 IT opex actual spend.

The reasons explaining the increased IT opex, have been difficult for the CER and its advisors to validate. It is unclear what assumptions have been made or whether these opex benefits have been factored into the submission. Without this information it is difficult to justify the increase. Therefore in order to arrive at normalised cost range the CER and its advisors have built up recommendations for GNI IT opex using a benchmarking methodology that compares GNI to utility peer groups and IT expenditure by the GB GDNs.

Based on a benchmark of GNI's IT opex spend as a percentage of total expenditure, the analysis indicates that GNI on average is forecasting to spend 9% more on IT opex during PC4 than its peers. The corresponding figure for PC3 was also 9%.

The CER proposes that GNI be encouraged to reduce the variance between their requested IT opex spend and industry averages in a linear fashion over the 5-year period. However, given uncertainties around the benchmarking analysis and specific factors potentially impacting on GNI IT spend during PC4 the most conservative benchmark has been applied.

By decreasing the forecasted IT opex over time GNI's year-on-year IT opex would be brought closer in line with its peers at the end of PC4. This gradual approach would result in an overall c.5.9% reduction in GNI's requested total PC4 IT opex spend. This adjustment would correspond to a PC4 IT opex allowance (TBU and DBU combined) of €71.9M. The CER’s proposal on distribution opex relative to PC3 trends and GNI's PC4 request are illustrated in Figure 5.14 below.
5.6 Innovation

GNI has requested €25.0m of innovation funding during PC4 for transmission and distribution. This request is exclusive of the funding already included in the CER decision on the Causeway Study (€12.83m)\(^3\) which will fund the roll-out of a number of CNG stations during PC4. The request is split 90/10 transmission and distribution respectively.

The request includes a request for funding for biogas purification, power-to-gas, low carbon heating solutions and carbon capture and storage projects, as well as research and programme management funding.

In developing a proposal for innovation opex in PC4, the CER considered regulatory precedent by reviewing the percentage of revenue other Regulatory Authorities allowed for innovation funding within allowed revenues. The CER also reviewed the submission from GNI on innovation; further detail can be found in the CEPA report which is published alongside this paper.

Projects proposed in this area by GNI will be required to meet CER safety requirements relating to natural gas.

\(^3\)CER (2016) Compressed Natural Gas Funding Request, Decision Paper, CER16/313.
5.6.1 Overall assessment

As part of the Causeway funding decision, the CER noted that there would need to be exceptional circumstances to justify an increase in the innovation fund above the €12.83m allowed over PC4 for the Causeway Study. However, given the investment that has been made in establishing innovation activities, the CER is of the view that it is appropriate to provide GNI with some funding provision to maintain these activities in PC4.

Given the above, the CER recommends that there should be an additional €0.5m in total (i.e. €100k per annum) of innovation funding provided by the CER for programme management in addition to the €12.83m allowance already set out in the Causeway Study decision. This funding would be used to maintain the innovation framework developed at PC3 and support funding for GNI to obtain grants and other sources of funding for supporting innovation initiatives during PC4 e.g. energy research funding at EU level.

In addition, one of the features of the PC3 innovation fund has been the ability of GNI to leverage research funding with other organisations. We propose including a further €1.0m in total for research (i.e. €200k per annum).

The CER propose an innovation funding allowance of €17.5m over PC4 inclusive of the €12.83m allowed as part of the Causeway Study. Using GNI’s forecast transmission and distribution allowed revenues in PC4 this would imply innovation funding in PC4 of c. 0.9% of allowed revenue. This will include a provision for project management, research and a small number of strategic projects in addition to the existing allowance for the Causeway study.

An innovation allowance of €17.5m will provide GNI with the ability to examine alternative uses for the natural gas grid as Ireland moves to a decarbonised economy by 2050.

- The CER will ensure that GNI report annually on the outputs of the innovation funding and the benefits to customers. The CER will advise GNI that the use of the innovation allowance is to leverage rather than fully fund innovation projects and that GNI should be more proactive in securing funding from other sources.
Table 5.7: Innovation opex for distribution and transmission (€'000s)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GNI request</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>25,000</td>
</tr>
<tr>
<td>CER proposal</td>
<td>3,500</td>
<td>3,500</td>
<td>3,500</td>
<td>3,500</td>
<td>3,500</td>
<td>17,500</td>
</tr>
</tbody>
</table>

5.7 Pass-through costs

Pass-through costs no longer include Gaslink, which is included in business support service costs. The CER considers the potential level of these costs during PC4 below. The proposed regulatory treatment of pass-through items is considered in Chapter 8, along with other incentives operating under GNI’s price control regime.

5.7.1 Shrinkage

In general, the CER has accepted GNI’s proposals for the majority of pass-through cost line items on distribution. The area where the CER has modified GNI’s proposals on pass-through costs is shrinkage, through a reduction in the Unaccounted for Gas (UAG) targets PC4 period.

For PC3, the CER assumed that there would be improvements over time. Outturn UAG factors within PC3 have been above the allowances in each year, though GNI are now approaching the target for the final year of PC3 as illustrated in the Table 5.8 below.

Table 5.8: UAG factor over PC3

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed</td>
<td>1.00%</td>
<td>0.94%</td>
<td>0.88%</td>
<td>0.81%</td>
<td>0.75%</td>
</tr>
<tr>
<td>Outturn</td>
<td>1.17%</td>
<td>1.00%</td>
<td>1.76%</td>
<td>0.86%</td>
<td>TBC</td>
</tr>
</tbody>
</table>

GNI are proposing a UAG factor starting at 1.3% at the beginning of PC4, reducing to 0.9% in the final year of PC4. The CER agree with setting a challenge to improve over time, though disagree with the starting point proposed by GNI.

Therefore the CER is proposing UAG factors are based on a starting point of the 2016/17 target and then applying a small ongoing annual improvement in performance of 0.05% p.a.

Table 5.9: Proposed UAG factor target for PC4

<table>
<thead>
<tr>
<th></th>
<th>2017/18</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>0.75%</td>
<td>0.65%</td>
<td>0.60%</td>
<td>0.55%</td>
</tr>
</tbody>
</table>
The UAG factor is multiplied by system throughput to arrive at a UAG shrinkage factor, which is itself split into commodity and capacity elements. Transportation charges are then used to derive an overall monetary target.

### 5.7.2 Overall pass-through proposals

Table 5.10 below summarises CER pass-through proposals. For PC3, the CER have monitored these line items on an annual basis and have updated the forecast estimates accordingly for tariff setting purposes. The CER is minded to continue this process during the PC4 control.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Rates</td>
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<td>1,246</td>
<td>1,246</td>
<td>1,246</td>
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<td>CER levy</td>
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<td>618</td>
<td>621</td>
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<td>Revenue Protection</td>
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<td>2,421</td>
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<td>11,579</td>
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<td>Safety</td>
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<td>2,540</td>
<td>2,449</td>
<td>2,352</td>
<td>12,627</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>10,225</td>
<td>10,225</td>
<td>10,225</td>
<td>10,225</td>
<td>10,225</td>
<td>51,127</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,907</strong></td>
<td><strong>17,134</strong></td>
<td><strong>17,019</strong></td>
<td><strong>16,959</strong></td>
<td><strong>16,624</strong></td>
<td><strong>84,642</strong></td>
</tr>
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</table>

### 5.8 Summary

This chapter of the report has reviewed the forecast opex across the different functions. The proposals on distribution opex have been derived by combining a bottom-up and top-down cost assessment.

Drawing together the findings from this evidence the CER has then applied and ongoing efficiency adjustment to ensure that GNI are challenged to contain spending.

Figure 5.15 below shows the impact of the proposed overall 1.75% net adjustment per annum applied to the bottom-up recommendations for controllable distribution opex. The downward sloping path in proposed opex reflects the compounding effect of the annual reduction factor. The proposals for the first year of PC4 include a 2% increase on 2016/17 forecast controllable opex. There are further step-ups in our bottom-up analysis, however these are offset by our applied top-down adjustments. This presents a challenge for GNI to
contain future increases in opex to the allowed step-up in the last year of PC3 / first year of PC4.

**Figure 5.15: Total controllable opex - net of reduction factor**

![Bar chart showing total controllable opex net of reduction factor from 2012/13 to 2021/22. The chart compares PC3 Actuals, PC4 Recommended, PC4 GNI request, and PC3 Average.](image-url)
5.9 Request for Comment

Parties are invited to comment on the matters set out in this section, including the key proposals which relate to:

5A. The total operational expenditure allowance for PC4.

5B. The CER’s proposed innovation allowance.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
6 Review of GNI’s PC3 Historical Capital Expenditure

This chapter describes the capital spend or expenditure (called Capex) of GNI for the last 5 years (the PC3 period). The capital expenditure represents the money that GNI spent to build new pipelines and other equipment or replace or refurbish existing pipelines and equipment. This expenditure was made so that the distribution system could safely and securely continue to transport gas to existing and new customers.

It outlines the ways in which the CER examines the Capex costs breaking them down under various different headings for the different equipment that GNI install or purchase.

It details the incentives that are in place to increase efficient capital expenditure. When GNI come under the budget on a project or justifiably avoid carrying out a project in its entirety they receive a financial reward. When GNI go over budget, but can justify and explain the increase, the increase is allowed but there is a small penalty applied (to encourage more accurate budgeting). It is also possible that some spend might be disallowed because it was not spent efficiently, in which case GNI would suffer the loss of that money, although spend of this type did not occur in the PC3 review period.

Finally, it outlines that when customers pay a contribution towards the cost of a new connection these costs are removed from the total cost of the works. This way the allowance that the CER set reflects GNI’s actual spend.

The CER set an allowed capex spend of c. €336m for the distribution business during the PC3 period. GNI’s outturn for the same period net customer contributions was c. €325m. The CER reviewed this spend in detail to assess if it had been incurred efficiently while delivering the outputs agreed at the last determination in order to set the actual outturn.

Table 6.1 and Table 6.2 below set out the capex allowance and the capex incurred over the course of PC3. All costs presented below are in real 2015/2016 values and are rounded where appropriate.
Table 6.1: PC3 (revised) allowance - distribution capex (€'000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe capex</td>
<td>45,828</td>
<td>43,684</td>
<td>40,779</td>
<td>52,668</td>
<td>59,008</td>
<td>81,290</td>
<td>323,257</td>
</tr>
<tr>
<td>IT capex</td>
<td>2,590</td>
<td>2,122</td>
<td>1,932</td>
<td>3,640</td>
<td>3,872</td>
<td>4,225</td>
<td>18,380</td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>44</td>
<td>502</td>
<td>1,093</td>
<td>675</td>
<td>1,675</td>
<td>1,673</td>
<td>5,662</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>48,463</td>
<td>46,307</td>
<td>43,803</td>
<td>56,984</td>
<td>64,555</td>
<td>87,188</td>
<td>347,299</td>
</tr>
<tr>
<td>Contributions</td>
<td>-3,149</td>
<td>-2,913</td>
<td>-2,647</td>
<td>-4,121</td>
<td>-4,955</td>
<td>-4,540</td>
<td>-22,326</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>45,313</td>
<td>43,394</td>
<td>41,156</td>
<td>52,862</td>
<td>59,600</td>
<td>82,648</td>
<td>324,974</td>
</tr>
</tbody>
</table>

*Note: The inclusion of the final year of PC2, 2011/12 stems from the fact that the outturn values were not known at the time of the PC3 determination and there are incentives around treatment of capex.*

Table 6.2: PC3 outturn - distribution capex (€'000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe capex</td>
<td>52,525</td>
<td>46,413</td>
<td>50,870</td>
<td>59,805</td>
<td>47,010</td>
<td>71,110</td>
<td>327,733</td>
</tr>
<tr>
<td>IT capex</td>
<td>3,638</td>
<td>4,190</td>
<td>3,424</td>
<td>3,168</td>
<td>2,298</td>
<td>2,336</td>
<td>19,053</td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>2,468</td>
<td>1,207</td>
<td>842</td>
<td>683</td>
<td>485</td>
<td>450</td>
<td>6,135</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>58,631</td>
<td>51,811</td>
<td>55,136</td>
<td>63,656</td>
<td>49,793</td>
<td>73,895</td>
<td>352,922</td>
</tr>
<tr>
<td>Contributions</td>
<td>-2,538</td>
<td>-2,657</td>
<td>-1,793</td>
<td>-2,346</td>
<td>-4,538</td>
<td>-3,320</td>
<td>-17,192</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>56,092</td>
<td>49,154</td>
<td>53,342</td>
<td>61,310</td>
<td>45,255</td>
<td>70,576</td>
<td>335,730</td>
</tr>
</tbody>
</table>

*Note: The inclusion of the final year of PC2, 2011/12 stems from the fact that the outturn values were not known at the time of the PC3 determination and there are incentives around treatment of capex.*
6.1 Methodology

6.1.1 PC3 incentive framework

Under PC3 regulatory arrangements, GNI is rewarded for making savings against its capex allowances. Tariffs were set at the start of PC3, on the basis of an opening RAB value, together with a stream of project capex figures (set out in the PC3 decision) for capital works projects and programmes approved by the CER.

In general terms, where GNI is able to achieve a saving compared to its project investment allowance, then it would be allowed to earn the rate of return plus a depreciation payment on the expenditure saved. It would retain this benefit for five years, at which point the notional RAB and depreciation payments are recalculated on the basis of the actual investments. The capex incentive is thus a rolling incentive mechanism.

The CER supplemented this regime with specific guidance in the PC3 determination on how it expected to approach assessing under and over spends of capex. This included cases where GNI may have achieved efficiency savings, but also cases where specific projects were not carried out or deferred, or GNI exceeded the allowance for the project / programme.

6.1.2 PC3 clawback

Unlike with PC3 opex, there is a potential revenue impact from capex over- or under-spends due to the incentive framework, the CER is required to make an assessment of the reasons why capex outturn has differed from the allowance initially provided. This review includes the final year of PC2 capex, which was not known at the time of the PC3 determination and for which a forecast figure was used.

The assessment mechanism for the capex incentive is based on a two-step approach;

Step 1: establish work quantities and unit costs

Firstly, the CER and its advisors draw upon the information presented by GNI to establish the following:

- The quantity of work anticipated when the PC3 allowances were set;
- If more work (or an equal amount) is delivered than the allowance anticipated;
  - The quantity of work delivered up to the quantity anticipated by the allowance;
  - The additional quantity of work justified which is above the allowance quantity.
If less work is delivered than anticipated by the allowance;
  o The quantity of work delivered;
  o The quantity of work deferred (if the quantity is above the allowance then it is not possible to include it as a deferral).

Step 2: establish the appropriate adjustments to the financial allowance

There are a number of categories for assessing PC3 capex. The CER makes an assessment of the work efficiently delivered and efficiently deferred to establish the appropriate adjustment to the financial allowance, by reference to the corresponding rate or amounts at the time of setting the PC3 allowance, to produce a Revised Allowance (R).

This assessment leads to one of two variance scenarios between the expenditure incurred and the adjusted allowance; an underspend or an overspend.

All of the expenditure that has been categorised as Unfinanced overspend, can be summarised as instances where GNI delivered a volume of work at a higher unit cost than was assumed at the time of the PC3 determination, but in the view of the CER and its advisors there is no justification for why GNI exceeded the allowed unit rate.

As was the case in the previous two price controls, outturn analysis, for expenditure that falls within Unfinanced overspend category, the CER will not remunerate GNI for financing these higher capex costs in PC3, but the actual capex incurred will be included in the starting RAB for PC4.
6.1.3 Summary of assessment

Table 6.3 below shows the assessment of PC3 capex using this methodology.

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Assessment</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Efficient Spend</td>
<td>Overspend</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Efficient</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Saving</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Deferred</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Work</td>
<td></td>
</tr>
<tr>
<td>Pipe capex</td>
<td>323,257</td>
<td>267,938</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
<td>13,874</td>
</tr>
<tr>
<td>IT capex</td>
<td>18,380</td>
<td>18,380</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>6,134</td>
<td>6,134</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>347,772</td>
<td>292,452</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
<td>13,874</td>
</tr>
<tr>
<td>Contributions</td>
<td>-22,326</td>
<td>-22,326</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>325,446</td>
<td>270,127</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
<td>13,874</td>
</tr>
</tbody>
</table>

6.2 Pipe capex

GNI reported net expenditure of €300.93m against a reported flexed allowance of €310.54m, the original allowance was €339.09m. A breakdown of these figures into the main categories is shown below in Table 6.4, Table 6.5 and Table 6.6.

---

31 Flexed allowance is where there is a different volume, therefore the allowance is adjusted to reflect the additional volume multiplied by the unit cost.
### Table 6.4: PC3 outturn - distribution pipe capex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>15,272</td>
<td>13,986</td>
<td>15,025</td>
<td>15,373</td>
<td>15,634</td>
<td>31,914</td>
<td>107,205</td>
</tr>
<tr>
<td>New Towns</td>
<td>2,092</td>
<td>6,839</td>
<td>2,419</td>
<td>8,226</td>
<td>13,618</td>
<td>12,381</td>
<td>45,575</td>
</tr>
<tr>
<td>Repex Mains</td>
<td>7,022</td>
<td>4,442</td>
<td>4,003</td>
<td>6,617</td>
<td>3,456</td>
<td>6,026</td>
<td>31,566</td>
</tr>
<tr>
<td>Repex Meters</td>
<td>18,944</td>
<td>13,616</td>
<td>13,473</td>
<td>13,805</td>
<td>14,587</td>
<td>13,915</td>
<td>88,341</td>
</tr>
<tr>
<td>Repex Services</td>
<td>2,481</td>
<td>3,374</td>
<td>3,341</td>
<td>6,507</td>
<td>7,581</td>
<td>7,246</td>
<td>30,530</td>
</tr>
<tr>
<td>Repex Other</td>
<td>17</td>
<td>1,426</td>
<td>2,517</td>
<td>2,140</td>
<td>4,110</td>
<td>6,080</td>
<td>16,290</td>
</tr>
<tr>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>3,729</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>45,828</td>
<td>43,684</td>
<td>40,779</td>
<td>52,668</td>
<td>59,008</td>
<td>81,290</td>
<td>323,257</td>
</tr>
<tr>
<td>Contributions (growth)</td>
<td>-2,431</td>
<td>-2,151</td>
<td>-1,901</td>
<td>-3,415</td>
<td>-4,085</td>
<td>-3,735</td>
<td>-17,719</td>
</tr>
<tr>
<td>Contributions (refurb)</td>
<td>-718</td>
<td>-762</td>
<td>-746</td>
<td>-707</td>
<td>-870</td>
<td>-805</td>
<td>-4,607</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>42,679</td>
<td>40,771</td>
<td>38,132</td>
<td>48,547</td>
<td>54,052</td>
<td>76,751</td>
<td>300,931</td>
</tr>
</tbody>
</table>

### Table 6.5: PC3 flexed allowance - distribution pipe capex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>13,263</td>
<td>14,219</td>
<td>15,782</td>
<td>17,453</td>
<td>18,752</td>
<td>34,690</td>
<td>114,159</td>
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<tr>
<td>New Towns</td>
<td>7,808</td>
<td>5,496</td>
<td>11,349</td>
<td>11,349</td>
<td>-</td>
<td>7,000</td>
<td>43,002</td>
</tr>
<tr>
<td>Repex Mains</td>
<td>9,399</td>
<td>4,728</td>
<td>2,430</td>
<td>3,965</td>
<td>4,061</td>
<td>5,440</td>
<td>30,023</td>
</tr>
<tr>
<td>Repex Meters</td>
<td>17,772</td>
<td>13,702</td>
<td>11,887</td>
<td>14,326</td>
<td>15,010</td>
<td>14,794</td>
<td>87,491</td>
</tr>
<tr>
<td>Repex Services</td>
<td>4,130</td>
<td>4,765</td>
<td>4,410</td>
<td>3,638</td>
<td>2,103</td>
<td>2,102</td>
<td>21,148</td>
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<tr>
<td>Repex Other</td>
<td>153</td>
<td>3,503</td>
<td>5,012</td>
<td>9,074</td>
<td>7,084</td>
<td>7,084</td>
<td>31,910</td>
</tr>
<tr>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>52,525</td>
<td>46,413</td>
<td>50,870</td>
<td>59,805</td>
<td>47,010</td>
<td>71,110</td>
<td>327,733</td>
</tr>
<tr>
<td>Contributions (growth)</td>
<td>-2,197</td>
<td>-2,442</td>
<td>-1,578</td>
<td>-2,131</td>
<td>-4,323</td>
<td>-3,105</td>
<td>-15,776</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>49,986</td>
<td>43,757</td>
<td>49,077</td>
<td>57,459</td>
<td>42,472</td>
<td>67,790</td>
<td>310,541</td>
</tr>
<tr>
<td>Category</td>
<td>2011/12</td>
<td>2012/13</td>
<td>2013/14</td>
<td>2014/15</td>
<td>2015/16</td>
<td>2016/17</td>
<td>Total</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>Connections</td>
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<td>22,714</td>
<td>24,204</td>
<td>25,523</td>
<td>131,291</td>
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<tr>
<td>New Towns</td>
<td>8,870</td>
<td>5,495</td>
<td>11,349</td>
<td>11,349</td>
<td>-</td>
<td>7,000</td>
<td>44,062</td>
</tr>
<tr>
<td>Repex Mains</td>
<td>7,861</td>
<td>6,894</td>
<td>4,288</td>
<td>4,063</td>
<td>5,774</td>
<td>5,779</td>
<td>34,660</td>
</tr>
<tr>
<td>Repex Meters</td>
<td>24,693</td>
<td>17,934</td>
<td>15,354</td>
<td>12,814</td>
<td>10,258</td>
<td>10,841</td>
<td>91,895</td>
</tr>
<tr>
<td>Repex Services</td>
<td>2,222</td>
<td>4,384</td>
<td>4,384</td>
<td>3,413</td>
<td>1,502</td>
<td>1,502</td>
<td>17,407</td>
</tr>
<tr>
<td>Repex Other</td>
<td>1,533</td>
<td>4,418</td>
<td>5,837</td>
<td>9,704</td>
<td>7,713</td>
<td>7,713</td>
<td>36,919</td>
</tr>
<tr>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td><strong>62,398</strong></td>
<td><strong>59,316</strong></td>
<td><strong>62,653</strong></td>
<td><strong>64,057</strong></td>
<td><strong>49,452</strong></td>
<td><strong>58,357</strong></td>
<td><strong>356,233</strong></td>
</tr>
<tr>
<td>Contributions (growth)</td>
<td>-2,665</td>
<td>-2,312</td>
<td>-2,455</td>
<td>-2,601</td>
<td>-2,771</td>
<td>-2,922</td>
<td>-15,727</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td><strong>59,390</strong></td>
<td><strong>56,790</strong></td>
<td><strong>59,983</strong></td>
<td><strong>61,242</strong></td>
<td><strong>46,466</strong></td>
<td><strong>55,220</strong></td>
<td><strong>339,091</strong></td>
</tr>
</tbody>
</table>

The CER has considered the information provided by GNI both in the original submission and subsequently through the question and answer process, for each of the pipe capex project or work areas, assessed the actual expenditure and classified this as shown in Table 6.7 below.
Table 6.7: Assessed PC3 Capex - Pipe capex recommendations (€’000s)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Assessed</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Efficient</td>
<td>Overspend</td>
<td>Efficient</td>
<td>Saving</td>
<td>Deferred</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spend</td>
<td>Financed</td>
<td>Unfinanced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td>107,205</td>
<td>96,135</td>
<td>6,883</td>
<td>4,187</td>
<td>11,158</td>
<td>-</td>
</tr>
<tr>
<td>New Towns</td>
<td>45,575</td>
<td>40,129</td>
<td>1,720</td>
<td>3,726</td>
<td>2,873</td>
<td>-</td>
</tr>
<tr>
<td>Repex Mains</td>
<td>31,566</td>
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<td>-</td>
<td>75</td>
<td>2,922</td>
</tr>
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<td>Repex Meters</td>
<td>88,341</td>
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<td>5,369</td>
<td>5,722</td>
<td>5,905</td>
<td>6,709</td>
</tr>
<tr>
<td>Repex Services</td>
<td>30,530</td>
<td>15,474</td>
<td>13,859</td>
<td>1,197</td>
<td>1,500</td>
<td>-</td>
</tr>
<tr>
<td>Repex Other</td>
<td>16,290</td>
<td>13,590</td>
<td>2,700</td>
<td>-</td>
<td>4,560</td>
<td>4,243</td>
</tr>
<tr>
<td>CNG</td>
<td>3,750</td>
<td>-</td>
<td>3,750</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>323,257</td>
<td>267,938</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
<td>13,874</td>
</tr>
</tbody>
</table>

The following sections provide information on spend within some key areas. Additional details surrounding this spend can be found within the CER's consultant's (CEPA) reports published alongside this paper.

6.2.1 Connections

The following chart shows the connection numbers, by sector, achieved during PC3 and in the final year of PC2, compared with the allowance.
New connection to the gas network comprises three prime components:

- Mains Pipe
- Service Pipe
- Meter

As outlined in Figure 6.1 the volume of new connections in the last year of PC2 and early years of PC3 were lower than those provided for in the PC3 allowances. In the period 2011/12 to 2015/16 the total number of connections made were 36,551 compared with an allowed 34,301. In the final year of PC3 GNI are forecasting a further 14,228 connections will be made. The CER has challenged GNI to evidence this large anticipated volume of new connections in 2016/17.

Table 6.8 summaries our proposals for this category of pipe capex.
### Table 6.8: Assessed PC3 Capex - New Connections (€'000s)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Efficient Spend</th>
<th>Overspend</th>
<th>Deferr ed Work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Financed</td>
<td>Unfinanced</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Housing Mains</td>
<td>10,561</td>
<td>8,677</td>
<td>1,885</td>
<td>--</td>
</tr>
<tr>
<td>Mature Housing Mains</td>
<td>2,980</td>
<td>953</td>
<td>2,028</td>
<td>9</td>
</tr>
<tr>
<td>I&amp;C Mains</td>
<td>13,168</td>
<td>13,168</td>
<td>--</td>
<td>4,170</td>
</tr>
<tr>
<td>New Housing Services</td>
<td>6,628</td>
<td>5,490</td>
<td>1,138</td>
<td>2,002</td>
</tr>
<tr>
<td>Mature Housing Services</td>
<td>39,384</td>
<td>37,782</td>
<td>--</td>
<td>1,602</td>
</tr>
<tr>
<td>I&amp;C Services</td>
<td>11,084</td>
<td>10,158</td>
<td>--</td>
<td>926</td>
</tr>
<tr>
<td>New Housing Meters</td>
<td>3,478</td>
<td>2,924</td>
<td>554</td>
<td>146</td>
</tr>
<tr>
<td>Mature Housing Meters</td>
<td>6,172</td>
<td>4,896</td>
<td>1,279</td>
<td>766</td>
</tr>
<tr>
<td>I&amp;C Meters</td>
<td>13,749</td>
<td>12,086</td>
<td>--</td>
<td>1,663</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>107,205</strong></td>
<td><strong>96,135</strong></td>
<td><strong>6,883</strong></td>
<td><strong>4,187</strong></td>
</tr>
</tbody>
</table>

### 6.2.2 New Towns

As part of the PC4 process, the CER has reviewed each of the new town projects and has concluded that for both Nenagh and Wexford some of the overspend was related to matters outside of GNI’s control and should be treated as Financed Overspend and the remainder as Unfinanced Overspend. The CER has also concluded that Efficiency Savings are allowed on Macroom, Tuam, Listowel & Foynes and Cootehill.

Provides a summary of the proposals for this category of pipe capex is shown in Table 6.9 below.
### Table 6.9: New Towns - workloads and costs

<table>
<thead>
<tr>
<th>Mains (km)</th>
<th>Allowance</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>€/Unit</td>
</tr>
<tr>
<td>New Town (Nenagh)</td>
<td>39</td>
<td>225,146</td>
</tr>
<tr>
<td>New Town (Wexford)</td>
<td>70</td>
<td>197,999</td>
</tr>
<tr>
<td>New Town (Macroom)</td>
<td>21</td>
<td>190,309</td>
</tr>
<tr>
<td>New Town (Tuam)</td>
<td>19</td>
<td>190,735</td>
</tr>
<tr>
<td>New Town (Listowel &amp; Foynes)</td>
<td>17</td>
<td>421,630</td>
</tr>
<tr>
<td>New Town (Cootehill)</td>
<td>25</td>
<td>236,331</td>
</tr>
<tr>
<td>New Town (Other)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43,002</strong></td>
<td><strong>45,575</strong></td>
</tr>
</tbody>
</table>

#### 6.2.3 Repex Mains

This category covers mains reinforcement as well as the relocation and replacement of mains. Each of the work areas have been reviewed and it has been concluded that overspends on mains relocations, Limerick optimisation, Waterford and replacement mains should be treated as Financed Overspend.

GNI has outlined that work associated with a reinforcement requirement at Naas AGI has been deferred into PC4 and that some work on the Dublin City Pressure Upgrade has been deferred pending a survey to identify issues with services to be identified and prioritised. The CER has concluded that the expenditure associated with the deferred work is treated as Efficiently Deferred.

Table 6.10 below summaries the proposals for this category of pipe capex:
### Table 6.10: Assessed PC3 Capex - Repex Mains (€’000s)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Assessment</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Efficient</td>
<td>Overspend</td>
<td>Efficient</td>
<td>Deferred</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spend</td>
<td>Financed</td>
<td>Unfinanced</td>
<td>Saving</td>
<td>Work</td>
</tr>
<tr>
<td>Mains Relocations</td>
<td>5,045</td>
<td>2,008</td>
<td>3,037</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Reinforcement Mains (General)</td>
<td>14,683</td>
<td>14,683</td>
<td>-</td>
<td></td>
<td>-</td>
<td>1,862</td>
</tr>
<tr>
<td>Reinforcement Mains (Limerick 4Bar)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reinforcement Mains (Limerick Optimisation)</td>
<td>2,975</td>
<td>1,635</td>
<td>1,340</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Reinforcement Mains (Upgrade Dublin City Distribution Pressures)</td>
<td>744</td>
<td>744</td>
<td>-</td>
<td></td>
<td>-</td>
<td>1,060</td>
</tr>
<tr>
<td>Reinforcement Mains (Waterford)</td>
<td>1,300</td>
<td>-</td>
<td>1,300</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Replacement Mains</td>
<td>4,779</td>
<td>4,250</td>
<td>529</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Strategic Mains</td>
<td>2,040</td>
<td>2,040</td>
<td>-</td>
<td></td>
<td></td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>31,566</td>
<td>25,360</td>
<td>6,206</td>
<td></td>
<td></td>
<td>75 2,922</td>
</tr>
</tbody>
</table>

### 6.2.4 Repex Meters

This category covers all aspects of meter replacement, including meter battery replacement. In the case of two work areas where expenditure was in excess of the allowance, domestic exchange meters and meter regulator replacement, the actual workloads were significantly greater than allowed, but the unit costs were significantly less and so it has been concluded that whilst the overspends should be treated as Financed Overspend, there are also significant Efficient Savings. Lower actual unit costs in some other work areas also result in Efficient Savings, as summarised in Table 6.11 below.
### Table 6.11: Assessed PC3 Capex - Repex Meters (€’000s)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Assessment</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Efficient</td>
<td>Overspend</td>
<td>Efficient</td>
<td>Deferred</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spend</td>
<td>Financed</td>
<td>Unfinanced</td>
<td>Saving</td>
<td>Work</td>
</tr>
<tr>
<td>Conversion Meters</td>
<td>18,334</td>
<td>18,334</td>
<td>-</td>
<td>-</td>
<td>1,470</td>
<td>-</td>
</tr>
<tr>
<td>Domestic Exchange Meters</td>
<td>10,082</td>
<td>6,385</td>
<td>3,697</td>
<td>-</td>
<td>2,885</td>
<td>-</td>
</tr>
<tr>
<td>I&amp;C Exchange Meters</td>
<td>1,543</td>
<td>706</td>
<td>121</td>
<td>717</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Meter Battery Replacement</td>
<td>495</td>
<td>373</td>
<td>39</td>
<td>84</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Meter Regulator Replacement</td>
<td>3,113</td>
<td>1,600</td>
<td>1,513</td>
<td>-</td>
<td>786</td>
<td>-</td>
</tr>
<tr>
<td>Planned Domestic Credit</td>
<td>32,297</td>
<td>28,108</td>
<td>-</td>
<td>4,189</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Planned Domestic Prepayment</td>
<td>838</td>
<td>804</td>
<td>-</td>
<td>34</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Replacement Meters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned I&amp;C Replacement</td>
<td>16,673</td>
<td>16,673</td>
<td>-</td>
<td>-</td>
<td>499</td>
<td>6,709</td>
</tr>
<tr>
<td>Meters</td>
<td>1,604</td>
<td>1,604</td>
<td>-</td>
<td>-</td>
<td>265</td>
<td>-</td>
</tr>
<tr>
<td>Upgrade Gas Supply &amp; Meter</td>
<td>3,362</td>
<td>2,664</td>
<td>-</td>
<td>699</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>88,341</td>
<td>77,249</td>
<td>5,369</td>
<td>5,722</td>
<td>5,905</td>
<td>6,709</td>
</tr>
</tbody>
</table>

### 6.2.5 Repex Services

This category includes various service and service related items. In the case of meter box replacement where actual workload was some five times greater than the allowance, it has been concluded that the additional expenditure associated with the increased workload at the allowed unit rate be treated as Financed Overspend and the remainder associated with actual unit costs above the allowed level as Unfinanced Overspend.
For replacement of PE services in the building line and removal of gun barrel services it has been concluded that the overspend should be treated as Financed Overspend.

Re-lay service after escape, where again the workload was much greater than the allowance, showed a lower actual unit cost and so we have proposed Efficient Savings as well as Financed Overspend.

For replacement of brass valves and removal of 4 Bar in buildings, where the scope of work was not clear at the time the allowance was granted and where it has evolved in response to further information and risk assessment, the actual expenditure has been assessed as Efficient Spend.

Table 6.12 below summaries the proposals for this category of pipe capex.

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Efficient Spend</th>
<th>Overspend</th>
<th>Efficient Saving</th>
<th>Deferred Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brass Valves</td>
<td>501</td>
<td>501</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Meterbox Replacement</td>
<td>9,896</td>
<td>1,787</td>
<td>6,912</td>
<td>1,197</td>
<td>-</td>
</tr>
<tr>
<td>Re-lay Service After Escape</td>
<td>6,216</td>
<td>3,484</td>
<td>2,731</td>
<td>-</td>
<td>1,500</td>
</tr>
<tr>
<td>Removal of Gun Barrel Services</td>
<td>3,408</td>
<td>2,555</td>
<td>852</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Remove 4Bar in Buildings</td>
<td>1,262</td>
<td>1,262</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Replace PE Service in Building Line</td>
<td>9,247</td>
<td>5,885</td>
<td>3,363</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30,530</strong></td>
<td><strong>15,474</strong></td>
<td><strong>13,859</strong></td>
<td><strong>1,197</strong></td>
<td><strong>1,500</strong></td>
</tr>
</tbody>
</table>

6.2.6 Repex Other

This category covers a number of upgrades associated with AGIs. In all cases, apart from emergency upgrades, actual expenditure is less than the allowance and in the cases of ATEX and installation upgrades, substantially less. It has been concluded that GNI has achieved justifiable savings in all of cases where expenditure exceeds allowance, which should be treated as Efficient Savings.
Emergency upgrades cover a number of programmes that were initiated during PC3 as a result of either learning from incidents or issues identified which required a priority response. It has been concluded that these activities are required and so this expenditure, for which there was no allowance, is treated as Financed Overspend.

Table 6.13 below summaries the proposals for this category of pipe capex.

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Efficient Spend</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEX Upgrades</td>
<td>4,210</td>
<td>4,210</td>
</tr>
<tr>
<td>C&amp;I Upgrades</td>
<td>2,001</td>
<td>2,001</td>
</tr>
<tr>
<td>Emergency Upgrades</td>
<td>2,700</td>
<td>-</td>
</tr>
<tr>
<td>Installation Upgrades</td>
<td>6,537</td>
<td>6,537</td>
</tr>
<tr>
<td>Update GIS Records</td>
<td>842</td>
<td>842</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,290</strong></td>
<td><strong>13,590</strong></td>
</tr>
</tbody>
</table>

**6.3 CNG**

GNI have developed proposals for a number of CNG stations during PC3 and progressed these initially under an Innovation allowance. GNI’s forecast expenditure of €3.75m is additional to that Innovation allowance based on the CER’s understanding of the GNI submission32. Subsequent to the submission of this proposal this funding request for €3.75m has been included by GNI within a broader CNG proposal, known as the Causeway Study, for which CER have agreed a funding approach. Table 6.14 below highlights this proposal.

32 The treatment of this CNG expenditure within the revenue controls is to be confirmed at the final determination given that CNG has been funded in PC3 through the opex innovation allowance.
Table 6.14: Assessed PC3 Capex - CNG (€'000s)

<table>
<thead>
<tr>
<th>Allowance</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
</tr>
<tr>
<td>CNG</td>
<td>-</td>
</tr>
</tbody>
</table>

6.4 IT capex

One of the key drivers of IT expenditure was the deferral of IT capital programme initiatives e.g. Oracle Release 12 upgrade, WAM systems upgrade and Digital Strategy implementation. Overall GNI has forecast IT capex to exactly match the allowance, with forecast spend in the final year of PC3 matching the gap between total allowed and total outturn to date. GNI underspent on capex significantly in the first three years of the regulatory period, with backloading in the final two years. In the CER’s view, the delays to the project do appear reasonable and GNI remained within the capex allowance for the period.

Table 6.15 below shows outturn IT capex for PC3.

Table 6.15: PC3 outturn - IT capex (€'000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>2,590</td>
<td>2,122</td>
<td>1,932</td>
<td>3,640</td>
<td>3,872</td>
<td>4,225</td>
<td>18,380</td>
</tr>
</tbody>
</table>

6.5 Other non-pipe capex

Other non-pipe capex covers investment in GNI’s property and facilities services, together with their fleet of vehicles and associated equipment. Allowances were granted in transmission and distribution for the upkeep of buildings and fleet. GNI anticipate spending in-line with this allowance over PC3.

Table 6.16: PC3 outturn - other non-pipe capex (€’000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>44</td>
<td>502</td>
<td>1,093</td>
<td>675</td>
<td>1,675</td>
<td>1,673</td>
<td>5,662</td>
</tr>
</tbody>
</table>
6.6 Contributions

Contributions are in two different areas; growth and refurbishment. GNI received a higher volume of contributions to net off gross capex than included in setting PC3 allowances for both categories.

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>-2,431</td>
<td>-2,151</td>
<td>-1,901</td>
<td>-3,415</td>
<td>-4,085</td>
<td>-3,735</td>
<td>-17,719</td>
</tr>
<tr>
<td>Allowance</td>
<td>-2,197</td>
<td>-2,442</td>
<td>-1,578</td>
<td>-2,131</td>
<td>-4,323</td>
<td>-3,105</td>
<td>-15,776</td>
</tr>
<tr>
<td>Variance</td>
<td>-235</td>
<td>291</td>
<td>-323</td>
<td>-1,284</td>
<td>238</td>
<td>-630</td>
<td>-1,943</td>
</tr>
</tbody>
</table>

Table 6.18: PC3 outturn - contributions (refurb) (€'000s)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outturn</td>
<td>-718</td>
<td>-762</td>
<td>-746</td>
<td>-707</td>
<td>-870</td>
<td>-805</td>
<td>-4,607</td>
</tr>
<tr>
<td>Variance</td>
<td>-376</td>
<td>-547</td>
<td>-531</td>
<td>-492</td>
<td>-655</td>
<td>-590</td>
<td>-3,191</td>
</tr>
</tbody>
</table>

6.7 Recovery of ITO setup costs

As previously stated, in December 2011, the Statutory Instrument which transposed the European Union’s Third Gas Package into Irish Law and implemented the requirements for the ITO to be established in Ireland was issued. At that time, it was envisaged that the new ITO business would be an independent subsidiary of Bord Gáis Éireann and would involve the integration of Gaslink (as the network operator at that time) into the new ITO business. The CER provided ITO setup costs to support the creation of the new ITO business. ITO setup costs totalling €15.4m were entered into the Transmission Business’ RAB and €3.9m on the Distribution RAB in 2011 to allow GNI to recover the costs over a fifteen year period.

However, the Minister for Public Expenditure and Reform announced the Government’s intention to instead proceed with the sale of Bord Gáis Energy this led to an Ownership Unbundling option being sought under the Third Package rather than an ITO model. The CER provided ITO setup costs in order to fund the establishment of a separate ITO entity. These setup costs therefore contributed to sale value of (Bord Gáis Energy). As with any asset on the RAB, the CER must remove the asset from the RAB at the point of its sale. This has led
to the CER to treating ITO setup costs as a disposal and therefore the costs will be removed from the RAB from the date of the sale of BGE which took place in 2014.

6.8 Summary

This chapter reviewed the outturn capex for PC3 and examined spend within a selection of categories. This historical review helps to provide a base in order to understand how the type of work and profile of capex spend is changing from PC3 to PC4.

Table 6.19: Assessed PC3 Capex Overall Recommendations (€'000s)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Actual</th>
<th>Efficient Spend</th>
<th>Overspend</th>
<th>Efficient Saving</th>
<th>Deferred Work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe capex</td>
<td>323,257</td>
<td>267,938</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
</tr>
<tr>
<td>IT capex</td>
<td>18,380</td>
<td>18,380</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>6,134</td>
<td>6,134</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>347,772</td>
<td>292,452</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
</tr>
<tr>
<td>Contributions</td>
<td>-22,326</td>
<td>-22,326</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>325,446</td>
<td>270,127</td>
<td>40,488</td>
<td>14,832</td>
<td>26,071</td>
</tr>
</tbody>
</table>

Finally, the CER have proposed to remove ITO setup costs from the RAB due to the sale of Bord Gáis Energy in 2014 as described Section 6.7.
6.9 CER Request for Comment

Parties are invited to comment on the matter set out in this section, including the key proposals which relate to:

6A. The review of the PC3 capital expenditure and the CER’s proposals for efficiency savings.

6B. The removal of ITO setup costs from the RAB due to the sale of BGE

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
This chapter describes the forecast capital spend or expenditure (Capex) of GNI for the next 5 years (the PC4 period covering 2017 to 2022). The capital expenditure represents the money that GNI expects to spend for new customer connection and to replace or refurbish existing pipelines and equipment. Money spent on replacing and refurbishing existing equipment is sometimes called Repex. The capital expenditure is made so that the distribution system can continue to safely and securely transport gas to existing and new customers.

It outlines the ways in which CER examines the Capex costs breaking them down under various different headings for the different equipment that GNI install or purchase.

It describes what GNI requested under the various headings and what CER is proposing under these headings, explaining the differences. One of the ways it does this is by comparing the proposed spend under these headings for the next period (PC4) with the actual spend over the last period (PC3).

The tables below show the CER’s proposals and GNI’s requests which are broken down into pipe capex, IT capex and non-pipe capex to arrive at a gross capex total. Contributions are then netted off this figure. All costs presented below are in real 2015/2016 values and are rounded where appropriate.

The CER has set an allowed opex spend of c. €331m net customer contributions for the distribution business during the PC4 period. GNI’s requested allowance for the period is €529m, 37% higher than the proposed allowance.
Table 7.1: PC4 CER proposed allowances - distribution capex (€’000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe capex</td>
<td>68,080</td>
<td>63,551</td>
<td>67,279</td>
<td>68,088</td>
<td>67,054</td>
<td>334,052</td>
</tr>
<tr>
<td>IT capex</td>
<td>4,260</td>
<td>3,836</td>
<td>4,636</td>
<td>4,841</td>
<td>4,714</td>
<td>22,287</td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>1,280</td>
<td>1,528</td>
<td>1,096</td>
<td>1,493</td>
<td>1,245</td>
<td>6,642</td>
</tr>
<tr>
<td>Total (gross)</td>
<td>73,620</td>
<td>68,915</td>
<td>73,012</td>
<td>74,422</td>
<td>73,013</td>
<td>362,982</td>
</tr>
<tr>
<td>Contributions</td>
<td>-6,763</td>
<td>-6,418</td>
<td>-6,432</td>
<td>-6,409</td>
<td>-6,429</td>
<td>-32,452</td>
</tr>
<tr>
<td>Total (net)</td>
<td>66,857</td>
<td>62,497</td>
<td>66,579</td>
<td>68,013</td>
<td>66,584</td>
<td>330,530</td>
</tr>
</tbody>
</table>

Table 7.2: PC4 GNI request - distribution capex (€’000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe capex</td>
<td>101,464</td>
<td>106,867</td>
<td>112,533</td>
<td>117,715</td>
<td>113,846</td>
<td>552,427</td>
</tr>
<tr>
<td>IT capex</td>
<td>4,383</td>
<td>4,065</td>
<td>5,063</td>
<td>5,454</td>
<td>5,485</td>
<td>24,448</td>
</tr>
<tr>
<td>Other non-pipe</td>
<td>1,447</td>
<td>1,702</td>
<td>1,172</td>
<td>1,580</td>
<td>1,325</td>
<td>7,227</td>
</tr>
<tr>
<td>Total (gross)</td>
<td>107,294</td>
<td>112,634</td>
<td>118,769</td>
<td>124,749</td>
<td>120,656</td>
<td>584,102</td>
</tr>
<tr>
<td>Contributions</td>
<td>-10,670</td>
<td>-11,581</td>
<td>-11,132</td>
<td>-11,009</td>
<td>-10,989</td>
<td>-55,380</td>
</tr>
<tr>
<td>Total (net)</td>
<td>96,624</td>
<td>101,053</td>
<td>107,637</td>
<td>113,741</td>
<td>109,667</td>
<td>528,722</td>
</tr>
</tbody>
</table>

A summary of the differences between the proposals and GNI’s request for the key areas of our capex assessment is shown in Figure 7.1 below. The illustrated percentages show the implied percentage reduction of the CER’s proposal relative to GNI’s request for each individual area of distribution capex. The largest absolute proposed reduction to GNI’s capex plans is for pipe capex relating to development and growth initiatives, where there is a proposed 44% reduction relative to the GNI request. For other pipe capex, no funding has been allowed for CNG and the CER has also proposed a decrease in allowed refurbishment spend. A large part of the difference between the CER’s proposals and GNI’s request also relates to a decrease in the outputs assumed to be completed during PC4, albeit with the potential for further funding to be approved by the CER over the course of the price control.
The CER and its advisors have made an assessment by looking at the three broad categories noted above. The allowances have been broken down further and linked to projects or a broader overall programme in setting allowances. The following sections provides a further detailed breakdown on the above three areas.

### 7.1 Pipe capex

Table 7.3 below provides a summary of capex proposals for pipe capex over PC4. GNI has requested distribution pipe capex expenditure of €497m for the PC4 period. Following review, the CER is proposing a total of €301.6m.
Table 7.3: PC4 proposal - distribution pipe capex (€'000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>24,767</td>
<td>24,868</td>
<td>24,994</td>
<td>24,966</td>
<td>24,960</td>
<td>124,555</td>
</tr>
<tr>
<td>New Towns</td>
<td>9,133</td>
<td>996</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10,129</td>
</tr>
<tr>
<td>Repex Mains</td>
<td>5,798</td>
<td>6,639</td>
<td>7,077</td>
<td>5,566</td>
<td>5,399</td>
<td>30,479</td>
</tr>
<tr>
<td>Repex Meters</td>
<td>15,419</td>
<td>15,763</td>
<td>19,342</td>
<td>20,304</td>
<td>20,304</td>
<td>91,132</td>
</tr>
<tr>
<td>Repex Services</td>
<td>10,631</td>
<td>12,328</td>
<td>11,527</td>
<td>11,189</td>
<td>10,021</td>
<td>55,697</td>
</tr>
<tr>
<td>Repex Other</td>
<td>2,332</td>
<td>2,957</td>
<td>4,339</td>
<td>6,062</td>
<td>6,370</td>
<td>22,061</td>
</tr>
<tr>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total (gross)</strong></td>
<td>68,080</td>
<td>63,551</td>
<td>67,279</td>
<td>68,088</td>
<td>67,054</td>
<td>334,052</td>
</tr>
<tr>
<td>Contributions (growth)</td>
<td>-5,959</td>
<td>-5,613</td>
<td>-5,628</td>
<td>-5,604</td>
<td>-5,625</td>
<td>-28,429</td>
</tr>
<tr>
<td>Contributions (refurb)</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-4,023</td>
</tr>
<tr>
<td><strong>Total (net)</strong></td>
<td>61,137</td>
<td>57,133</td>
<td>60,847</td>
<td>61,679</td>
<td>60,625</td>
<td>301,601</td>
</tr>
</tbody>
</table>

7.1.1 Connections

As part of their PC4 submission GNI submitted forecasts for the number of new connections of the three connection types:

- Domestic New Housing
- Domestic Mature Housing
- I&C Connections

GNI’s forecast in new connections is driving expenditure in this areas. The CER has expressed some doubt over the level of new connections forecast by GNI in PC4 and took a business as usual approach to the level anticipated connections in PC4.

In arriving at “Business as Usual” (BAU) level, rolling forward into PC4 an assessment was carried out based upon the volume of connections made in the first 4 years of PC3 and the first 5 months of 2016/17. The conclusions are shown in the figures below.
Figure 7.2: PC4 New Connection Numbers - New Housing

Figure 7.3: PC4 New Connection Numbers - Mature Housing

Figure 7.4: PC4 New Connection Numbers - Industrial & Commercial

Table 7.4 below summaries the requested and proposed capex workloads, unit costs and expenditure for this category of spend over the review period.
A review of both the volume of work proposed by GNI and the rates forecast was carried out. The CER is proposing a reduced level of work, which together with the rate assessment gives a proposed allowance of total expenditure for PC4 of €124.55m, as outlined above in Table 7.4. The chart below shows the requested and recommended capex in this category of spend for each year of the PC4 period.

**Figure 7.5: PC4 Capex - distribution pipe capex profile; New Connections (€'000s)**

---

**Table 7.4: PC4 proposal - distribution pipe capex; New Connections**

<table>
<thead>
<tr>
<th></th>
<th>Request</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>€/Unit</td>
</tr>
<tr>
<td>New Housing Mains (km)</td>
<td>528</td>
<td>65,679</td>
</tr>
<tr>
<td>Mature Housing Mains (km)</td>
<td>159</td>
<td>178,262</td>
</tr>
<tr>
<td>I&amp;C Mains (km)</td>
<td>167</td>
<td>131,952</td>
</tr>
<tr>
<td>New Housing Services</td>
<td>41,466</td>
<td>519</td>
</tr>
<tr>
<td>Mature Housing Services</td>
<td>34,340</td>
<td>1,983</td>
</tr>
<tr>
<td>I&amp;C Services</td>
<td>5,397</td>
<td>2,961</td>
</tr>
<tr>
<td>New Housing Meters</td>
<td>50,382</td>
<td>197</td>
</tr>
<tr>
<td>Mature Housing Meters</td>
<td>39,505</td>
<td>238</td>
</tr>
<tr>
<td>I&amp;C Meters</td>
<td>6,776</td>
<td>2,970</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>230,090</strong></td>
<td></td>
</tr>
</tbody>
</table>
7.1.2 New Towns

Table 7.5 below summaries the requested and proposed capex workloads, unit costs and expenditure for this category of spend over the review period.

<table>
<thead>
<tr>
<th>Mains (km)</th>
<th>Request</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>Cost</td>
</tr>
<tr>
<td>New Town (Listowel &amp; Foynes)</td>
<td>35</td>
<td>349,351</td>
</tr>
</tbody>
</table>

The review and assessment of the PC4 Listowel and Foynes New Town Mains Mains forecast makes no adjustment to GNI's Planned Workload and is based on determination of an efficient unit cost only.

GNI has based their requested expenditure on overall actual average PC3 unit cost of €349/m, however, this is is significantly influenced by the proportion of large 315mm mains laid in the PC3 period. The CER is proposing a blended unit rate of €290/m as an appropriate basis for the PC4 allowance.

Figure 7.6 shows the requested and proposed capex in this category of spend for each year of the PC4 period.

7.1.3 Repex Mains

Table 7.6 below summarises the proposed and recommended capex workloads, unit costs and expenditure for this category of spend over the review period.
Table 7.6: PC4 proposal - distribution pipe capex; Repex Mains

<table>
<thead>
<tr>
<th>Mains (km)</th>
<th>Request</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>€/Unit</td>
</tr>
<tr>
<td>Mains Relocations</td>
<td>35</td>
<td>173,177</td>
</tr>
<tr>
<td>Reinforcement Mains (General)</td>
<td>46</td>
<td>371,000</td>
</tr>
<tr>
<td>Reinforcement Mains (Upgrade Dublin City Distribution Pressures)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reinforcement Mains (Waterford)</td>
<td>3</td>
<td>285,714</td>
</tr>
<tr>
<td>Proximity Mains</td>
<td>-</td>
<td>10,365</td>
</tr>
<tr>
<td>Supply Security Mains</td>
<td>78</td>
<td>290,796</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>60,722</strong></td>
</tr>
</tbody>
</table>

In the case of mains relocations and reinforcement mains, the CER is proposing reductions to the requested unit rates.

The Dublin City upgrade proposes a range of activities associated with the network uprating project, the CER recognises that significant challenges are to be expected in progressing such a project and anticipate that GNI would adopt a structured programme management approach with clearly defined work packages, timescales, milestones and accountabilities.

For proximity mains, the CER has taken a view on the level of different activities proposed, which include, moving mains, protecting mains and GIS updating to propose the allowance.

In the case of supply security mains, GNI is proposing a programme of reinforcements to improve the security of supply in their 11 largest networks, this is based on EU Regulation 994/2010 related to the failure of a single element of infrastructure. The CER does not consider that the proposed programme is an appropriate interpretation of these Regulations therefore the CER is proposing that no allowance is provided for this.

**7.1.4 Repex Meters**

Table 7.7 below summaries the requested and proposed capex workloads, unit costs and expenditure for this category of spend over the review period.
Table 7.7: PC4 proposal - distribution pipe capex; Repex Meters

<table>
<thead>
<tr>
<th></th>
<th>Request Work</th>
<th>Request €/Unit</th>
<th>Request €k</th>
<th>Recommend Work</th>
<th>Recommend €/Unit</th>
<th>Recommend €k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion Meters</td>
<td>41,865</td>
<td>276</td>
<td>11,558</td>
<td>41,865</td>
<td>276</td>
<td>11,555</td>
</tr>
<tr>
<td>Meter Battery Replacement</td>
<td>143,495</td>
<td>59</td>
<td>8,506</td>
<td>143,495</td>
<td>54</td>
<td>7,749</td>
</tr>
<tr>
<td>Meter Regulator Replacement</td>
<td>9,288</td>
<td>572</td>
<td>5,313</td>
<td>9,288</td>
<td>572</td>
<td>5,313</td>
</tr>
<tr>
<td>Planned Domestic Credit Replacement Meters</td>
<td>180,384</td>
<td>205</td>
<td>36,954</td>
<td>150,000</td>
<td>205</td>
<td>30,700</td>
</tr>
<tr>
<td>Planned Domestic Prepayment Replacement Meters</td>
<td>22,800</td>
<td>239</td>
<td>5,440</td>
<td>22,800</td>
<td>239</td>
<td>5,438</td>
</tr>
<tr>
<td>Planned I&amp;C Replacement Meters</td>
<td>5,576</td>
<td>5,225</td>
<td>29,137</td>
<td>5,576</td>
<td>5,005</td>
<td>27,909</td>
</tr>
<tr>
<td>Upgrade Gas Supply &amp; Meter</td>
<td>6,725</td>
<td>367</td>
<td>2,469</td>
<td>6,725</td>
<td>367</td>
<td>2,468</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>99,377</strong></td>
<td></td>
<td></td>
<td><strong>91,132</strong></td>
</tr>
</tbody>
</table>

In the case of Planned Domestic Credit Replacement Meters and based on the volume performance in PC3, the CER is proposing a revised workload target.

Figure 7.7 shows the requested and proposed capex in this category of spend for each year of the PC4 period.

**Figure 7.7: PC4 Capex - distribution pipe capex profile; Repex Meters (€’000s)**
7.1.5 Repex Services

Table 7.8 summarises the requested and proposed capex workloads, unit costs and expenditure for this category of spend over the review period.

Table 7.8: PC4 proposed - distribution pipe capex; Repex Services

<table>
<thead>
<tr>
<th></th>
<th>Request</th>
<th></th>
<th></th>
<th>Proposed</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>€/Unit</td>
<td>Cost €k</td>
<td>Work</td>
<td>€/Unit</td>
<td>Cost €k</td>
</tr>
<tr>
<td>Brass Valves</td>
<td>10,450</td>
<td>0</td>
<td>1,986</td>
<td>6,250</td>
<td>160</td>
<td>1,000</td>
</tr>
<tr>
<td>Excess Flow Valves</td>
<td>9,000</td>
<td>900</td>
<td>8,100</td>
<td>9,000</td>
<td>650</td>
<td>5,850</td>
</tr>
<tr>
<td>Meterbox Adaptors</td>
<td>5,800</td>
<td>1,160</td>
<td>6,728</td>
<td>6,000</td>
<td>600</td>
<td>3,600</td>
</tr>
<tr>
<td>Meterbox Replacement</td>
<td>89,738</td>
<td>144</td>
<td>12,922</td>
<td>87,048</td>
<td>108</td>
<td>9,401</td>
</tr>
<tr>
<td>Multiple Occupancy</td>
<td>-</td>
<td>-</td>
<td>23,512</td>
<td>-</td>
<td>-</td>
<td>5,500</td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Relay Service</td>
<td>9,271</td>
<td>1,834</td>
<td>17,000</td>
<td>7,000</td>
<td>1,834</td>
<td>12,836</td>
</tr>
<tr>
<td>Re- lay Service After</td>
<td>4,990</td>
<td>1,267</td>
<td>6,323</td>
<td>4,990</td>
<td>1,267</td>
<td>6,322</td>
</tr>
<tr>
<td>Escape</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of Gun</td>
<td>1,000</td>
<td>1,100</td>
<td>1,100</td>
<td>1,000</td>
<td>1,100</td>
<td>1,100</td>
</tr>
<tr>
<td>Barrel Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove 4Bar in</td>
<td>-</td>
<td>-</td>
<td>1,935</td>
<td>-</td>
<td>-</td>
<td>1,935</td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace PE Service</td>
<td>6,000</td>
<td>1,722</td>
<td>10,332</td>
<td>5,400</td>
<td>1,380</td>
<td>7,453</td>
</tr>
<tr>
<td>in Building Line</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace 1&quot; Donkin</td>
<td>-</td>
<td>-</td>
<td>975</td>
<td>25</td>
<td>28,000</td>
<td>700</td>
</tr>
<tr>
<td>Valves</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace/Refurbish</td>
<td>-</td>
<td>-</td>
<td>2,200</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Test PRI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>93,112</strong></td>
<td></td>
<td><strong>55,697</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the case of excess flow valves, a reduced unit rate is being proposed, due to the awareness of alternative installation techniques and assumption that the significant majority of such installations will in future be performed via insertion from the meter box.

The CER does not accept the rationale behind GNI’s proposal to replace, refurbish and test PRIs, we recommend that GNI's requirements are met from the Operational Upgrade programme and, therefore, are not proposing an allowance for this activity.
Figure 7.8 below shows the requested and proposed capex in this category of spend for each year of the PC4 period.

Figure 7.8: PC4 Capex - distribution pipe capex profile; Repex Services (€000s)

7.1.6 Repex Other

Table 7.9 summarises the requested and proposed capex workloads, unit costs and expenditure for this category of spend over the review period.

Table 7.9: PC4 proposals - distribution pipe capex; Repex Other

<table>
<thead>
<tr>
<th></th>
<th>Request</th>
<th></th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work</td>
<td>€/Unit</td>
<td>Cost €k</td>
</tr>
<tr>
<td>ATEX Upgrades</td>
<td>-</td>
<td>-</td>
<td>2,500</td>
</tr>
<tr>
<td>C&amp;I Upgrades</td>
<td>-</td>
<td>-</td>
<td>5,247</td>
</tr>
<tr>
<td>Installation Upgrades</td>
<td>-</td>
<td>-</td>
<td>14,677</td>
</tr>
<tr>
<td>Scada Refurbishment</td>
<td>-</td>
<td>-</td>
<td>2,750</td>
</tr>
<tr>
<td>Update GIS Records</td>
<td>-</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>25,674</td>
</tr>
</tbody>
</table>

The CER is proposing a reduction to GNI’s request for ATEX upgrades, particularly given the extent of under spend on the core ATEX compliance programme in PC3. For installation upgrades, which consists of a number of different activities, the CER accepts the proposed costs apart from those associated with upgrades of AGI installations and removal of deep pits, where the CER has proposed reductions in scope and cost.
7.2 IT capex

GNI has requested €48.75m of IT capex for both GNI and Ervia Centrally Delivered IT capital initiatives, an increase of 12% on PC3 IT capex spend. In the CER’s view, GNI have not provided a sufficient breakdown of the main capital initiatives including the estimated implementation timeline and benefits that are assumed to be realised in order to demonstrate value for money for end consumers.

The IT capex within a price control period can vary significantly by company and by price control period depending on the individual circumstances of each business, e.g. the company asset profile. Based on the benchmark of GNI’s IT capex spend as a percentage of total expenditure over the combined 10-year period of PC3 and PC4 (forecast), GNI spends 16% more on average of IT capex in comparison to their peers. Following the same logic as with the IT opex forecast, the CER have adopted a gradual approach that results in an overall 9% reduction in GNI’s requested total PC4 IT capex spend. Table 7.10 below illustrates how the CER’s proposal differs to the GNI request for PC4 IT capex for the distribution business.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>4,260</td>
<td>3,836</td>
<td>4,636</td>
<td>4,841</td>
<td>4,714</td>
<td>22,287</td>
</tr>
<tr>
<td>GNI request</td>
<td>4,543</td>
<td>4,048</td>
<td>5,199</td>
<td>5,366</td>
<td>5,141</td>
<td>24,298</td>
</tr>
<tr>
<td>Variance</td>
<td>-128</td>
<td>-227</td>
<td>-438</td>
<td>-603</td>
<td>-721</td>
<td>-2,118</td>
</tr>
</tbody>
</table>
7.3 Other non-pipe capex

GNI’s submission has demonstrated that their PC4 non-pipe capex proposal (excluding IT) is generally underpinned by a number of specific (scoped) buildings projects and/or drivers of fleet investment that are linked to wider changes taking place within the gas networks business (e.g. apprentice schemes).

For a number of areas, including facilities investment, other facilities capex projects, vehicles/fleet investment and fleet equipment, the CER has applied a reduction to the GNI request.

The CER is proposing a 25% reduction to the GNI’s requested costs for Shared & Group – Equipment capex. Table 7.11 outlines GNI’s request and the CER’s proposals for this area of expenditure.

<table>
<thead>
<tr>
<th>Table 7.11: PC4 proposed - other non-pipe capex (€’000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Recommended</td>
</tr>
<tr>
<td>GNI request</td>
</tr>
<tr>
<td>Variance</td>
</tr>
</tbody>
</table>

7.4 Contributions

Table 7.12 and Table 7.13 set out the CER’s proposals for contributions for PC4. The CER’s advisors have forecast that there will be a lower level of contributions than that set out by GNI.

<table>
<thead>
<tr>
<th>Table 7.12: PC4 proposal - contributions (growth) (€’000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Recommended</td>
</tr>
<tr>
<td>GNI request</td>
</tr>
<tr>
<td>Variance</td>
</tr>
</tbody>
</table>
### Table 7.13: PC4 proposal - contributions (refurb) (€’000s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GNI request</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-4,023</td>
</tr>
<tr>
<td>Recommended</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-805</td>
<td>-4,023</td>
</tr>
<tr>
<td>Variance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### 7.5 Smart Metering

A national smart metering programme has been ongoing, under the direction of the CER, since 2007. At the time of writing, no final decision has been taken on gas smart metering. If a decision is taken to proceed to the design and later to the implementation stage of gas smart metering, significant work will be undertaken at the design stage. The CER is of the view that it is only at that time that the expected costs relating to gas smart metering will be known. The CER has taken the view that it is appropriate to await the development of the detailed design of gas smart metering before making any allowance the implementation phase of gas smart metering at this time.

### 7.6 Summary

This chapter reviewed the forecast capex across the distribution business. This was based on a detailed review of GNI’s business plan for PC4 and justification for the proposed works.

### 7.7 Request for Comment

Parties are invited to comment on the matter set out in this section, including the key proposals which relate to:

#### 7A. The total capital expenditure allowance for PC4.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
This chapter describes incentives that are designed to encourage GNI to operate, maintain and invest in the gas network appropriately and as efficiently as possible.

It describes certain costs that GNI do not have control over these are deemed as pass through costs, these are listed below in Table 1. In some cases it would be unfair to set an incentive that GNI could not meet for example GNI cannot negotiate the CER levy as this is set by the CER and is mandatory. However in others GNI will have some level of control of the outcome of the costs and an appropriate incentive has been set against these.

It explains that we are incentivising GNI to seek out more new gas customers.

It details incentives that encourage GNI to spend money on projects more efficiently. When GNI come under budget on a project or avoid carrying out a project in its entirety they receive a financial reward. When GNI go over budget, but can justify and explain the increase, the increase is allowed but there is a small penalty applied (to encourage more accurate budgeting). It is also possible that some spend might be disallowed as not having been efficient, in which case GNI would suffer the loss of that revenue, though this did not occur in this review.

It outlines the CER’s intention to focus on the outputs and outcomes of the projects that GNI have committed to over the course of PC4.

Finally, it outlines an incentive to improve customer satisfaction.

8.1 Opex Incentives

8.1.1 Direct Opex

Direct opex is assessed on a total opex basis, rather than split into categories. As with the previous price control the treatment of direct opex for PC4 is that if GNI underspend they
keep the difference between the outturn opex and the allowed opex, if GNI overspend they bear the risk and are not reimbursed. There is no review of the efficiency of outturn opex whereas there is for capex.

The CER is of the view that a revenue cap on controllable opex provides strong regulatory incentives for GNI to make efficiency savings and control opex within the PC4 allowance.

8.1.2 Pass-through Opex

Pass-through items do not have the same incentive structure as direct opex. There are some line items which GNI have no control over i.e. CER levy, revenue protection. These line items are complete pass-through and GNI can recover all outturn expenditure relating to them. The intention behind this is that the costs are out of the control of GNI and so placing an incentive on GNI would only lead to windfall gains or losses.

There are other items where there is seen to be a degree of control by GNI. As such, differences between outturn and allowed costs are shared with the customer, often through a 50-50% sharing factor.

The table below sets out GNI’s proposals for how certain cost should be treated for PC4. The CER is proposing to change the areas highlighted in green below for PC4.
Table 8.1: GNI’s proposed treatment of pass-through costs for PC4

<table>
<thead>
<tr>
<th>Category</th>
<th>PC3 treatment</th>
<th>PC4 treatment – GNI proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CER levy</td>
<td>Complete pass-through</td>
<td>Complete pass-through</td>
</tr>
<tr>
<td>Revenue Protection</td>
<td>Complete pass-through</td>
<td>Complete pass-through</td>
</tr>
<tr>
<td>Safety</td>
<td>50-50% sharing factor</td>
<td>Complete pass-through - Incentive seen as being contrary to the public interest</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>Complete pass-through (price)</td>
<td>As per PC3</td>
</tr>
<tr>
<td></td>
<td>Volume difference borne by GNI in full</td>
<td></td>
</tr>
<tr>
<td>Rates(^{33})</td>
<td>50-50% sharing factor</td>
<td>Maintain 50% sharing factor in Ireland with respect to liabilities associated with the Value of Assets in Ireland. Pass-through of cost associated Move to 100% pass-through for ARV rates liabilities in Ireland and Scotland, as reduced ability to control</td>
</tr>
</tbody>
</table>

The CER has considered the above and propose to apply the following treatment in PC4 to the above pass-through costs.

### 8.1.2.1 CER LEVY

GNI have no control over the CER levy. Therefore the revenues are adjusted each year in line with the tariff setting process, in advance of the expected levy. The CER propose to retain this item as a complete pass-through cost.

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\(^{33}\) Distribution has previously been allocated 61% of costs for rates and Transmission 39% of the costs.
### 8.1.2.2 Revenue Protection

The level of revenue protection is set on an ex-ante basis. The level of revenue protection can fluctuate depending on economic circumstances. The CER proposes to retain this item as a complete pass-through cost.

### 8.1.2.3 Shrinkage

The CER is proposing UAG factors are based on a starting point of the 2016/17 target and then applying a small ongoing annual improvement in performance of 0.05% p.a. shown in Table 8.2 below.

**Table 8.2: Proposed UAG factor target for PC4**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>0.75%</td>
<td>0.70%</td>
<td>0.65%</td>
<td>0.60%</td>
<td>0.55%</td>
</tr>
</tbody>
</table>

The UAG factor is multiplied by system throughput to arrive at a UAG shrinkage factor, which is itself split into commodity and capacity elements. Transportation charges are then used to derive an overall monetary target.

### 8.1.2.4 Safety Advertising

In PC3, an incentive was applied to safety advertising, whereby GNI faced 50% of any overspend and kept 50% of any underspend. GNI recommended a change in the treatment of safety advertising and the removal of the incentive on this line item. The CER are of the view that there could be concerns over the impact of this incentive, with the possibility of costs being cut on safety advertising contrary to public interest. As such, the CER propose that this would be a full pass-through for PC4, with an annual review that the expenditure remained appropriate.

### 8.1.2.5 Rates

#### 8.1.2.5.1 Irish Rates

GNI are subject to commercial property rates. The liability is estimated as the product of the Value of the Asset (with a Global Valuation every five years) and the Annual Rate on Valuation (ARV) from each local authority.

GNI reference that they have some limited control over the Value of the Asset e.g. participation in determination and right to appeal, but none over local ARVs due to the
dissolution/ merger of councils and no right to appeal. As such GNI have proposed a 50-50% sharing factor on the Value of the Asset, but a full pass-through on the ARV.

**8.1.2.5.2 SCOTTISH RATES**

The liability in the form of Non Domestic Rates (NDR) is similar to the approach in Ireland, with a Rateable Value of the Asset multiplied by the Poundage (similar to ARV). GNI note that there is limited right to appeal the proposed value with a National Pricing Matrix being used, while the Poundage is set by the UK government with no right to appeal. GNI propose a 100% pass-through in Scotland on both the value and the applicable rate.

**8.1.2.5.3 PROPOSAL**

For Scotland, we agree with GNI that a 100% pass-through incentive should apply to both the value and applicable rate in light of GNI’s inability to influence the outcome. A summary of the proposed approach to rates for Ireland and Scotland is shown in Table 8.3 below:

Table 8.3: PC4 proposal for Irish and Scottish rates

<table>
<thead>
<tr>
<th></th>
<th>PC3</th>
<th>PC4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Irish Rates</strong></td>
<td><strong>Value of the Asset</strong></td>
<td><strong>50-50% sharing factor</strong></td>
</tr>
<tr>
<td></td>
<td><strong>x</strong></td>
<td><em><em>25-75%</em> sharing factor</em>*</td>
</tr>
<tr>
<td></td>
<td><strong>Annual Rate on Valuation</strong></td>
<td><strong>50-50% sharing factor</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>100% pass-through</strong></td>
</tr>
<tr>
<td><strong>Scottish Rates</strong></td>
<td><strong>Non Domestic Rate x Poundage</strong></td>
<td><strong>50-50% sharing factor</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>100% pass-through</strong></td>
</tr>
</tbody>
</table>

* 25% under or over recovery related to rates will be incurred by GNI, 75% will be incurred by the gas customer.

---

34 Set by local authority.

35 Set by UK government.
8.2 Growth related incentives

The CER is also proposing a new incentive around new connections in PC4.

As discussed in Chapter 7, the CER has proposed revised connection numbers for PC4 based on information submitted by GNI of what currently could be considered a Business As Usual (BAU) run rate for new connections during PC4. As part of the PC4 opex proposals, the CER has included a provision to support new growth related initiatives, in both the Commercial and Regulation and Corporate functions. There is, therefore, a real prospect that GNI may be able to exceed the connection volumes that have been previously outlined.

The expenditure has been allowed partly on the expectation that GNI will deliver a return for customers on their investment by delivering (or even exceeding) the BAU connections run-rate in PC4, thereby improving future expectations of network utilisation relative to the previous price control. In addition, the revenue cap, will be set with the expectation that GNI will deliver its BAU run-rate, and so include incremental opex cost for those new connections.

However, this expenditure has been allowed partly on the expectation that GNI will deliver a return for customers on their investment by delivering (or even exceeding) the assumed BAU connections run-rate, thereby improving future expectations of network utilisation relative to the current price controls. In addition, the revenue cap, should our proposed opex recommendations be accepted, will be set with the expectation GNI will deliver its BAU run-rate, and so includes incremental opex costs for those new connections.

The objective of this new incentive would be to apply a financial bonus (or penalty) to GNI if it exceeded (or failed) to meet the price control connection targets. This would operate alongside the normal “flex” process in place for price control capex allowances for new connections36 with the objective to both:

- encourage GNI to seek new growth opportunities (on the underlying premise new connections are positive for network utilisation and customers); and

36 Whereby should GNI exceed (or fall below) the connection numbers originally used to the set the RAB for the price control, GNI will be rewarded (not rewarded) for the capex and financing costs of the connections which exceed or fall below the original price control targets.
• permit allowed incremental opex for new connections in the price controls to vary if the actual delivered number of new connections are lower or higher than what is assumed in setting the final PC4 review determination.

The incentive would, as a consequence, partly operate as a connections volume driver (i.e. uncertainty mechanism) for the PC4 price control, as well as opportunity for GNI to outperform its allowed cost of equity by delivering on its growth plans.

The proposed approach is as follows:

• **Scope** – the incentive would apply to both domestic housing and I&C connection targets. There would be a separate domestic connections target and I&C connections target to avoid GNI focusing on only one type of new connection.

• **Incentive target** – rather than annual targets, any bonus or penalty would be paid on total delivered connection numbers in PC4 versus the BAU recommendations in the PC4 determination. The bonus/penalty would be paid in the first year of PC5.

• **Incentive structure** – the bonus (penalty) payment would increase on a linear basis increasing (decreasing) from zero to a maximum bonus (penalty) for meeting (not meeting) the connection targets using a fixed marginal incentive rate.

  The CER is proposing 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 €100 per domestic housing connection, then if actual connections were to fall below the PC4 target by 100, the penalty applied under the scheme would be €10,000.

  For both the domestic and I&C connection targets, the CER is proposing a cap and floor on the total monetary reward/penalty under the scheme. So for example, if actual connection numbers fall below a floor level, the penalty applied would be capped. Similarly if actual connection numbers exceed the cap, the reward paid out would be capped. This is to ensure that GNI and customers are not exposed to too great a financial risk.

• **Incentive cap** – GNI's original PC4 forecast connection numbers for both domestic (new and existing) housing and I&C connections would be used to set the maximum incentive reward pay-out37; and

37 Rounded to the nearest thousand.
- **Incentive floor** – the floor for connection numbers below the PC4 determination targets would, where possible (see below) be set symmetrically to the proposed cap which is based on GNI’s projections.38

Table 8.4 below illustrates how each of these building blocks could be combined. Note that for the I&C component of the scheme, the cap and floor on the incentive is in this example not perfectly symmetrical, as a symmetric floor level of connections would have implied a negative number of new I&C connections relative to the BAU run-rate.

**Table 8.4: Illustrative connection incentive scheme**

<table>
<thead>
<tr>
<th>Incentive input / parameter</th>
<th>New housing</th>
<th>I&amp;C connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC4 BAU target</td>
<td>[A] = no. of new connections</td>
<td>63,145</td>
</tr>
<tr>
<td>GNI BPQ forecast</td>
<td>[B] = no. of new connections</td>
<td>89,887</td>
</tr>
<tr>
<td>Cap</td>
<td>[C] = no. of new connections¹</td>
<td>90,000</td>
</tr>
<tr>
<td>Floor</td>
<td>[D] = no. of new connections²</td>
<td>27,290</td>
</tr>
<tr>
<td>Incentive rate</td>
<td>[E] = Euros (€)</td>
<td>130</td>
</tr>
<tr>
<td>Maximum reward</td>
<td>[F] = ([E] x ([C] – [A])/10^6</td>
<td>€3.5m</td>
</tr>
<tr>
<td>Maximum penalty</td>
<td>[G] = ([E] x -(A – [D])/10^6</td>
<td>€-3.5m</td>
</tr>
</tbody>
</table>

**Note 1:** GNI BPQ forecast rounded to nearest thousand
**Note 2:** Equal to: [A] minus ([C] minus [A]) for new housing; capped at zero for I&C connections

The CER is proposing that the financial value of the incentive is set with reference to the allowed **incremental** opex cost that is included in the PC4 opex allowances associated with each new connection and the capex and opex (e.g. in the Commercial and Regulation & Corporate departments within GNI) associated with the growth initiatives. So for example, the monetary value of both the cap and floor might be set so that:

- new connections above or below the agreed connection target level would lead to an increase or decrease in GNI’s allowed revenue, in part consistent with the expected incremental opex associated with each new connection; and

38 So for example, if the cap was set at 10,000 new connections above the PC4 BAU targets, the floor would be set at 10,000 new connections below the PC4 BAU targets.
should GNI exceed or fail to meet the price control connections targets set, GNI could also expect to earn/lose a margin on the allowed capex and opex in PC4\textsuperscript{39} to support the growth initiatives.

The proposed incentive rates for new housing and I&C connection in Table 8.4 have been set with reference to:

- the average incremental opex per new connection implied from our asset operations opex modelling of incremental connections (c. €22 per connection); and
- the maximum penalty/reward under the incentive scheme, expressed as a percentage of the expected capex programme for new connections in PC4 at different outturn levels of new connections.\textsuperscript{40}

The objective of this new incentive is to apply a financial bonus (or penalty) to GNI if it exceeds (or fails) to meet the price control connection targets. The underlying premise is that new connections are positive for continuing network utilisation and customers so GNI should be encouraged to seek new growth opportunities. However, given incremental opex is proposed for PC4 to support more challenging connection targets, GNI should also face some commercial risk around the delivery of its proposed connection programme.

The schematic below illustrates how the incentive will operate.

\textsuperscript{39} e.g. in the Commercial and Regulatory & Corporate functions.
\textsuperscript{40} The maximum reward using the parameters in Table 8.3 would be ~ 3.3% of allowed new connections capex in our PC4 recommendations. The reward/penalty would also broadly be around 0.5% of distribution revenues (15/16 prices).
Figure 8.1: Illustration of incentive applied to new housing PC4 connection target
8.3 Capex Incentives

As was referenced at the PC3 review, strong capex incentives are important for capital intensive businesses such as GNI. The CER propose to retain a rolling capex incentive mechanism in PC4 further detail on this can be found in the CEPA reports, published alongside this document.

8.3.1 Incentives for general capex in PC4 and beyond

The CER has reviewed the current incentive framework to ensure it remains fully appropriate for PC4 and beyond. The CER is mindful that a review of the incentive regime pertaining to the recent electricity price review (PR4) is currently underway. The CER will use this review as a guide to help inform future incentive regimes and the reporting associated with them for PC5.

The CER has also considered the following for PC4 and future price controls:

1. **Should the assessment be made on an annual basis?**

The CER is of the view that the assessment on a total period basis avoids issues of creating perverse consequences and is a simpler and more transparent approach. The CER has adopted this proposal in deriving the capex allowances for PC4. The CER is therefore minded to continue this approach for close out of PC4.

2. **Are the incentive categories the correct ones?**

The CER is of the view that the category of efficient deferral should be retained in the PC4 capex guidelines, to ensure that money is not wasted on unnecessary projects, as it is very difficult to review the business rationale for all transmission and distribution investment projects over the five year cycle.

However, the CER expects a high burden of proof from GNI of why it considers deferred projects / programmes should be deemed ‘efficiently’ deferred, to avoid risks of double funding. The CER is of the view that claimed efficient deferrals should be outputs tied to completion of tangible work.
3. Regulatory treatment of over and under spends for delivered work

The CER propose that for the lookback of PC4, there is symmetric treatment of efficiency savings and unfinanced overspend in terms of the timing of retention of any variations against PC4 allowances. Both relate to the unit costs the work is conducted at. Having a symmetric approach means there are not different effects applied where costs are moved to one area, leading to a higher unit cost, from another, where there would be a lower unit cost.

As consequence, the CER propose that for unfinanced overspend category variances, GNI are required to finance the over-spend for 5-years, to be symmetric with the 5-year rolling incentive that applies to efficiency saving variations.

4. How does the CER ensure future reviews are predictable and transparent

In light of incentives for capex being linked to projects, it is important that there is a clear understanding of the outputs that GNI has been funded to deliver. The UK Competition Commission (CC) Northern Ireland Electricity (NIE) Transmission and Distribution RP5 determination for example included an annex that set out the projects that were to be delivered in the price control and the financial amounts linked to this expenditure.

In preparation for the final PC4 determination, a workbook has been developed which provides a clear summary of the projects, work programmes and assumptions (e.g. unit rates) that have been used to set the determination which will form a key input to the PC4 close-out at the PC5 review.

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8.4 Customer Service Incentive

The CER recently published a decision paper\(^{42}\) outlining a set of customer performance indicators which will be used to incentivise GNI over the period of the price control. The CER indicated in the decision paper that it would seek further comment on the financial incentive to be applied to the customer key performance indicators (KPIs).

In considering the appropriate financial incentive to put in place, the CER has reviewed the financial mechanisms in place across a range of utilities. These include mechanism which carried a reward only, a penalty only, an equal reward and penalty on both sides, whilst others carried a higher penalty than reward and vice versa. The introduction of such a financial incentive mechanism linked directly to customer performance KPIs will be new to GNI. This section sets out the CER's proposals in terms of the financial incentive structure.

8.4.1 Summary of Customer Performance Indicators

The broad customer service incentive mechanism is comprised of three main measures, these are:

(i) Call Centre Response;
(ii) Complaints Metric;
(iii) Customer Survey.

Details on the associated KPIs across each of these three measures can be found in the decision paper.

8.4.2 Weightings applied to indicators

The CER decided, following a review of responses to the decision paper ref: CER/17/096, as a starting point, the three broad areas of the customer incentive mechanism will be weighted equally. Each customer service measure will carry a weighting of 33.33%. The CER is seeking comment on the specifics of the financial incentive described below.

\(^{42}\) Gas Networks Ireland Customer Performance Indicators Decision Paper can be found [here](#).
8.4.3 Proposed financial incentive

A financial incentive can be reward only, penalty only or both reward & penalty. This choice depends on what the incentive is seeking to achieve and how this fits in with the overall regulatory framework put in place.

As part of the consultation process on the introduction of such an incentive, it was highlighted that consistent terminology (namely GNI’s acceptance of the industry standard definition of a complaint) and refined reporting processes will need to put in place prior to the introduction of the revised customer performance indicators. Failure to do so could lead to windfall gains or losses if the incentive is not calibrated properly. Therefore, the CER is proposing that a ‘shadow incentive’ is put in place for the first three years of PC4. This ‘shadow incentive’ would give the CER time to test and monitor the proposed metrics and develop a baseline of GNI’s performance in the PC4 environment.

The CER is proposing to introduce a financial incentive equal to +/-0.25% of allowed revenues for the remaining two years of PC4. The focus of the CER is to establish and test incentives on customer performance indicators over PC4. The CER have not yet developed targets for performance, but is minded to consider targets relative to GB GDN’s performance. This would require a sense check to see whether performance would be expected to be the same or whether there are factors that could lead to differences in performance. If it were found that GNI lagged behind the performance of the GB GDNs, the CER may consider that the target should reflect this comparative performance.

Table 8.5 below outlines the proposed financial incentive to apply to the customer KPIs. The CER is keen to encourage improvements under the Call Centre measure, which the CER views as fundamental to the rest of the customer experience. The Call Complaints would carry a penalty only and would reflect that GNI should meet a minimum level of performance. The Customer Survey would carry both a reward and a penalty. This would give GNI a range in which to perform, meaning whether they are under or over the target, there is a continuous incentive for them to improve their performance.
Table 8.5: Proposed financial incentive for customer KPIs.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Positive or negative</th>
<th>Range of incentive of allowed revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Call Centre</td>
<td>+ only</td>
<td>0% to + 0.125%</td>
</tr>
<tr>
<td>(2) Complaints Metric</td>
<td>- only</td>
<td>- 0.125% to 0%</td>
</tr>
<tr>
<td>(3) Customer Survey</td>
<td>- or +</td>
<td>- 0.125% to + 0.125%</td>
</tr>
</tbody>
</table>

8.5 Request for Comment

Parties are invited to comment on the matters set out in this section, including the key proposals which relate to:

8A. The proposed opex incentives.

8B. The proposed incentive on rates

8C. The proposed capex incentives for PC4.

8D. The proposed incentive on new connections.

8E. The proposed financial incentive on customer KPIs.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
9 Cost of Capital

GNI is financed through debt and equity. Debt is borrowed funds (e.g. loan), while equity is funds invested by the shareholders (owners). Both the provider of the loan (lender) and the investor (equity holder) will expect to receive certain returns on the funds they have provided. For example the interest that the borrower pays on a loan is the return that the lender receives. Similarly a person that invests in a company expects some reward for this investment.

By taking an average of the returns associated with the different types of financing (debt and equity) the CER effectively determines how much return GNI will need for each euro it invests. This average is known as the Weighted Average Cost of Capital or WACC, which is the average of the cost of debt and the cost of equity.

The WACC is calculated using a formula. This chapter outlines how the CER decided upon the inputs that are entered into the formula, with the resulting WACC reflecting the appropriate cost of capital for GNI.

Further detail on the inputs to the assessment of the WACC can be found in the Transmission Consultation document and the FTI document that is published with the document.

For this price control the CER considered other methodologies for assessing the appropriate cost of capital for GNI but has decided that the Capital Asset Pricing Model (CAPM) is the most appropriate method and was used in PC3.

In line with established regulatory precedent the CER allows GNI to recover revenues to cover the total economic costs of its operations over a price control period. Economic costs include a rate of return on the Regulatory Asset Base (“RAB”). The appropriate rate of return is the expected Weighted Average Cost of Capital (“WACC”) for the regulated businesses over PC4.

The CER engaged with its financial advisers to provide assistance in determining the level of WACC to be applied to GNI over PC4 which will be 4.63%.
GNI submitted financial information to the CER for review and further engagement with GNI and its advisers took place to clarify and understand the financial information provided. Following a detailed and careful analysis of the information provided the CER has set out below its proposals in relation to the level of WACC to be applied over the PC4 period. Further detail on the approach in determining the level of WACC can be found in the FTI report which accompanies this document.

9.1 Summary of CER Proposed WACC for GNI

Table 9.1 below summarises a reasonable range for each input and our proposed overall reasonable range for the WACC.

Table 9.1: CER proposed WACC for GNI

<table>
<thead>
<tr>
<th>Input</th>
<th>recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk free rate</td>
<td>1.9%</td>
</tr>
<tr>
<td>Equity risk premium</td>
<td>4.75%</td>
</tr>
<tr>
<td>Asset beta</td>
<td>0.42</td>
</tr>
<tr>
<td>Equity beta</td>
<td>0.93</td>
</tr>
<tr>
<td>Cost of equity (post tax)</td>
<td>6.32%</td>
</tr>
<tr>
<td>Tax rate</td>
<td>12.5%</td>
</tr>
<tr>
<td>Cost of equity (pre-tax)</td>
<td>7.22%</td>
</tr>
<tr>
<td>Reference bond yield</td>
<td>1.5%</td>
</tr>
<tr>
<td>Debt premium</td>
<td>1.0%</td>
</tr>
<tr>
<td>Cost of debt</td>
<td>2.5%</td>
</tr>
<tr>
<td>Gearing</td>
<td>55%</td>
</tr>
<tr>
<td>WACC (pre tax)</td>
<td>4.63%</td>
</tr>
</tbody>
</table>

GNI has stated in its submission to the CER that it considers an appropriate allowance for risks arising from Brexit and other factors could be made “either through an appropriately conservative approach to estimating the building blocks of the WACC or through an explicit aiming up allowance.”
The CER and its advisers do not consider that an additional separate “aiming up” allowance should be included in the WACC. This is because:

1. where an “appropriately conservative” point estimate of the WACC is adopted, then an explicit aiming up allowance is not required in addition. The CER and its adviser’s (FTI) assessment of each input of the WACC is appropriately conservative; and

2. the exceptional market conditions that existed at the time of the PC3 determination have now abated. While there is a risk that Brexit, or other events, might affect GNI’s cost of capital in the future, it is unclear what the scale and direction of the impact would be.

The CER is of the view that an explicit adjustment to the proposed WACC for Brexit is unnecessary. This is firstly because Brexit has not given rise to exceptional market conditions which might affect GNI’s WACC and there is only a risk that such conditions might arise in the future. Even if such market conditions arise, it is then unclear what the scale and direction of the impact would be.

Secondly, we consider that our recommended point estimate for the WACC is conservative. Further detail on this can be found in FTI’s report which accompanies this document.
9.2 Request for Comment

Parties are invited to comment on the matter set out in this section, including the key proposals which relate to:

9A. The inputs used to set the overall WACC.

9B. The proposed level of the WACC.

Comments relating to the inputs used to set the overall WACC and the proposed level of WACC should be submitted in response to the transmission document.

When responding, please provide your reasons for your views on the CER’s proposals and propose alternatives with reasoning where you disagree with the CER’s views.
APPENDIX A

1 Regulatory Review Process

This section provides information on the process that led to the proposals outlined in this consultation paper. It provides:

- Relevant areas of the CER’s role and the powers under which the CER will make its determination on the price control are outlined;
- The manner in which this price control follows on from previous price controls is discussed;
- The CER’s objectives for the September 2017 to October 2022 revenue are detailed; and
- The key assumptions underpinning the review have been documented.

1.1 Introduction to regulatory review process

The CER follows an economic regulatory process which is intended to ensure that:

- All gas customers are provided with safe and secure supplies of gas;
- Only reasonable and appropriate costs for the operation of the distribution network by GNI will be recovered from customers; and
- GNI, as the distribution network operator in Ireland, will have a strong incentive to improve service and reduce costs.

The aim of the regulatory process is to drive GNI to constantly seek, year-on-year, for economic efficiencies to the benefit of customers. Essentially GNI must provide more for less; it must constantly look to provide greater service and quality to its customers at a lower cost. The necessity for cost efficiencies must be balanced with the other principles underlying the economic regulatory framework, namely safety and security of supply.
1.1.1 Key components of review

Under the regulatory revenue cap regime, the CER determines the appropriate level of revenue that is required to allow GNI to operate the gas network. There are a number of components required to estimate the level of revenue that will be sufficient to finance GNI while also imposing challenging but achievable targets for cost reduction over the period. The building blocks of the regime are as follows:

- The operating cost associated with the distribution business;
- The capital costs of investment in infrastructure; and
- The value of the assets in GNI’s regulated asset base.

In addition to the key building blocks of the revenue cap regime, there are other essential components that feed into the determination of the overall allowed revenue pot. These elements and the above components of the revenue control are discussed in turn below.

1.1.2 Review of historic and forecast operational expenditure

The first component is the allowance for opex, which can be summarised as the day to day running costs of GNI. Opex costs are made up of line items such as staff costs, customer operations, asset management, insurance and licences amongst others. It is important that GNI is provided with a level of revenue that is sufficient enough to operate its business efficiently and to a high standard, so as to provide value to the customer through improved service levels and a high standard of customer service.

The overall revenue figure for opex that has been put in place by the CER is the result of rigorous scrutiny of GNI’s proposals and is based on a level that is considered equivalent to efficient costs of a utility similar to GNI at a similar stage of development. In carrying out this review, the CER used a combination of approaches in setting the opex costs. These include the review and assessment of the information provided by the utility through business planning questionnaires (BPQs), Q&A sessions and written reports provided by GNI. It also includes benchmarking GNI against other comparable companies. The CER has also utilised the advice of industry experts to assist with completing the review. The combination of these methods alongside continuous engagement with GNI over the course of the project ensures that GNI’s opex allowance has been thoroughly analysed.
The opex which the distribution business incurred over PC3 and forecasts costs it will incur over PC4 was reviewed. The PC3 review involved assessing improvements in efficiency made by the business during that period and levels of network performance and customer service achieved.

**1.1.3 Review of historic and forecast capital expenditure**

Another key component is the allowance for the capex to be undertaken by GNI over the course of the revenue control period. The capex category relates to GNI’s physical assets i.e. pipelines, equipment etc. as well as the upgrade, repair and maintenance of the existing network. The allowance approved by the CER must be sufficient to promote a degree of investment in the infrastructure that is appropriate and justified, while also encouraging GNI to drive efficiencies.

In reviewing GNI’s capex proposals for PC4 the CER analysed whether the proposals were appropriate, fully justified, will deliver benefits to the customer and whether estimated costs are realistic. Once again the CER utilised information provided by GNI through business planning questionnaires (BPQs), Q&A sessions and written reports. In addition, GNI were benchmarked against other comparable companies. Industry experts assisted the CER in assessing the technical merit of the capital programme and whether the projects proposed reflect the best value solution. The in-depth review of GNI’s proposed capex submissions coupled with audits of individual project ensures that the revenue set by the CER is fair and appropriate.

The PC3 review involved assessing improvements in efficiency made by the business during that period and levels of network performance and customer service achieved. The PC4 review focused on ensuring value for money and efficiency improvements.

**1.1.4 Determining the Regulatory Asset Base**

Following the above review of historic capital expenditure any variances between the approved and actual efficient expenditure were reflected by adjusting the asset base. The original asset base had been put in place as part of the first five-year review (October 2003 to September 2007) and was adjusted for the second (October 2007 to September 2012) and third (October 2012 to September 2017) price control reviews.
The asset base was also adjusted to allow for the proposed forecast capital expenditure. This adjusted asset base is proposed for use for the forthcoming review period (October 2017 to September 2022) and has been published alongside this paper.

1.1.5 Determining the appropriate rate of return

The CER sets the rate of return that GNI can earn on the efficiently incurred capital investments in its RAB. This is known as the Weighted Average Costs of Capital or WACC. This is essentially a weighted average of the cost of debt and the cost of equity (as most businesses are financed with a combination of debt and equity). The CER, assisted by economic advisors, sets a WACC that is used to derive a fair return on the capital investments made by the utility while also endeavouring to ensure that GNI sit comfortably within an investment grade credit rating.

1.1.6 Determining the appropriate incentives

Incentives are an important area of regulation for monopoly entities. Incentives are intended to align the interests of the regulated companies with those of their customers, by encouraging the utility to deliver better-than-required services.

Using the reviews of the distribution business’s historic and forecast performance as a basis, proposed incentives have been developed for the forthcoming period. These are broadly the same as the incentives in place for PC3, with the exception of the introduction of key performance indicators related to GNI’s customer performance and incentives around customer connections.

1.1.7 Determining the allowed revenue

Combining all the component parts, as described above, the CER generates an overall revenue allowance for GNI for each gas year within the period October 2017 to September 2022. This revenue will feed through into setting the gas distribution tariffs for each tariff period.

1.2 Process to date

In order to ensure that there is clarity as to the underlying data and assumptions as well as the analysis itself, this project has involved a high level of interaction with GNI. In addition, the high level steps associated with this process are provided here.
The first step involved the CER acquiring consultancy support for the provision of technical and financial advice over the course of the project.

To ensure that the CER and its advisors attained an adequate understanding of the distribution business, the CER engaged with the network business to ensure that relevant data was provided in a useable format. A questionnaire was issued to the network business outlining the technical, economic and financial data required by the CER. The network business then completed the questionnaire in two stages: providing historic data first and then progressing to forecast information. The network business also provided a significant amount of supporting documentation. Following submission there was a period of interaction between the CER and the network business during which clarifications and further information were sought.

This interaction allowed the CER to complete a comprehensive review of the network business’s historic and forecast performance, leading to the development of the proposals outlined in this paper. Prior to publication of these proposals for consultation, they were discussed with the network business.

1.3 The expertise used

The CER has completed numerous reviews of regulated utilities since its foundation in 1999 and has developed its internal abilities over that period. To augment these skills, and reflecting the range of analysis required, the CER has acquired the services of economic and engineering experts to assist in the review of the distribution business’s historic and forecast costs and performance.

Cambridge Economic Policy Associates (CEPA) is providing advice on the technical aspects of the review. This includes reviewing the network business’s capital and operational expenditure and providing advice on an efficient level which should be approved by the CER for recovery from the network business’s customers. This role includes completing the benchmarking studies necessary to provide relevant and well-founded advice. It also involves the provision of advice on appropriate incentive arrangements.

FTI is providing advice on the financial aspects of the review. The main body of work being completed by FTI is the provision of advice on the appropriate cost of capital for the network business.
The advice put forward by the CER’s consultancy support has fed through into the proposals put forward in this consultation paper. In addition, reports put forward by both CEPA and FTI are published alongside this paper.

1.4 Scope of this review

The review and proposals outlined in this paper relate to the regulated aspects of the distribution business activities. However, as part of this review the CER has also taken into account shared services within the Ervia group. There is currently a split of Group Centre, Shared Service Centre and Major Projects costs between Irish Water (65%) and Gas Networks Ireland (35%). This split will continue in PC4. The cost split is based on an overall proportion of how resource time is spent and what services are provided to each entity.

1.5 Methodology

As detailed above, this will be the fourth revenue control to be put in place for the network business. The previous reviews allowed some treatments (for example, depreciation methodologies) to become established practice. As a result the CER states its intent to continue using the methodologies established during the previous price control PC3 to focus on other areas that would ensure that the distribution business is operated and developed in a cost-effective manner.

1.5.1 Summary of methods

The CER proposes that the project undertaken by the CER will focus on reviewing and setting the network business’:

- operating expenditure;
- capital expenditure;
- weighted average cost of capital (WACC);
- regulatory asset base (that is, adjusting for the level of expenditure incurred by the network business); and
- performance incentives.

The CER is of the view that focusing on the above areas would allow for the continued protection of gas customers by ensuring that the gas distribution network business is operated and developed to meet customer needs in a cost-effective and efficient manner.
On the basis of regulatory certainty and maintaining regulatory precedent, certain methodologies which have become established during the previous control periods, would not be reviewed as part of this consultation. These are as follows:

- The length of the control period will not be changed. That is, it would continue to be a multi-annual revenue review covering a 5 year period;
- The Capital Asset Pricing Model (CAPM) will continue to be used to aid the determination of a WACC which would be applied to the network business’s regulatory asset base;
- The CPI-X model will continue to be used to set the level of revenue to be recovered by the network business; and,
- The existing methodologies used for valuation and depreciation of the business’s assets will continue to be applied.

The CER also states that it continues to believe that the revenue controls for the transmission and distribution businesses should be set using a common set of principles.

### 1.6 Approach

#### 1.6.1 Bottom-up assessment

The CER and its advisors have taken a bottom-up and top-down approach to establish our view of the efficient cost path for GNI’s distribution business.

The objective of the bottom-up opex assessment, has been to develop a base year or stable run rate of normalised opex that represents the core historic “business as usual” opex and which can then be revised to reflect additional items of core opex forecast to be incurred in future years during PC4. Normalised costs or historic run rates have been derived from a bottom-up analysis of actual opex costs by functions, adjusted for one-off costs and an understanding of material activities and their drivers over the previous price control period.

Informed by GNI’s response, it was considered whether there was supporting justification for setting opex allowances above or below the historical run rate / normalised cost level.

To determine required capex in PC4, the capex plans submitted by GNI as part of its response were reviewed. This included a review of the expected drivers of capex in PC4 and the technical needs case presented by GNI for proposed capex projects and programmes.
Based on the assessment, a series of bottom-up adjustments were made to GNI’s capex plans.

The expenditure GNI incurred during PC3 was also reviewed along with the final year of PC2. Based on the capex guidelines and incentives set out by the CER in its final PC3 determination, proposals were developed for how variations in outturn expenditure relative to the allowances set by the CER at the time of the PC3 review, should be treated from an allowed revenue perspective. This potentially included recommendations to credit GNI where efficiencies had been realised compared to the capex allowances set at the PC3 review.

1.6.2 Top-down assessment

There have been two components of the top-down cost assessment.

Firstly, GNI was benchmarked to comparable utility businesses to determine how its expenditure compared to an efficiency benchmark for the sector. Secondly, the CER and its advisors considered the degree of ongoing efficiency improvement or frontier shift that might be possible from GNI, given that even the most efficient gas network company operating during the PC4 period might be expected to realise productivity gains during the course of the price control.

This analysis was combined to establish potential efficiency targets that might be applied to GNI’s business during PC4.

While the diagram focuses on opex, the assessment of capex can be considered part of the ‘bottom-up’ review of GNI’s PC4 strategy plan and the projection of baseline allowable costs for the price control period.
1.7 Understanding how the analysis fits together

GNI in their submissions supplied a breakdown of costs. The approach taken in order to assess the GNI business is highlighted below.

1.7.1 Opex

When looking at opex costs and breaking this down into a suitable fashion, there were two issues to overcome:

- IT is both an expense row and a functional area; and
- Group & Shared Service costs are apportioned across the functional areas.

It is difficult to assess IT in this format, so the CER combined the IT functional area costs, together with those IT expenses allocated to other functional areas. IT is, therefore, excluded from the analysis of other functional areas that GNI report against.

Group & Shared Services costs were reported separately by GNI. The CER have then added back an estimate of this expense within each of the functional areas to aid comparability with other data points.

These direct opex costs are split into four different categories:
- Business Support Services = Regulation & Corporate Services, Finance, HR and Facilities functional areas.
- Group & Shared = Group & Shared expense.
- IT = IT functional area + IT expenses across other functional areas.

Figure 2: Mapping approach to cost assessment of GNI cost reporting framework

The CER has also made two other adjustments to how the data is presented:

- Innovation has been removed from the individual opex lines when setting an allowance. This had been contained within the 'Commercial' functional area within the GNI business plan submission.
- In the GNI submission, there was a 0.5% ongoing efficiency assumption applied to total opex. This was contained within the Head of Networks category. This was stripped out, such that it is possible to see this adjustment as a separate line item.

Pass-through costs are added back to the direct opex total in order to give total opex.

1.7.2 Capex

The analysis of capex is split into three categories:

- **Pipe capex** - this is the majority of expenditure and deals with pipelines, compressors, AGIs, block valves and minor works. This also includes Grid Control for transmission.
- **IT capex** - this considers any capital investment for IT (at a total business level – i.e. including GNI internal and Group/Shared initiatives).
- **Non-pipe capex** - this covers the remainder of capex, including investment in the vehicle fleet, equipment and facilities.

The CER consider net capex, i.e. net of customer contributions.

### 1.7.3 Cost reporting estimates

Within this paper, the figures provided by the distribution business on its expenditure during the PC4 period are forecast figures. In addition, the PC3 period has been labelled as actual or outturn values. This is not strictly correct, the values included for the October 2016 to September 2017 period are the distribution business’s best estimate of the expenditure it will incur during that period.

The final values for October 2016 to September 2017 will be reviewed when these are available in 2018 and if necessary the revenue that the distribution business should be allowed to collect from its customers will be adjusted at that time to reflect the outcome of the review. Additionally, the outturn values for the last year of PC2 October 2011 to September 2012 are reviewed as part of this price control.
2 The Form of the Control

This section describes the overall form of the price control, specifying the approach taken by the CER and how the base and subsequent year revenues have been determined.

2.1 Structure of the price control

The CER believes that the price control for distribution business should be consistent with previous price controls. Applying different principles or models for each price control would risk creating an inconsistent set of incentives and uncertainty. Therefore, in developing the detailed proposals for PC4, the CER has substantially retained the model used in PC3.

The PC4 model will contain:

- Incentive regulation based broadly on the RPI-X model;
- A retention of benefits achieved through costs lower than target levels.
- A factor to account for changes in the number of customers from expected levels.
- Uncertain costs will be reviewed on a case by case basis by the CER.
- Pass-through costs should be kept to a minimum. Incentives to minimise pass-through will be applied where practical.
- The ‘k’ factor and inter-year adjustments as being broadly the same as in the existing price control.

The CER’s position on each of the above is set out below in turn.

2.1.1 Incentive regulation

The CER has decided to continue the application of an incentive based approach. Efficiencies are built into the opex and capex allowances and the resulting revenue is profiled over the period.

2.1.2 Benefit retention

The distribution business will not be compensated for any overspends on operating expenditure during the period. It will be allowed to retain any underspends on operating costs during the period.
Regarding capital costs, the same mechanisms as those employed during PC3 are envisaged for use for PC4.

2.1.3 Cost drivers
The current price control formula contains a cost driver based on customer numbers. The CER proposes to retain this as the sole cost driver.

2.1.4 Uncertain costs
Uncertain costs are defined as those that could not reasonably be foreseen by the distribution business. The CER has decided that such costs should be dealt with on a case-by case basis. In each case, the distribution business would be expected to ensure that changes in opex or new capex would take place in an efficient manner and this would be reflected in the allowance provided – that is, there would not be an automatic pass-through of such costs.

2.1.5 Pass-through items
The previous price control contained a provision for the pass-through of certain types of costs, such as business rates, that are deemed to lie outside the business’s control. The CER will continue to use this approach.

In some cases pass through items are subject to incentive mechanisms which shares savings between the distribution business and the network customers, for example, in areas such as rates and safety.

2.1.6 Inter-year adjustments for over or under recovery
The CER proposes to retain the current one-stage ‘k’ factor mechanism for PC4.

2.2 Profiling & indexation

2.2.1 Profiling
The CER has profiled the revenue by allowing a step change in when moving to year one of the control and no real change thereafter.

2.2.2 Indexation
The model used by the CER uses a base allowable revenue which is indexed to take account of price inflation. The index used should be the best reflection of the increases in prices faced
by the distribution business, such as wage inflation or materials inflation etc. Also the index needs to be practical to implement, robust and transparent.

In the first review of allowable revenues for GNI as gas transmission and distribution network operator the CER used CPI and in the second review HICP was used.

The CER proposes to continue to use HICP for the PC4 period.

The CER accepts that no one index can precisely mirror the distribution businesses input costs. It is also accepted that the majority of the annual revenue which the distribution business receives covers depreciation and return on its asset base, rather than operating costs.

It is worth noting that the CER does not necessarily believe that the use of this indexation mechanism results in additional efficiencies being built into the distribution business’s allowed revenue. Those are separately built into the allowances.
3 The Regulatory Asset Base

3.1 Introduction

The revenue that the distribution business recovers from its customers during each review period can be divided into three separate categories:

(i) Revenue to cover the distribution business’s operational costs during that period;
(ii) A return on capital on the distribution business’s assets; and,
(iii) Revenue to cover depreciation of the distribution business’s assets.

The Regulatory Asset Base (RAB) plays a key role in the determination of the amount of depreciation that the distribution business receives (item 3 above), and is the base to which the rate-of-return is applied when determining the return on capital for the distribution business (item 2 above).

This section provides information on a number of interrelated issues that determine the distribution business's RAB. Specifically, this section provides information on:

- Where to find detail on the type of assets within the distribution business’s RAB;
- The methodology used to value the assets within the distribution business’s RAB;
- The length of asset lives applied to the assets within the distribution business’s RAB;
- The depreciation methodology applied to the distribution business’s RAB;
- The regulatory practice when an asset is physically replaced prior to being fully depreciated; and,
- The regulatory treatment of (1) clawback of revenue earned on assets that were not put in place and (2) additions to the distribution business’s RAB.

3.2 Composition of the RAB

The RAB is documented within the excel model which is published alongside this paper.
3.3 Valuation of the RAB

3.3.1 Introduction & current approach

The preceding section provides information on where to find detail on the valuation of the RAB. However, the approach to valuing the assets within the RAB is also an important decision within the price control process.

The CER is stating its intention to continue its current approach for valuation of the RAB into the next review period. On the basis of regulatory certainty and maintaining regulatory precedent the methodology for valuation of the RAB, which has become established practice during the first three control periods, will not be reviewed as part of this review.

3.3.2 Background

The core issue regarding the valuation of the distribution business’s RAB is whether the RAB should reflect the value of the assets now (replacement value) or when they were built (acquisition cost). A number of variations on these approaches are outlined below.

**Acquisition Cost**

Assets are valued at their original cost of construction /acquisition. The value of assets is not indexed for inflation nor is their value linked to the cost of replacement.

**Replacement Cost**

Assets are valued at what it would cost to replace existing assets. There are two approaches to replacement cost: indexing the acquisition cost of the assets; and revaluing the asset based using a modern equivalent asset (MEA) approach.

**Replacement Costs less Stranded Assets**

This is as per replacement cost (above) but those assets that are not utilised in the current system would be excluded. Effectively, this would be the cost of building a replacement system.

**Deprival Value**

The assets would be valued at the lower of their replacement cost or economic value (in the event that they could not be replaced)
The CER has decided that the distribution business’s RAB will be valued using a replacement cost approach for the period October 2017 to September 2022. The use of this approach has continued during the prevailing price control periods.

While it is recognised that there are advantages and disadvantages associated with each methodology, the replacement cost approach was taken as it is more likely to result in the correct level of network investment.

As documented above there are a number of variations of replacement cost that could be used. The version used by the CER uses the acquisition cost, indexed with inflation, as a proxy for the replacement cost.

### 3.4 Asset lives applied to the RAB

#### 3.4.1 Introduction & proposal to continue current approach

The assets lives applied to assets within the RAB feeds through into the level of depreciation that the distribution business receives on those assets within each control period (or indeed year). The CER intends to continue the asset lives that were previously employed in PC3.
3.4.2 Background

When setting the previous revenue controls, the CER did not make any changes to the existing economic life of distribution assets. Assets were grouped into seven main categories for depreciation periods, with straight line depreciation applied for all assets.

Table 1: Asset lives applied to distribution assets

<table>
<thead>
<tr>
<th>Asset</th>
<th>PC2</th>
<th>PC3</th>
<th>PC4 proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipelines/Above ground installations</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Dublin cast iron</td>
<td>60</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Cork cast iron</td>
<td>60</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Meters</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Land</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Buildings</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Equipment</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>ITO setup costs</td>
<td>n/a</td>
<td>15</td>
<td>n/a</td>
</tr>
</tbody>
</table>

For PC4, the CER proposes to continue applying the assets lives used during PC3. The CER does not consider that any new evidence has arisen during PC3 that would justify reconsidering the asset lives used.

3.5 Depreciation method

3.5.1 Introduction & proposal to continue current approach

The CER intends to continue using the same depreciation methodology (straight line depreciation) for the period October 2017 to September 2022 as was employed in PC3.

The following sections provide further information on this topic.
3.5.2 Background

Economic depreciation profiles allocate the original capital cost of a project over its useful life. There are a number of possible methods through which asset bases may be depreciated; common relevant examples are straight-line, sum-of-years-digits\(^{43}\) and declining balance depreciation.

When setting the first revenue control, covering the period October 2003 to September 2007, the CER chose the straight-line method. Some of the benefits of this approach are as follows:

- Straight-line fully depreciates the assets over a period of time. The declining balance method does not as it is calculated as a portion of the declining value of the asset.
- Due to the nature of the design life of network assets and the load profile of the use of network assets, the straight-line method is considered to be a reasonable representation of economic depreciation for network assets.

The CER noted that the straight-line approach is simple, transparent and objective and also noted that it was the approach that had been chosen for electricity networks.

The straight-line approach to depreciation was then continued when setting the subsequent revenue controls. For PC4, the CER will continue applying the straight-line method of depreciation used during PC3. Maintaining regulatory certainty by continuing this methodology was a factor in developing this intention. However, regulatory certainty aside, the rationale that led to this approach being chosen in the first instance would still provide relevant arguments for choosing straight-line depreciation for the forthcoming period.

3.6 Replaced Assets/disposals

The CER has decided that these issues will be considered on a case by case basis. For example, in this Price Control the CER is proposing to remove from the RAB the costs associated with the separation of the supply and networks business to create a new ITO which did not take place.

\(^{43}\) This is considered more relevant/appropriate for industries with significant technical progress.
The CER proposes that revenue collected by the distribution business to cover return and depreciation on projects which were planned for the PC3 period and subsequently not put in place will be clawed back and netted off the revenue to be collected by the distribution business during the PC4 period.

In some cases the distribution business would be allowed to retain this revenue as part of an incentive mechanism to ensure only necessary assets are built.

It is intended that a similar treatment will be used at the end of PC4.

### 3.7 Additions to distribution business’s RAB

#### 3.7.1 Introduction & proposal to continue current approaches

The regulatory treatment of additions to the distribution business’s RAB is an important issue in a revenue control. This section details the regulatory treatment to:

- Additions to the distribution business’s RAB;
- Interest During Construction (IDC); and,
- Capital contributions and grants.

#### 3.7.2 Additions

Additions are made to the distribution asset base on an ‘as spent’ basis (that is, assets are capitalised when the expenditure is incurred). This is in contrast to the transmission asset base which reflects assets on an ‘as capitalised’ basis.

#### 3.7.3 Interest during construction (IDC)

The CER understands that since additions are made to the asset base on an ‘as spent’ basis, no interest during construction is included.

The CER proposes to continue this policy during the forthcoming revenue control period, covering October 2017 to September 2022.

#### 3.7.4 Capital contributions and grants

In the three previous revenue controls, capital contributions and grants were subtracted from capital expenditure in the relevant year.
The CER proposes to continue this policy during the forthcoming revenue control period, covering October 2017 to September 2022.

3.8 Summary

This section provides a summary of the CER’s proposals on a number of interrelated areas that impact on the setting of the distribution business’s RAB and the level of revenue that the distribution business is allowed to collect during each control period (or year) to cover its depreciation costs.

No changes in methodology relative to that employed during the October 2012 to September 2017 period are proposed for the October 2017 to September 2022 period.

Valuation methodology
The CER proposes to continue using the methodology employed during previous control periods. This is a variation of replacement cost approach, which uses the inflation cost, indexed upwards to allow for inflation, as a proxy for replacement cost.

Asset lives
The CER proposes to continue using the methodology employed during previous controls. Under this approach a life of 60 years is applied to network pipelines. These make up the majority of the distribution business’s asset base.

Depreciation methodology
The CER proposes to continue using the methodology employed during previous control periods. This is straight-line depreciation.

Depreciation and return on capital expenditure approved but not incurred
The CER proposes that revenue collected by the distribution business to cover return and depreciation on projects which were planned for the 2012 to 2017 period and subsequently not put in place will be clawed back and netted off the revenue to be collected by the distribution business during the 2017 to 2022 period.
APPENDIX B

1 Maintaining Utilisation of the Gas Network

1.1 Long term prospects for gas demand

In the longer term, energy and climate change policies, EU directives and technological developments in areas such as energy storage, renewable energy generation and energy efficiency, may lead to a significant reduction in demand for fossil fuels. As part of its PC4 submission, GNI cites independent modelling which estimates that these dynamics could reduce demand for gas by 40% - 60% or more by 2050.44 This trend indicates that there is a risk that customers may face increasing tariffs unless GNI is able to maintain demand on the network without additional cost. In order to ensure that the cost of gas to customers remains competitive over the longer term, the challenge to GNI is to maximise utilisation of the gas network by growing demand whilst driving cost efficiencies.

1.2 Promoting growth initiatives during PC4

GNI has argued in its submission for PC4 that a difficult economic climate, a heightened awareness of energy efficiency and the increasing impact of energy policy contributed to a challenging period for network growth and utilisation during PC3, as average domestic gas consumption fell. Residential demand fell by 3% over PC3 despite a 6% increase in residential customer numbers. Demand for gas from power generation also dropped significantly at the beginning of the period driven by the increasing penetration of renewables together with low coal prices and the economic downturn. This contraction of gas demand from power generation (which reduced by approximately 13% in 2013/14 compared to end of PC2) was offset by growth in the Industrial and Commercial sector (estimated to have increased by 40% by end of PC3). Driven by the extension of the network to Macroom, Nenagh, Wexford and Cootehill, the growth in the Industrial and Commercial sector meant that, relative to the start of PC3, overall demand has remained flat.

However, GNI state that recent improvement in macroeconomic conditions may drive greater growth in the network during PC4. GNI has proposed to deliver over 100,000 additional domestic and commercial customers by the end of the price control. In total, GNI projections show that the number of connections will rise by c.14%. In addition to the direct costs associated with a larger customer base, such as meter reading and customer servicing, GNI plans to expand its maintenance and response capability to serve new geographic areas. It also anticipates that increased construction activity from economic growth will lead to an increase in siteworks and response activities (e.g. to react to damage caused to gas installations) requiring increased distribution capex during PC4. However, if GNI is able to achieve these targets without incorporating additional long-term costs it should place downward pressure on network tariffs to the benefit of all gas customers.

GNI has devised a detailed growth strategy which identifies measures it believes can increase market share in the residential and industrial and commercial sectors during PC4. In the residential market, it proposes to target new housing by providing advice to industry participants and working with vendors to promote gas heat pumps and domestic Combined Heat and Power (CHP) units. In the industrial and commercial market, GNI has launched a number of initiatives to increase gas utilisation and deliver savings to customers. One initiative supports institutional customers such as schools, hotels and hospitals which are near but not yet connected to the network. It has also secured a first order for a large data centre site. GNI’s PC4 expenditure plans include forecast increases in opex to help support these planned growth initiatives, including marketing and supporting regulatory and commercial schemes.

### 1.3 Compressed Natural Gas

During PC3, GNI undertook a number of projects to expand the role of natural gas in transportation and to develop the renewable gas sector. In 2016, it carried out several CNG trials with industry and commenced the installation of three fast fill CNG refuelling stations. CNG has the potential to deliver benefits in terms of cheaper fuel for transportation, lower air and noise pollution and, with more gas flowing through the network, downward pressure on tariffs for all natural gas users.

GNI has identified twenty five strategic locations for CNG refuelling stations around the country and it argues that construction of these stations are necessary for the development
of a market for natural gas as a transport fuel and to meeting the requirements of the Alternative Fuels Infrastructure Directive.

In November 2016, the CER published a funding decision on a trial to examine the impact of introducing compressed natural gas (CNG), delivered through the development of 13 CNG stations throughout Ireland.\textsuperscript{45} This follows a request to the Connecting Europe Facility (CEF) by GNI for this trial (‘Causeway Study’). GNI received €5.96m from the CEF and could draw down €4.68m from the PC3 innovation fund. The CER approved funding the shortfall of the study (€12.83m) to permit GNI to recover the total cost of €23.47m.

### 1.4 Renewable gas

GNI is also working to facilitate the first facility for injecting renewable gas directly into the network and, through the PC3 innovation fund, supported several decarbonisation research projects on gas quality, renewable gas feed stocks and the potential for “power-to-gas” (converting electricity to hydrogen). In addition, GNI believe that renewable gas can be part of the solution for national waste management through the conversion of waste to gas. Over PC4 GNI has proposed plans to facilitate the development and connection of six renewable gas production and injection facilities around the country as a necessary stimulus to this market. GNI has stated that “\textit{renewable gas is a versatile and sustainable energy source … renewable gas technology is mature and widely used in a number of European countries}.”\textsuperscript{46}

### 1.5 Responding to changing gas flows

One of the challenges that GNI has stated it faces during PC4 is responding to changing gas flows on the transmission and distribution.

Gas supply flows changed significantly in the latter period of PC3, with flows from the Corrib gas field commencing in 2015/16.


\textsuperscript{46} GNI (2016): ‘PC4 Executive Summary – PC4 SD001’
Corrib displaced Moffat as the dominant supply point in 2016/17. GNI argue that the new entry point creates a number of operational challenges, including:

- management of variable calorific values across the network;
- increased monitoring of gas quality and specification;
- balancing the configuration of network flows; and
- a requirement to operate the Southwest Scotland Onshore System (SWSOS) compressor stations on low and intermittent flows.

The SWSOS compressor stations, which were originally designed to cater for the full demand of the Ireland, Northern Ireland and Isle of Man networks, may experience additional wear in the future as a result of a start/stop operating profile due to the introduction of Corrib gas and the intermittency of wind generation. Any additional wear would result in an increased maintenance requirement.

Plans are also being developed to decommission historically key network assets. It is now expected that the Inch supply point will cease export operations in 2020/21 which will result in the decommissioning of Midleton Compressor Station. This will have a knock-on effect to other parts of the network, as during peak demand periods the Cork area depends on exports from Inch to maintain network pressures.

Source: GNI
Note: These graphs are for illustrative purposes only.
In response, GNI has planned a complex capital project at Ballough AGI, in order to increase pressure in the Dublin–Galway–Limerick pipeline and defer the requirement for a pipeline reinforcement between Limerick and Cork.

### 1.6 Managing an ageing asset base

GNI currently forecasts that maintenance costs will increase for PC4 by c.33% compared to PC3, as it administers ongoing maintenance programmes on a growing asset base, as well as delivering maintenance programmes for new asset classes and an aging asset base.

In preparation for PC4, GNI has done some initial work to understand the long-term asset renewal and investment profile of the network, which it set out in its submission. GNI’s analysis to date would suggest that the level of replacement expenditure is likely to increase in PC4 and PC5 prior to levelling off towards the end of the 2020s, although there may be options to defer investment whilst reducing risk.

Underlying its forecasts is an ageing asset base, of which GNI estimates more than 40% is over 20 years old. The primary components of the network, such as the buried high pressure steel pipework for transmission and polyethylene pipelines in distribution, have long design lives. However, the ancillary components and subcomponents of the pipelines (e.g. Above Ground Installations (AGIs), District Regulator Installations (DRIs) and at meter points) have considerably shorter design lives. Assets which are beyond their design life will require refurbishment or replacement to ensure the continued operation of the network in a safe and secure manner. GNI therefore expect a step-up in work load activity in PC4 and PC5 which has impacted on its opex and capex forecasts, including the company’s resourcing strategy as further detailed in section 2.5 below.

In addition, GNI argue that a number of asset replacements are required prior to the end of their design lives, particularly on the compressor fleet, due to accelerated degradation caused by harsh environmental conditions and usage profiles (driven by the variability of wind generation) to meet changing demand requirements. Early replacement may be the best option to ensure the continued reliable operation of the network.
1.7 Resourcing for higher volumes of smaller projects

In 2013, GNI developed a resource strategy which was to ensure that the company was appropriately resourced to deliver the PC3 work programme to 2017.

GNI identified gaps in core competencies, particularly for technical and engineering resources, which it claimed were manifesting in a failure of the business to ramp up to the required activity levels for PC3 delivery. GNI’s assessment of the underlying cause was differences in work type and volume between PC3 and preceding price control periods. In particular, the challenge was to become a low value high volume delivery company, while retaining the ability to deliver large projects such as new town developments. GNI’s response was a combination of recruiting additional staff and upskilling, which resulted in significantly increased resourcing costs over the latter years of PC3.

GNI argues that the PC4 work programme is potentially larger and more challenging than the programme delivered in PC3. In addition to a growing asset base and forecast maintenance programme, GNI is planning for a refurbishment programme which currently includes a number of high volume activities, for example:

- relocating c.9,000 domestic meters which have been identified to be located in unsafe (and/or non-compliant) positions in customer properties;
- installation of c.9,000 excess flow valves on 4 bar domestic services to limit the propagation of gas leaks from third party damage or asset failure;
- replacing c. 4,400 industrial and commercial meters, an increase of 42% on PC3; and
- replacing c. 124,000 domestic meters, an increase of 10% on PC3.

In light of the experience of ramping up resources in PC3, GNI has prepared an updated resource strategy which it believes will facilitate the delivery of the PC4 work programme. The same shortages in technical and engineering roles have been identified, as was the case for PC3. GNI is of the view that a net increase in headcount of c.70 people over 2016, 2017 and 2018 is required to deliver the programme of work, including 35 technical roles in Asset Operations, Asset Management and HSQE, 25 roles in its apprenticeship and graduate trainee programmes, and the remaining 10 roles in support services.
The figure below illustrate GNI’s forecast total headcount movement over the PC4 price control.⁴⁷

**Figure 2 Forecast movement of GNI headcount**

![Graph showing forecast movement of GNI headcount from 2017 to 2022.]

*Source: GNI*

The CER’s review of historic and future expenditure is made in light of the objectives and business challenges GNI has stated it faces over the PC4 period.

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⁴⁷ Note that this excludes growth in headcount at the Ervia Group level where BUs such as the Shared Service Centre support GNI’s activities.