GD23 – Gas Distribution Price Control 2023-2028

Final Determination Annex F

Capital Investment

October 2022

About the Utility Regulator

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

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

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

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

Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.

Our vision

To ensure value and sustainability in energy and water.

Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.

Abstract

This annex provides the Utility Regulator's detailed assessment of capital expenditure for the GD23 price control period and beyond for each GDN. This establishes the framework for future development of the gas networks and ultimately contributes to the draft determination of tariffs in the GD23 period for the three GDN's.

Audience

This assessment forms part of our draft determination for GD23 and is of direct relevance to the gas distribution regulated companies. It may also be of interest to consumers and their representatives, government and other regulated bodies.

Consumer impact

The overall consumer impact of GD23 is set out in the main draft determination report. The estimates of capital expenditure in this annex contribute to the determination of tariffs for GD23.

Contents

Executive Summary

This annex of the GD23 final determination summarises the capital expenditure requested by the three Gas Distribution Network operators (GDN's) in their business plan submissions and sets out our conclusions on reasonable levels of capital expenditure for GD23.

Capital expenditure covers the investment used by the GDNs to build the networks of gas mains and other assets that distribute natural gas to domestic and industrial & commercial properties, install services and meters at properties wishing to connect and replace their assets over time. To provide structure to our assessment, we collect and analyse capex data under ten investment categories. These categories form the basis for the presentation of costs in this annex and the layout of our detailed assessments.

The overall investment proposed by the GDN's for GD23 is presented in the table below. In total, the GDNs requested investment of £226.5m.

Investment category (£m)	Capital investment for GD23 (£m)			
	FE (Av 2020)	PNGL (Sept 2020)	SGN (Av 2020)	Total (Various)
7 bar mains	0.000	13.731	0.000	13.731
LP, 2 bar and 4 bar mains	16.001	12.631	19.869	48.500
Individually funded	0.000	5.855	0.000	5.855
Pressure reduction	1.095	2.941	2.806	6.843
Domestic services	37.994	38.154	7.544	83.691
Domestic meters	8.627	26.209	0.990	35.827
I&C services	2.321	1.721	2.430	6.473
I&C meters	2.688	4.407	0.893	7.988
Other capex	1.466	2.077	0.300	3.842
TMA	5.632	6.624	1.492	13.747
Totals	75.823	114.349	36.324	226.497

Note 1. Figures may not sum due to rounding.

The outcome of our final determination for each GDN is shown in the table below against the same investment categories. The total gross capital investment allowance for GD23 is £174.5m before the application of a frontier shift and the deduction of customer contributions. The net capital investment allowance after these adjustments are made is £185.6m.

Investment category (£m)	Capital investment for GD23 (£m)			
	FE (Av 2020)	PNGL (Sept 2020)	SGN (Av 2020)	Total (Various)
7 bar mains	0.000	9.453	0.000	9.453
LP, 2 bar and 4 bar mains	6.800	5.319	13.873	25.992
Individually funded	0.000	5.853	0.000	5.853
Pressure reduction	0.645	1.701	0.000	2.346
Domestic services	32.469	33.536	4.468	70.473
Domestic meters	8.487	24.275	0.879	33.641
I&C services	1.815	1.652	1.414	4.881
I&C meters	1.992	3.766	1.114	6.872
Other capex	1.207	1.766	0.300	3.273
TMA	4.108	5.581	1.976	11.665
Totals	57.523	92.901	24.024	174.449
Frontier shift	4.790	7.727	2.003	14.520
Customer contributions	-1.193	-2.213	-0.006	-3.412
Totals net of FS and contributions	61.120	98.416	26.021	185.556

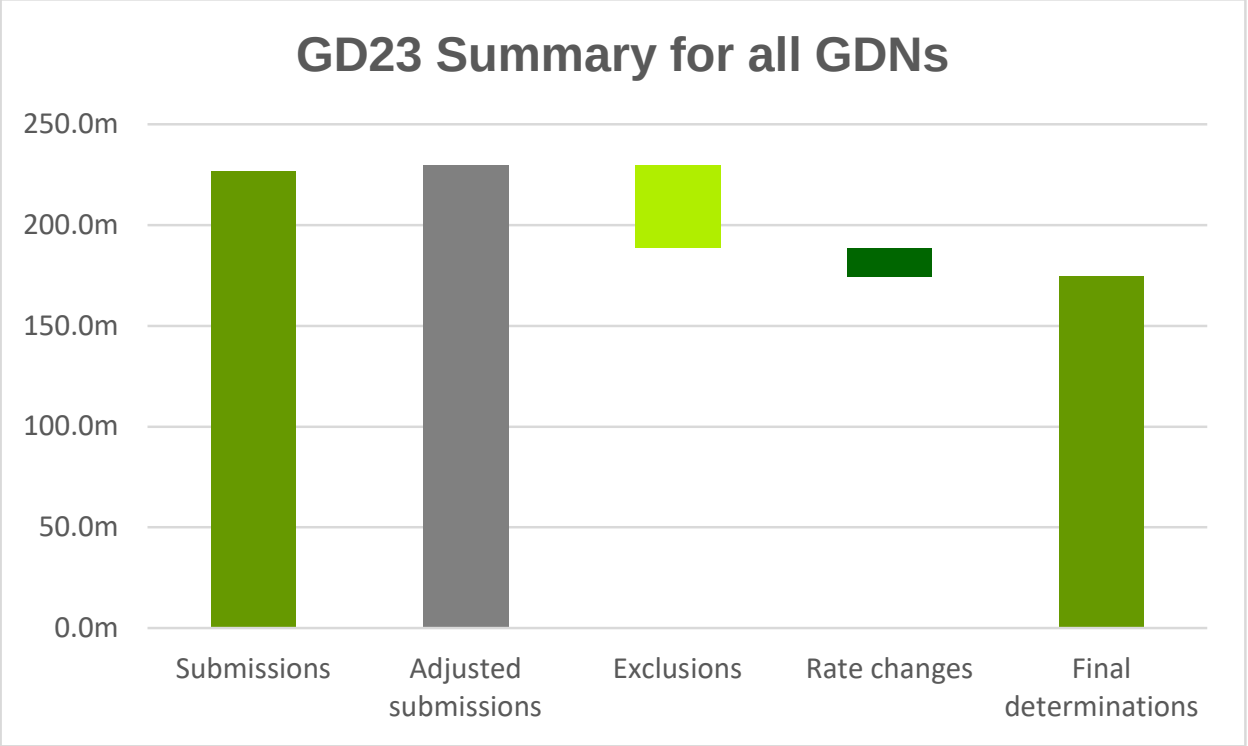
Note 1. Figures may not sum due to rounding.

Business Plan assessment approach

In assessing the Business Plan submissions we:

- Accounted for some supplementary information provided by the GDNs. This increased the total investment requested from £226m to £231m.
- Excluded items from the determination where we disagreed with the need for the investment. The majority of the exclusions relate to resilience mains; network extensions to towns that are currently not served by natural gas networks; and, reductions in the number of services and meters that we expect the GDNs to install in the GD23 price control period. These items amount to a total reduction in investment of around £41m. In making these deductions, we recognise that some of the excluded work might eventually be carried out in GD23 through the uncertainty mechanism if the need for the investment is confirmed.
- Challenged some of the increases in the cost of delivery proposed by the GDNs. In doing so we relied on historic unit costs from 2017 to 2020 to determine an appropriate level of investment for GD23. This resulted in a total cost reduction of around £14m over the price control period.

This resulted in a gross capital investment allowance for GD23 of £174.5m. The impact of each of these steps and the associated challenges applied to the overall investment plan can be seen in the figure below.



We then applied the following adjustments:

- Updated our frontier shift calculation for the final determination to try to reflect the 'above inflation' cost pressures which are currently being experienced. This resulted in a net cost addition of around £15m.
- Removed customer contributions amounting to around £3m.

This produced our net capital investment allowance for GD23 of £185.6m

Summary of the Capex adjustments applied to individual GDN submissions

The following tables provide a breakdown of the adjustments that have been applied to the capital investment submissions of each GDN in our final determination.

Investment category (£m) - FE	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	0.0	0.0	0.0	0.0	0%	0.0
LP, 2Bar or 4Bar Mains	16.0	15.3	-7.9	-0.7	-9%	6.8
Individually Funded	0.0	1.2	-1.2	0.0	0%	0.0
Pressure Reduction	1.1	0.8	0.0	-0.1	-16%	0.6
Domestic Services	38.0	38.0	-1.8	-3.8	-10%	32.5
Domestic Meters	8.6	8.6	-0.8	0.6	8%	8.5
I&C Services	2.3	2.3	-0.1	-0.4	-18%	1.8
I&C Meters	2.7	3.0	-0.7	-0.3	-14%	2.0
Other Capex	1.5	1.5	0.0	-0.3	-18%	1.2
TMA	5.6	5.6	-1.5	0.0	0%	4.1
Total	75.8	76.4	-13.9	-4.9	-8%	57.5
Total (post FS, net of contributions)						61.1

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices.

Investment category (£m) - PNGL	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	13.7	14.2	-2.7	-2.1	-18%	9.5
LP, 2Bar or 4Bar Mains	12.6	12.6	-5.7	-1.6	-23%	5.3
Individually Funded	5.9	5.9	0.0	0.0	0%	5.9
Pressure Reduction	2.9	2.9	-1.2	0.0	0%	1.7
Domestic Services	38.2	38.2	-2.8	-1.8	-5%	33.5
Domestic Meters	26.2	26.2	-1.1	-0.8	-3%	24.3
I&C Services	1.7	1.7	-0.1	0.0	-1%	1.7
I&C Meters	4.4	4.5	-0.6	-0.1	-4%	3.8
Other Capex	2.1	2.1	0.0	-0.3	-15%	1.8
TMA	6.6	6.6	-1.0	0.0	0%	5.6
Total	114.3	115.0	-15.4	-6.7	-7%	92.9
Total (post FS, net of contributions)						98.4

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices.

Investment category (£m) - SGN	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	0.0	0.0	0.0	0.0	0%	0.0
LP, 2Bar or 4Bar Mains	19.9	20.3	-6.0	-0.4	-3%	13.9
Individually Funded	0.0	0.0	0.0	0.0	0%	0.0
Pressure Reduction	2.8	2.8	-2.8	0.0	0%	0.0
Domestic Services	7.5	7.5	-1.1	-2.0	-31%	4.5
Domestic Meters	1.0	1.0	-0.1	0.0	4%	0.9
I&C Services	2.4	2.4	-0.4	-0.6	-30%	1.4
I&C Meters	0.9	0.9	-0.2	0.4	50%	1.1
Other Capex	0.3	0.3	0.0	0.0	0%	0.3
TMA	1.5	3.0	-1.0	0.0	0%	2.0
Total	36.3	38.2	-11.7	-2.6	-10%	24.0
Total (post FS, net of contributions)						26.0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices.

The following table shows how the total allowance for each GDN has changed since the draft determination at a summary level. This shows that the allowances for each of the GDNs has increased by around 25%.

GDN	BP Request	DD	FD	Change from DD	%Change from DD
FE	75.8	48.6	61.1	+12.5	+26%
PNGL	114.3	79.8	98.4	+18.6	+23%
SGN	36.3	20.8	26.0	+5.2	25%

Key capex decisions and themes

The following sections outline some of the key decisions and themes that underpin the material adjustments that have been made to the investment proposals submitted by the GDNs in our final determination.

Exclusions

The ‘resilience’ schemes proposed by FE and PNGL have been removed due to the absence of a common understanding and approach for identifying appropriate investment requirements. These schemes are intended to provide additional interconnectivity in already developed networks to reduce the risk of supply being lost due to a pipe burst. We recognise that there is a need to consider resilience requirements further and so will work with the GDNs to establish a working group to develop a rational basis for identifying investment which can be applied consistently across all the GDNs. We acknowledge that this might result in resilience schemes

being brought forward for delivery during the GD23 period if considered necessary.

Most of FE's reinforcement schemes have been removed. Many of these schemes were originally scheduled for the start of GD23, but the company has subsequently confirmed that most are not required until either the end of GD23 or the start of following price control period. Given the long lead in times and an element of uncertainty over the need for these schemes, we have moved the investment to 2029 (i.e. beyond GD23). However if it is subsequently confirmed that any schemes need to be delivered earlier, the work can be accelerated under the economic project mechanism.

SGN's proposal to infill nine towns and villages outside their original development plan has not been allowed. This is because SGN's economic appraisal of the investment needed to infill these towns does not meet our economic test (i.e. that the investment would not increase tariffs). SGN proposed including the cost of carbon within the economic test. However as this is not currently included within economic appraisals this investment has been excluded from the final determination. We are however open to reconsidering this in the future if circumstances change.

SGN's pressure reduction proposals have been removed in their entirety. The pressure reduction requested for the nine additional towns is no longer required as a consequence of the infill investment being excluded. SGN also requested funding for additional governors for its eight core towns. This was removed as these governors were funded in GD17 and consumers should not be expected to pay twice for this investment. SGN has advised that this was not its intention. If SGN chooses not install these governors in the GD17 period the Capex Risk Sharing mechanism will still allow it to install them in GD23.

The number of connections and meters for all the GDNs have been reduced in our determination to reflect our most recent estimates of activity and penetration. These numbers and the associated allowances will subsequently be corrected for actuals through the uncertainty mechanism.

Cost rate adjustments

We have continued to use the Basket of Works approach first adopted in GD14 and have generally determined the unit rates used in our determination from actual investment that was undertaken by the GDNs in the period 2017 to 2020.

PNGL's request for a significant amount of 7 bar reinforcement work in GD23 has been allowed. The rates that we have applied to determine an appropriate allowance are based on the outturn cost of reinforcement projects completed in GD17 and also the East Down extension. The historic outturn rates are from rural projects, whereas the work in GD23 is predominantly urban. The rates have therefore been adjusted to account for the differences in productivity that might be expected between a rural and urban environment.

In their business plan submissions the GDNs asked for large increases in the cost of installing services, suggesting that this work had been cross subsidised by mains construction work in the past. In a large part this resulted from the GDNs maintaining historic levels of capitalised cost against a declining volume of work, particularly in main laying, which increased the percentages allocated to services. This was not allowed in the draft determination, however following consideration of further evidence provided by the GDNs, we have reallocated some overheads from main laying activities to service laying activities for the final determination.

The GDNs had asked for a 4-6% uplift in their rates for current cost pressures related to COVID-19 recovery, Brexit and energy prices in their submissions. In our draft determination we assumed that these impacts would be either short term and/or reflected in general inflation. Through subsequent engagement and consideration of further information provided by the GDNs we have concluded that additional cost pressures above general inflation exist and that they are more material than previously thought. There is also the potential that they will extend beyond the short term. Based on the evidence provided by the GDNs we have estimated the additional cost pressure as 10.7% and so have applied this uplift across the capex programme for the final determination.

The determination includes an allowance for the future implementation of the Traffic Management Act (TMA). The figure we allow is 10% of the cost of mains and services. The reduction to the TMA allowance in the determination is therefore a function of the mains and services cost reductions that have been applied. The GD23 allowance will be deducted from the opening TRV for GD29 if the TMA is not implemented.

1. UR Decisions on Capital Expenditure

Overview

1.1 This annex of the final determination provides detailed information on the capital expenditure proposed by the three GDN's in their business plans and sets out our analysis and conclusions on reasonable levels of capital expenditure for GD23. The content of the individual chapters is described below.

1.2 Chapter 2 explains the structure of the capital expenditure information submitted in the business plans. We have followed this structure when describing our assessment of each GDN's submission.

1.3 Chapter 3 details six areas where we have developed a common approach for assessing the capital submissions of the GDNs and explains the approach adopted. These are:

- The evaluation of economic levels of infill mains.
- Describing the main laying incentives and uncertainty mechanisms that will apply.
- The assessment of benchmark rates for capital expenditure using outturn performance in Northern Ireland in the period 2017 to 2020.
- Allowing for the potential for the implementation of additional traffic management legislation in the future.
- The application of a frontier shift to reflect movements in capital expenditure input costs, including above inflation cost pressures, relative to CPIH and the on-going efficiency gains attributable to productivity improvements.
- The application of customer contributions to the output of our analysis for each GDN.

1.4 Chapter 4 describes the general approach that we have adopted for assessing each key investment category in the determination. This follows the structure described in Chapter 2, with further sub headings added as required to help provide additional detail and clarification with each key category.

1.5 Chapters 5, 6 , and 7 summarise the individual GDN submissions, describe our assessment and challenge of these submissions and present the capital investment allowances resulting from our final determination assessments.

1.6 The capital expenditure in FE and SGN's business plans is presented in 'average 2020' prices, whereas PNGL's price base is September 2020. Our assessment was undertaken in 'average 2020' prices and adjustments were then applied to convert to PNGL's price base.

1.7 The final determination includes a frontier shift adjustment to reflect real price effects and productivity improvements over the GD23 period from the base year. We have accounted for the impact of frontier shift as a final adjustment.

1.8 A final deduction has also been made to account for customer contributions.

1.9 While our analysis has focused on the GD23 period (2023 to 2028), we have also undertaken an assessment of long term activity and capital investment needs up to 2045 for FE, 2046 for PNGL and 2057 for SGN. This is to ensure that the GD23 tariffs reflect a reasonable long term view. In the individual sections relating to each GDN, we have provided a brief summary of the assumptions we have made for capital investment post GD23. Although these assumptions feed into the modelling for the GD23 tariffs, they do not represent conclusions on any specific issues or any commitment to long term investment. This will be considered as part of the assessments undertaken for future price controls.

Changes from Draft Determination to Final Determination

1.10 In coming to our final determination we have considered the consultation responses received, any additional information supplied by the GDNs and the outcome of our engagement with the GDNs. The key changes made since the draft determination as a consequence of this are as follows:

- We have estimated 'above inflation' cost pressures and have made an allowance for these in our frontier shift assessment.
- We have removed the properties passed mechanism for PNGL for the whole of GD23 and after 2023 for FE, based on the fact that the infill within their control will have been completed by this time.
- We have added an item to FE's uncertainty mechanism to account for work that might be required on 'Private Streets' following the completion of its general infill in 2023.

- We have advised the GDNs that we will work with them to establish a collaborative working group to develop a rational basis for identifying investment requirements for resilience projects which can be applied consistently across all GDNs. We have also added an item into the uncertainty mechanism for each GDN to account for 'necessary' resilience projects that might be required during GD23 as a consequence of the outworking's of this group.

- We have adjusted the unit rates applied to PNGL's 7 bar main reinforcement proposals to account for the differences in productivity that might be expected between work undertaken in rural and urban environments.

- We have adjusted the unit rates for domestic services to account for the longer service lengths allowed for in the final determination.

- We have adjusted the unit rates for domestic services for FE and PNGL and the blended main laying rates for SGN to account for the reallocation of overheads required as a consequence of the reduction in main laying activities.

- We have adjusted our customer contributions calculation to account for the cost of diversionary works.

2. Overall Structure of Capital Expenditure Submissions and Assessment

2.1 The GD23 capital investment submissions are structured around the following key categories of investment:

Investment category	Description
7 bar mains	Intermediate pressure mains operating up to 7 bar pressure which provide bulk distribution of gas from the high pressure network to the distribution networks which operate at up to 4 bar. In GD23, PNGL included several projects to reinforce the existing 7 bar intermediate pressure network.
LP, 2 bar or 4 bar mains	Distribution mains operating at up to 4 bar pressure. Consumers are connected to these distribution mains through service connections and metered supply points which include local pressure regulation. Distribution mains are included in each GDN's price control as: • Infill mains to serve existing developments. • New build mains to serve new developments. In GD23 FE and PNGL included resilience mains, which are designed to provide additional resilience to the network.
Individually funded	These are projects which are well defined and specific in nature. They can also be used to ring fence an allowance so that it is dependent on a specific output being delivered. In GD23 FE's submission has one ring fenced project for RiverRidge and another for 'Ten Towns Private Streets'. PNGL has specifically defined infill allowances relating to previous decisions on Greater Belfast, Whitehead, and East Down.
Pressure reduction	Pressure reducing stations are used to manage pressure between different parts of the network, typically from 7 bar intermediate pressures to 4 bar or 2 bar medium pressure distribution mains and from 4 bar or 2 bar distribution mains to distribution mains operating at low pressure up to 75 mbar.
Domestic services	Domestic services provide the connection between the distribution mains and the metered supply point of individual domestic consumers. The domestic service includes the connection pipe, new meter box and isolation valve.
Domestic meters	Domestic meters are provided for measuring and billing gas supplied to domestic consumers. The domestic meter includes the meter, the local pressure regulator and supply valve. Domestic meters are included in the GDN's price control for new connections to domestic properties. Both PNGL and FE have included 'end-of-life replacement' of existing domestic meters in GD23.
I&C services	Industrial and commercial services provide the connection between the distribution mains and the metered supply point of individual industrial and commercial consumers. The service includes the connection pipe, new meter box and isolation valve.
I&C meters	Industrial and commercial meters are provided for measuring and billing gas supplied to industrial and commercial consumers. Each I&C meter installation includes the meter, the local pressure regulator and associated pipework and valves. I&C meters are included in the GDN's price control for new connections to I&C properties. Both PNGL and FE have included 'end-of-life replacement' of existing I&C meters in GD23.

Investment category	Description
Other capex	Other capex covers investment in systems and assets required to manage service delivery including vehicles, buildings and IT equipment and systems.
Traffic Management Act (TMA)	The Traffic Management Act, if implemented in full, would require GDN's to make additional payments to Transport NI in respect of street works. Allowances of 10% of total mains and services costs have been included in the determination for the future implementation of this legislation. In practice, the GDN's will not receive this funding unless and until the legislation is implemented, at which time the impact on costs will be reassessed.

Table 2.1: Investment category descriptions

2.2 We have used this structure to present:

- Our assessment and challenge of the GDN's investment proposals.
- The conclusions that have been reached as a consequence of our assessment.
- The resulting allowances that have been included in the final determination.

2.3 Within each investment category, we have considered reinforcement of the existing system, growth (infill, new build and additional connections) and replacement of existing assets separately where it is appropriate to do so.

3. Common Approaches to Key Areas

Introduction

3.1 In this section we outline six key areas where we have adopted a common approach to inform our final determination of investment for each GDN. These are as follows:

- The evaluation of economic levels of infill mains.
- Describing the main laying incentives and uncertainty mechanisms that will apply.
- The assessment of benchmark rates for capital expenditure using outturn performance in Northern Ireland in the period 2017 to 2020.
- Allowing for the potential for the implementation of additional traffic management legislation in the future.
- The application of a frontier shift to reflect movements in capital expenditure input costs including above inflation cost pressures relative to CPIH and the on-going efficiency gains attributable to productivity improvements.
- The application of customer contributions to the output of our analysis for each GDN.

Common approaches – Economic level of infill mains

3.2 Our economic appraisals for infill have not changed since the GD17 determination and any previous decisions taken are detailed below.

3.3 We assessed FE's investment proposal for 621 projects and determined that they were economic as a complete package. We advised FE that we would allow it to prioritise the delivery of this investment and acknowledged that some work would carry over into GD23.

3.4 We determined a general economic level of infill for PNGL. This has carried forward into GD23 and will also apply to FE when it completes its mains infill package for the 621 projects in 2023.

3.5 We made our decisions on Whitehead Infill and Greater Belfast Infill in 2018 and 2020 respectively and these remain unchanged.

3.6 The development of the gas network in both the SGN area and the PNGL East Down area were subject to separate DETI economic appraisals and relevant government policy in terms of subvention and/or the inclusion of costs in the postalised transmission tariff. Wholesale construction of gas mains within the towns served has been allowed for and so the development of the gas network in these areas has not been subject to a further economic test.

3.7 The main principle used for the economic tests carried out in GD17 is that gas mains should only be laid where there is a reasonable prospect that the initial outlay cost will be paid back in the useful economic period by consumers connecting and burning gas.

3.8 The economic appraisal undertaken for GD17 was based on the key data and the assumptions set out in Table 3.1 below.

Key parameter	Value	Rationale
Economic life	40 years	The depreciation period for gas mains assumed in our financial models.
Economic discount rate	4.3%	Consistent with the return on capital for GD17.
Domestic properties passed	95% for FE 100% for PNGL	Consistent with the property counts identified by the respective GDN's in the detailed assessments of properties passed.
I&C properties passed	5% for FE 0% for PNGL	As above.
Domestic consumption	Average of 461 therms/a for FE Average of 380 therms/a for PNGL	Based on an analysis of consumption by property type linked to a detailed development plan. Consistent with the average therms per property currently reported by the GDN or projected at the end of GD17.
I&C consumption	2000 therms/a	Consistent with our approach at GD14.
Domestic connection rate	Variable	We assumed that 85% of properties will connect to the network in the long run at a rate of 5% per annum of properties passed but not connected. This is generally in line with the long term connection rate that we have seen to date. It is higher than the connection rate assumed for GD14.
Industrial and commercial connection rate	Variable	Connection rate used in GD14 based on PNGL experience of I&C connections.
Asset replacement	20 years	For meters and associated regulators and ancillaries.
Reinforcement	None	No allowance for additional pressure reducing stations or mains reinforcement. Consistent with the general design approach, historical development of the network and the GDN's business plan submissions.
Unit costs	Basket of works unit rates	Consistent with the GD17 capex determination, but excluding the application of real price effects.
Connection incentive	Variable	The relevant profile of connection incentive for each GDN used.
Operational costs	Variable	The analysis makes provision for variable opex associated with connections including asset maintenance, metering costs, repairs and emergencies and rates.
Ratio of I&C tariff to domestic tariff	90%	Based on FE GD14 tariff structure.

Table 3.1: GD17 economics of gas mains – Key parameters

3.9 The outcome of the analysis was an average economic level of investment per property and an estimate of the average length per property passed associated with that investment.

3.10 The general economic level of infill established for PNGL, will also apply to FE on the completion of the infill package that it is carrying over from GD17. Table 3.2 below shows the parameters that apply for any new gas mains and paragraph 4.21 explains the conversion from the GD17 figure of £359 per property passed to the figures which are applicable for GD23.

GDN	Price Control	Property type	£ per property passed	m per property passed
PNGL	GD17	Existing infill	359 (Dec 2014)	5.16
FE (post 2023)	GD23	General Infill	392 (Av 2020)	5.16
PNGL	GD23	General Infill	394 (Sep 2020)	5.16

Table 3.2: Economic development parameters for new gas mains

Common approaches – Mains laying incentive and uncertainty mechanisms

Properties passed mechanism

3.11 In GD17 all GDN's were subject to a properties passed mechanism to incentivise them to continue to extend the network to the level proposed in the final determination. Without this, a GDN could in theory, fail to deliver any gas mains and not suffer any negative consequences.

3.12 The GD17 final determination therefore included a target for the number of properties passed with any failure to achieve this target subject to a penalty of £50 per property. Passing a higher number of properties than the target results in a reward of £20 per additional property.

3.13 PNGL has indicated that it does not believe it is appropriate to include a properties passed incentive for its activities in GD23. This is on the basis that it is no longer subject to a development plan for the majority of its network and because making gas available to the remaining properties on its network is largely reliant on external factors. This argument would also apply to FE when it completes its infill package in 2023.

3.14 In our draft determination we continued to include a properties passed incentive. This was on the basis that we believed it remained valid and provided a valuable link between the numbers which the GDN's said they could achieve in their submissions and to the delivery of those numbers in reality.

3.15 PNGL restated its case in its response to the draft determination and having considered the companies case further we have concluded that the incentive should no longer be applicable to PNGL. This will also be the case for FE post 2023 when its infill package will be complete and it will only be infilling 'Private Streets' as they arise, similar to PNGL.

3.16 The properties passed mechanism will therefore only apply to FE for 2023, but will apply to SGN for the whole GD23 period. Otherwise it remains unchanged from GD17 and will continue to be applied on an annual basis subject to the following conditions:

- An annual penalty will not be applied where cumulative performance is ahead of target in that yea
- An annual reward will not be applied where cumulative performance is behind target in that year.

3.17 This will ensure that the mechanism will target sustained delivery.

3.18 It will apply to all existing properties that are owner occupied, NIHE or I&C. The draft determination had included the number of new build properties in error and has been corrected for the final determination. We believe this correction accounts for the additional circa 800 properties that SGN identified in section 6.3 of its consultation response.

3.19 The target number of properties passed for each GDN in GD23 is shown in Table 3.3.

	2023	2024	2025	2026	2027	2028	GD23 Total
FE	1,856	N/A	N/A	N/A	N/A	N/A	1,856
PNGL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SGN	1,908	1,723	2,797	3,511	1,025	1,736	12,700

Note 1. Figures may not sum due to rounding.

Table 3.3: Properties Passed Targets for all GDN's

3.20 The properties passed for each GDN have been derived as follows.

3.21 For FE, the number of OO, NIHE, and I&C properties have been taken from Table 4.4a of the business plan submission. Properties associated with RiverRidge have been discounted as this no longer forms part of the determination. Security of Supply properties have also been discounted as the majority of these projects have been disallowed. The mechanism will not apply to FE's 'Ten Towns Private Streets' infill as described in paragraph 3.29.

3.22 For PNGL, the mechanism no longer applies.

3.23 For SGN, we have taken the number of OO, NIHE, and I&C properties from the response to query SGN-004 for the core towns. Properties associated with the readily accessible towns properties passed have been discounted as this investment has been disallowed.

Infill and new build mains uncertainty mechanisms

3.24 In the final determination we have included an allowance for the construction of new mains needed to extend the gas network to serve both existing properties and new properties. Different approaches have been adopted for determining the length per property passed for new build and infill development and for different areas:

- For new build properties we have retained our GD17 assessment of 9.5m per property passed for all GDN's. FE and PNGL had also asked for this length of mains to be retained in their business plan submissions. SGN did not make any request relating to new build mains in its submission.

- For infill mains we have retained our previous GD17 decisions on East Down infill and the decisions made in 2018 and 2020 for PNGL's Whitehead Infill and Greater Belfast Infill.

3.25 Table 3.4 summarises the length of mains per property passed carried forward from GD17 and our other previous decisions.

GDN	Price Control	Property type	m per property passed
All GDN's	GD23	New Build	9.50
FE (carry over infill 2023)	GD23	Infill	10.30
FE Ten Towns Private Streets (post 2023)	GD23	Infill	10.30
FE (post 2023)	GD23	General Infill	5.16
PNGL Greater Belfast	GD23	Infill	14.30
PNGL Whitehead	GD23	Infill	9.00
PNGL East Down	GD23	Infill	11.52
PNGL	GD23	General Infill	5.16
SGN	GD23	Infill	11.50

Table 3.4: Economic development parameters for new gas mains for GD17

3.26 The infill mechanism exists to promote both efficient and economic delivery of infill mains.

3.27 We will continue to apply the mechanism to new build and infill separately in GD23. In our view, applying the incentive separately will benefit consumers by ensuring economic delivery for both and ensure that efficient delivery costs are revealed which can inform future price controls.

3.28 The infill mechanism for GD23 will generally be applied on a cumulative basis in the same manner as GD17 with the exception of the carryover from FE's GD17 package of 621 infill projects. The mechanism for this carryover will roll through from GD17 to 2023 and will be applied on a cumulative basis for GD17 and 2023 up to the capped length of 10.30m/pp.

3.29 In Appendix 7 of its consultation response, FE asked us to consider how private streets within the 621 economic project areas should be built out if they are adopted during the GD23 period. FE expect the number of adoptions to be small. As these streets are within areas covered by the original economic assessment we have decided to provide the original allowance established for the 621 projects, i.e. the same allowance that is being provided for the carry over infill. The 'Ten Town Private Streets' will be treated as an individually funded project and FE will be expected to report on it separately. As such, its mechanism will be applied on a cumulative basis to the end of the GD23 period from 2024. For clarity, the cumulative approach for the carryover of the GD17 infill package will end in 2023 and the cumulative approach for the 'Ten Town Private Streets' will start in 2024.

Economic project mechanism

3.30 Apart from the threshold value, the economic project mechanism remains unchanged from the GD17 determination and is repeated below for clarity. It formalises how we will assess and determine capital investment for major new opportunities or requirements which arise during the price control period.

3.31 The business planning process and the determination ensures that each GDN is able to plan and finance the economic development of the network as far as can reasonably be foreseen. The price control is also covered by the uncertainty and incentive mechanisms which afford both the company and consumers protection against change and provide incentives (positive and negative) to drive delivery and reward the company when it out-performs. However, it is possible that new projects will need to be brought forward which were not foreseen at the time of the determination, or were not approved in our determination. Although these might be economic and/or necessary, they may not be able to be delivered by a prudent operator within the general uncertainty mechanisms and incentive mechanisms provided for the price control.

3.32 The economic project mechanism provides a framework whereby a GDN can promote such schemes.

3.33 This mechanism does not apply to the general development of the network to serve domestic and I&C consumers. Each GDN has a general funding and targets under the price control to serve this consumer base and there are uncertainty mechanisms available to allow economic development to take place. Each GDN has broad discretion on how to act under the price control and is expected to use this discretion to promote economic development. As a result, we expect the economic project mechanism to apply to a limited number of major projects only, such as new large I&C connections.

3.34 To limit the application of the mechanism to major changes, we will apply a materiality threshold of £120k to the total investment net of contributions and will only consider projects which exceed this value.

3.35 Where a company identifies a project which is new and either economic, or necessary, it should present a business case to the Utility Regulator which sets out:

- Why the scheme does not fall within the scope of the determination or is not adequately covered by the other uncertainty mechanisms or the incentive mechanisms of the determination.
- The driver for the scheme and an explanation as to why the work must be carried out immediately and cannot form part of the next price control.
- A feasibility study setting out the proposed scope of works, the costs and revenues of the scheme, and a cost benefit analysis including a whole life cost analysis. All changes to the existing distribution network should be considered and the GDN should explain which elements of the upgrade it believes should be included in the economic appraisal and how this relates to its connection policy.
- The economic appraisal of the scheme should take full account of consequential benefits such as additional properties passed. In the case of a major new I&C connection, the submission should include a detailed technical assessment of the new load, including both peak and average consumption, and evidence of the consumer's commitment to use gas.

- A net present value (NPV) analysis of the project. The company should set out its reasoning for the period over which the NPV analysis is carried out. This should reflect a reasoned assessment of the life of the project and the risks and opportunities associated with a longer or shorter period of analysis. Where there is a shortfall in the NPV calculated for the project, the GDN should set out the arrangements for these costs to be recovered as a contribution in line with the connections policy.

- The adjustments it considers necessary within the current price control and any residual adjustment which should be made in any future price control to allow the GDN to finance the scheme.

3.36 On receipt of such a proposal, the Utility Regulator will:

- Review the proposal to satisfy itself that the scheme does not fall within the scope of the determination, or is not adequately covered by the uncertainty mechanisms or the incentive mechanisms of the determination.

- Assess the scope and costs of the proposed development, including benchmarking capital costs and assessing the potential loads and income generated by the scheme.

- Review the net present value analysis calculations. If necessary, the GDN will be asked to resubmit the net present value analysis and the assessment of any contribution necessary using criteria established by the Utility Regulator to ensure that the general consumer base is not required to subsidise a project which benefits a few consumers disproportionately.

- Following a review of the costs and further engagement with the GDN, make a determination of the adjustments necessary to the price control and the provision to be made in any future price control to finance the scheme.

3.37 The adjustments made to the price control for an economic scheme under this mechanism will include the following:

- Determination of an adjustment to volume targets for a minimum of 6 years, equal to the consumption included in the economic appraisal.

- An adjustment to the capital allowances for the determined capital costs net of any contributions and net of any consequential benefits such as additional properties passed.

- The addition of a nominated output for the delivery of the scheme including a completion date.

3.38 Any scheme which meets the criteria for this mechanism is likely to develop over a period of time. We would expect each GDN to keep us informed of the development of such schemes and engage on the timing and scope of any proposals well in advance of them being made.

Necessary project mechanism

3.39 All resilience schemes proposed by FE and PNGL were removed in the draft determination on the basis that the GDNs should have considered and allowed for this as part of the initial network design.

3.40 Our engineering consultants have advised that, although this would be common practice in GB and ROI, resilience also needs to be considered and managed on an ongoing basis as the network develops.

3.41 Due to the differences in the relative maturity of the GDN networks and their resilience investment proposals, they recommended that a collaborative forum be established to consider how it should be provided for before investment is committed.

3.42 The companies also suggested setting up a Resilience Group to consider this issue. We will therefore work with the GDNs to establish a collaborative working group to develop a rational basis for identifying investment requirements for resilience which can be applied consistently across all GDNs. This may result in resilience schemes subsequently being brought forward during the GD23 period if they are confirmed as being necessary based on the criteria established and agreed by the group.

3.43 The purpose of this addition to the uncertainty mechanism is therefore to provide a placeholder to deal with any such resilience projects where the net present value (NPV) analysis is not positive. It will be implemented within the uncertainty mechanism at such time as any resilience projects are confirmed as being necessary through the outworking's of the Resilience group.

Common approaches – Benchmark cost rates for capital expenditure

Introduction

3.44 FE, PNGL, and SGN have relied on tendered contract rates to price the capital works identified in the business plan submissions, subject to reasoned adjustments.

3.45 We adopted three principle approaches for reviewing and challenging the estimates prepared by the GDN's:

- We undertook simple high level benchmarking of the costs and activities submitted in the business plans to identify areas where there were material differences between the estimates prepared by the GDN's.
- We undertook a bottom up assessment of the detailed information provided by the GDN's to check the costing methodologies used and to confirm that the estimates reflected current contract rates.
- We updated and applied the basket of works approach first used in GD14 to determine high level unit rates consistent with historic costs in Northern Ireland, which could then be used to estimate the cost of future work.

3.46 A brief description of each of these assessments is provided below. We have based much of the final determination on the unit rates derived from analysis of a historical basket of works, with some smaller elements of the programme based on current contract rates or outturn costs.

Comparison of high level unit rates

3.47 As a first step in our assessment of the business plan submissions we calculated average rates for the capital expenditure proposed by each GDN. This information is shown in Table 3.5 along with the outturn rate of the three GDN's for 2017-20. While this simple approach does not account for underlying explanatory factors (for example, size distribution by asset type), it does provide an indication of material differences in unit costs and areas of focus for our subsequent assessment.

Investment category	Average unit rates for capital investment in GD23 (£)				
	Units	FE	PNGL	SGN	Outturn 2017-20
7 bar mains	£/m		657		
New build mains	£/m	36	56		39
Infill and spine mains	£/m	112	60	92	77
Security of supply mains	£/m	153	146		
Pressure reduction	£/unit	16,847	8,103	73,853	
New build services	£/service	398	714	1,425	456
Existing property services	£/service	1,287	1,098	1,438	912
New domestic credit meters	£/meter	123	141	105	134
New domestic Prepayment meters	£/meter	230	215	239	224
I&C services	£/service	2,662	2,086	3,232	2,224
I&C meters <=U40	£/meter	997	1,379	514	892
I&C meters >U40	£/meter	9,766	13,464	7,275	12,112

Note 1. Figures may not sum due to rounding. Price base Av2020 except PNGL which is Sep 2020.

Table 3.5: High Level Business Plan Capex Unit Rates for GD23

3.48 A key observation from this comparison is that the rate for existing property services in the business plan submissions is materially higher than the outturn unit rate for all the GDN's. Other business plan rates are generally comparable to the outturn rate for at least one of the GDN's.

Bottom up assessment of detailed information

3.49 To understand how the GDN's developed the estimates for infill gas mains we selected 10 projects for each GDN and asked them to provide the detailed information behind each project. We used this information to review the quantities of work and to understand how the work was costed.

3.50 We were able to confirm that the GDN's had applied their current contract rates to cost the scope of works identified. Other assumptions and adjustments were then made, which are described in general terms below.

3.51 A contractor uplift, in the range 4-6%, was added by all GDN's to account for what they viewed to be a price increase above general inflation.

3.52 FE used its main laying contract rates, added 5% for contractor uplift and additional capitalised opex at increasing levels over the GD23 period.

3.53 PNGL used its main laying contract rates which it adjusted using 2020 outturn costs to either increase or decrease costs based on actual performance. It then added a contractor uplift of 6%. It also estimated an

almost constant value of around £1m/annum for capitalised opex for all activity types across the period irrespective of work load, and a share of this was apportioned to main laying activities. Finally a share of the adjustment relating to red diesel tax, which totalled £50k across the price control period, was added.

3.54 SGN's analysis started with its main laying rates. It made an adjustment for traffic sensitive roads and a separate adjustment for roads where public realm works were anticipated. It then added 4.01% for contractor uplift. Finally it increased its capitalised opex for main laying activities over the GD23 period.

3.55 An adjustment to account for the removal of tax relief on red diesel was applied by both PNGL and SGN. As indicated above, PNGL applied a final adjustment of £50k across the entire capex programme whereas SGN applied a 0.4% increase as part of its general contractor uplift. We have subsequently seen this percentage increase steadily over time through the various responses we have received on the draft determination. We have accounted for the effect of red diesel within our assessment of 'above inflation' cost pressures and our treatment of this issue is explained in further detail within Annex E - Frontier Shift.

3.56 To understand how the GDN's developed their estimates for domestic services we asked for detailed information from each GDN and used this to establish how the work was costed.

3.57 We were able to confirm that the GDN's had applied the current contract rates to cost the scope of works identified. Other assumptions and adjustments were then made. These are described in general terms below.

3.58 FE started by using contract rates for a 0-15m service. A further increase of circa 4.7% was added based on the assumption that every GD23 service would be 16m long and attract an additional payment to the contractor. Another 17% was then added which was broken down as follows:

- 5% for the general contractor uplift.
- 9% for allocation of contractor overheads.
- 1% for real living wage and staff retention.
- 1% for an engineering materials price increase.
- 1% for average service length and added complexity.

3.59 PNGL used the period contract rates for services. It adjusted them using the 2020 outturn costs to either increase or decrease costs based on actual performance. It then added a contractor uplift of 6%. A share of the overall circa £1m/annum of capitalised opex was apportioned to services and a share of the adjustment for red diesel tax, totalling £50k across the price control period, was added.

3.60 SGN's analysis started with service rates. It then made adjustments for service length, mains pressure, and connections on traffic sensitive roads (Sunday working). It then added a contractor uplift of 4.17%. In addition it increased its capitalised opex allowance for service laying over the GD23 period. SGN's contractor uplift of 4.17% was broken down as follows:

- 2.86% for reduced turnover and allocation of overhead.
- 0.20% for training costs.
- 0.4% for red diesel tax relief.
- 0.21% for fuel cost.
- 0.5% for increased number of other services in footpaths.

3.61 One of the factors that the GDN's mentioned in their business plan submissions and consultation responses that we are able to test is domestic service length.

3.62 Table 3.6 below shows the average length of domestic services for each GDN for 2017-20.

Average length (m) 2017-20	FE	PNGL	SGN	Average
Owner occupied	12.8	11.8	13.2	12.2
Housing executive	10.6	10.0	13.6	10.5
Housing association	9.6	7.7	8.9	8.7

Table 3.6: Average domestic service length 2017-20

3.63 We found that the proportion of OO services with a service length over 15m increased for the GDN's in 2020 compared to the four year averages, as shown in Table 3.7 below.

Service length (>15m) %	FE	PNGL	SGN
Average 2017-20	31%	27%	29%
2020	36%	28%	60%
2020 number of OO services	2,600	5,080	410

Table 3.7: Average percentage of services longer than 15m

3.64 The GDNs had stated in their consultation responses that services are getting longer and so we considered this further for the final determination.

3.65 We found that the average length in the basket of works dataset for existing domestic properties is 11.6m. For 2020 alone it is 12.4m, an increase of 0.8m over the average. Using GDN contract data we calculated an 'extra over' rate for service pipe equating to £33 for 0.8m.

3.66 For the final determination we have allowed for this increase in service length over the longer term average and have increased the basket of works rate for existing domestic services by £33.

3.67 During our engagement with SGN it provided additional data to show that its services were substantially longer than the figures generated by the basket of works dataset. Details are provided in Table 3.8.

Option	OO (m)	NIHE (m)	Combined (m)
SGN submission	15.1	12.2	13.1
SGN refactored by FD numbers	15.1	12.2	14.8
SGN refactored including NB	N/A	N/A	13.9
UR 2020 including NB	N/A	N/A	14.6

Table 3.8: SGN domestic service lengths

3.68 SGN asked us to provide a rate which was reflective of the 15m OO length. However because our rates are blended we need to include the lower NIHE figures which reduces the overall blended length. We tested the effect of using our final determination service numbers on SGN's figures and found this increased the existing service length to 14.8m. Including NB service numbers reduces this to 13.9m.

3.69 We tried using the same approach as paragraph 3.65 above (i.e. using 2020 only) for SGN domestic services to see what impact that would have on the length. This produced a length of 14.6m for all domestic services which is directly comparable to the 13.9m estimated using SGN's approach.

3.70 The average length of an SGN domestic service in the basket of works dataset is 11.3m, which represent a difference of 3.3m to the length estimated using the 2020 data alone.

3.71 For the final determination we decided to allow for this increase in service length for SGN based on the additional information provided. As we have already provided some of this as part of the increase given to all the GDNs, we have only increased SGN's basket of works rate for domestic services by the difference. This equates to an additional £104.

3.72 The allocation of contractor overheads was another common theme contributing to the large increases in the rates requested by the GDNs for installing services in GD23. The draft determination allowed much lower rates as we had applied the historic percentages of management fees and capitalised opex to each work activity in addition to using the average historic length of a service.

3.73 The GDN responses to the draft determination claimed that a large proportion of management fees and capitalised opex is fixed and that because of the change in the mix of works from mains to services in GD23, the UR's approach would not provide sufficient funding to deliver the number of services proposed.

3.74 For the final determination we have reassessed our approach following the provision of further supporting information by the GDNs and further engagement. The allocation of management fees and capitalised opex between mains and services has been reconsidered taking into account the fixed 'cost' argument presented by the GDNs and the reduction in main laying activity for FE and PNGL compared to GD17.

3.75 As indicated in paragraph 3.58, FE's 17% increase to the domestic service rate included 5% for cost pressures which are dealt with in Annex E – Frontier Shift and 1% relating to additional service length which we have already dealt with starting at paragraph 3.61. This leaves a remaining 11% uplift that has been applied to the base service rate. As the base basket of works rate is £909, this would equate to a £100 uplift.

3.76 PNGL's consultation response provided the breakdown of a £129 service cost increase based on the following three reasons:

(i) Due to the reduction in main laying activity, amounting to £29.

(ii) Because the 2020 management fee costs were atypically lower due to COVID-19, amounting to £30.

(iii) As a consequence of the reduction in domestic service numbers in GD23 compared to GD17, amounting to £70.

3.77 Reason (i) has been accepted but when we undertake the calculation we get a slightly lower figure of £28.

3.78 Reason (ii) is not confirmed by the data provided by PNGL. Allocating the management fee each year to the number of services completed in each year gives the values in Table 3.9. This gives a marginal difference of £2 to the 2017 to 2020 average.

	2017	2018	2019	2020	17-19Av	17-20Av
Management fee (£)	248	246	213	232	235	234

Table 3.9: PNGL service management fee costs 2017-20

3.79 PNGL had used the draft determination service numbers to calculate the increase of £70 for item (iii). When we use our final determination service numbers we get an increase of £64.

3.80 When we combine all the figures we have estimated this equates to an increase of £94 for PNGL.

3.81 In order to simplify the determination and to maintain a consistent set of rates we have increased the domestic services rates for FE and PNGL by £104 in line with the increase provided to SGN for its extra service.

3.82 As indicated in paragraph 3.60, SGN applied an increase of 4.17% to its service rates. 2.86% of this related to reduced turnover and allocation of overheads. The remainder was for cost pressures which are addressed in Annex E – Frontier Shift.

3.83 SGN's service numbers are due to increase in GD23 to around 740 per annum on average. This compares to an average of around 320 per annum delivered in GD17between 2017 and 2020. This increase should mitigate any minor allocation issues. However, SGN's business plan was based on it laying mains in the nine readily accessible towns, which we have excluded from both the draft and final determination.

3.84 For the final determination we have therefore sought to maintain the overheads for SGN and its contractor across the remaining main laying activities. Our final determination approach can be summarised as follows:

a) SGN's historic capitalised opex is 5.1% compared to the average for the three GDNs of 7%.

b) Neither we or SGN can be certain of the contractor's overheads, but based on another GDN where there is visibility, the ratio of capitalised opex to contractor overheads appears to be around 1.8.

c) As a conservative approach we have assumed that capitalised opex will run at 7% in line with the GDN average and that the ratio between SGN and the contractor will be 2 based on the ratio from the other GDN.

d) As the business plan submission for main laying was around £20m we therefore sought to maintain around £4.2m of overheads against this activity. We did this by increasing SGN's three main laying rates by 13.4% compared to the draft determination. This effectively reallocated the circa £1.6m of overheads associated with the excluded activity in the nine readily accessible towns.

3.85 We believe that the adjustments resulting from the application of these assumptions provides SGN with an appropriate overall level of overheads between services and mains. We also believe that providing the additional allocation in mains laying activities is preferable for SGN.

Basket of works

3.86 The bottom up approach adopted by the GDN's could provide a reasonable estimate of costs, if it fully reflected the decisions made and the opportunities available in delivery. However, the approach carries a number of risks to consumers which we must seek to address in our determination:

- The development of bottom up scopes of work and estimates might not truly reflect efficient design choices, cost allocations or opportunities for cost saving in delivery.
- Bottom up estimates might not adequately reflect or may over estimate site specifics such as disruption and standing time, difficult ground conditions, restrictions on access, traffic management and the need for weekend working.
- Bottom up estimates might not adequately reflect general items such as management costs.
- The application of contract rates might not adequately reflect performance against commercial terms such as pain-gain payments.
- Using tendered rates to price a determination assumes that a particular procurement process is efficient and that tendered rates should be passed through to consumers.

- The application of current contract rates by each GDN foregoes the opportunity for benchmarking to identify efficient capital expenditure.

3.87 To address these issues, we have applied and adapted the basket of works approach used in GD14 and GD17.

3.88 The approach used in GD14 built on principles which were adopted by Ofgem in GDPRC1 and RIIO-GD1 price controls. The basket of works summarises total historical capex into broad categories of work with high level cost drivers such as length of mains or the number of connections. Unit rates for the basket of works are calculated by dividing the total historical cost by the historical number of units for the cost driver. The application of this approach continued in GD17.

3.89 For GD23, we have updated our approach to the basket of works to reflect both improving historical cost information and the balance of unit rates in Northern Ireland. The main changes made are as follows:

- We analysed historical costs for the four year period 2017 to 2020. The duration is the same as that used in GD17. This reduces the impact of year on year changes in the balance of work undertaken and the potential impact of accruals between years.

- For GD23, we have based our analysis on the combined costs of FE, PNGL and SGN. Combining costs in this way provides a broader cost base and comparative benchmark which takes account of all costs incurred in the period.

- Further work has been undertaken to align the relative level of unit costs with local experience of all-in costs or tendered rates. In general we retained the GD17 rates profile for each category of rates with the exception of replacement meters, where the GD17 profile did not align with local experience. We then adjusted the package of rates for each category in the basket of works to reflect historical costs. As a result, unit rates have generally reduced. Where the GD23 unit rate is less than the GD17 rate we have taken the average of the two. If the GD23 unit rate is higher than the GD17 unit rate we have used the GD23 rate. This has built in a small margin which will benefit the GDN's in GD23 and provides a glide path towards actual outturn rates.

- New rates have been created for the replacement of large meter cabinets and rigs reaching 30 years of service by PNGL. This is the first time the company will have undertaken this type of work at their meter installations. So these rates were created by applying an adjustment for general historic outperformance over the business plan submission to the information submitted by PNGL in its response to Query PNGL-078. There are no rates for smaller I&C meters (U6-U40) as these are not being replaced at this time.

3.90 This analysis has produced a set of unit rates which can be applied to the same high level categories of work and cost drivers in the future to determine an efficient overall capex allowance that is reflective of historical costs. The basket of works unit rates resulting from the analysis are shown in Table 3.10 below. These have been updated to account for the increases in domestic service rates applied in the final determination as outlined above. They do not include for 'above inflation' cost pressure as this is accounted for in the frontier shift.

Activity	Unit rate	Activity	Unit rate
Mains new build 32mm	41	I&C meter - U160	9,962
Mains new build 50mm	43	I&C meter - U250	14,216
Mains new build 63mm	45	I&C meter - U400	21,461
Mains new build 75mm	47	I&C meter - U650	31,679
Mains new build 90mm	50	I&C meter - U1000	45,554
Mains new build 125mm	58	I&C meter - U1600	67,645
Mains new build 180mm	72	I&C meter - >=U2500	85,029
Mains new build 200mm	78	I&C U6 - Replacement end of life	140
Mains new build 250mm	95	I&C U16 - Replacement end of life	604
Mains new build 315mm	121	I&C U25 - Replacement end of life	649
Mains new build 355mm	140	I&C U40 - Replacement end of life	722
Mains new build 400mm	162	I&C U65 - Replacement End of Life	842
Mains new build 450mm	190	I&C U100 - Replacement E of L	1,004
Mains new build 600mm	290	I&C U160 - Replacement E of L	1,266
Mains feeder/infill 32mm	68	I&C U250 - Replacement E of L	1,626
Mains feeder/infill 50mm	70	I&C U400 - Replacement E of L	2,139
Mains feeder/infill 63mm	72	I&C U650 - Replacement E of L	2,780
Mains feeder/infill 75mm	75	I&C U1000 - Replacement E of L	3,313
Mains feeder/infill 90mm	79	I&C U1600 - Replacement E of L	3,587
Mains feeder/infill 125mm	89	I&C U2500 - Replacement E of L	3,787
Mains feeder/infill 180mm	112	I&C U6 - Replacement other	140
Mains feeder/infill 200mm	121	I&C U16 - Replacement other	604
Mains feeder/infill 250mm	150	I&C U25 - Replacement other	649
Mains feeder/infill 315mm	205	I&C U40 - Replacement other	722
Mains feeder/infill 355mm	234	I&C U65 - Replacement other	842
Mains feeder/infill 400mm	268	I&C U100 - Replacement other	1,004
Mains feeder/infill 450mm	309	I&C U160 - Replacement other	1,266
Mains feeder/infill 600mm	437	I&C U250 - Replacement other	1,626
Domestic services existing	1,094	I&C U400 - Replacement other	2,139
Domestic services new build	560	I&C U650 - Replacement other	2,780
I&C service very small (U6)	1,450	I&C U1000 - Replacement other	3,313
I&C service small (U16-U40)	2,282	I&C U1600 - Replacement other	3,587
I&C service medium (U65-U160)	4,508	I&C U2500 - Replacement other	3,787
I&C service large (U250-U650)	8,950	I&C U6 - Replace installation E of L	
I&C service very large (>U650)	13,647	I&C U16 - Replace installation E of L	

Activity	Unit rate	Activity	Unit rate
Domestic meter - Credit	144	I&C U25 - Replace installation E of L	
Domestic meter - Credit - replace E of L	144	I&C U40 - Replace installation E of L	
Domestic meter - Credit - replace other	144	I&C U65 - Replace installation E of L	2,503
Domestic meter - PAYG	228	I&C U100 - Replace install E of L	3,195
Domestic meter - PAYG - replace E of L	228	I&C U160 - Replace install E of L	4,381
Domestic meter - PAYG - replace other	228	I&C U250 - Replace install E of L	4,205
I&C meter - U6	144	I&C U400 - Replace install E of L	9,651
I&C meter - U16	1,505	I&C U650 - Replace install E of L	10,741
I&C meter - U25	2,060	I&C U1000 - Replace install E of L	10,886
I&C meter - U40	2,202	I&C U1600 - Replace install E of L	17,682
I&C meter - U65	5,078	I&C U2500 - Replace install E of L	27,311
I&C meter - U100	6,947	I&C U4000 - Replace install E of L	44,938

Note 1. Price base is average 2020. To convert into Sept 2020 prices multiply by 1.0041.

Table 3.10: GD23 basket of works unit rates

3.91 As part of the GDN's consultation responses we asked them to:

- Comment on any errors in the data used or the proposals made in the allocation of costs and activities.
- Identify any further disaggregation of the basket of works which would improve the analysis and explain the rationale for this, providing any additional data necessary to support the further disaggregation.
- Identify and explain any improvements in the ratios between the rates which would better reflect actual cost rates, recognising that a change in one rate will prompt a balancing change in other rates.
- Identify and quantify any company specific factors which should be considered in the application of the rates and, where appropriate, explain how these special factors were included in the historical capital investment used to develop the basket of works.
- Identify any areas where historic costs or activities might not adequately reflect future costs and activities and quantify the impact this would have on the company's estimated future costs.

3.92 Not all GDNs agreed to share their company data with the other GDNs. This limited the review process and the ability of the companies to answer the questions above.

3.93 SGN's response to the draft determination included a significant section on the basket of works. As a result of the feedback provided, we have adjusted its basket of works unit rates for domestic services and all of its blended main laying rates in the final determination.

3.94 Our rationale for changing the domestic service rates is explained above, starting at paragraph 3.61. The approach that has led to the increase in SGN's blended main laying rates is explained above, starting at paragraph 3.84. The average rates for spine and infill mains can be found below in Table 4.1.

3.95 We believe these increases address all the GDN's concerns with regard to the basket of works rates. A further explanation of the specific issues raised by SGN is provided in the following paragraphs.

3.96 SGN referenced the variation in traffic sensitive works and the road category differences between the GDNs. We had already addressed this in the GD17 final determination beginning at paragraph 7.82. We have continued to apply these determined rates and uplifted them again for overheads in GD23, even though the GD17 determination stated the uplift should only apply over GD17.

3.97 The effects of working in areas of public realm reinstatement are addressed in the GD17 final determination beginning at paragraph 7.305 and the same logic applies in GD23.

3.98 The reduction in the scale of the main laying programme resulting from the exclusion of the readily accessible towns has been addressed by maintaining the level of overheads from SGN's submission in the remaining main laying programme in the final determination.

3.99 The geographic location issue raised by SGN, in relation to the lower density of customers and properties passed within its network, has been addressed by allowing for longer service lengths and a longer m/pp than other GDN's for main laying activities, as shown in Table 4.1.

3.100 SGN also questioned whether historical costs would provide a representative guide to future costs, noting the recent upward trend in market prices. The issue of upward cost pressures above inflation has been addressed in Annex E – Frontier Shift.

Common approaches – Street works legislation

3.101 In Great Britain, there are two main pieces of legislation which set out the rules and regulations that apply whenever utilities or similar organisations

undertake capital works in public roads. They are the Traffic Management Act (TMA) and the New Roads and Street Works Act (NRSWA). Equivalent legislation has not yet been implemented in Northern Ireland, but it is possible that the Assembly might proceed with implementation in due course. The terms and the timing of any such future legislation and the impact it would have on the costs incurred by GDN's remains uncertain.

3.102 In light of this on-going uncertainty, we have continued with the approach to TMA costs which was adopted in GD14 and GD17:

- We have made a provision in the final determination of 10% of the cost of mains and services against future TMA costs. This is reflected in the determination of tariffs. SGN included 5% in the submission and we have adjusted this accordingly.

- We will make a retrospective adjustment at the time of the next price control to reflect the actual level of expenditure related to the implementation of traffic management legislation. This adjustment will take account of the impact on return on capital associated with any reduced or increased costs.

3.103 This approach allows for the implementation of legislation during the course of the price control without a material impact on tariffs and provides a symmetrical protection to both the GDN's and consumers against this future uncertainty.

Common approaches – Capex real price effects and frontier shift

3.104 We have applied a frontier shift to capital investment in GD23 to reflect movements in capital expenditure input costs relative to CPIH and the on-going efficiency gains attributable to productivity improvements. We have not applied a frontier shift to our projection of costs beyond GD23.

3.105 We have assessed particular elements of cost, drawing on our previous experience and current regulatory practice.

3.106 The price of a company's various inputs may differ over time. GD23 has been indexed by the Consumer Prices Index including Owner Occupiers' Housing (CPIH) to account for broad movements in prices. This is a change from GD17 where RPI was used as the inflation index. As this is a measure of general inflation, not all types of cost changes will be reflected in the range of prices used to calculate CPIH. To account for this it is common practice to calculate and make adjustments for the difference, either positive or negative, between particular input price changes for a company or industry

and the CPIH measure of inflation. This is described as real price effects (RPE's).

3.107 The concept of frontier shift is wider than simple productivity assumptions. Within this determination we have continued with the methodology applied in the GD17 determination, but with the new inflation factor. This process combines nominal input price forecasts with productivity expectations and CPIH inflation:

Frontier shift in real terms = input price increase minus

forecast CPIH (inflation) minus

productivity increase

3.108 A further detailed explanation of the precise make up of our overall RPEs and assumed productivity increase is contained in Annex E – Frontier Shift.

3.109 The calculation of the frontier shift for capital expenditure is summarised in Table 3.11 below.

	2023	2024	2025	2026	2027	2028
Frontier shift (cumulative)	1.085	1.078	1.085	1.084	1.084	1.083

Table 3.11: Frontier shift for capex

Common approaches – Customer contributions

3.110 We have made a final adjustment to the capital expenditure allowances for each of the GDN's to account for customer contributions.

3.111 Our analysis of the basket of works and the business plan submissions was completed using gross costs reflecting the true cost of completing the various work streams.

3.112 PNGL included an estimate of customer contributions in its business plan, whereas FE and SGN did not.

3.113 For our determination we averaged each GDN's customer contributions individually over the 2017-20 period and applied them as a percentage reduction. In response to the draft determination PNGL proposed that the customer contributions adjustment should not include the contributions relating to diversion works. We have accepted the case made by PNGL and reduced the adjustment accordingly. The customer contributions adjustments applied to each GDN in the final determination are shown in Table 3.12 below.

	FE	PNGL	SGN
Customer contributions adjustment	-1.91%	-2.20%	-0.02%

Table 3.12: Customer contribution adjustment for GD23

4. General Approach by Investment Categories

General approach – 7 bar mains

4.1 We have assessed the need for 7 bar mains on a project by project basis. Only PNGL made a submission in this category.

General approach – LP, 2 bar or 4 bar mains

Resilience mains

4.2 Firmus energy and PNGL have submitted capital funding to improve the resilience of the gas distribution networks. FE included £3.6m for 27.8km of mains and PNGL included £3.8m for 33.3km of mains. A resilience scheme is generally one which creates a loop in the network which allows properties to be supplied from more than one direction if a gas main is cut. In some other cases it involves the duplication of a strategic main. The companies have suggested setting up a Resilience Working Group to address the issue of resilience.

4.3 SGN has not included any resilience projects in GD23. However, it has suggested two major resilience projects for GD29. An Omagh to Strabane link main of circa 27km and the partial duplication of the pipeline from outside Dungannon to Cookstown with an additional circa 13km of main.

4.4 In the draft determination we said that GDN's should have considered resilience when developing and laying out their network. Section 9.4 of IGEM/GL/1 Ed 2 states:

"When planning a system, consideration should be given to the security of the supply of the system (with regard to the maintenance of the transportation capacity), having regard to the probability of damage to, or breakdown of, any individual component within the system and the likely consequences of such an occurrence."

4.5 Appendix A3.2 of IGEM/GL/1 Ed 2 states:

"System planners need to be aware of the events that could adversely affect the gas supply. Where reasonably practicable, measures to prevent or mitigate such events are required. For example, rather than having a flow of gas in one direction that could lead to the disconnection of consumers downstream in the event of a pipe breakdown, the system could be constructed such that gas is routed in more than one direction so that gas

continues to flow to both sides or, and up to, the isolation points of a pipe failure."

4.6 If the GDNs consider that resilience is necessary and is reasonably practicable to provide, then they should incorporate it into the design and construction of the networks in accordance with the relevant regulations and guidance.

4.7 Both PNGL (Business Plan commentary section 3.2., Ensuring a safe and reliable supply of gas) and SGN (Reinforcement Security section 3.1.3, Distribution Network) indicate that the distribution networks have been designed, where possible, with security of supply in mind. FE confirmed this was also the case for them.

4.8 We noted that the indicative proposals put forward by SGN for GD29 were not identified by the company as necessary when the Gas to the West project was delivered, nor by consultants when the Gas to the West network was developed. PNGL also did not suggest duplicating any of the spine mains into East Down when this scheme was developed. Likewise, all of FE's sub-networks are generally fed from single pipelines from the various AGIs.

4.9 In addition the Northern Ireland networks all have inherent amounts of vulnerability which has been and continues to be mitigated by other measures.

4.10 Our position at the draft determination was therefore that the GDN's should have provided resilience where reasonably practicable in the original economic layout of the network and that any further work necessary should be completed within the current price control mechanisms.

4.11 Our engineering consultants have advised that, although this would be common practice in GB and ROI, resilience also needs to be considered and managed on an ongoing basis as the network develops. However, due to the differences in the relative maturity of the GDNs and their resilience investment proposals, they recommended that a collaborative forum be established to consider how it should be provided for before investment is committed.

4.12 For the final determination we have therefore continued to exclude resilience investment (£3.6m for FE and £3.8m for PNGL), but plan to establish a working group to develop a rational basis for identifying investment requirements which can be applied consistently across all GDNs. This may result in resilience schemes subsequently being brought forward during the

GD23 period if considered necessary. The GDNs have been made aware of our decisions and proposals.

Reinforcement mains

4.13 We have assessed the need for reinforcement mains on a project by project basis.

Spine and infill mains

4.14 All of the GDN's intend to complete the infill of their existing areas in the GD23 period. FE and PNGL will have substantially completed their infill in 2023 and SGN will complete its infill by the end of the price control period.

4.15 In GD17 we identified an economic package of infill for FE of 66,817 properties passed at a length per property passed of 10.30m. FE are forecasting laying 34.7km of main and passing 1,856 properties in GD23 at a length of 18.7m per property passed. This is due to the choices FE has made in the phasing of the rollout of its network. This contrasts with the outturn for the first four years of GD17, where FE averaged 10.50m per property passed.

4.16 In section 7.170 of our GD17 determination we advised that we would not undertake a new economic assessment of this infill in GD23. This was to ensure that the company could deliver the work in the most economic manner without any concern over the marginal economic viability of any work left to be completed in GD23.

4.17 In line with this commitment, we are carrying over the GD17 determination into the first year of the GD23 price control period to enable FE to complete the infill on the same terms as GD17. This was 10.30m per property passed at £67.76/m (Dec 2014 prices) which equates to £77.13/m (Av 2020 prices).

4.18 The uncertainty mechanism for this infill will also roll through 2023 on the same basis as GD17 (see GD17 Table 178). This means that the output is based on the actual number of properties passed, the annual average number of metres of infill laid per property passed up to a cap of 10.30m and a determined unit rate of £77.13/m (Av 2020 prices). This will be applied on a cumulative basis for GD17 and 2023.

4.19 As part of their consultation response FE asked us to consider how private streets within the 621 economic project areas should be built out if they are adopted during the GD23 period. This is addressed in paragraph 4.35 below.

4.20 PNGL asked for a general allowance covering 900 properties on the same basis as our Greater Belfast Infill decision. As we have not repeated our economic assessment and the economics are unlikely to have changed, we will continue to apply our decision from GD17.

4.21 Following the completion of the remaining infill in 2023, both FE and PNGL will revert to the general economic parameters established in GD17 for existing infill (see GD17 Table 102). This was £359 per property passed (Dec 2014 prices) at 5.16m per property as shown in Table 3.2 above, which equates to £69.57/m (Dec 2014 prices). This was the source of the figure of £66.81/m (Dec 2014 prices) given in Table 114 of the GD17 determination which has GD17 frontier shift applied and takes account of the specific proportions of mains. This equates to £76.05/m (Av2020 prices) or £76.36/m (Sept 2020 prices).

4.22 PNGL asked that we roll forward our previous decisions on Greater Belfast Infill, Whitehead Infill, and East Down Infill, which were submitted as Individually Funded projects. These projects are discussed further, beginning at paragraph 4.33, and we have accepted PNGL's request to roll these decisions forward.

4.23 The same approach has been applied to the SGN Core Towns. Basket of works rates established in GD17 for previously approved infill will therefore roll through the GD23 period to give SGN the flexibility to prioritise its programme of works appropriately and ensure SGN is not disadvantaged compared to the other GDN's.

4.24 The infill rates for each GDN are shown in Table 4.1 prior to the application of the GD23 frontier shift.

GDN	GD23 FD m/pp	Average rate for spine and infill (£/m)		
		Business Plan	GD17 FD (Dec 2014)	GD23 FD
FE 2023 Infill	10.30	111.97	67.76	77.13
FE general Infill (Av 2020)	5.16		66.81	76.05
PNGL general Infill (Sep 2020)	5.16	59.66	66.81	76.36
SGN (Av 2020)	11.50	92.16		
SGN mains <= 90mm (Av 2020)			67.06	86.58
SGN >90mm <= 200mm (Av 2020)			89.64	115.73
SGN >200mm (Av 2020)			160.61	207.36

Note 1. Final determination figures pre frontier shift.

Table 4.1: Average rates for spine and Infill mains

4.25 In its submission, SGN asked that we move away from blended rates as it feels that it was disadvantaged by this in GD17. We have decided not to do so. The business plan submissions should be reflective of what will be constructed during the price control period, and if this is the case, the effect of the blending of rates is minimal. The uncertainty mechanism provides the opportunity for GDN's to change the priorities for planned work if necessary as a consequence of circumstances changing during the price control.

4.26 We undertook analysis to see why SGN were disadvantaged in the early years of GD17. The main issue occurred in 2019 when SGN constructed a very large amount of 315mm mains and very little 250mm mains. The blended rate for >200mm mains was calculated from SGNs GD17 business plan proposals and assumes a larger proportion of 250mm mains compared to 315mm. We expect this position to partially reverse in GD23 where substantially more 250mm mains are to be constructed compared to 315mm and this will benefit SGN.

4.27 SGN's economic appraisal of the readily accessible towns demonstrated that they did not meet our economic test as a group (i.e. that the investment would not increase tariffs. SGN proposed including the cost of carbon within the economic test. However as this is not currently included within economic appraisals this investment has been excluded from the final determination. We are however open to reconsidering this in the future if circumstances change.

4.28 As a consequence of our exclusion of the readily accessible towns, we have sought to maintain the overheads for SGN and its contractor across the remaining main laying activities. Our approach is explained further starting at paragraph 3.84 above. This has resulted in an increase of 13.4% to each of SGN's blended rates in Table 4.1 when compared to the draft determination.

New build mains

4.29 In the GDN's business plans both FE and PNGL asked that we retain the 9.5m per property passed for new build properties that was established in GD17. SGN did not submit any length or costs for new build mains.

4.30 We have accepted this proposal and applied the lengths submitted by the GDNs to the GD23 basket of works unit rates to estimate an allowance for new build mains for FE and PNGL. As SGN did not submit any proposals for new build mains and have minimal outturn costs for 2017-20, we have carried forward the GD17 determined unit rate adjusted for inflation.

4.31 The table below shows the difference between the average rates requested for new build mains and the average unit rates allowed in the final determination.

GDN	Average rate for new build (£/m)	
	Business Plan	GD23 FD
FE (Ave 2020)	35.51	45.39
PNGL (Sep 2020)	55.52	46.66
SGN (Ave 2020)	00.00	53.59

Note 1. Final determination figures pre frontier shift.

Table 4.2: Average rates for new build mains

Replacement mains

4.32 We have made no allowance for replacement mains in the determination. We have assumed that the costs of any 3rd party requirement to relocate mains or repair mains will be balanced by the customer contributions received and there will be no net cost to consumers.

General approach – Individually funded

4.33 We have assessed the need for Individually Funded schemes on a project by project basis.

4.34 We have transferred FE's project for RiverRidge from Spine and Infill mains to Individually Funded and this is discussed further in Chapter 5.

4.35 As part of their consultation response FE asked us to consider how private streets within the 621 economic project areas should be built out if they are adopted during the GD23 period. FE expect the number of adoptions to be small. As these streets are within areas covered by the original economic assessment we have decided to provide the original allowance established for the 621 projects, i.e. the same allowance that is being provided for the carry over infill. The 'Ten Town Private Streets' will be treated as an individually funded project and FE will be expected to report on it separately. As such, its mechanism will be applied on a cumulative basis to the end of the GD23 period from 2024. For clarity, the cumulative approach for the carryover of the GD17 infill package will end in 2023 and the cumulative approach for the 'Ten Town Private Streets' will start in 2024.

4.36 PNGL submitted its infill proposals for Greater Belfast infill, Whitehead infill, and East Down infill as Individually Funded projects. These three projects were subject to determinations in 2020, 2018 and GD17 respectively.

4.37 PNGL proposed to roll forward these decisions into the GD23 price control. We have accepted this approach for the final determination. The adjusted unit rates are given in Table 4.3.

GDN	m/pp	Average rate for spine and infill (£/m)		
		Business Plan (Sep 2020)	Previous Determination	GD23 FD (Various)
FE 10Towns Private St (Av 2020)	10.30	N/A	N/A	77.13
PNGL - Greater Belfast (Sep 2020)	14.30	59.66	52.18	59.64
PNGL - Whitehead (Sep 2020)	9.00	77.41	67.76	77.41
PNGL - East Down (Sep 2020)	11.52	81.82	71.59	81.82

Note 1. Final determination figures pre frontier shift.

Table 4.3: Average rates for individually funded mains

General approach – Pressure reduction

Pressure reducing stations (PRS) – Growth and reinforcement

4.38 We have reviewed the forecast activity volumes and costs associated with the construction of new PRS installations for FE and PNGL which are generally small. We have granted allowances for additional PRSs based on the GDN's trends in the years 2017-20 informed by an updated submission provided by FE. We have applied the business plan rates of the respective GDNs to cost this work.

4.39 We have challenged the number of PRS installations proposed by SGN in its business plan. In GD17 SGN proposed installing 315 PRS and our determination provided for 87. In the first four year of GD17 SGN has installed 2 PRSs. Full funding therefore exists in the current price control to install a further 85 PRSs.

4.40 SNG have proposed installing a further 25 PRSs in the core towns during GD23. If SGN choose not to install the PRSs provided for in GD17 until GD23, then it is not reasonable to ask consumers to pay for the installation of these PRSs a second time. We have therefore not included any allowances for growth PRSs in SGN's core towns in GD23.

4.41 Even if SGN choose not to install any further PRSs in the GD17 period then the Capex Risk Sharing mechanism will still ensure enough funding is provided. This ensures that neither SGN nor consumers are disadvantaged by the choices that the GDN can make.

4.42 SGN accepted this position in their response to the draft determination and made clear it was not its intention to claim for this work a second time.

4.43 For GD23, SGN also proposed installing 13 PRSs as part of its planned investment in nine readily accessible towns. As this investment does not meet our economic test, we have removed it from the final determination. Further details on this decision are set out in paragraph 4.27

Pressure reducing stations – Replacement

4.44 FE included end-of-life replacement of PRS installations and growth replacement of PRS installations in its submission. PNGL included end-of-life replacement of PRS installations which will reach 20 years of age in GD23. SGN have no replacement PRSs in its business plan.

4.45 We have generally used the unit rates in the business plans as they are broadly in line with the outturn rates from 2017-2020. Further detail is provided under each GDN's individual assessment.

4.46 In the GD17 determination we stated that there was an opportunity for the GDN's to investigate options for partial replacement of plant and equipment to prolong the life of these installations without wholesale replacement of chambers, covers and pipework. We expected the GDNs to investigate these opportunities for GD23 and to be in a position to demonstrate that they had optimised the balance of maintenance and plant replacement.

4.47 PNGL's unit rates demonstrate some savings in replacement costs for PRSs compared to new PRS installations. FE has been less successful in this respect and at a summary level its rates for growth and replacement PRSs are similar.

General approach – Domestic services

4.48 We used basket of works unit rates to estimate allowances for domestic services at each new connection. No allowance has been made for replacement domestic services. The unit rates for new domestic services distinguish between services on new developments and services to existing domestic properties.

General approach – Domestic meters

Domestic meters – Growth

4.49 We used basket of works unit rates to estimate allowances for domestic meters at each new connection. The basket of works has individual unit rates for credit and PAYG domestic meters which. This is a change from GD17 where a blended unit rate was used.

Domestic meters – Other replacement

4.50 We used basket of works unit rates to estimate allowances for domestic meters replaced for other reasons. The basket of works has individual unit rates for credit and PAYG replacement domestic meters. This is a change from GD17 where a blended unit rate was used.

Domestic meters – End-of-life replacement

4.51 FE and PNGL included the costs of end-of-life replacement of domestic meters which have been in use for 20 years in their business plans. SGN have no end-of-life replacement meters at this point of time due to the stage of their network development.

4.52 FE has separated the cost of replacing the meter from other costs in Tables 4.12a Domestic Replacement - Life Expired and 4.12b Meter Regulator & Meter Installation Replacement - Life Expired of the business plan submission. PNGL previously combined these costs in Table 4.12a and therefore our basket of works combines these costs. This aligns with our guidance which includes the regulator cost in the cost of the meter. We have therefore discounted the values in Table 4.12b and rolled all allowances into Table 4.12a.

4.53 FE has estimated that 15% of meter cabinets will need replaced at the same time as these meters. PNGL are starting meter cabinet replacement at 30 years for large I&C installations only, and not at all for domestic meters. Our basket of works is inclusive of all the actual costs reported by GDN's. Any specific work required for each individual replacement is therefore already included in the actual costs and reflected in the GD23 unit rates.

4.54 We used the basket of works unit rates to estimate allowances for end-of-life replacement meters. The basket of works has individual unit rates for credit and PAYG replacement meters. This is a change from GD17 where a blended unit rate was used.

General approach – Industrial and commercial services

4.55 We used the basket of works unit rates to estimate allowances for new I&C services. No allowance has been made for replacement I&C services.

General approach – Industrial and commercial meters

Industrial and commercial meters – Growth

4.56 We used basket of works unit rates to estimate an allowance for I&C meters for each new connection.

Industrial and commercial meters – Other replacement

4.57 We used basket of works unit rates to estimate allowances for replacement I&C meters for other reasons.

Industrial and commercial meters – End-of-life replacement

4.58 FE and PNGL included the costs of end-of-life replacement of I&C meters which have been in use for 20 years in their business plans. SGN have no end-of-life replacement meters at this point due to the stage of their network development.

4.59 We used basket of works unit rates to estimate allowances for replacement I&C meters.

Industrial and commercial meters – End-of-life meter governor and meter installation replacement

4.60 PNGL introduced a new work stream in its GD23 business plan for replacing large (U65+) meter cabinets and rigs after they have been in service for 30 years.

4.61 In GD17 PNGL included costs in its business plan for end-of-life replacement of all I&C meters which had been in use for 20 years. In GD17 we concluded that the final determination should include an allowance based on:

- End of life replacement at 20 years for I&C meters less than U65.
- End of life replacement at 20 years for I&C meters U65 and larger, based on replacement of the meter but retention of the remainder of the meter rig installation.

4.62 As PNGL have achieved a further 10 years of life from large I&C meter cabinets and rigs we have included allowances for their replacement in the final determination. PNGL used a combination of rates suggested by its contractor up to U1000, and made an assumption for the remaining sizes.

4.63 At the time of the draft determination we had received no supporting evidence for the rates. As a result we took a more holistic view on these rates. Our draft determination analysis of the basket of works indicated that the overall costs submitted by PNGL in its business plan were on average 12.7% higher than PNGL's outturn costs from 2017-20.

4.64 This work relates to a relatively small number of meters, so for the draft determination we reduced the unit rates supplied by 12.7%. We asked for PNGL to provide further evidence in its consultation response to support its

submitted unit rates. PNGL did not provide any additional information and so our adjustments remain the same as in the draft determination.

4.65 PNGL also included a new work stream to install retrofit kits on LP regulators (U65+) reaching 20 years in service. In response to a query, it advised that this was as a result of regulator obsolescence.

4.66 We did not include any allowance for this work stream in the draft determination. It was not clear to us why this was not covered in the allowances provided in GD17, where all large I&C meters including the regulator could be replaced. We asked PNGL to provide a further explanation of the reasons for this work and the unit costs submitted in its response to the draft determination. PNGL did not provide any additional evidence and so we have not made any changes from the draft determination.

General approach – Other capex

4.67 For the final determination, we have reviewed each item of expenditure proposed by the GDN's on an individual basis. We haven't made any changes from the draft determination apart from allowing for the impact of 'above inflation' cost pressures.

General approach – Traffic management act

4.68 Our overall approach to the possible future implementation of additional traffic management legislation in Northern Ireland is set out at paragraph 3.101 above and is summarised below:

- We have made a provision in the determination of 10% of the cost of mains and services against future TMA costs which is reflected in the determination of tariffs.

- We will make a retrospective adjustment at the time of the next price control to reflect the actual level of expenditure related to the implementation of traffic management legislation. This adjustment will take account of the impact on return on capital associated with any reduced or increased costs.

4.69 SGN allocated 5% to TMA in its business plan and suggested that the remaining 5% normally allocated to TMA be allocated to innovation projects instead. We have decided not to do this and to continue with the established approach. We have adjusted the SGN submission accordingly.

5. FE – UR Decisions

FE – Overview

5.1 FE's business plan included capital investment of £75.8m for the GD23 price control period in average 2020 prices. The final determination allows capital investment of £61.1m following the application of frontier shift, including a cost pressure allowance, and the deduction of customer contributions.

5.2 All figures in this chapter are gross figures, i.e. before the application of frontier shift or adjustments for customer contributions, unless otherwise stated. Prices are average 2020 unless otherwise stated.

5.3 The figure below summarises our decisions in reaching our final determination for GD23.

5.4 In the figure, and elsewhere in this chapter, additions relate to expenditure for either a business plan omission or a transfer of expenditure from another category. Deductions relate to a transfer of expenditure to another category and exclusions relate to expenditure that has not been approved either in principle or due to an adjustment of units.

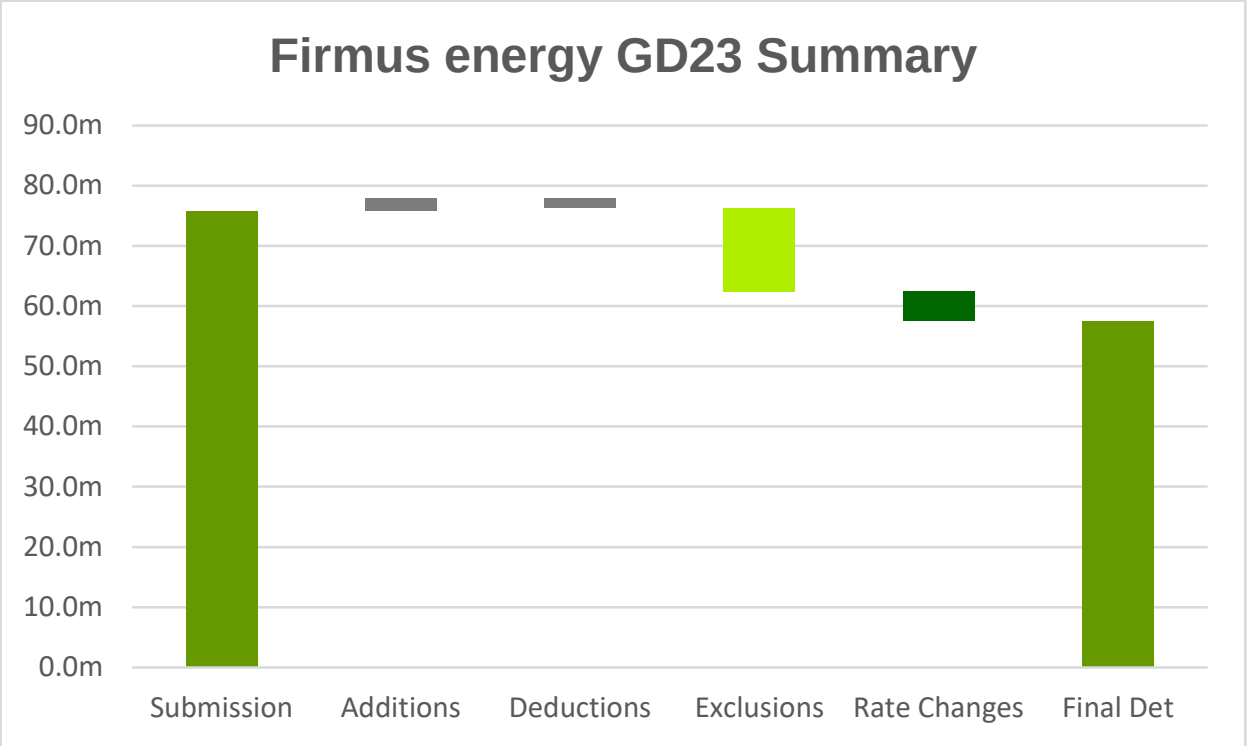


Figure 5.1: GD23 final determination summary

5.5 The table below summarises the business plan proposals for the GD23 price control period and our final determination allowances for GD23.

Investment category	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	0.0	0.0	0.0	0.0	0%	0.0
LP, 2Bar or 4Bar Mains	16.0	15.3	-7.9	-0.7	-9%	6.8
Individually Funded	0.0	1.2	-1.2	0.0	0%	0.0
Pressure Reduction	1.1	0.8	0.0	-0.1	-16%	0.6
Domestic Services	38.0	38.0	-1.8	-3.8	-10%	32.5
Domestic Meters	8.6	8.6	-0.8	0.6	8%	8.5
I&C Services	2.3	2.3	-0.1	-0.4	-18%	1.8
I&C Meters	2.7	3.0	-0.7	-0.3	-14%	2.0
Other Capex	1.5	1.5	0.0	-0.3	-18%	1.2
TMA	5.6	5.6	-1.5	0.0	0%	4.1
Total	75.8	76.4	-13.9	-4.9	-8%	57.5
Total (post FS, net of contributions)						61.1

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.1: GD23 final determination summary

5.6 Detailed information on the assessment of the business plan is provided in the subsequent sections.

FE – Detailed assessment

FE – 7 bar mains

5.7 FE does not plan to lay any 7 bar mains during the GD23 price control period.

FE – Low and medium pressure mains

5.8 The figure below summarises the decisions taken in reaching our final determination for low and medium pressure mains. Further detail is provided in subsequent sections.

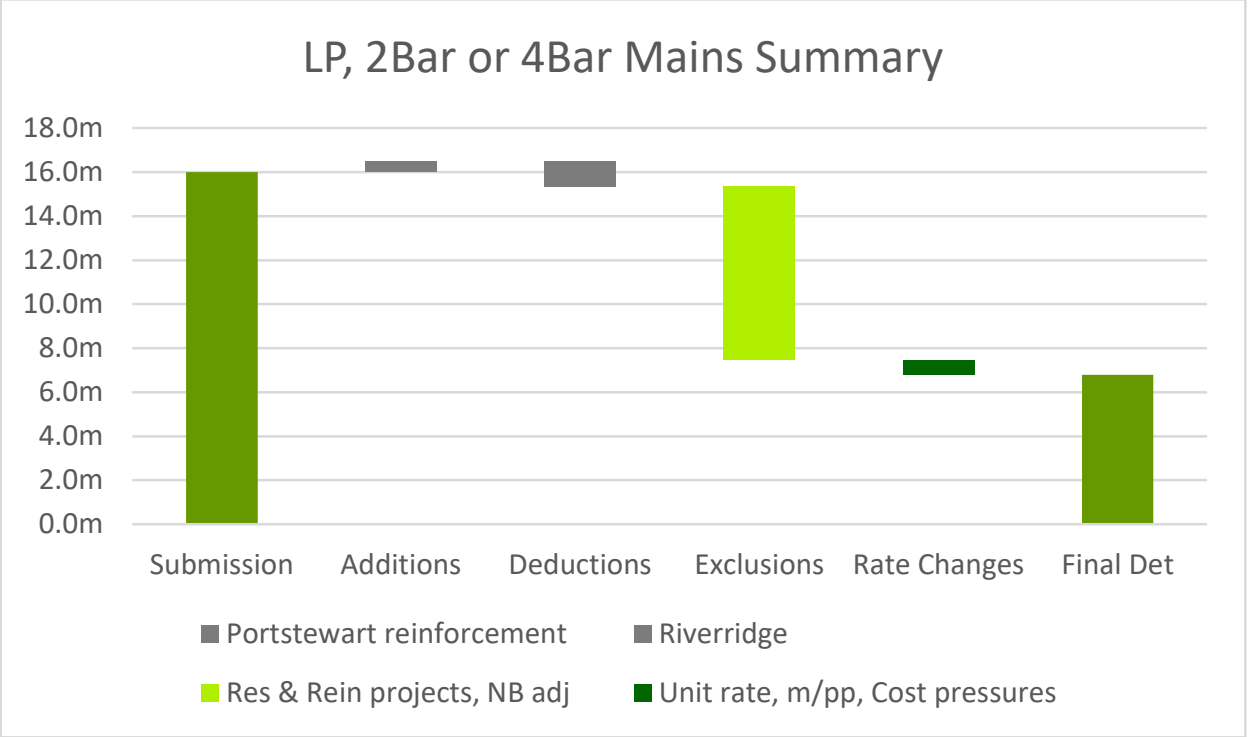


Figure 5.2: LP, 2Bar or 4Bar mains summary

5.9 The table below summarises the business plan proposals and our final determination allowances for LP, 2Bar or 4Bar mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	8.050	3.109	2.526	1.005	0.789	0.522	16.001
Business plan mains laid (m)	73,926	30,017	28,720	17,342	15,811	14,250	180,066
FD investment (£m)	3.717	0.539	0.539	0.911	0.555	0.539	6.800
FD mains laid (m)	51,072	11,875	11,875	14,357	12,081	11,875	113,135

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.2: LP, 2Bar or 4Bar mains summary

FE – Resilience mains – Security of supply

5.10 FE included a paper on security of supply issues as part of its business plan submission. The layout of the FE gas mains within its development towns is straightforward as there is a single large feeder main from the AGI to the town. This then transitions to a spine network with infill mains off the feeder mains which supply gas to housing areas. FE has proposed adding additional resilience to these networks in GD23, mainly by interconnecting the infill mains within each town.

5.11 The FE proposals and our determination is shown in the table below.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.878	0.718	1.279	0.491	0.213	0.000	3.579
Business plan mains laid (m)	7,299	6,367	9,683	3,092	1,355	0	27,796
FD investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FD mains laid (m)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.3: Resilience mains summary

5.12 In section 4.2 we describe the general approach we have taken on the resilience of the Northern Ireland natural gas network within the final determination. Our draft determination position was that GDN's should have accounted for resilience when designing the network and should provide any further resilience they consider necessary through the already defined price control mechanisms.

5.13 For the final determination we have continued to exclude resilience investment, but plan to establish a working group to develop a rational basis for identifying investment requirements which can be applied consistently across all GDNs. This may result in resilience schemes subsequently being brought forward during the GD23 period if considered necessary. The GDNs have been made aware of our decisions and proposals.

FE – Reinforcement mains – Security of supply

5.14 FE included several reinforcement projects in the business plan submission. In response to a query, FE confirmed that a reinforcement project for Portstewart first referenced in the Bushmills reinforcement application had been omitted. We have included this as an addition in Figure 5.2. The table below summarises the submission and our determination.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.647	1.892	0.745	0.000	0.059	0.000	4.343
Business plan mains laid (m)	9,453	9,400	4,787	0	206	0	23,846
FD investment (£m)	0.501	0.000	0.000	0.372	0.016	0.000	0.889
FD mains laid (m)	4,487	0	0	2,482	206	0	7,175

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.4: Reinforcement mains summary

5.15 The reinforcement projects included in the business plan are shown in Table 5.5.

Reinforcement project	Town	Length	Cost	Project driver
Security of Supply-005	Templepatrick	7,353	1.152	Part of overall design UFBP
Security of Supply-042	Antrim	4,787	0.745	Part of overall design UFBP
Security of Supply-041	Coleraine	2,100	0.495	Part of overall design Bushmills
Security of Supply-040	Coleraine	2,482	0.484	Part of overall design Bushmills
Security of Supply-043	Coleraine	3,982	0.994	Part of overall design Bushmills
Security of Supply-044	Coleraine	2,936	0.414	Part of overall design Bushmills
Security of Supply-016	Portadown	206	0.059	Growth

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices.

Table 5.5: Reinforcement mains summary

5.16 In our draft determination we asked FE to give further consideration to alternative routes which could provide the required reinforcement to Portstewart, whilst also providing the option for an offtake to Portrush at some point in the future.

5.17 We accepted that there is a requirement to reinforce Portstewart, so we included some funding in the draft determination as a placeholder for the final solution. The placeholder funding was for 4,200m at the GD23 unit rate for 180mm mains.

5.18 FE's consultation response included the additional information requested. FE demonstrated that its Option C was the most cost effective solution to reinforce Portstewart. This consists of 4,487m of 180mm main and is required in 2023. Also required as part of this network reinforcement is SoS-040 in 2026 consisting of 2,482m of 250mm main. We have provided an allowance for all of this work in the final determination using the basket of works unit rates.

5.19 We have also included project SoS-016 in the final determination as this is required for growth. We have included 206m at the GD23 basket of works unit rate for 90mm main. Following consideration of FE's consultation response we have included the governor required for this project under the section relating to District Governors starting at paragraph 5.41 below. We consider that the crossing included in the project is part of the normal operation of building out a network and so we have excluded the extra over investment requested.

5.20 FE's other reinforcement projects are either required towards the end of 2028 or into GD29. We have moved this investment to 2029 in recognition of the long lead in times and an element of uncertainty over the need for these schemes. We have therefore not funded them in GD23. However if

the network data suggests that they are required earlier, FE can use the economic project mechanism to accelerate delivery.

FE – Infill mains – Growth

5.21 For the GD17 price control, FE submitted detailed plans for 621 schemes to extend the gas network to the natural boundaries of the towns in its licence area. It identified that these schemes would pass an additional 92,344 existing properties. FE proposed passing the majority of these properties in GD17. As a result of an accelerated GD17 programme, it is estimated that only 1,856 will still need to be completed in the first year of GD23. The table below summarises the submission and our determination.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	5.044	0.000	0.000	0.000	0.000	0.000	5.044
Business plan mains laid (m)	42,924	0	0	0	0	0	42,924
Business plan properties passed	1,899	0	0	0	0	0	1,899
FD investment (£m)	2.677	0.000	0.000	0.000	0.000	0.000	2.677
FD mains laid (m)	34,710	0	0	0	0	0	34,710
FD properties passed	1,856	0	0	0	0	0	1,856

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.6: Infill mains summary

5.22 We have moved FE's project for RiverRidge (8,214m and 43 properties passed) from Spine and Infill mains to Individually Funded projects.

5.23 In section 4.15 above we describe the economic test which was applied in GD17. This concluded that it is economic to pass additional properties up to an average of £67.76/m (Dec 2014 prices) at 10.30m per property passed. This equates to a unit rate of £77.13/m in average 2020 prices.

5.24 The infill has been included in our determination at £77.13/m and 18.7m/pp for the remaining 1,856 properties. However this will be adjusted to a cap of 10.3m/pp over the entire seven year period (GD17 plus 2023) cumulatively in line with the GD17 determination.

5.25 This will continue to allow FE the freedom to prioritise mains and deliver this work in the most economic manner without any concern over the marginal economic viability of the work left to be completed in the first year of GD23.

5.26 For the rest of the GD23 period beyond 2023, the general economic parameters established in GD17 will apply, as described in section 4.21

above. These are £76.05/m (Av 2020 prices) at 5.16m/pp for any mains FE need to lay following the completion of the 621 projects approved in GD17.

5.27 A further Individually Funded project has been introduced to allow FE to infill the 'private streets' which were included in the 621 projects from GD17. Further details can be found in paragraph 4.35 and Table 4.3.

FE – New build mains – Growth

5.28 The investment proposed by FE for the provision of gas mains to serve new development and our determination allowances are summarised in Table 5.7.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.482	0.499	0.503	0.514	0.517	0.522	3.036
Business plan mains laid (m)	14,250	14,250	14,250	14,250	14,250	14,250	85,500
Business plan properties passed	1,500	1,500	1,500	1,500	1,500	1,500	9,000
FD investment (£m)	0.539	0.539	0.539	0.539	0.539	0.539	3.234
FD mains laid (m)	11,875	11,875	11,875	11,875	11,875	11,875	71,250
FD properties passed	1,250	1,250	1,250	1,250	1,250	1,250	7,500

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.7: New build mains summary

5.29 In its business plan, FE asked us to retain the 9.5m/pp for new build properties that was determined in GD17. PNGL also requested this and the proposal has been accepted.

5.30 FE propose passing 1,500 properties each year, but we have reduced this to 1,250 properties each year. This will continue to be adjusted for actual numbers by the uncertainty mechanism.

5.31 The determination allowance is based on the GD23 basket of works unit rates and the mix of mains sizes included by FE in its business plan submission. In FE's case this results in an allowance of £45.39/m which is higher than the value of £35.51/m from its submission. We would note that the basket of works allowances should be considered in the round as it reflects the actual cost of completing a range of activities over the period 2017-20.

FE – Individually funded

5.32 FE did not submit any proposals for individually funded projects during the GD23 price control period.

5.33 We transferred the project for RiverRidge from general infill to the Individually Funded category, to better disaggregate it and treat it as a nominated output with a ring fenced allowance should it be included in our determination.

5.34 The figure below summarises the decisions taken in reaching our final determination for individually funded projects. Further detail is provided in subsequent sections.

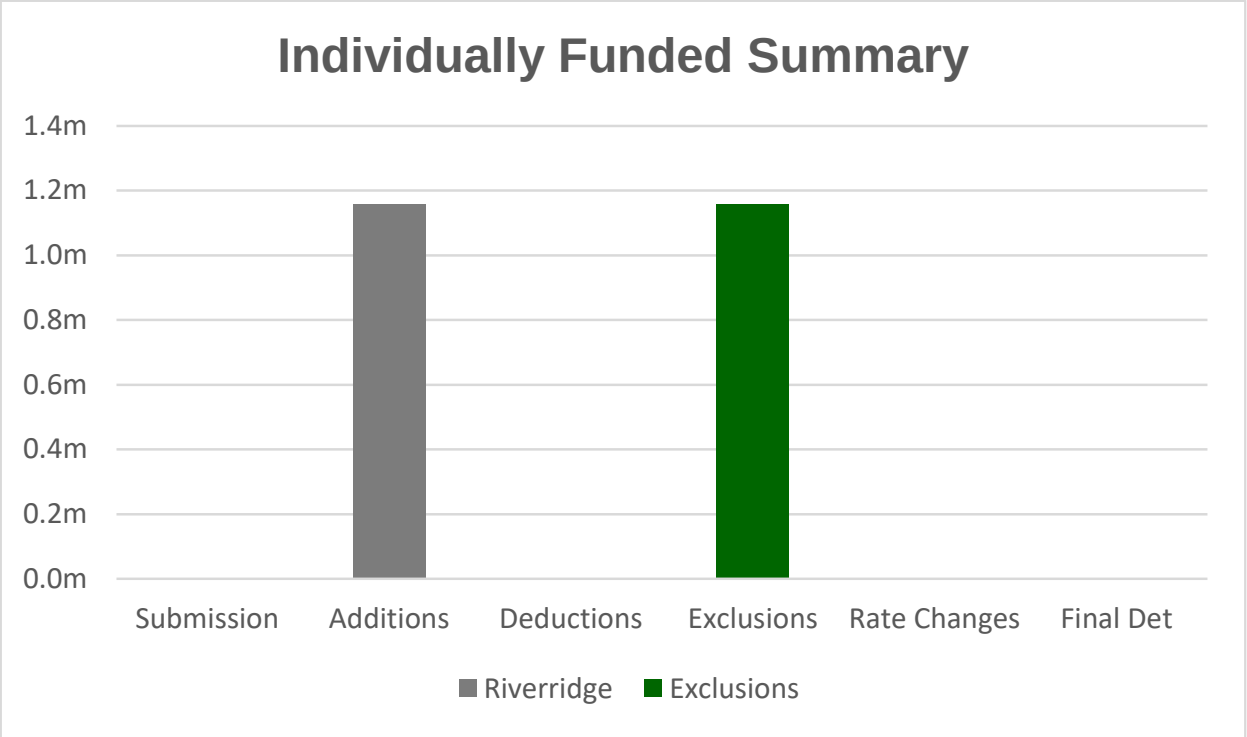


Figure 5.3: Individually funded projects summary

5.35 The table below summarises the business plan proposals and our final determination allowance for individually funded mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.157	0.000	0.000	0.000	0.000	0.000	1.157
Business plan mains laid (m)	8,214	0	0	0	0	0	8,214
FD investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FD mains laid (m)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.8: Individually funded mains summary

5.36 The RiverRidge project involves laying circa 8km of 180mm and 250mm main to the facility at Ringsend, Coleraine.

5.37 We assessed the cost of the project by applying our GD23 basket of works unit rates for 180mm and 250mm mains. This resulted in a project cost of £0.992m.

5.38 We have however not allowed the project in our final determination as there is currently no confirmation that the project will proceed.

5.39 The decision to wait has no negative impact for consumers. The economic project mechanism set out in section 3.30 allows GDNs to bring forward projects such as this for delivery in the future if they are proven to be necessary and economically viable.

5.40 A further Individually Funded project has been introduced to allow FE to infill the 'private streets' which were included in the 621 projects from GD17 Further details can be found in paragraph 4.35 and Table 4.3. There are no targets for this project.

FE – District governors and pressure reduction stations

5.41 The figure below summarises the decisions taken in reaching our final determination for pressure reduction. Further detail is provided in subsequent sections.

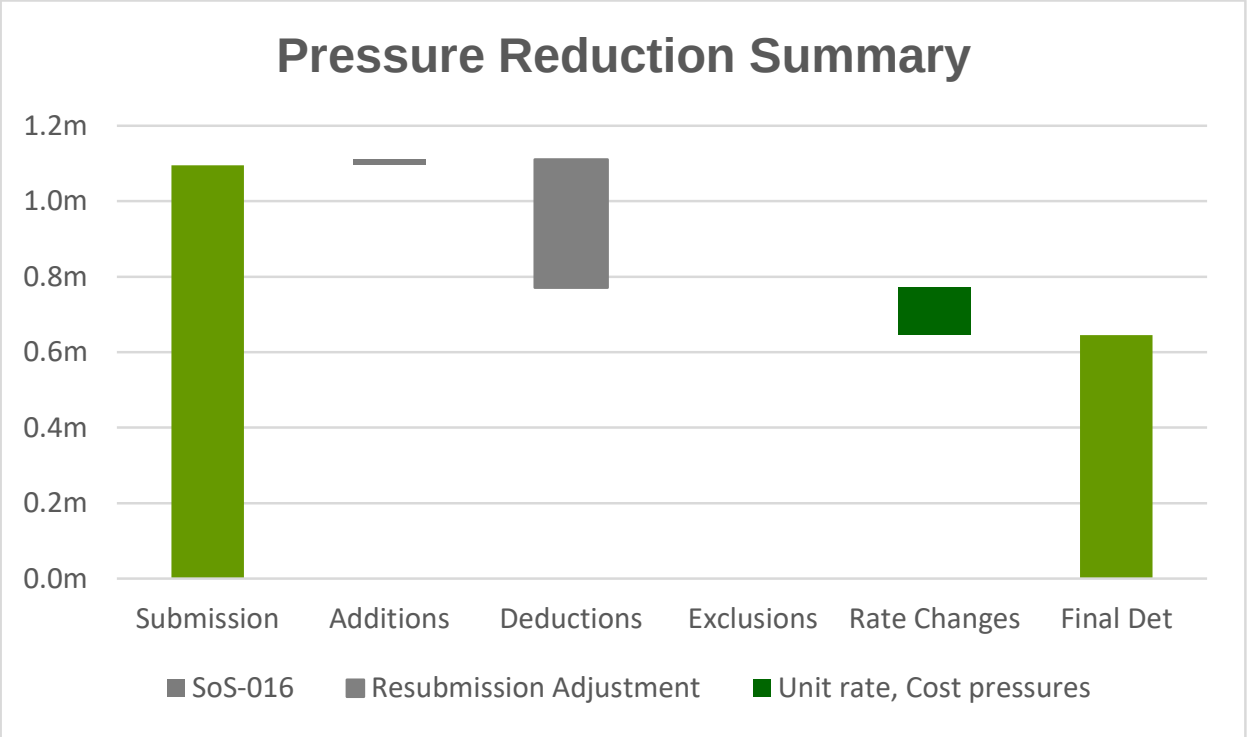


Figure 5.4: Pressure reduction summary

5.42 The table below summarises the business plan proposals and our final determination allowances for pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.161	0.141	0.142	0.145	0.252	0.254	1.095
Business plan PRS (nr)	10	8	8	8	16	15	65
FD investment (£m)	0.136	0.103	0.090	0.105	0.101	0.110	0.645
FD PRS (nr)	8	6	5	6	6	7	38

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.9: Pressure reduction summary

FE – Pressure reduction stations – Growth

5.43 As part of FE's consultation response, it rebased historic governor bin numbers and resubmitted investment proposals for GD23. This submission was more reflective of the investment activity required for each governor size. The unit rates increased from the business plan submission but we do not see any evidence to support this increase from the historic outturn costs. For the purposes of the final determination we have used the business plan submission unit costs. We consider this to be a conservative approach as the outturn costs used in the draft determination would provide a lower allowance on a like for like basis. We have accepted and applied the revised number of governors submitted by FE in our analysis.

5.44 We have included an extra governor for SoS-016 in 2027.

5.45 The table below summarises the business plan proposals and our final determination allowances for pressure reduction growth.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan growth (£m)	0.086	0.064	0.064	0.066	0.066	0.067	0.414
Business plan (nr)	6	4	4	4	4	4	26
Final determination growth (£m)	0.064	0.016	0.032	0.032	0.048	0.048	0.239
Final determination (nr)	4	1	2	2	3	3	15

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.10: Pressure reduction growth

5.46 The variation is attributable to the number of units in the resubmission and the unit costs applied.

FE – Pressure reduction stations – Replacement

5.47 As part of FE's consultation response, it rebased historic governor bin numbers and resubmitted investment proposals for GD23. This submission was more reflective of the investment activity required for each governor

size. The unit rates increased from the business plan submission but we do not see any evidence to support this increase from the historic outturn costs. For the purposes of the final determination we have used the business plan submission unit costs. We consider this to be a conservative approach as the outturn costs used in the draft determination would provide a lower allowance on a like for like basis. We have accepted and applied the revised number of governors submitted by FE in our analysis.

5.48 The table below summarises the business plan proposals and our final determination allowances for replacement growth pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
BP replacement growth (£m)	0.074	0.077	0.078	0.079	0.080	0.080	0.468
Business plan (nr)	4	4	4	4	4	4	24
FD replacement growth (£m)	0.059	0.059	0.059	0.059	0.039	0.020	0.293
Final determination (nr)	3	3	3	3	2	1	15

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.11: Pressure reduction replacement growth

5.49 As part of FE's consultation response, it rebased historic governor bin numbers and resubmitted investment proposals for GD23. This submission was more reflective of the investment activity required for each governor size. The unit rates increased from the business plan submission but we do not see any evidence to support this increase from the historic outturn costs. For the purposes of the final determination we have used the business plan submission unit costs. We consider this to be a conservative approach as the outturn costs used in the draft determination would provide a lower allowance on a like for like basis. We have accepted and applied the revised number of governors submitted by FE in our analysis.

5.50 The table below summarises the business plan proposals and our final determination allowances for replacement end-of-life pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
BP replacement end-of-life (£m)	0.000	0.000	0.000	0.000	0.106	0.107	0.213
Business plan end-of-life (nr)	0	0	0	0	8	7	15
FD replacement end-of-life (£m)	0.014	0.028	0.000	0.014	0.014	0.043	0.113
Final determination end-of-life (nr)	1	2	0	1	1	3	8

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.12: Pressure reduction replacement end-of-life

FE – Domestic service connections

5.51 The figure below summarises the decisions taken in reaching our final determination for domestic services. Further detail is provided in subsequent sections.

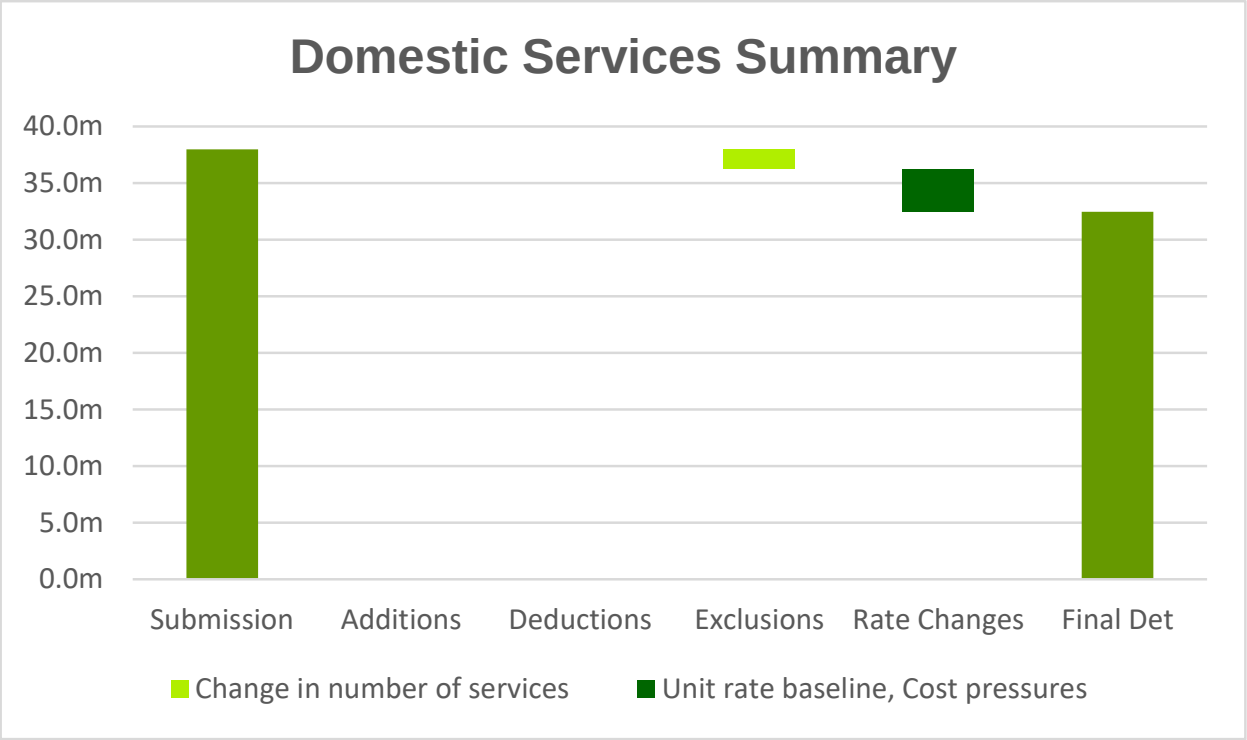


Figure 5.5: Domestic services summary

5.52 The table below summarises the business plan proposals and our final determination allowances for domestic services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	6.527	6.539	6.387	6.328	6.172	6.040	37.994
BP domestic services (nr)	6,352	6,185	6,024	5,871	5,724	5,584	35,740
FD investment (£m)	5.023	5.826	5.649	5.482	5.321	5.168	32.469
FD domestic services (nr)	5,201	5,935	5,774	5,621	5,474	5,334	33,339

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.13: Domestic services summary

5.53 FE plan to connect 35,740 domestic customers over the GD23 price control period. This comprises of 9,000 of new build properties, 6,000 NIHE properties and 20,740 owner occupier properties.

5.54 We have concluded that the company's projections of NIHE connections are reasonable. We have taken a more conservative approach for new build and

existing owner occupier connections in GD23 and reduced the target numbers to 7,500 and 19,839 respectively. Further details can be found in Annex C – Connections and Volumes.

5.55 The profile of connections and investment allowed for in the determination is shown in Table 5.14.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	6.527	6.539	6.387	6.328	6.172	6.040	37.994
BP new build services	1,500	1,500	1,500	1,500	1,500	1,500	9,000
BP owner occupied services	3,852	3,685	3,524	3,371	3,224	3,084	20,740
BP NIHE services	1,000	1,000	1,000	1,000	1,000	1,000	6,000
FD investment (£m)	5.023	5.826	5.649	5.482	5.321	5.168	32.469
FD new build services	1,250	1,250	1,250	1,250	1,250	1,250	7,500
FD owner occupied services	2,951	3,685	3,524	3,371	3,224	3,084	19,839
FD NIHE services	1,000	1,000	1,000	1,000	1,000	1,000	6,000

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.14: Domestic services investment by tenure

5.56 The domestic service unit rates are discussed further starting at paragraph 3.56.

5.57 We have applied the basket of works unit rates to estimate an appropriate allowance for the determination as they are the best indicator of actual cost. Unit rates are further adjusted for above inflation cost pressures as part of frontier shift.

FE – Domestic meters

5.58 The figure below summarises the decisions taken in reaching our final determination for domestic meters. Further detail is provided in subsequent sections.

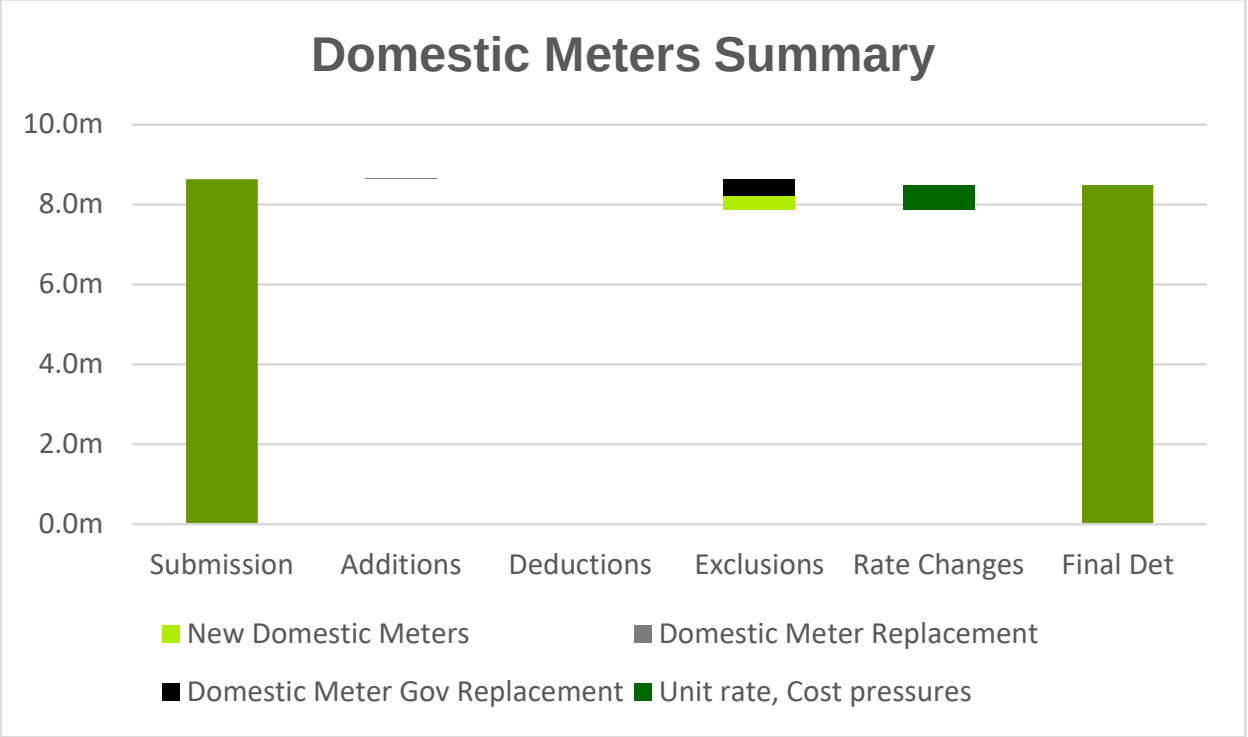


Figure 5.6: Domestic meters summary

5.59 The table below summarises the business plan proposals and our final determination allowances for domestic meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.274	1.292	1.281	1.432	1.584	1.764	8.627
BP domestic meters new (nr)	6,352	6,185	6,024	5,871	5,724	5,584	35,740
BP dom meters replacement (nr)	670	729	787	1,742	2,873	4,053	10,854
FD investment (£m)	1.208	1.365	1.345	1.422	1.517	1.629	8.487
FD domestic meters new (nr)	5,201	5,935	5,774	5,621	5,474	5,334	33,339
FD dom meters replacement (nr)	689	749	807	1,312	1,906	2,522	7,985

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.15: Domestic meters summary

FE – Domestic meters – Growth

5.60 FE's business plan included a domestic meter at each new connection.

5.61 We have reduced the number of domestic meters in the determination to reflect our decision to decrease the target number of new build and owner occupier connections (see paragraph 5.54).

5.62 The profile of connections and investment allowed in the final determination is shown in Table 5.16.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.176	1.187	1.167	1.162	1.141	1.124	6.957
BP dom meters new credit (nr)	2,116	2,049	1,985	1,923	1,864	1,809	11,746
BP dom meters new prepay (nr)	4,236	4,136	4,039	3,948	3,860	3,775	23,994
FD investment (£m)	1.069	1.214	1.182	1.152	1.123	1.095	6.835
FD dom meters new credit (nr)	1,514	1,817	1,751	1,688	1,627	1,569	9,965
FD dom meters new prepay (nr)	3,687	4,118	4,023	3,933	3,847	3,765	23,374

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.16: Domestic meters growth

5.63 We have applied the basket of works unit rates for U6 credit and prepayment meters and U16 credit meters to estimate an appropriate allowance for the determination.

FE – Domestic meter – replacement

5.64 FE propose replacing domestic meters after twenty years in line with the principle established in GD17. In addition, FE proposes to replace the regulator and 15% of the meter cabinets.

5.65 Our basket of works unit rate for replacing the meter includes the regulator and associated ancillaries. PNGL propose starting the replacement of large I&C cabinets after 30 years and have no proposals to replace domestic meter boxes to date. As domestic meter boxes are generally made from plastic we expect them to have a very long life expectancy. We have excluded the FE costs for meter regulator and meter installation replacement for these reasons.

5.66 FE has included an allowance for replacing meters for other reasons. This could be due to faults with meters among various other reasons. We have continued to include an allowance for this work in the determination.

5.67 The table below summarises the business plan proposals and our final determination allowances for domestic meter replacements.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.097	0.106	0.114	0.270	0.443	0.640	1.671
BP domestic replacement EoL (nr)	0	0	0	449	987	1,550	2,986
BP dom replacement other (nr)	670	729	787	844	899	953	4,882
BP dom repl reg & instal EoL (nr)	0	0	0	449	987	1,550	2,986
FD investment (£m)	0.139	0.151	0.163	0.271	0.394	0.534	1.652
FD domestic replacement EoL (nr)	0	0	0	449	987	1,550	2,986
FD dom replacement other (nr)	689	749	807	863	919	972	4,999
FD dom repl reg & instal EoL (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.17: Domestic meter replacements

5.68 We have applied the basket of works unit rates for meter replacements to estimate an appropriate allowance for the determination.

5.69 We have accepted the FE profile for end-of-life replacements.

5.70 We have adjusted the FE profile for other replacements to reflect the average from 2017 to 2020 and the number of new services in the GD23 period. This produces a slight increase in the number of replacements for other reasons.

FE – Industrial and commercial service connections

5.71 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial services. Further detail is provided in subsequent sections.

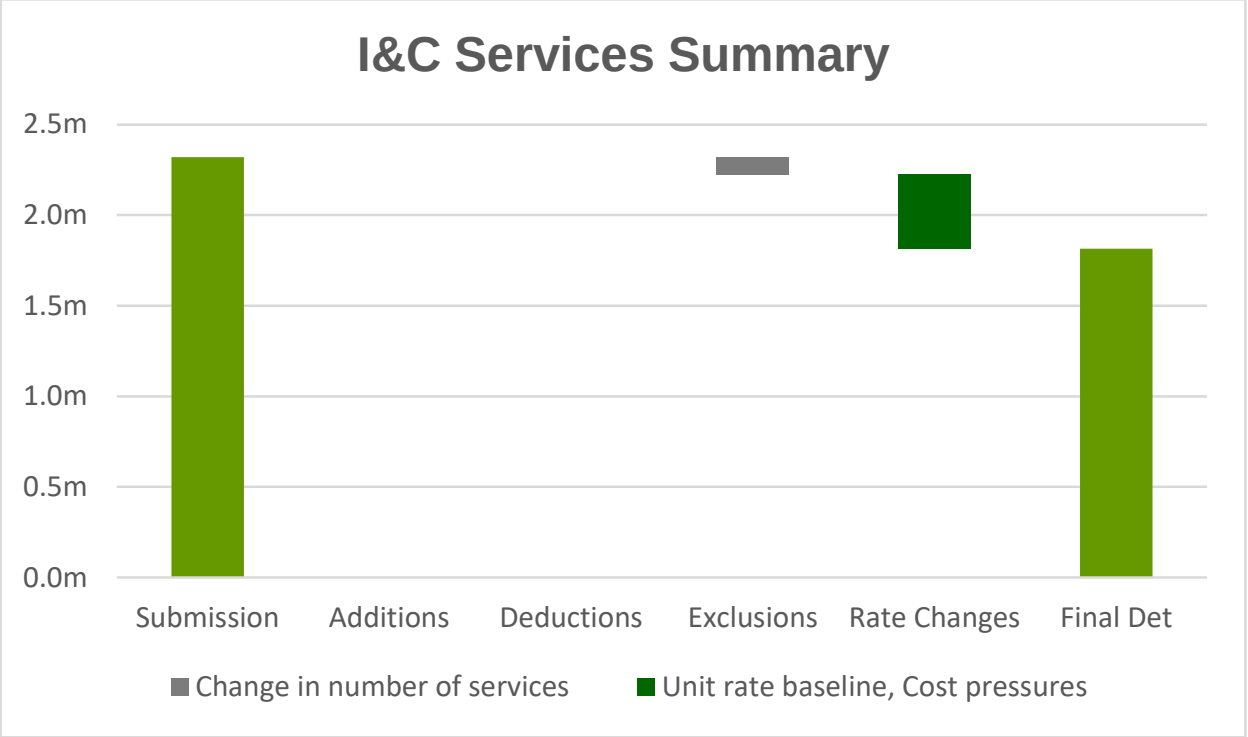


Figure 5.7: Industrial and commercial services summary

5.72 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.389	0.387	0.387	0.391	0.385	0.383	2.321
BP I&C services (nr)	148	150	147	145	142	140	872
FD investment (£m)	0.252	0.315	0.318	0.315	0.309	0.305	1.815
FD I&C services (nr)	113	150	147	145	142	140	837

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.18: Industrial and commercial services summary

5.73 FE plan to connect 872 I&C connections over the GD23 period. We have slightly reduced the numbers of I&C connections proposed by FE. Further details can be found in Annex C – Connections and Volumes.

5.74 We have applied the basket of works unit rates, to estimate an appropriate allowance for the determination, as they are the best indicator of actual cost.

FE – Industrial and commercial meters

5.75 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial meters. Further detail is provided in subsequent sections.

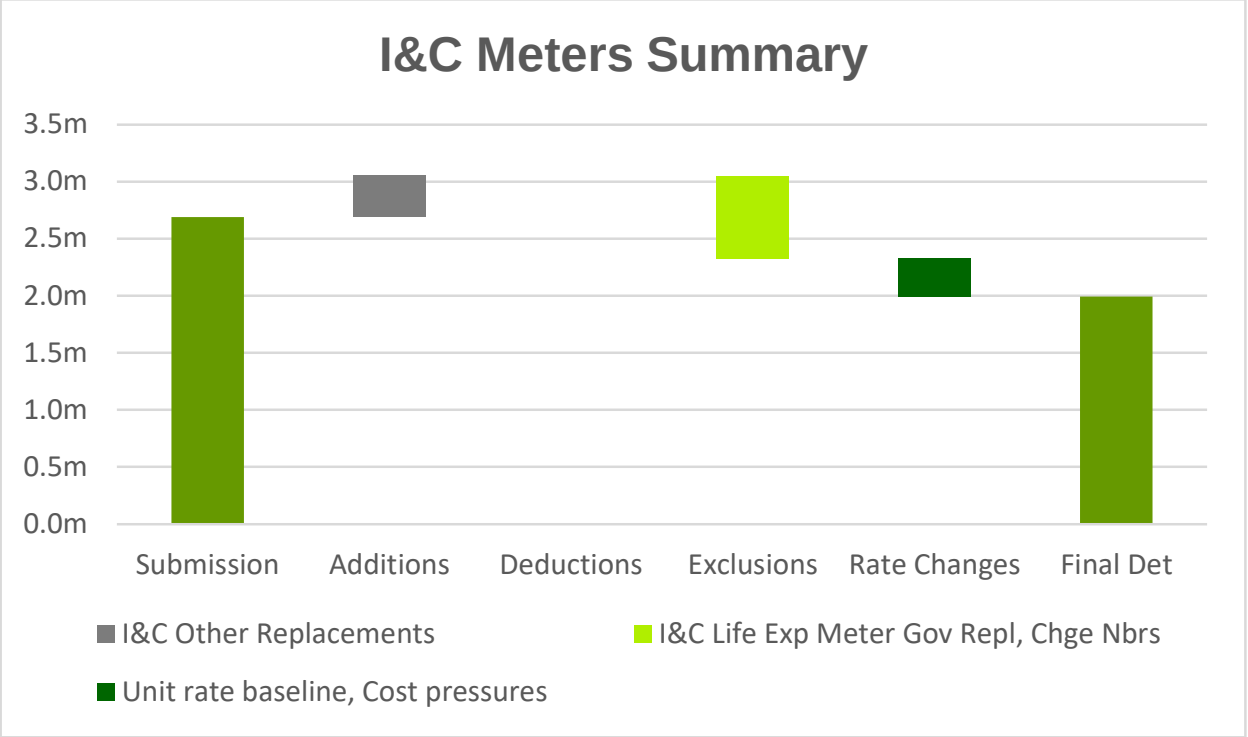


Figure 5.8: Industrial and commercial meters summary

5.76 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.326	0.219	0.266	0.401	0.590	0.886	2.688
BP I&C meters new (nr)	148	150	147	145	142	140	872
BP I&C meters replacement (nr)	6	5	4	102	330	554	1,001
FD investment (£m)	0.260	0.243	0.269	0.314	0.413	0.492	1.992
FD I&C meters new (nr)	113	150	147	145	142	140	837
FD I&C meters replacement (nr)	36	37	39	98	246	364	821

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.19: Industrial and commercial meters summary

FE – Industrial and commercial meters – Growth

5.77 FE's business plan included an industrial and commercial meter at each new connection. We have reduced the number of I&C meters in the determination to reflect our decision to decrease the target number of I&C connections. The profile of connections and investment allowed in the final determination is shown in Table 5.20.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.316	0.210	0.259	0.263	0.262	0.261	1.572
BP I&C meters new (nr)	148	150	147	145	142	140	872
FD investment (£m)	0.234	0.216	0.240	0.239	0.236	0.233	1.399
FD I&C meters new (nr)	113	150	147	145	142	140	837

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.20: Industrial and commercial meters growth

5.78 Our allowances have been calculated by applying the appropriate basket of works unit rate to the number of I&C meters of each size proposed by FE in the business plan. This has then be prorated to the number allowed in our determination.

FE – Industrial and commercial meters – Replacement

5.79 FE propose to replace industrial and commercial meters after twenty years in line with the principle established in GD17. In addition, FE proposes to replace the regulator and some meter cabinets for smaller (up to U40) industrial and commercial installations.

5.80 Our basket of works unit rate for replacing the meter includes the regulator and associated ancillaries. PNGL proposes to start replacing large I&C (U65 and above) cabinets after 30 years and have not made any proposals to replace smaller industrial and commercial meter boxes to date. We have excluded the FE costs for meter regulator and meter installation replacement on this basis.

5.81 FE has included an allowance for replacing meters for other reasons. This could be due to faults with meters among various other reasons. We have continued to include an allowance for this work in the determination.

5.82 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial meter replacements.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.010	0.008	0.006	0.138	0.328	0.625	1.116
BP I&C replacement EoL (nr)	0	0	0	58	204	321	583
BP I&C replacement other (nr)	6	5	4	4	6	5	30
BP I&C repl reg & instal EoL (nr)	0	0	0	40	120	228	388
FD investment (£m)	0.026	0.027	0.028	0.076	0.177	0.259	0.593
FD I&C replacement EoL (nr)	0	0	0	58	204	321	583
FD I&C replacement other (nr)	36	37	39	40	42	43	238
FD I&C repl reg & instal EoL (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices.

Table 5.21: Industrial and commercial meters replacement

5.83 We have applied the basket of works unit rates for meter replacements to estimate an appropriate allowance for the determination.

5.84 We have accepted the FE profile for end-of-life replacements.

5.85 We have adjusted the FE profile for other replacements to reflect the average from 2017 to 2020 and the number of new services in the GD23 period. This results in a large increase in the number of replacements for other reasons as FE did not include any U6-U40 meters. We assume this is because FE proposed to replace the meter installation for these sizes of meters and therefore other replacements would not be required.

FE – Other capex

5.86 The figure below summarises the decisions taken in reaching our final determination for other capex. Further detail is provided in subsequent sections.

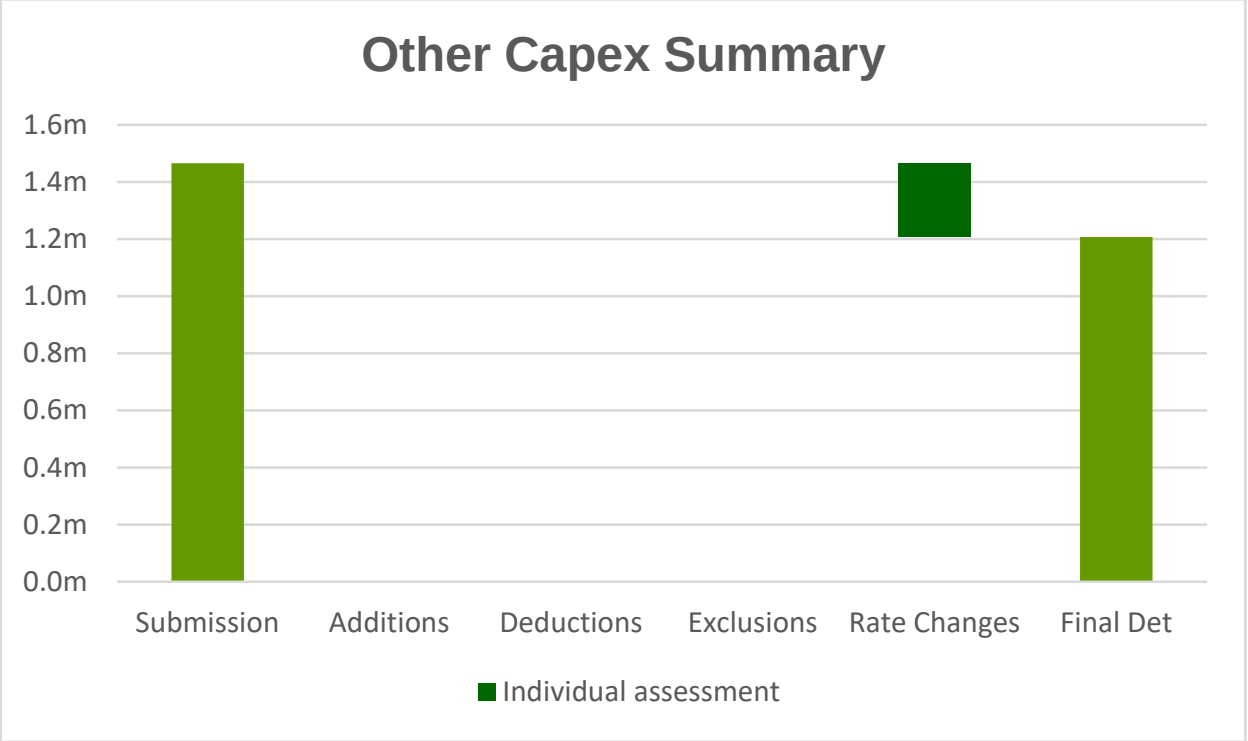


Figure 5.9: Other capex summary

5.87 The table below summarises the business plan proposals and our final determination allowances for other capex.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.475	0.347	0.222	0.119	0.093	0.210	1.466
FD investment (£m)	0.475	0.215	0.222	0.119	0.093	0.084	1.207

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.22: Other capex summary

5.88 We have accepted FE's submission for other capex, with the following exceptions.

5.89 We have removed the capex relating to the installation of solar panels in 2024 as we believe this is an area of investment which FE can consider outside its regulated business.

5.90 We have changed the refresh of staff IT equipment to a 5 year cycle instead of the 4 year cycle proposed by FE. This moves the refresh to 2029 which is outside of the GD23 price control period.

5.91 We have not made any changes to the draft determination allowances.

FE – Traffic management act

5.92 As in previous price controls, we have allowed a ring fenced allowance for TMA equivalent to 10% of the allowances for main laying and service laying activities.

FE – Customer contributions

5.93 We have made an adjustment to account for customer contributions relating to capex expenditure. FE did not include any customer contributions in the business plan submission, so we have used the four year average from 2017-20 to make the adjustment. This equates to a figure of 1.9% for FE.

FE – Summary of findings

5.94 In Table 5.23 below we have set out a summary of FE's capex submission and our total capex allowance for the final determination pre and post frontier shift, which now includes for above inflation cost pressures. The post frontier shift table includes a final adjustment for customer contributions.

	2023	2024	2025	2026	2027	2028	GD23
FE business plan submission (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	8.050	3.109	2.526	1.005	0.789	0.522	16.001
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.161	0.141	0.142	0.145	0.252	0.254	1.095
Domestic Services	6.527	6.539	6.387	6.328	6.172	6.040	37.994
Domestic Meters	1.274	1.292	1.281	1.432	1.584	1.764	8.627
I&C Services	0.389	0.387	0.387	0.391	0.385	0.383	2.321
I&C Meters	0.326	0.219	0.266	0.401	0.590	0.886	2.688
Other Capex	0.475	0.347	0.222	0.119	0.093	0.210	1.466
TMA	1.497	1.004	0.930	0.772	0.735	0.694	5.632
Totals	18.698	13.038	12.141	10.593	10.599	10.753	75.823
UR final determination pre FS (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	3.717	0.539	0.539	0.911	0.555	0.539	6.800
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.136	0.103	0.090	0.105	0.101	0.110	0.645
Domestic Services	5.023	5.826	5.649	5.482	5.321	5.168	32.469
Domestic Meters	1.208	1.365	1.345	1.422	1.517	1.629	8.487
I&C Services	0.252	0.315	0.318	0.315	0.309	0.305	1.815
I&C Meters	0.260	0.243	0.269	0.314	0.413	0.492	1.992
Other Capex	0.475	0.215	0.222	0.119	0.093	0.084	1.207
TMA	0.899	0.668	0.651	0.671	0.619	0.601	4.108
Totals	11.971	9.274	9.084	9.338	8.928	8.928	57.523
UR final determination post FS (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	4.032	0.581	0.585	0.987	0.602	0.584	7.371
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.148	0.111	0.098	0.113	0.109	0.119	0.699
Domestic Services	5.448	6.281	6.129	5.945	5.767	5.598	35.168
Domestic Meters	1.311	1.472	1.459	1.542	1.644	1.765	9.193
I&C Services	0.274	0.340	0.345	0.341	0.335	0.330	1.966
I&C Meters	0.282	0.262	0.291	0.341	0.448	0.533	2.158
Other Capex	0.515	0.232	0.241	0.129	0.100	0.091	1.308
TMA	0.975	0.720	0.706	0.727	0.670	0.651	4.450
Totals	12.984	9.998	9.856	10.126	9.677	9.671	62.313
Contributions @ -1.91%	-0.249	-0.191	-0.189	-0.194	-0.185	-0.185	-1.193
Totals (Post FS, Net of Contributions)	12.736	9.807	9.667	9.932	9.491	9.486	61.120

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 5.23: FE final determination capex allowance

FE – Capital expenditure assumptions post GD23

5.95 We made the following assumptions in order to estimate a reasonable allowance of capital expenditure post GD23 for the purpose of modelling GD23 tariffs:

- FE did not identify any 7 bar mains post GD23 and so no allowance has been made in our long term projections.
- We have included the network reinforcement projects proposed by FE which we excluded in our final determination in the year 2029 as this is when the majority of them may be required.
- Infill will be completed in the GD23 period so we haven't included any post GD23.
- We have included an allowance for mains to serve new development based on an average of 1,250 new build properties per annum and a length of 9.5 metres of gas main per property.
- FE did not identify any individually funded projects post GD23 and so no allowance has been made in our long term projections.
- We allowed for growth and replacement of pressure reducing stations post GD23 in line with our GD23 determination.
- We have included the costs of meters and services by extending the connection profiles for both domestic and industrial and commercial properties.
- We have allowed for the replacement of domestic meters and I&C meters based on a 20 year life.
- We have continued the level of other capex based on the 2017-20 average.
- We have continued to allow for TMA costs at 10% of the allowance for mains and services.
- We have not applied real price effects or frontier shift to estimated expenditure post GD23.

6. PNGL – UR Decisions

PNGL – Overview

6.1 PNGL's business plan included capital investment of £114.3m for the GD23 price control period in September 2020 prices. The final determination allows capital investment of £98.4m following the application of frontier shift, including a cost pressure allowance, and the deduction of customer contributions.

6.2 All figures in this chapter are gross figures, i.e. before the application of frontier shift or adjustments for customer contributions, unless otherwise stated. Prices are September 2020 unless otherwise stated.

6.3 The figure below summarises our decisions in reaching our final determination for GD23.

6.4 In the figure, and elsewhere in this chapter, additions relate to expenditure for either a business plan omission or a transfer of expenditure from another category. Deductions relate to a transfer of expenditure to another category, and exclusions relate to expenditure that has not been approved either in principle or due to an adjustment of units.

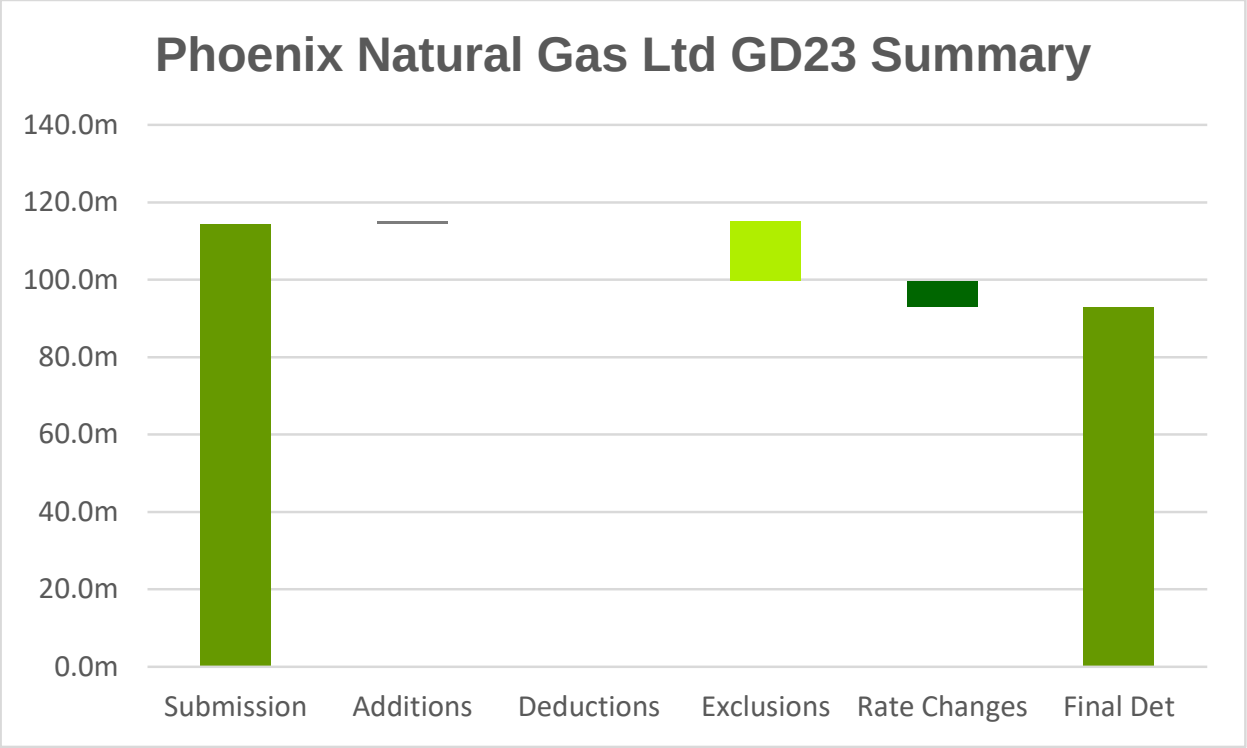


Figure 6.1: GD23 final determination summary

6.5 The table below summarises the business plan proposals for the GD23 price control period and our final determination allowances for GD23.

Investment category	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	13.7	14.2	-2.7	-2.1	-18%	9.5
LP, 2Bar or 4Bar Mains	12.6	12.6	-5.7	-1.6	-23%	5.3
Individually Funded	5.9	5.9	0.0	0.0	0%	5.9
Pressure Reduction	2.9	2.9	-1.2	0.0	0%	1.7
Domestic Services	38.2	38.2	-2.8	-1.8	-5%	33.5
Domestic Meters	26.2	26.2	-1.1	-0.8	-3%	24.3
I&C Services	1.7	1.7	-0.1	0.0	-1%	1.7
I&C Meters	4.4	4.5	-0.6	-0.1	-4%	3.8
Other Capex	2.1	2.1	0.0	-0.3	-15%	1.8
TMA	6.6	6.6	-1.0	0.0	0%	5.6
Total	114.3	115.0	-15.4	-6.7	-7%	92.9
Total (post FS, net of contributions)						98.4

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices.

Table 6.1: GD23 final determination summary

6.6 Detailed information on the assessment of the business plan is provided in the subsequent sections.

PNGL – Detailed assessment

PNGL – 7 bar mains

6.7 PNGL proposes completing four mains reinforcement projects, one resilience project and two PRS projects, including minor quantities of mains, during the GD23 price control period. The PRSs are discussed further in paragraph 6.52.

6.8 The figure below summarises the decisions taken in reaching our final determination for 7 bar mains. Further detail is provided in subsequent sections.

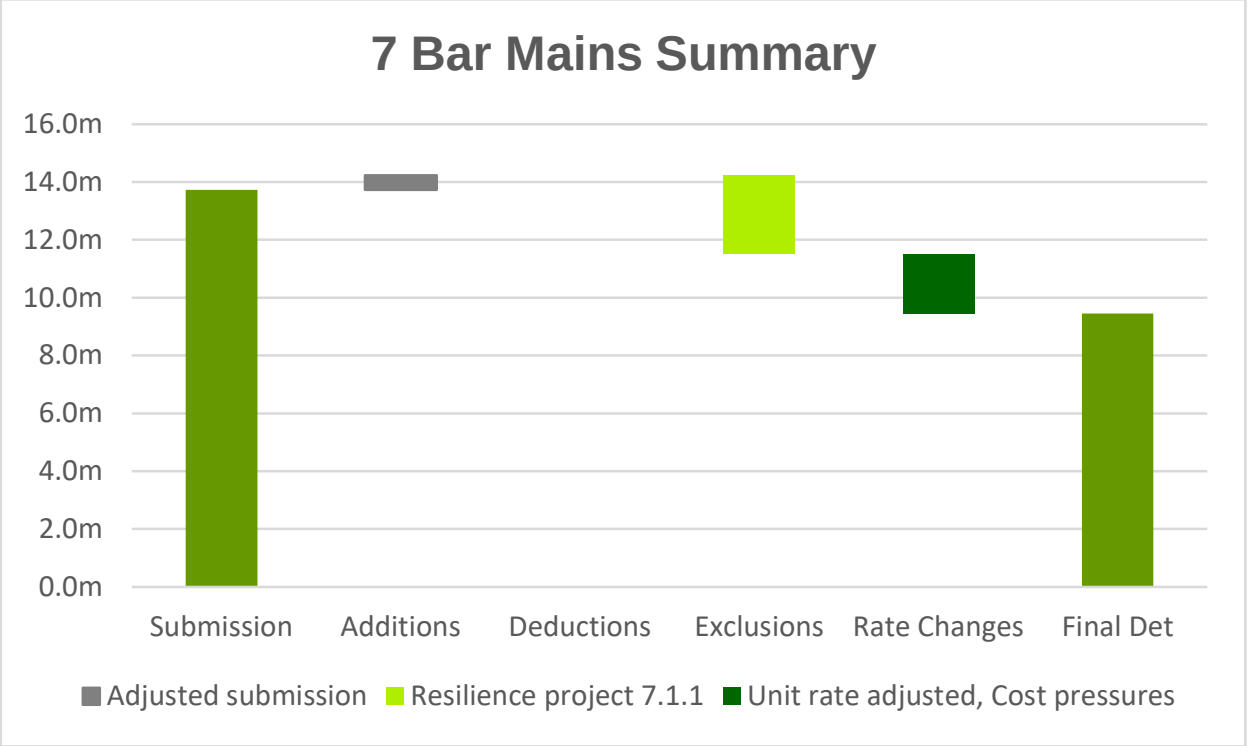


Figure 6.2: 7Bar mains summary

6.9 The table below summarises the business plan proposals and our final determination allowances for LP, 2Bar or 4Bar mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.469	2.939	3.638	4.325	1.361	0.000	13.731
Business plan mains laid (m)	3,644	5,180	6,404	9,121	3,457	0	27,806
FD investment (£m)	1.647	2.344	2.899	2.563	0.000	0.000	9.453
FD mains laid (m)	3,626	5,162	6,386	5,645	0	0	20,818

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.2: 7Bar mains summary

6.10 In our draft determination we excluded the resilience project 7.1.1 as we believed the required outcomes are delivered by other projects. The reinforcement project 7.0.1 essentially provides this function by providing a second supply to Bangor and reinforcement project 7.0.4 partially backs up the supply to Newtownards.

6.11 In section 4.2 we describe the general approach we have taken on the resilience of the Northern Ireland natural gas network within the final determination.

6.12 For the final determination we have continued to exclude resilience investment, but plan to establish a working group to develop a rational basis for identifying investment requirements which can be applied consistently across all GDNs. This may result in resilience schemes subsequently being brought forward during the GD23 period if considered necessary.

6.13 For the draft determination we asked PNGL to demonstrate the need for its reinforcement projects. PNGL completed an analysis which showed that weather event peak flow and normal peak flow were either already causing pressure concerns, or would be in the near future, based on the assumptions applied.

6.14 We included the funding in the draft determination, but stated we would consider whether the load growth assumptions made by PNGL continue to remain valid. On balance we decided to continue to include the funding in the final determination, but note that the approval of future similar projects may be based on different growth assumptions.

6.15 The unit rates submitted by PNGL were outside our range of experience. We therefore developed our unit rates for the draft determination from the GD17 Ballysallagh to Craigantlet reinforcement project and the East Down bulk mains.

6.16 We developed unit rates for both of these previous projects from the Gas to the West project unit rates, which PNGL has been able to outperform. We used the same methodology for the GD23 projects which require unit rates for 315mm and 450mm pipe.

6.17 Based on the outturn costs for Ballysallagh to Craigantlet, PNGL out performed our calculated rate by circa 10%.

6.18 The bulk mains in East Down, which contained a high proportion of 7bar mains, was outperformed by circa 16%. In this case PNGL negotiated new pipe rates from its contractor which were circa 25% less than the all in unit rate provided by us. This in large part explains the circa 16% outperformance.

6.19 Based on this, it is clear that opportunities for the GDNs to outperform are available. Examples might include a change of route, a change of assumed surface category, or a change of unit rate. It is not always clear to us what the specific opportunities are at the time of making a determination, but we note that to date they have materialised.

6.20 We reduced our calculated unit rate by 10% to better reflect past experience. This was the lesser of the percentages available to us.

6.21 We then increased the rate by 6%. This was to reflect the difference in surface category, from that assumed in our calculations and past experience, to the surface category assumed in the proposed GD23 projects. Principally this was taken from the renegotiated East Down unit rates for category 2 and category 4 mains. PNGL's DC04 contract shows a difference from category 4 to category 1 mains of 1% and 10% for 450mm diameter and 315mm diameter mains respectively. So a 6% adjustment seemed reasonable.

6.22 We applied these unit rates to the mix of mains sizes PNGL included in its business plan submission to arrive at the draft determination allowance.

6.23 PNGL challenged our draft determination approach on the basis that it did not adequately account for the loss of productivity associated with main laying in an urban environment. A contractor quotation and analysis was provided to support its position.

6.24 For the final determination we have undertaken a reassessment using a productivity factor in an attempt to more accurately account for the differences between rural and urban main laying rates. The factor is generated by comparing productivity levels estimated by PNGL's contractor for the GD23 urban work to productivity levels for the historic rural schemes for which rates exist. This factor allows historic rural unit rates to be adjusted for loss of productivity and follows the approach PNGL applied in its draft determination response.

6.25 Using the productivity factor significantly reduces the gap between PNGL's request and our proposed final determination allowance. However a difference still remains. This is primarily a consequence of the different productivity factors applied by us and PNGL.

6.26 PNGL has assumed a 'blended' factor of 2, which is based on factors for two different pipe sizes (i.e. 1.4 for 315mm and 2.7 for 450mm). A factor of 2 assumes it takes twice as long to construct the mains in an urban environment compared to a rural one.

6.27 We consider the factor of 1.4 that PNGL has applied to the 315mm mains element of its schemes to be reasonable because it is not dissimilar to an historic productivity figure for laying 250mm mains in an urban environment. It has therefore been accepted.

6.28 However this is not the case for the factor of 2.7 that PNGL has adopted for the 450mm mains. PNGL's figure is based on a single 450mm diameter project which it concedes was unusual, as a full road closure was in place during construction. We have estimated a much lower productivity factor of

1.8 based on two other 450mm diameter projects which we consider more representative as they did not involve full road closures.

6.29 We believe that a comparison of our rural/urban factor of 1.8 for 450mm mains to PNGL's rural/urban factor of 1.4 for 315mm mains supports our conclusion. This is because we wouldn't expect productivity levels for the construction of these large diameter pipes to be significantly different if the environment is similar and the same construction methods are used.

6.30 We have therefore applied our productivity factor when estimating our final determination allowances. The productivity factor has been applied to the Labour and Plant element in line with PNGL's analysis. Traffic management, cost pressures, and an increase in management fee have also been included.

6.31 Each reinforcement project will be a nominated output in GD23. This is defined as:

- An allowance included for the delivery of a specific project proposed by the GDN after undertaking a detailed technical assessment to identify a need and the optimum way of meeting that need. If the GDN subsequently decides that the work is not necessary or can be deferred to a later date, we will either remove the investment from the price control or re-profile the allowance to reflect actual delivery. If the company decides that an alternative solution will deliver the same output, we will review the proposal and determine whether the original allowance should be maintained or whether the allowance should be adjusted to reflect a change of output.

PNGL – Low and medium pressure mains

6.32 The figure below summarises the decisions taken in reaching our final determination for low and medium pressure mains. Further detail is provided in subsequent sections.

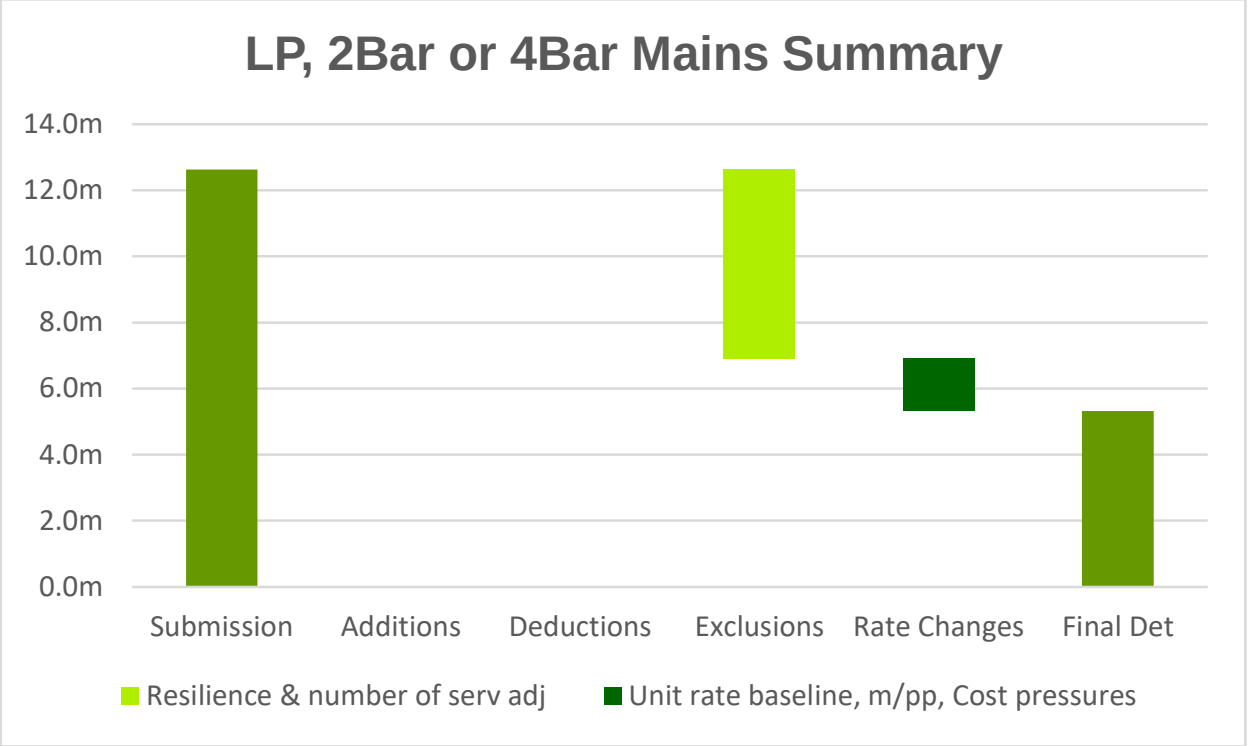


Figure 6.3: LP, 2Bar or 4Bar mains summary

6.33 The table below summarises the business plan proposals and our final determination allowances for LP, 2Bar or 4Bar mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	2.139	2.160	2.026	2.113	2.018	2.176	12.631
Business plan mains laid (m)	29,603	29,381	30,096	30,729	32,609	31,273	183,691
FD investment (£m)	0.887	0.887	0.887	0.887	0.887	0.887	5.319
FD mains laid (m)	19,000	19,000	19,000	19,000	19,000	19,000	114,000

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.3: LP, 2Bar or 4Bar mains summary

PNGL – Resilience mains – Security of supply

6.34 PNGL included a paper on security of supply issues as part of the business plan submission. The PNGL network is generally interlinked, especially within the Greater Belfast area. PNGL proposed to add some additional resilience to its network in GD23, mainly by interconnecting the infill mains at 4bar and low pressure. There is also one project at 7bar pressure which has been discussed in the section above.

6.35 The PNGL proposals and our determination allowances are shown in the table below.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.798	0.766	0.579	0.613	0.465	0.624	3.844
Business plan mains laid (m)	5,608	4,436	4,201	3,884	4,814	3,478	26,421
FD investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FD mains laid (m)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.4: Resilience mains summary

6.36 In section 4.2 describe the general approach we have taken on the resilience of the Northern Ireland natural gas network within the final determination. Our draft determination position was that GDN's should have accounted for resilience when designing the network and should provide any further resilience they consider necessary through the already defined price control mechanisms.

6.37 For the final determination we have continued to exclude resilience investment, but plan to establish a working group to develop a rational basis for identifying investment requirements which can be applied consistently across all GDNs. This may result in resilience schemes subsequently being brought forward during the GD23 period if considered necessary. The GDNs have been made aware of our decisions and proposals.

PNGL – Reinforcement mains – Security of supply

6.38 PNGL does not plan to lay any LP, 2Bar or 4Bar reinforcement mains during the GD23 price control period.

PNGL – Infill mains – Growth

6.39 PNGL submitted an allowance for passing a nominal 150 properties each year in GD23 under the same terms as the Belfast Infill project. As discussed in section 3.4 the general economic level of infill established in GD17 still applies. The table below summarises the submission and our determination allowances.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.128	0.128	0.128	0.128	0.128	0.128	0.768
Business plan mains laid (m)	2145	2145	2,145	2,145	2,145	2,145	12,870
Business plan properties passed	150	150	150	150	150	150	900
FD investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FD mains laid (m)	0	0	0	0	0	0	0
FD properties passed	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.5: Infill mains summary

6.40 We have not included any infill in our draft or final determination. The uncertainty mechanism still applies and this will adjust for the actual number of properties passed. As described in section 4.21 and Table 4.1 any properties passed will receive an allowance of £76.36/m at 5.16m/pp in September 2020 prices.

PNGL – New build mains – Growth

6.41 The investment proposed by PNGL for the provision of gas mains to serve new development and our determination allowances are summarised in Table 6.6.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.213	1.266	1.319	1.372	1.424	1.424	8.019
Business plan mains laid (m)	21,850	22,800	23,750	24,700	25,650	25,650	144,400
Business plan properties passed	2,300	2,400	2,500	2,600	2,700	2,700	15,200
FD investment (£m)	0.887	0.887	0.887	0.887	0.887	0.887	5.319
FD mains laid (m)	19,000	19,000	19,000	19,000	19,000	19,000	114,000
FD properties passed	2,000	2,000	2,000	2,000	2,000	2,000	12,000

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices
Note 2. The profiling of the allowance is different in the Pi model, the total allowance is the same.

Table 6.6: New build mains summary

6.42 In its business plan, PNGL asked us to retain the 9.5m/pp for new build properties that was determined in GD17. FE also requested this and the proposal has been accepted.

6.43 PNGL propose passing 2,300 properties in 2023 increasing to 2,700 in 2028. We have reduced the number to 2,000 properties each year. This will continue to be adjusted for actual numbers by the uncertainty mechanism.

6.44 The determination allowance is based on the GD23 basket of works unit rate and the mix of mains sizes included by PNGL in its business plan submission. In PNGL's case this results in an allowance of £46.66/m which is a decrease from the submission value of £55.53/m. PNGL's consultation response asked that we use the 2020 lengths and diameters to calculate a blended rate. We have not done so and have retained our approach from the draft determination.

PNGL – Individually funded

6.45 PNGL included three individually funded projects for the GD23 price control period. These projects represent the continuation of our previous decisions on Greater Belfast infill, Whitehead infill and East Down infill.

6.46 PNGL propose continuing to use the allowances established in our previous decisions, adjusted for inflation to the GD23 price base.

6.47 The figure below summarises the decisions taken in reaching our final determination for individually funded projects. Further detail is provided in subsequent sections.

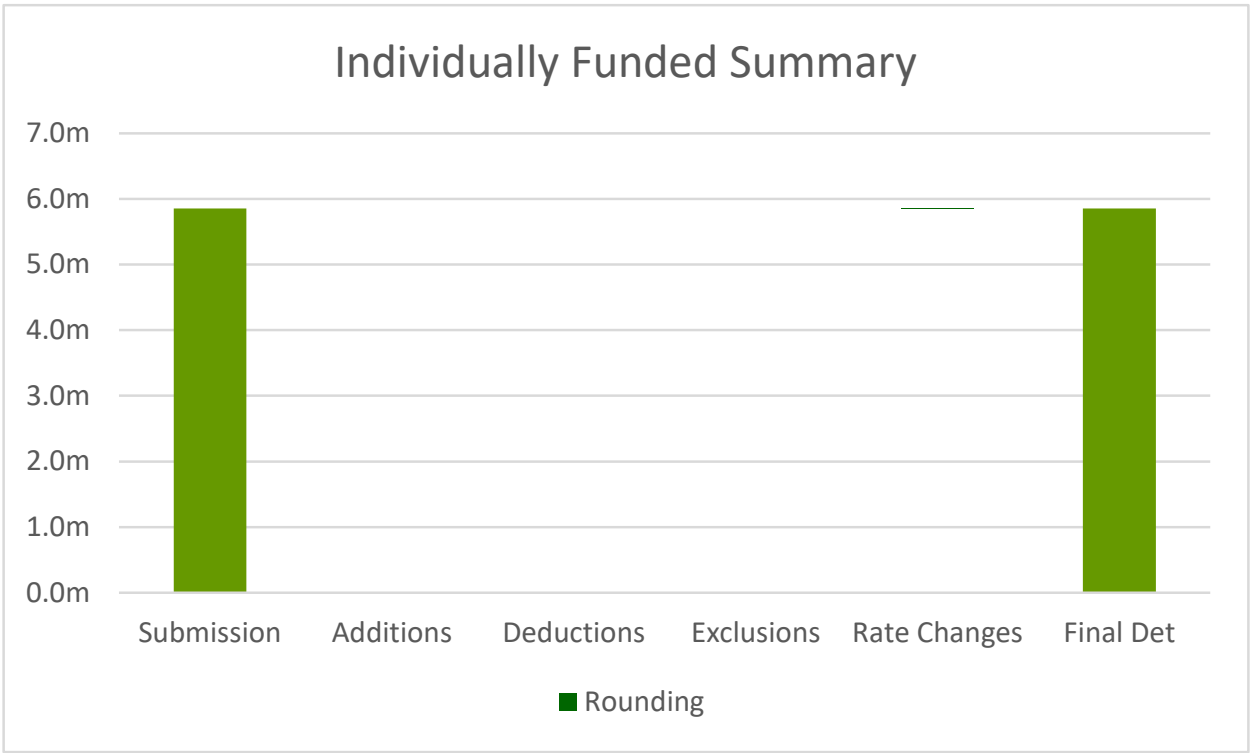


Figure 6.4: Individually funded projects summary

6.48 The table below summarises the business plan proposals and our final determination allowances for individually funded mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	2.692	0.633	0.633	0.633	0.632	0.632	5.855
Business plan mains laid (m)	43,903	9,383	9,383	9,383	9,368	9,368	90,788
Business plan properties passed	3,129	715	715	715	714	714	6,702
FD investment (£m)	2.691	0.633	0.633	0.633	0.632	0.632	5.853
FD mains laid (m)	43,903	9,383	9,383	9,383	9,368	9,368	90,788
FD properties passed	3,129	715	715	715	714	714	6,702

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.7: Individually funded mains summary

6.49 For the draft determination we accepted PNGL's proposal to roll forward our previous decisions, but calculated a slightly different rate for the Greater Belfast infill project as shown in Table 4.3. PNGL requested £59.66/m, but when we adjusted our GD17 figure for inflation we got a value of £59.64/m and this is the rate that we have applied. Our rates for both Whitehead and East down agreed with PNGL's. No changes have been made since the draft determination.

PNGL – District governors and pressure reduction stations

6.50 The figure below summarises the decisions taken in reaching our final determination for pressure reduction. Further detail is provided in subsequent sections.

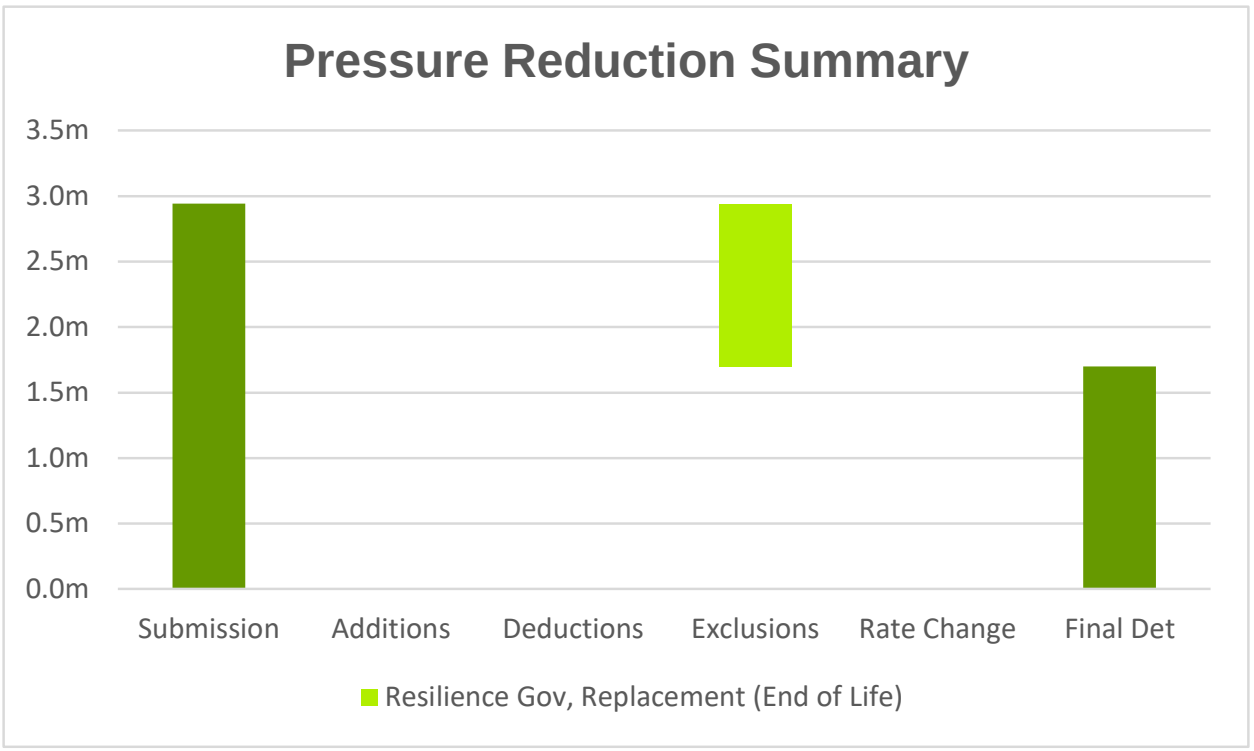


Figure 6.5: Pressure reduction summary

6.51 The table below summarises the business plan proposals and our final determination allowances for pressure reduction. No changes have been made from the draft determination.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.263	0.238	0.384	0.430	0.775	0.850	2.941
Business plan PRS (nr)	69	53	70	55	64	52	363
FD investment (£m)	0.248	0.462	0.248	0.248	0.248	0.248	1.701
FD PRS (nr)	37	39	37	37	37	37	227

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.8: Pressure reduction summary

PNGL – Pressure reduction stations – Growth

6.52 PNGL included eight PRS's for growth in GD23. This consisted of two PRS's for reinforcement and six for resilience.

6.53 The table below summarises the business plan proposals and our final determination allowances for growth pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan growth (£m)	0.088	0.107	0.210	0.052	0.071	0.118	0.646
Business plan (nr)	1	2	2	1	1	1	8
Final determination growth (£m)	0.000	0.214	0.000	0.000	0.000	0.000	0.214
Final determination (nr)	0	2	0	0	0	0	2

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.9: Pressure reduction growth

6.54 We have included the reinforcement PRSs requested by PNGL at the proposed cost. This includes an allowance for the associated mains, at 56m for project 7.0.5 and 18m for project 7.0.6.

6.55 We have excluded the resilience PRSs for the same reasons as we excluded the resilience mains.

PNGL – Pressure reduction stations – Replacement

6.56 We reviewed the forecast activity volumes and costs associated with the replacement of PRS installations. PNGL did not include for the replacement of any PRSs as a consequence of growth.

6.57 The table below summarises the business plan proposals and our final determination allowances for replacement growth pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
BP replacement growth (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Business plan (nr)	0	0	0	0	0	0	0
FD replacement growth (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final determination (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.10: Pressure reduction replacement growth

6.58 PNGL proposed replacing approximately 5% of its governors in GD23 for end-of-life reasons, which equates to an average 20 year replacement schedule. Replacement rates for 2017-22 are running at 3%, which may suggest that PNGL are able to extend the life of PRSs. In our determination we have used the current run rate of 3% for both district and bin installations. We have used PNGL's business plan unit rates for estimating the allowance for end-of-life replacement of PRSs.

6.59 The table below summarises the business plan proposals and our final determination allowances for replacement end-of-life pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
BP replacement end-of-life (£m)	0.175	0.131	0.175	0.379	0.704	0.732	2.295
Business plan end-of-life (nr)	68	51	68	54	63	51	355
FD replacement end-of-life (£m)	0.248	0.248	0.248	0.248	0.248	0.248	1.487
Final determination end-of-life (nr)	37	37	37	37	37	37	225

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.11: Pressure reduction replacement end-of-life

PNGL – Domestic service connections

6.60 The figure below summarises the decisions taken in reaching our final determination for domestic services. Further detail is provided in subsequent sections.

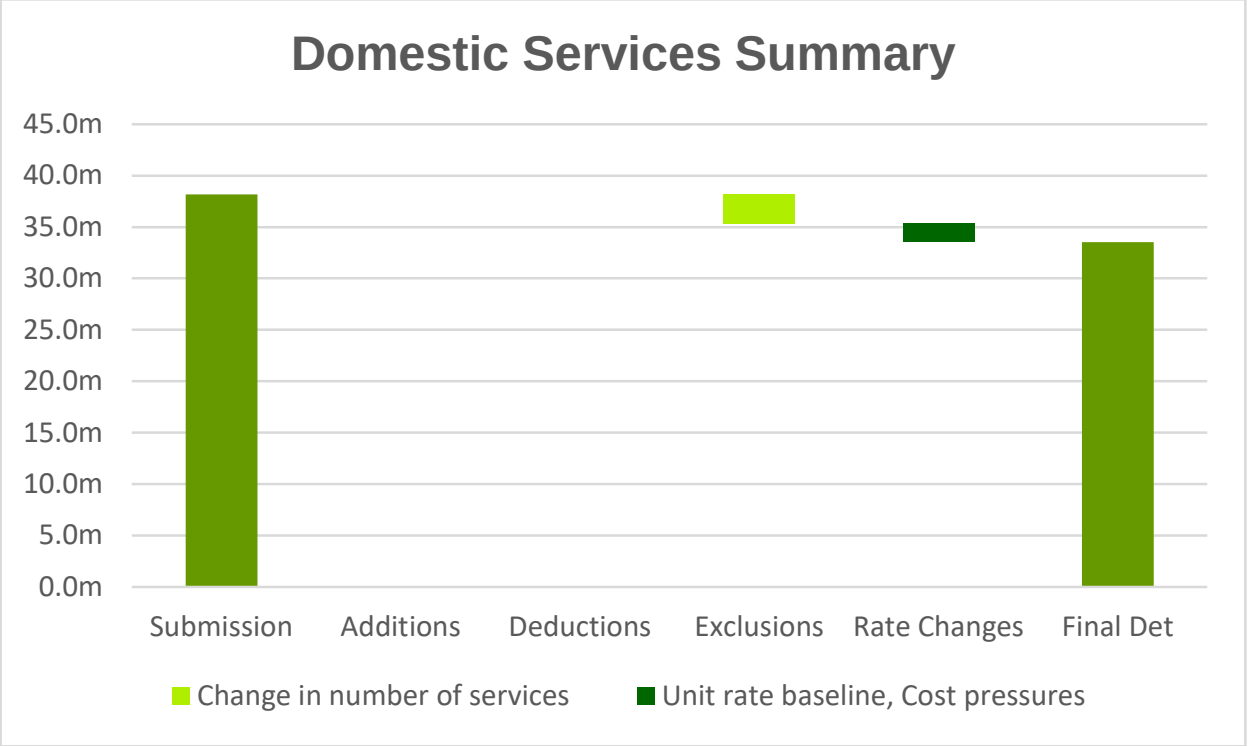


Figure 6.6: Domestic services summary

6.61 The table below summarises the business plan proposals and our final determination allowances for domestic services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	6.993	6.666	6.261	6.151	6.100	5.984	38.154
BP domestic services (nr)	7,172	6,909	6,577	6,512	6,502	6,396	40,068
FD investment (£m)	5.945	6.078	5.603	5.423	5.302	5.185	33.536
FD domestic services (nr)	6,388	6,509	6,077	5,912	5,802	5,696	36,384

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.12: Domestic services summary

6.62 PNGL plan to connect 40,068 domestic customers over the GD23 price control period. This comprises of 15,200 of new build properties, 1,950 NIHE properties and 22,918 owner occupier properties.

6.63 We have concluded that the company's projections for NIHE connections are reasonable. We have taken a more conservative approach for new build and existing owner occupier connections in GD23 and reduced the target numbers to 12,000 and 22,434 respectively. Further details can be found in Annex C – Connections and Volumes.

6.64 The profile of connections and investment allowed in the determination is shown below in Table 6.13.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	6.993	6.666	6.261	6.151	6.100	5.984	38.154
BP new build services	2,300	2,400	2,500	2,600	2,700	2,700	15,200
BP owner occupied services	4,522	4,159	3,727	3,612	3,502	3,396	22,918
BP NIHE services	350	350	350	300	300	300	1,950
FD investment (£m)	5.945	6.078	5.603	5.423	5.302	5.185	33.536
FD new build services	2,000	2,000	2,000	2,000	2,000	2,000	12,000
FD owner occupied services	4,038	4,159	3,727	3,612	3,502	3,396	22,434
FD NIHE services	350	350	350	300	300	300	1,950

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.13: Domestic services investment by tenure

6.65 The domestic service unit rates are discussed further starting at paragraph 3.56.

6.66 We have applied the basket of works unit rates to estimate an appropriate allowance for the determination as they are the best indicator of actual cost. Unit rates are further adjusted for above inflation cost pressures as part of frontier shift.

PNGL – Domestic meters

6.67 The figure below summarises the decisions taken in reaching our final determination for domestic meters. Further detail is provided in subsequent sections.

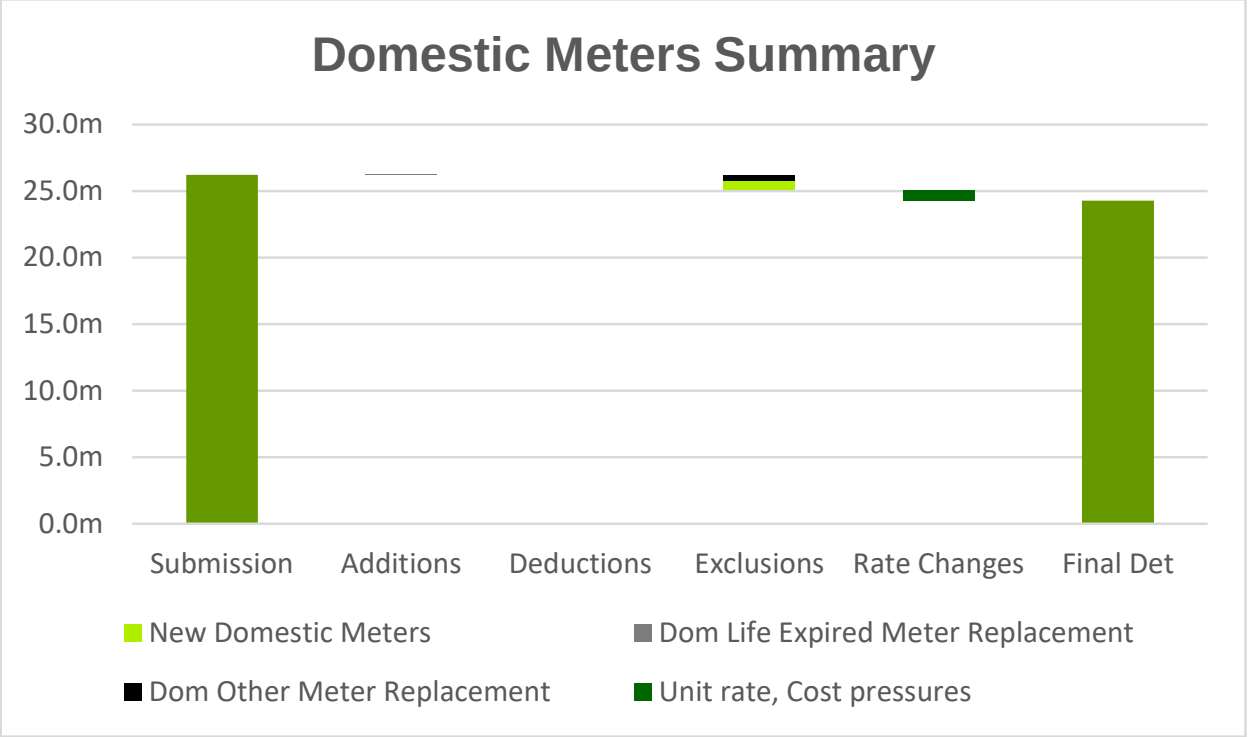


Figure 6.7: Domestic meters summary

6.68 The table below summarises the business plan proposals and our final determination allowances for domestic meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	4.221	4.438	4.828	4.671	4.103	3.949	26.209
BP domestic meters new (nr)	7,172	6,909	6,577	6,512	6,502	6,396	40,068
BP dom meters replacement (nr)	13,869	14,544	16,226	15,114	12,813	12,309	84,873
FD investment (£m)	3.892	4.162	4.499	4.329	3.773	3.620	24.275
FD domestic meters new (nr)	6,388	6,509	6,077	5,912	5,802	5,696	36,384
FD dom meters replacement (nr)	13,617	14,266	15,925	14,785	12,461	11,929	82,982

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.14: Domestic meters summary

PNGL – Domestic meters – Growth

6.69 PNGL's business plan included a domestic meter at each new connection.

6.70 We have decreased the number of domestic meters in the determination to reflect our decision to decrease the target number of new build and owner occupier connections (see paragraph 6.63).

6.71 The profile of connections and investment allowed in the final determination is shown in Table 6.15.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.308	1.258	1.194	1.181	1.178	1.158	7.277
BP dom meters new credit (nr)	3,199	3,098	2,967	2,948	2,952	2,908	18,071
BP dom meters new prepay (nr)	3,973	3,812	3,610	3,564	3,550	3,488	21,997
FD investment (£m)	1.232	1.255	1.172	1.139	1.118	1.097	7.012
FD dom meters new credit (nr)	2,949	3,006	2,804	2,742	2,691	2,641	16,833
FD dom meters new prepay (nr)	3,438	3,503	3,273	3,170	3,111	3,055	19,551

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.15: Domestic meters growth

6.72 We have applied the basket of works unit rates for U6 credit and prepayment meters and U16 credit meters to estimate an appropriate allowance for the determination.

PNGL – Domestic meter – replacement

6.73 PNGL propose replacing domestic meters after twenty years in line with the principle established in GD17.

6.74 PNGL has included an allowance for replacing meters for other reasons. These could be due to faults with meters among various other reasons. We have continued to include an allowance for this work in the determination. PNGL have not included any proposals to replace meter installations.

6.75 The table below summarises the business plan proposals and our final determination allowances for domestic meter replacements.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	2.913	3.180	3.633	3.490	2.925	2.791	18.933
BP domestic replacement EoL (nr)	9,411	9,950	11,502	10,264	7,838	7,209	56,174
BP dom replacement other (nr)	4,458	4,594	4,724	4,850	4,975	5,100	28,699
BP dom repl reg & instal EoL (nr)	0	0	0	0	0	0	0
FD investment (£m)	2.660	2.906	3.328	3.190	2.656	2.523	17.262
FD domestic replacement EoL (nr)	9,432	9,968	11,521	10,279	7,854	7,222	56,275
FD dom replacement other (nr)	4,185	4,298	4,404	4,507	4,607	4,706	26,707
FD dom repl reg & instal EoL (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.16: Domestic meter replacements

6.76 We have applied the basket of works unit rates for meter replacements to estimate an appropriate allowance for the determination.

6.77 We have accepted the PNGL profile for end-of-life replacements. PNGL allocates all U16 meters as I&C. We have made an adjustment to allocate a small amount of U16 meters as domestic. This accounts for the difference in our number of replacement meters for end-of life reasons.

6.78 We have adjusted the PNGL profile for other replacements to reflect the actual average from 2017 to 2020 and the number of new services in the GD23 period. This results in a slight decrease in the number of replacements for other reasons.

PNGL – Industrial and commercial service connections

6.79 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial services. Further detail is provided in subsequent sections.

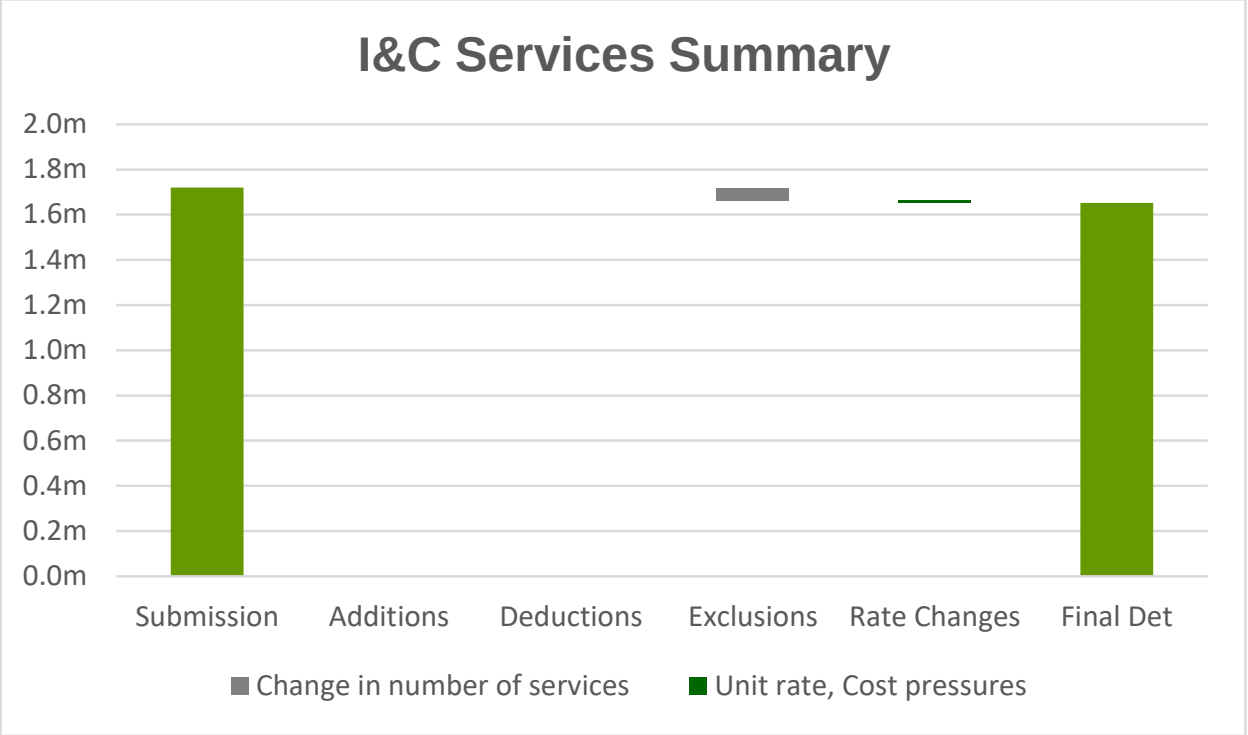


Figure 6.8: Industrial and commercial services summary

6.80 The table below summarises the business plan proposals and our final determination allowances for Industrial and commercial services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.307	0.319	0.311	0.254	0.268	0.262	1.721
BP I&C services (nr)	150	150	150	125	125	125	825
FD investment (£m)	0.246	0.319	0.308	0.251	0.269	0.259	1.652
FD I&C services (nr)	122	150	150	125	125	125	797

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.17: Industrial and commercial services summary

6.81 PNGL plan to connect 825 I&C customers over the GD23 period. We have reduced the numbers of I&C connections proposed by PNGL slightly. Further details can be found in Annex C – Connections and Volumes.

6.82 We have applied the basket of works unit rates to estimate an appropriate allowance for the determination, as they are the best indicator of actual cost.

PNGL – Industrial and commercial meters

6.83 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial meters. Further detail is provided in subsequent sections.

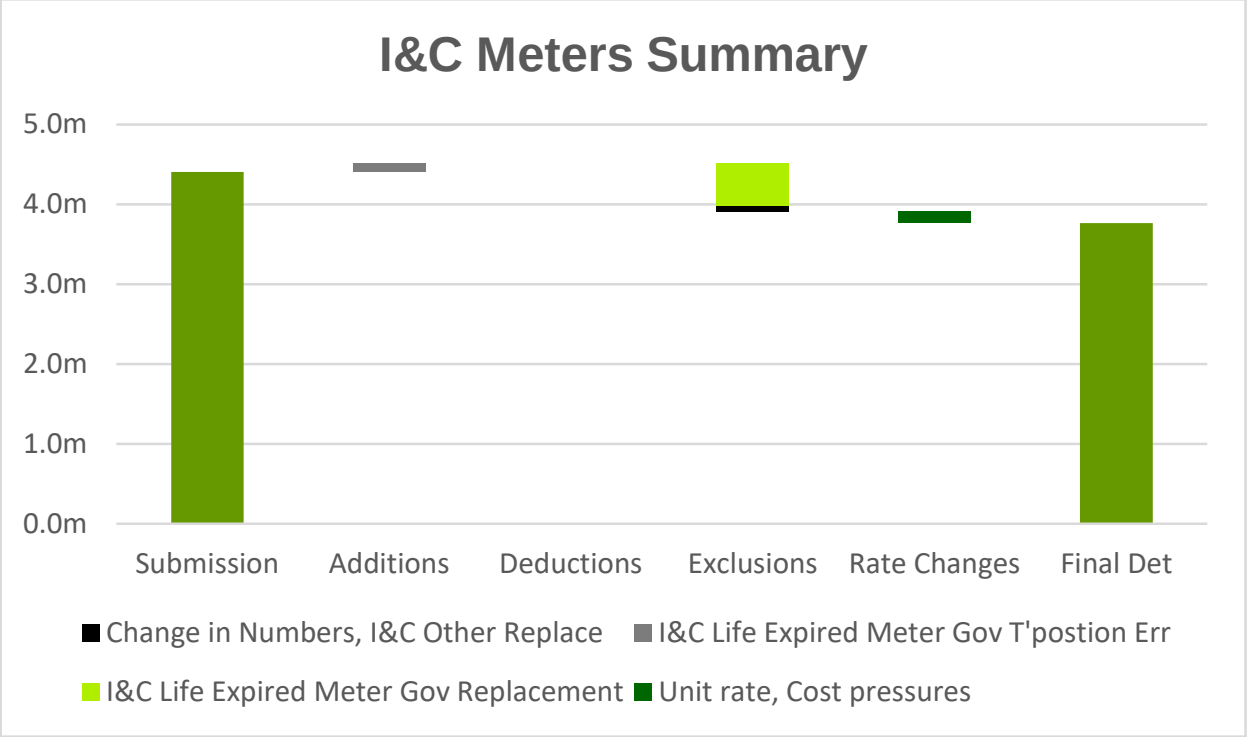


Figure 6.9: Industrial and commercial meters summary

6.84 The table below summarises the business plan proposals and our final determination allowances for Industrial and commercial meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.809	0.864	0.728	0.556	0.750	0.698	4.407
BP I&C meters new (nr)	150	150	150	125	125	125	825
BP I&C meters replacement (nr)	950	815	730	530	522	492	4,040
FD investment (£m)	0.644	0.679	0.628	0.487	0.702	0.625	3.766
FD I&C meters new (nr)	122	150	150	125	125	125	797
FD I&C meters replacement (nr)	886	727	690	505	510	484	3,803

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.18: Industrial and commercial meters summary

PNGL – Industrial and commercial meters – Growth

6.85 PNGL's business plan included an industrial and commercial meter at each new connection. We have reduced the number of I&C meters in the determination to reflect our decision to decrease the target number of I&C connections. The profile of connections and investment allowed in the final determination is shown in Table 6.19.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.306	0.346	0.322	0.247	0.296	0.272	1.790
BP I&C meters new (nr)	150	150	150	125	125	125	825
FD investment (£m)	0.156	0.243	0.206	0.150	0.214	0.174	1.142
FD I&C meters new (nr)	122	150	150	125	125	125	797

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.19: Industrial and commercial meters growth

6.86 Our allowances have been calculated by applying the appropriate basket of works unit rate to the number of I&C meters of each size proposed by PNGL in the business plan. This has then been prorated to the number allowed in our determination.

PNGL – Industrial and commercial meters – Replacement

6.87 PNGL propose to continue the replacement of industrial and commercial meters after twenty years in line with the principle established in GD17.

6.88 PNGL includes an allowance for replacing meters for other reasons. These could be due to faults with meters among various other reasons. We have continued to include an allowance for this work in the determination.

6.89 PNGL have introduced a new work stream to replace large (u65 and above) meter cabinets and rigs after 30 years.

6.90 In addition to this, PNGL are proposing to install retrofit kits when replacing the LP regulators as the result of regulator obsolescence. This is because a retrofit kit is needed to allow for the installation of the new style regulators.

6.91 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial meter replacements.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.503	0.518	0.405	0.309	0.454	0.427	2.617
BP I&C replacement EoL (nr)	775	615	576	390	379	332	3,067
BP I&C replacement other (nr)	114	116	118	120	122	124	715
BP I&C repl reg & instal EoL (nr)	61	84	36	20	21	36	258
FD investment (£m)	0.488	0.436	0.422	0.337	0.489	0.451	2.624
FD I&C replacement EoL (nr)	775	615	576	390	379	332	3,067
FD I&C replacement other (nr)	111	112	114	114	115	116	683
FD I&C repl reg & instal EoL (nr)	0	0	0	1	16	36	53

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.20: Industrial and commercial meters replacement

6.92 We have applied the basket of works unit rates for meter replacements to estimate an appropriate allowance for the determination.

6.93 We have accepted the PNGL profile for end-of-life replacements.

6.94 We have adjusted the PNGL profile for other replacements to reflect the outturn average from 2017 to 2020 and the number of new services in the GD23 period. This results in a small decrease in the number of replacements for other reasons.

6.95 PNGL's response to PNGL-078 confirmed that the number of cabinet and rig replacements was 53. This was close to our initial estimate so we have accepted the PNGL profile on this basis. As this is a new work stream there are no existing unit rates available. PNGL asked its contractor to provide a rate for U65 to U1000 meters and PNGL made its own estimate for larger sizes.

6.96 We tested PNGL's business plan cost against its own outturn costs for the period 2017-20 in our basket of works analysis and found that there was a 12.7% uplift overall. As we don't have access to any additional information to validate the unit rates supplied by PNGL we have applied a 12.7% reduction in line with our overall findings. We asked PNGL to supply additional information in its response to the draft determination to validate the unit rates. We did not receive any additional information so we have not changed our decision since the draft determination.

6.97 With regard to the installation of retrofit kits for low pressure regulators, we provided an allowance to replace meters and closely associated components in the GD17 final determination (paragraph 7.151). It is therefore unclear why this work is not covered under the GD17 allowances and why PNGL

need to revisit these meters. We also note that PNGL have replaced many more meters than the GD17 determination forecast (i.e. the 4 year forecast was 243 meters against an actual of 373, and the 6 year GD17 forecast was 352 against a current forecast of 605).

6.98 We asked PNGL to clarify its position on this work stream in its response to the draft determination. We asked it to explain the need for the work, what work is involved, why it was not previously covered in GD17 and the reason for the increase in the number of meters which have reached a 20 year life. For the draft determination we did not include any allowance for this work pending the provision of this information. We did not receive any additional information from PNGL so we have not changed our decision since the draft determination.

PNGL – Other capex

6.99 The figure below summarises the decisions taken in reaching our final determination for other capex. Further detail is provided in subsequent sections.

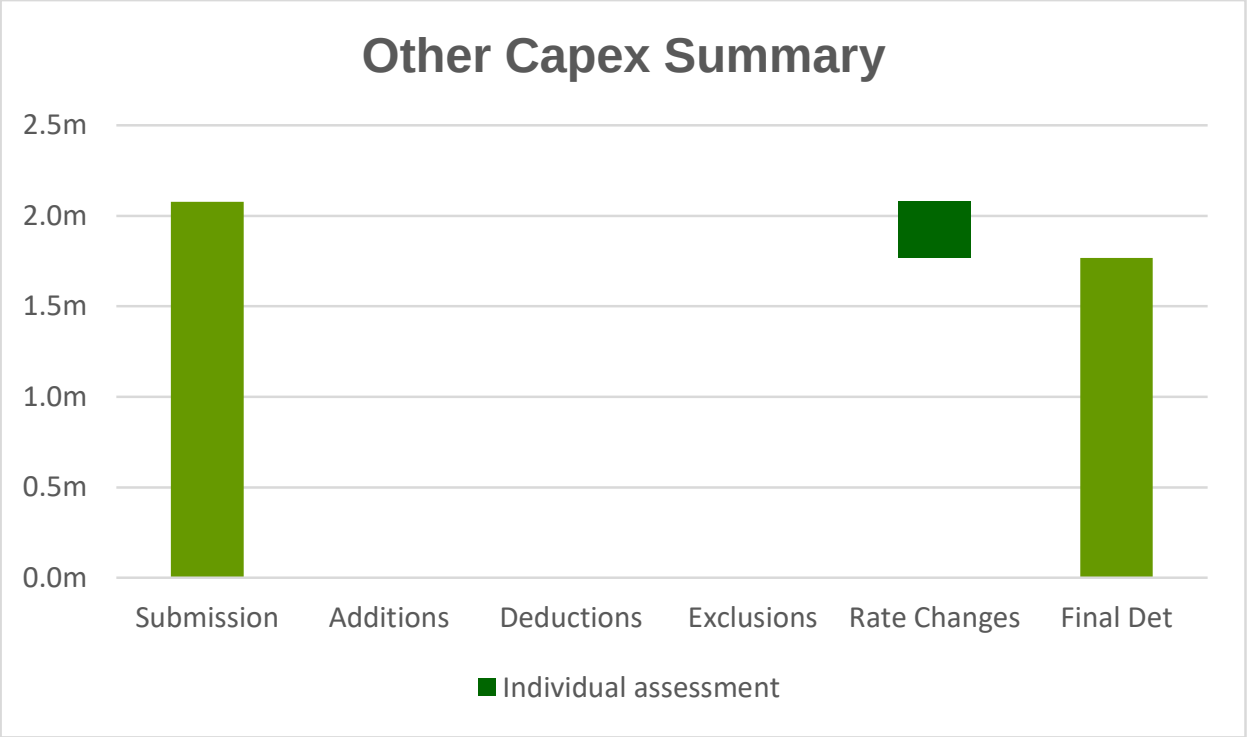


Figure 6.10: Other capex summary

6.100 The table below summarises the business plan proposals and our final determination allowances for other capex.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.481	0.342	0.247	0.282	0.267	0.456	2.077
FD investment (£m)	0.420	0.308	0.213	0.248	0.183	0.395	1.766

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.21: Other capex summary

6.101 We reduced the cost of replacement of desktop hardware from circa £177k to £150k in 2023 and 2028, and reduced the total of other IT costs to £150k each year. We moved the costs in 2027 associated with UPS to a 10 year cycle following advice from the company. Other costs have been accepted as submitted. We have not made any changes since the draft determination.

PNGL – Traffic management act

6.102 As in previous price controls, we have allowed a ring fenced allowance for TMA equivalent to 10% of the allowances for main laying and service laying activities.

PNGL – Customer contributions

6.103 We have made an adjustment to account for customer contributions relating to capex expenditure. PNGL included an estimate of circa 1% for customer contributions in its business plan submission. We have used the four year average from 2017-20 to make the adjustment. This equates to a figure of circa 2.20% for PNGL.

PNGL – Summary of findings

6.104 In Table 6.22 below we have set out a summary of the PNGL's capex submission and our total capex allowance for the final determination pre and post frontier shift, which now includes for above inflation cost pressures. The post frontier shift table includes a final adjustment for customer contributions.

September 2020	2023	2024	2025	2026	2027	2028	GD23
PNGL business plan submission (£m)							
7 Bar Mains	1.469	2.939	3.638	4.325	1.361	0.000	13.731
LP, 2Bar or 4Bar Mains	2.139	2.160	2.026	2.113	2.018	2.176	12.631
Individually Funded	2.692	0.633	0.633	0.633	0.632	0.632	5.855
Pressure Reduction	0.263	0.238	0.384	0.430	0.775	0.850	2.941
Domestic Services	6.993	6.666	6.261	6.151	6.100	5.984	38.154
Domestic Meters	4.221	4.438	4.828	4.671	4.103	3.949	26.209
I&C Services	0.307	0.319	0.311	0.254	0.268	0.262	1.721
I&C Meters	0.809	0.864	0.728	0.556	0.750	0.698	4.407
Other Capex	0.481	0.342	0.247	0.282	0.267	0.456	2.077
TMA	1.091	1.208	1.224	1.284	0.975	0.842	6.624
Totals	20.465	19.806	20.279	20.699	17.250	15.849	114.349
UR final determination pre FS (£m)							
7 Bar Mains	1.647	2.344	2.899	2.563	0.000	0.000	9.453
LP, 2Bar or 4Bar Mains	0.887	0.887	0.887	0.887	0.887	0.887	5.319
Individually Funded	2.691	0.633	0.633	0.633	0.632	0.632	5.853
Pressure Reduction	0.248	0.462	0.248	0.248	0.248	0.248	1.701
Domestic Services	5.945	6.078	5.603	5.423	5.302	5.185	33.536
Domestic Meters	3.892	4.162	4.499	4.329	3.773	3.620	24.275
I&C Services	0.246	0.319	0.308	0.251	0.269	0.259	1.652
I&C Meters	0.644	0.679	0.628	0.487	0.702	0.625	3.766
Other Capex	0.420	0.308	0.213	0.248	0.183	0.395	1.766
TMA	1.142	1.026	1.033	0.976	0.709	0.696	5.581
Totals	17.761	16.896	16.950	16.042	12.704	12.547	92.901
UR final determination post FS (£m)							
7 Bar Mains	1.786	2.527	3.145	2.779	0.000	0.000	10.238
LP, 2Bar or 4Bar Mains	0.962	0.956	0.962	0.961	0.961	0.960	5.762
Individually Funded	2.919	0.682	0.686	0.686	0.685	0.684	6.343
Pressure Reduction	0.269	0.498	0.269	0.269	0.269	0.268	1.841
Domestic Services	6.448	6.553	6.079	5.880	5.746	5.617	36.324
Domestic Meters	4.222	4.487	4.882	4.694	4.090	3.921	26.295
I&C Services	0.267	0.344	0.334	0.272	0.291	0.281	1.789
I&C Meters	0.699	0.732	0.681	0.528	0.761	0.677	4.079
Other Capex	0.456	0.332	0.231	0.268	0.198	0.428	1.913
TMA	1.238	1.106	1.121	1.058	0.768	0.754	6.046
Totals	19.265	18.216	18.391	17.396	13.769	13.592	100.629
Contributions @ -2.20%	-0.424	-0.401	-0.404	-0.383	-0.303	-0.299	-2.213
Totals (Post FS, Net of Contributions)	18.842	17.816	17.986	17.014	13.466	13.293	98.416

Note 1. Figures may not sum due to rounding. Gross figures, September 2020 prices

Table 6.22: PNGL final determination capex allowance

PNGL – Capital expenditure assumptions post GD23

6.105 We made the following assumptions in order to estimate a reasonable allowance of capital expenditure post GD23 for the purpose of modelling GD23 tariffs:

- PNGL did not identify any 7 bar mains post GD23 and so no allowance has been made in our long term projections.
- Infill will be completed in the GD23 period so we haven't included any post GD23.
- We have included an allowance for mains to serve new development based on an average of 2,000 new build properties per annum and a length of 9.5 metres of gas main per property.
- PNGL did not identify individually funded projects post GD23 and so no allowance has been made in our long term projections as the GD23 projects should be complete.
- We allowed for growth and replacement of pressure reducing stations post GD23 in line with our GD23 determination.
- We have included the costs of meters and services by extending the connection profiles for both domestic and industrial and commercial properties.
- We have allowed for the replacement of domestic meters, I&C meters based on a 20 year life.
- We have allowed for the replacement of I&C meter installations based on a 30 year life.
- We have continued the level of other capex based on the 2017-20 average.
- We have continued to allow for TMA costs at 10% of the allowance for mains and services.
- We have not applied real price effects or frontier shift to estimated expenditure post GD23.

7. SGN – UR Decisions

SGN – Overview

7.1 SGN's business plan included capital investment of £36.2m for the GD23 price control period in average 2020 prices. The final determination allows capital investment of £26.0m following the application of frontier shift, including cost pressure allowances, and the deduction of customer contributions.

7.2 All figures in this chapter are gross figures, i.e. before the application of frontier shift or adjustments for customer contributions, unless otherwise stated. Prices are average 2020 unless otherwise stated.

7.3 The figure below summarises our decisions in reaching our final determination for GD23.

7.4 In the figure, and elsewhere in this chapter, additions relate to expenditure for either a business plan omission or a transfer of expenditure from another category. Deductions relate to a transfer of expenditure to another category, and exclusions relate to expenditure that has not been approved either in principle or due to an adjustment of units.

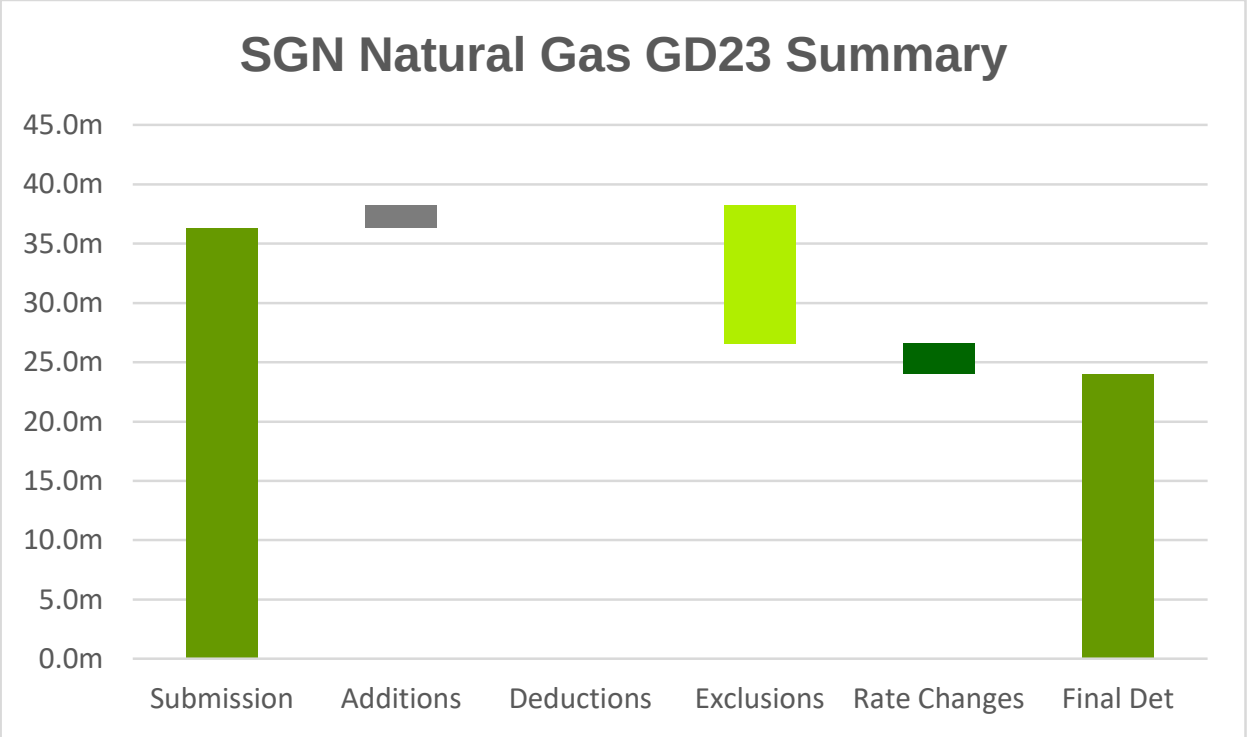


Figure 7.1: GD23 final determination summary

7.5 The table below summarises the business plan proposals for the GD23 price control period and our final determination allowances for GD23.

Investment category	Sub	Adj sub	Excl	Rates change	Rates change	FD
7 Bar Mains	0.0	0.0	0.0	0.0	0%	0.0
LP, 2Bar or 4Bar Mains	19.9	20.3	-6.0	-0.4	-3%	13.9
Individually Funded	0.0	0.0	0.0	0.0	0%	0.0
Pressure Reduction	2.8	2.8	-2.8	0.0	0%	0.0
Domestic Services	7.5	7.5	-1.1	-2.0	-31%	4.5
Domestic Meters	1.0	1.0	-0.1	0.0	4%	0.9
I&C Services	2.4	2.4	-0.4	-0.6	-30%	1.4
I&C Meters	0.9	0.9	-0.2	0.4	50%	1.1
Other Capex	0.3	0.3	0.0	0.0	0%	0.3
TMA	1.5	3.0	-1.0	0.0	0%	2.0
Total	36.3	38.2	-11.7	-2.6	-10%	24.0
Total (post FS, net of contributions)						26.0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.1: GD23 final determination summary

7.6 Detailed information on the assessment of the business plan is provided in the subsequent sections.

SGN – Detailed assessment

SGN – 7 bar mains

7.7 SGN does not plan to lay any 7 bar mains during the GD23 price control period.

SGN – Low and medium pressure mains

7.8 The figure below summarises the decisions taken in reaching our final determination for low and medium pressure mains. Further detail is provided in subsequent sections.

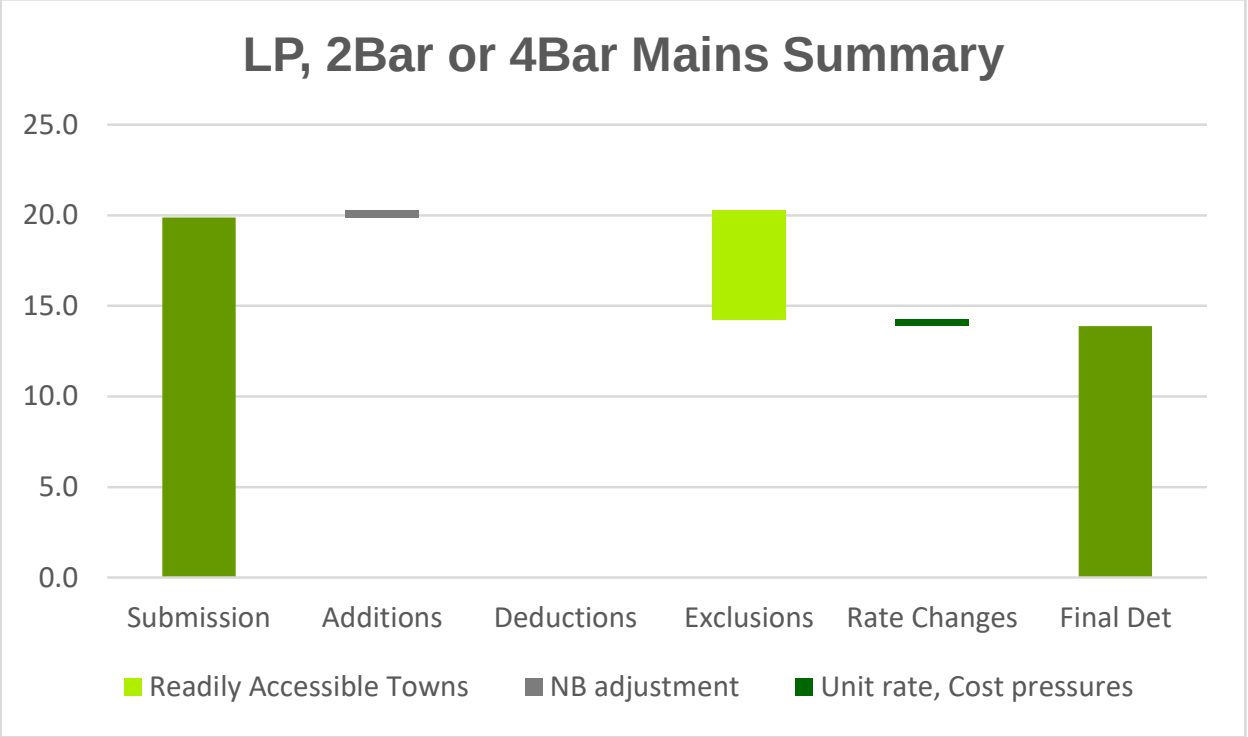


Figure 7.2: LP, 2Bar or 4Bar mains summary

7.9 The table below summarises the business plan proposals and our final determination allowances for LP, 2Bar or 4Bar mains.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	3.527	3.399	3.234	4.855	2.718	2.135	19.869
Business plan mains laid (m)	39,662	38,044	35,666	49,886	29,116	23,213	215,587
FD investment (£m)	2.399	2.042	2.655	3.157	1.613	2.007	13.873
FD mains laid (m)	26,428	23,272	30,146	33,747	17,736	22,483	153,812

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.2: LP, 2Bar or 4Bar mains summary

SGN – Resilience mains – Security of supply

7.10 SGN submitted a paper on security of supply as part of its business plan. The paper did not include any resilience mains in GD23. Two possible projects were signalled for GD29. A link from Omagh to Strabane and a project for duelling the pipeline from outside Dungannon to Cookstown.

7.11 In section 4.2 we describe the general approach we have taken on the resilience of the Northern Ireland gas network within the final determination. We assume that SGN is constructing the network with resilience in mind. We also understand that SGN is not stating that these projects will be

required in GD29 at this point. However if these projects were considered necessary in GD29, then they would be subject to the considerations set out in section 4.2.

SGN – Reinforcement mains – Security of supply

7.12 SGN does not plan to lay any reinforcement mains during the GD23 price control period.

SGN – Infill mains – Growth

7.13 SGN plan to complete the infill of the existing eight core towns in GD23. In addition, it submitted proposals to infill a further nine readily accessible towns. SGN have also identified a further five towns which could be developed in the future but are not included in the submission. The table below summarises the submission and our final determination allowances.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	3.527	3.399	3.234	4.855	2.718	2.135	19.869
Business plan mains laid (m)	39,662	38,044	35,666	49,886	29,116	23,213	215,587
Business plan properties passed	2,944	2,873	3,181	4,414	1,794	1,736	16,942
FD investment (£m)	2.297	1.939	2.562	3.102	1.572	1.985	13.457
FD mains laid (m)	24,528	21,344	28,417	32,721	16,967	22,074	146,050
FD properties passed	1,908	1,723	2,797	3,511	1,025	1,736	12,700

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.3: Infill mains summary

7.14 In section 4.23 above, we described our approach for setting allowances in GD23 for infill mains. We concluded that an allowance for additional properties passed should be set at 11.5m per property passed. We have maintained the three banded rates established in GD17 for SGN, adjusted for inflation in GD23 as follows:

- A rate of £86.58/m applies for mains up to 90mm.
- A rate of £115.73/m applies for mains greater than 90mm and up to 200mm.
- A rate of £207.36/m applies for mains greater than 200mm.

7.15 This continues to allow SGN the freedom to prioritise mains and deliver the work in the most economic manner without any concern over the marginal economic viability of the work left to be completed in GD23.

7.16 The draft determination contained an error where the length of main allowed did not equal the length of main per property passed allowance multiplied by the number of properties passed. The calculation for the investment was also based on a single blended rate rather than the three rates provided for SGN.

7.17 We are not providing additional investment for the expansion to the readily accessible towns at this time, as described in paragraph 4.27. Therefore no provision has been made for these mains in the final determination.

SGN – New build mains – Growth

7.18 The provision of gas mains to serve new development proposed by SGN is summarised in Table 7.4.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Business plan mains laid (m)	0	0	0	0	0	0	0
Business plan properties passed	0	0	0	0	0	0	0
FD investment (£m)	0.102	0.103	0.093	0.055	0.041	0.022	0.416
FD mains laid (m)	1,900	1,929	1,729	1,026	770	409	7,762
FD properties passed	200	203	182	108	81	43	817

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.4: New build mains summary

7.19 SGN did not include any proposals for passing new build properties in its business plan submission.

7.20 In the absence of further information and considering the small number of new build properties that have been passed in GD17 to date, we have rolled over our GD17 assessment for SGN. This equates to £53.59/m in average 2020 prices at 9.5m per property passed. This will continue to be adjusted for actual numbers by the uncertainty mechanism.

SGN – Individually funded

7.21 SGN does not plan to deliver any individually funded projects during the GD23 price control period.

SGN – District governors and pressure reduction stations

7.22 The figure below summarises the decisions taken in reaching our final determination for pressure reduction. Further detail is provided in subsequent sections.

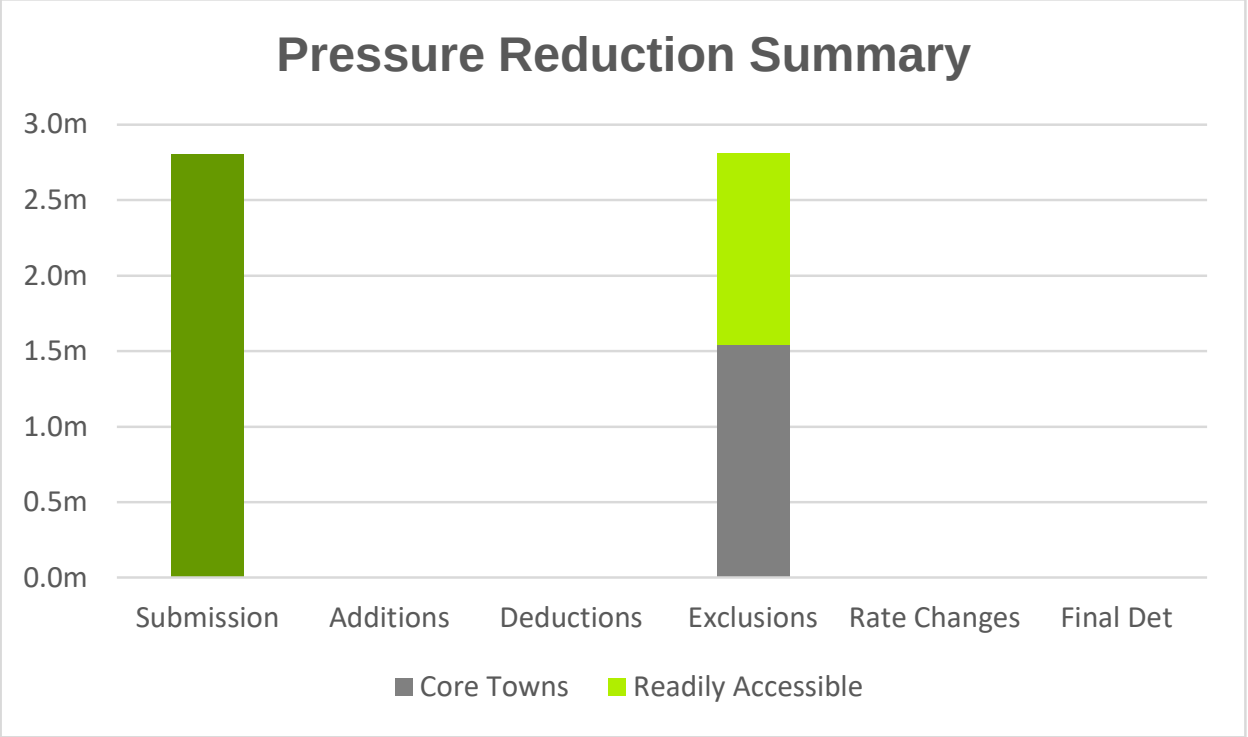


Figure 7.3: Pressure reduction summary

7.23 The table below summarises the business plan proposals and our final determination allowances for pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.712	0.519	0.242	0.896	0.438	0.000	2.806
Business plan PRS (nr)	7	7	2	11	11	0	38
FD investment (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FD PRS (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.5: Pressure reduction summary

SGN – Pressure reduction stations – Growth

7.24 We reviewed the forecast activity volumes and costs associated with PRS installations. The proposals for growth consist of two parts.

7.25 The first is for 13 PRSs associated with the readily accessible towns. As we have not provided any allowance for infilling these towns in the final determination the associated PRSs are not required.

7.26 The second is for 25 PRSs within SGN's core towns. As explained in paragraph 4.39, the funding already exists to install these PRSs if they are required. The order in which projects are constructed is matter for the GDNs

to choose and so these PRSs have not been allowed to ensure that consumers do not pay twice.

7.27 SGN accepted this position in their response to the draft determination and made it clear that it was not its intention to claim a second time for this work.

7.28 The table below summarises the business plan proposals and our final determination allowances for growth pressure reduction.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan growth (£m)	0.712	0.519	0.242	0.896	0.438	0.000	2.806
Business plan (nr)	7	7	2	11	11	0	38
Final determination growth (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final determination (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.6: Pressure reduction growth

SGN – Pressure reduction stations – Replacement

7.29 SGN does not plan to replace any pressure reducing stations during the GD23 price control period.

SGN – Domestic service connections

7.30 The figure below summarises the decisions taken in reaching our final determination for domestic services. Further detail is provided in subsequent sections.

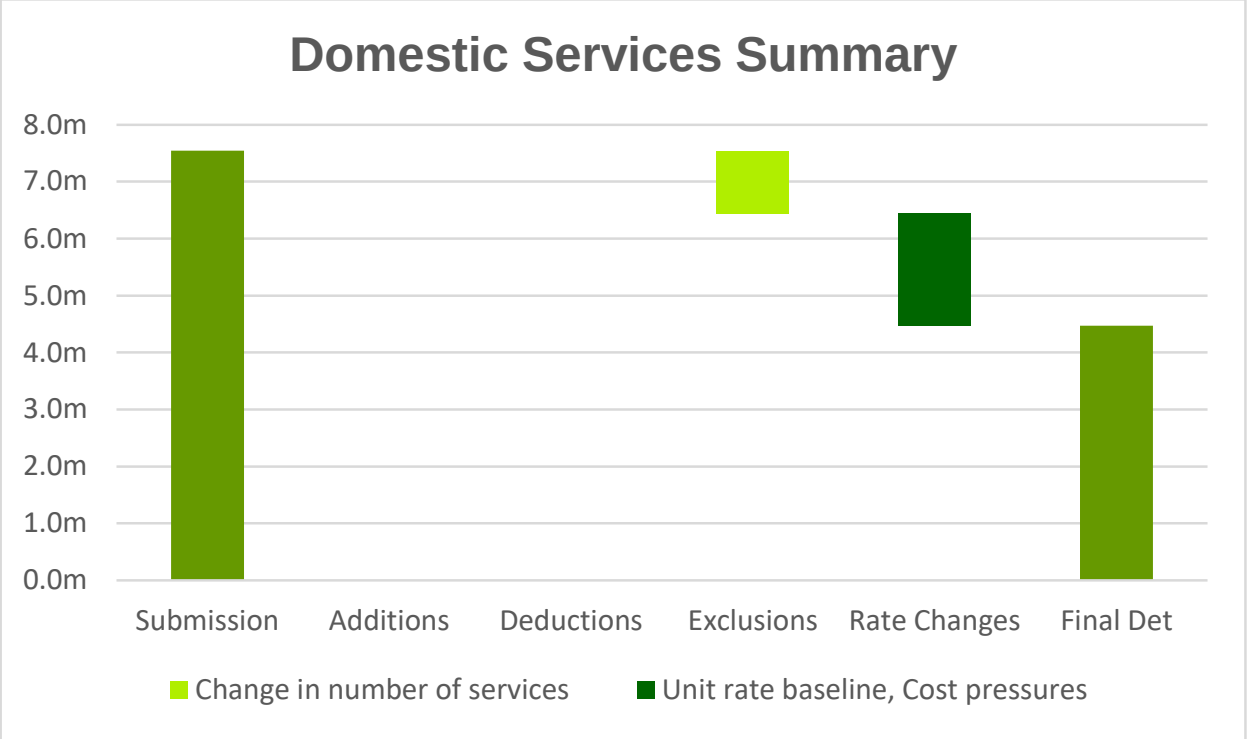


Figure 7.4: Domestic services summary

7.31 The table below summarises the business plan proposals and our final determination allowances for domestic services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.281	1.199	1.270	1.295	1.184	1.315	7.544
BP domestic services (nr)	912	849	873	940	812	867	5,253
FD investment (£m)	0.704	0.686	0.757	0.800	0.681	0.840	4.468
FD domestic services (nr)	741	726	781	784	662	789	4,483

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.7: Domestic services summary

7.32 SGN plan to connect 5,253 domestic customers over the GD23 price control period. This comprises of 817 new build properties, 686 NIHE properties and 3,750 owner occupier properties.

7.33 We have concluded that the company's projections of new build connections are reasonable. We have taken a more conservative approach for NIHE and existing owner occupier connections in GD23 and reduced the target numbers to 427 and 3,239 respectively. Further details can be found in Annex C – Connections and Volumes.

7.34 The profile of connections and investment allowed in the determination is shown in Table 7.8.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	1.281	1.199	1.270	1.295	1.184	1.315	7.544
BP new build services	200	203	182	108	81	43	817
BP owner occupied services	623	593	599	652	643	640	3,750
BP NIHE services	89	53	92	180	88	184	686
FD investment (£m)	0.704	0.686	0.757	0.800	0.681	0.840	4.468
FD new build services	200	203	182	108	81	43	817
FD owner occupied services	516	523	529	565	544	562	3,239
FD NIHE services	25	0	70	111	37	184	427

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.8: Domestic services investment by tenure

7.35 The domestic service unit rates are discussed further starting at paragraph 3.56. We have applied the basket of works unit rates to estimate an appropriate allowance for the determination as they are the best indicator of actual cost. Unit rates are further adjusted for above inflation cost pressures as part of frontier shift.

SGN – Domestic meters

7.36 The figure below summarises the decisions taken in reaching our final determination for domestic meters. Further detail is provided in subsequent sections.

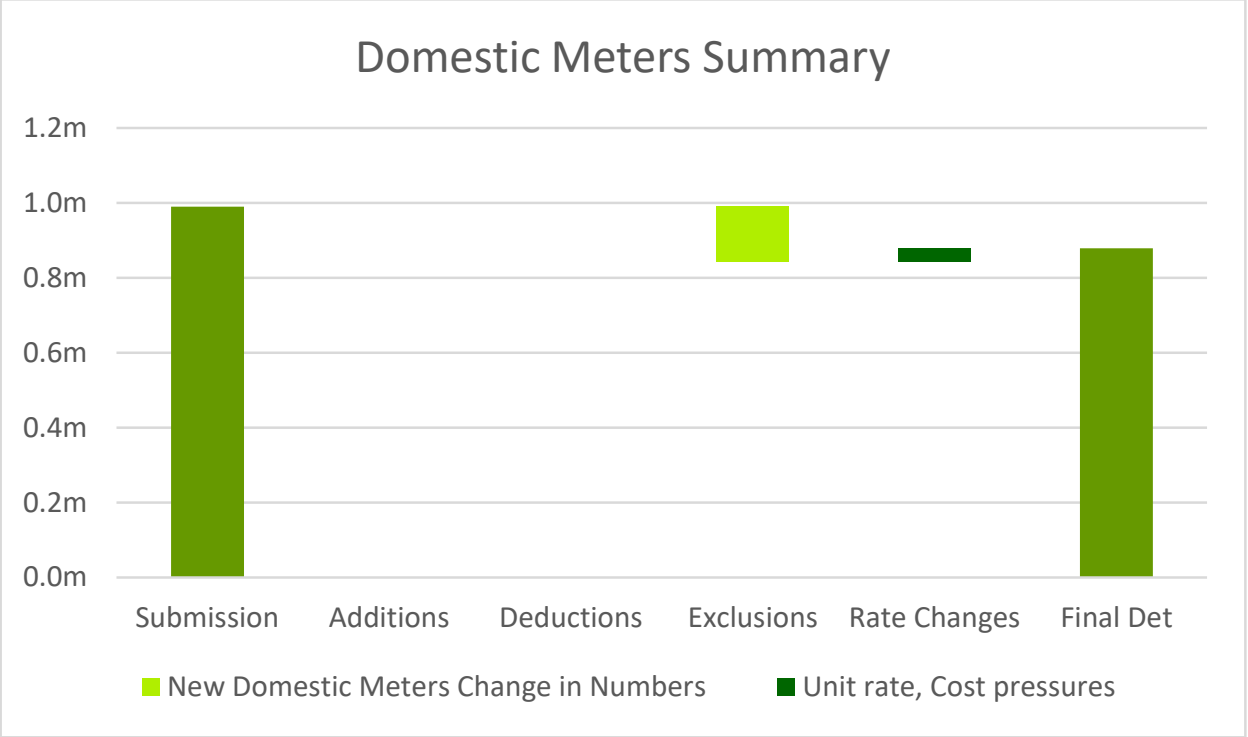


Figure 7.5: Domestic meters summary

7.37 The table below summarises the business plan proposals and our final determination allowances for domestic meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.170	0.158	0.168	0.171	0.151	0.172	0.990
BP domestic meters new (nr)	912	849	873	940	812	867	5,253
BP dom meters replacement (nr)	0	0	0	0	0	0	0
FD investment (£m)	0.146	0.142	0.155	0.154	0.127	0.155	0.879
FD domestic meters new (nr)	741	726	781	784	662	789	4,483
FD dom meters replacement (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.9: Domestic meters summary

SGN – Domestic meters – Growth

7.38 SGN's business plan included a domestic meter at each new connection.

7.39 We have decreased the number of domestic meters in the determination to reflect our decision to decrease the target number of NIHE and owner occupier connections (see paragraph 7.33).

7.40 The profile of connections and investment allowed in the final determination is shown in Table 7.10.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.170	0.158	0.168	0.171	0.151	0.172	0.990
BP dom meters new credit (nr)	332	315	318	343	335	333	1,976
BP dom meters new prepay (nr)	580	534	555	597	477	534	3,277
FD investment (£m)	0.146	0.142	0.155	0.154	0.127	0.155	0.879
FD dom meters new credit (nr)	276	279	282	297	283	293	1,710
FD dom meters new prepay (nr)	466	447	499	487	379	496	2,773

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.10: Domestic meters growth

7.41 We have applied the basket of works unit rates for U6 credit and prepayment meters and U16 credit meters to estimate an appropriate allowance for the determination.

SGN – Domestic meter – replacement

7.42 SGN does not plan to replace any domestic meters during the GD23 price control period.

SGN – Industrial and commercial service connections

7.43 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial services. Further detail is provided in subsequent sections.

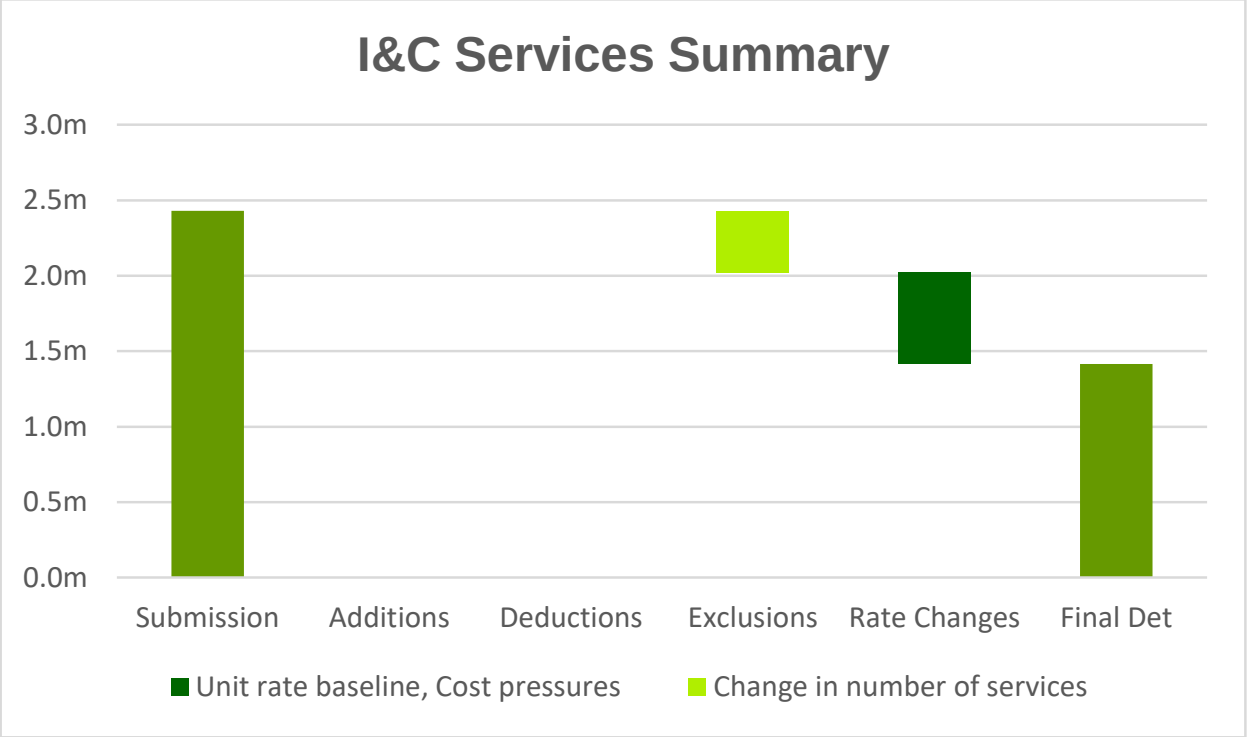


Figure 7.6: Industrial and commercial services summary

7.44 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial services.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.192	0.269	0.365	0.557	0.539	0.507	2.430
BP I&C services (nr)	60	84	111	182	165	150	752
FD investment (£m)	0.139	0.145	0.189	0.343	0.316	0.283	1.414
FD I&C services (nr)	57	60	84	155	140	130	626

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.11: Industrial and commercial services summary

7.45 SGN plan to connect 752 I&C connections over the GD23 period. We have reduced the numbers of I&C connections proposed by SGN to reflect its experience in GD17 and to provide the opportunity to outperform. Further details can be found in Annex C – Connections and Volumes.

7.46 We have applied the basket of works unit rates to estimate an appropriate allowance for the determination, as they are the best indicator of actual cost.

SGN – Industrial and commercial meters

7.47 The figure below summarises the decisions taken in reaching our final determination for industrial and commercial meters. Further detail is provided in subsequent sections.

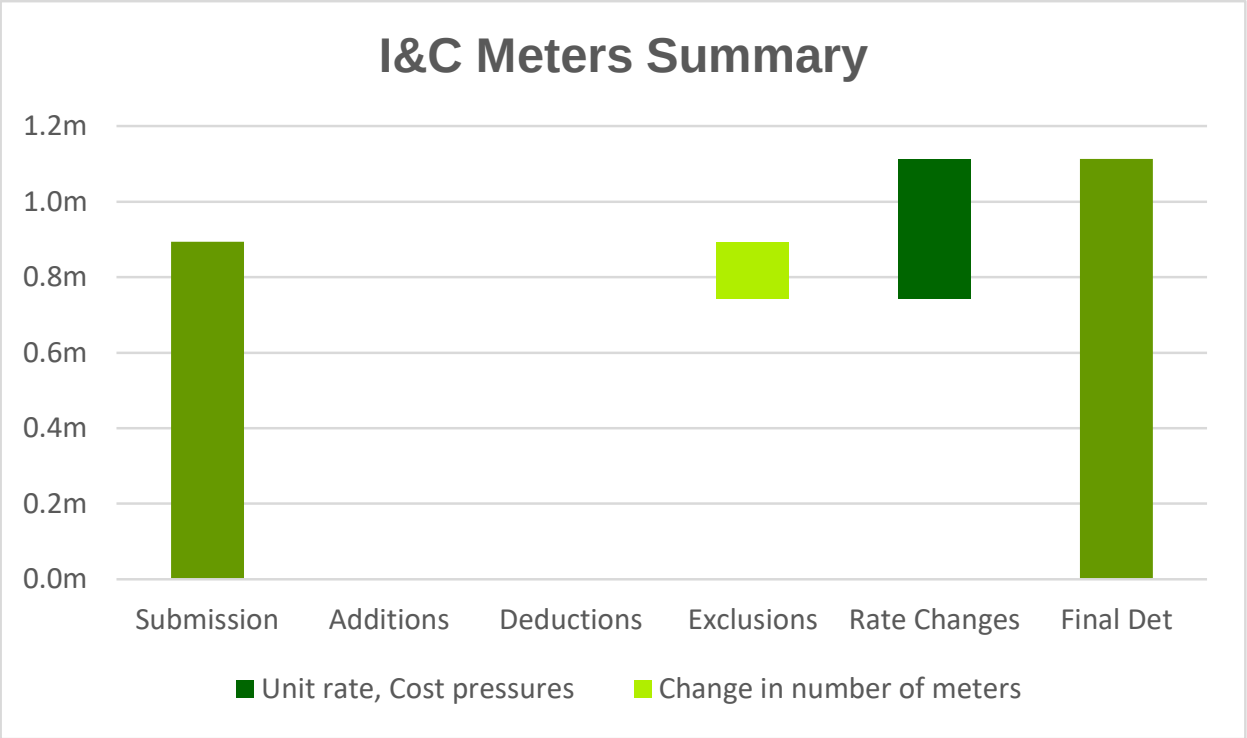


Figure 7.7: Industrial and commercial meters summary

7.48 The table below summarises the business plan proposals and our final determination allowances for industrial and commercial meters.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.095	0.187	0.118	0.168	0.187	0.139	0.893
BP I&C meters new (nr)	60	84	111	182	165	150	752
BP I&C meters replacement (nr)	0	0	0	0	0	0	0
FD investment (£m)	0.127	0.134	0.147	0.256	0.248	0.202	1.114
FD I&C meters new (nr)	57	60	84	155	140	130	626
FD I&C meters replacement (nr)	0	0	0	0	0	0	0

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.12: Industrial and commercial meters summary

SGN – Industrial and commercial meters – Growth

7.49 SGN's business plan included an industrial and commercial meter at each new connection. We have reduced the number of I&C meters in the determination to reflect our decision to decrease the target number of I&C connections. The profile of connections and investment allowed in the final determination is shown in Table 7.13.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.316	0.210	0.259	0.263	0.262	0.261	1.572
BP I&C meters new (nr)	148	150	147	145	142	140	872
FD investment (£m)	0.127	0.134	0.147	0.256	0.248	0.202	1.114
FD I&C meters new (nr)	57	60	84	155	140	130	626

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.13: Industrial and commercial meters growth

7.50 Our allowances have been calculated by applying the appropriate basket of works unit rate to the number of I&C meters of each size proposed by SGN in the business plan. This has then been prorated to the number allowed in our determination.

SGN – Industrial and commercial meters – Replacement

7.51 SGN does not plan the replacement of any industrial and commercial meters during the GD23 price control period.

SGN – Other capex

7.52 The figure below summarises the decisions taken in reaching our final determination for other capex. Further detail is provided in subsequent sections.

Figure 7.8: Other capex summary

7.53 The table below summarises the business plan proposals and our final determination allowances for other capex.

	2023	2024	2025	2026	2027	2028	GD23 Total
Business plan investment (£m)	0.050	0.050	0.050	0.050	0.050	0.050	0.300
FD investment (£m)	0.050	0.050	0.050	0.050	0.050	0.050	0.300

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.14: Other capex summary

7.54 We have accepted SGN's proposals for other capex in the GD23 period. We have not made any changes since the draft determination.

SGN – Traffic management act

7.55 SGN included proposals for an allowance equivalent to 5% of mains and services expenditure being allocated to TMA. In its commentary SGN suggested that an equivalent figure be allocated to innovation projects. As in previous price controls, we have allowed a ring fenced allowance for TMA equivalent to 10% of the allowances for main laying and service laying activities.

SGN – Customer contributions

7.56 We have made an adjustment to account for customer contributions relating to capex expenditure. SGN did not include any customer contributions in the business plan submission. So we have used the four year average from 2017-20 to make the adjustment. This equates to a figure of 0.02% for SGN.

SGN – Summary of findings

7.57 In Table 7.15 below we have set out a summary of SGN's capex submission and our total capex allowance for the final determination pre and post frontier shift, which now includes for above inflation cost pressures. The post frontier shift table includes a final adjustment for customer contributions.

	2023	2024	2025	2026	2027	2028	GD23
SGN NG business plan submission (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	3.527	3.399	3.234	4.855	2.718	2.135	19.869
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.712	0.519	0.242	0.896	0.438	0.000	2.806
Domestic Services	1.281	1.199	1.270	1.295	1.184	1.315	7.544
Domestic Meters	0.170	0.158	0.168	0.171	0.151	0.172	0.990
I&C Services	0.192	0.269	0.365	0.557	0.539	0.507	2.430
I&C Meters	0.095	0.187	0.118	0.168	0.187	0.139	0.893
Other Capex	0.050	0.050	0.050	0.050	0.050	0.050	0.300
TMA	0.250	0.243	0.243	0.335	0.222	0.198	1.492
Totals	6.276	6.025	5.691	8.327	5.490	4.516	36.324
UR final determination pre FS (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	2.399	2.042	2.655	3.157	1.613	2.007	13.873
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Domestic Services	0.704	0.686	0.757	0.800	0.681	0.840	4.468
Domestic Meters	0.146	0.142	0.155	0.154	0.127	0.155	0.879
I&C Services	0.139	0.145	0.189	0.343	0.316	0.283	1.414
I&C Meters	0.127	0.134	0.147	0.256	0.248	0.202	1.114
Other Capex	0.050	0.050	0.050	0.050	0.050	0.050	0.300
TMA	0.324	0.287	0.360	0.430	0.261	0.313	1.976
Totals	3.890	3.487	4.312	5.189	3.297	3.850	24.024
UR final determination post FS (£m)							
7 Bar Mains	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LP, 2Bar or 4Bar Mains	2.602	2.202	2.880	3.423	1.748	2.174	15.030
Individually Funded	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pressure Reduction	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Domestic Services	0.764	0.739	0.822	0.867	0.738	0.910	4.841
Domestic Meters	0.158	0.153	0.168	0.167	0.138	0.168	0.952
I&C Services	0.151	0.156	0.205	0.372	0.342	0.306	1.532
I&C Meters	0.138	0.144	0.159	0.278	0.269	0.218	1.207
Other Capex	0.054	0.054	0.054	0.054	0.054	0.054	0.325
TMA	0.352	0.310	0.391	0.466	0.283	0.339	2.140
Totals	4.219	3.759	4.678	5.627	3.573	4.170	26.027
Contributions @ -0.02%	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.006
Totals (Post FS, Net of Contributions)	4.218	3.758	4.677	5.626	3.572	4.169	26.021

Note 1. Figures may not sum due to rounding. Gross figures, Average 2020 prices

Table 7.15: SGN final determination capex allowance

SGN – Capital expenditure assumptions post GD23

7.58 We made the following assumptions in order to estimate a reasonable allowance of capital expenditure post GD23 for the purpose of modelling GD23 tariffs:

- SGN did not identify any 7 bar mains, apart from the two resilience projects post GD23 and so no allowance has been made in our long term projections.
- Infill will be completed in the GD23 period so we haven't included any post GD23.
- We have included an allowance for mains to serve new development based on a length of 9.5 metres of gas main per property.
- SGN did not identify any individually funded projects post GD23 and so no allowance has been made in our long term projections.
- We have continued the replacement of pressure reducing stations on a twenty year basis post GD23.
- We have included the costs of meters and services by extending the connection profiles for both domestic and industrial and commercial properties.
- We have allowed for the replacement of domestic meters, I&C meters based on a 20 year life.
- We have continued the level of other capex based on the SGN submission.
- We have continued to allow for TMA costs at 10% of the allowance for mains and services.
- We have not applied real price effects or frontier shift to estimated expenditure post GD23.