Gas Transmission Services Cost and Performance Report 2017-18 to 2021-22 (GT17)

Assessment of TSOs and GMO Cost and Performance

May 2023

About the Utility Regulator

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

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

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

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs, 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

We regulate the revenue gas transmission system operators (TSOs) receive through periodic price controls. Price control decisions identify the expected levels of expenditure for these gas TSOs as well as for the Gas Market Operator (GMO) for Northern Ireland.

This report reflects our assessment of gas TSOs performance across the five years of the recently completed regulatory price control, GT17, covering the period from October 2017 to September 2022.

Audience

Regulated utilities, regulatory community, industry, consumers and their representative bodies and statutory bodies.

Consumer impact

This assessment provides consumers with an overview of TSO performance for the entirety of the GT17 period in delivering the requirements of our price control.

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Executive Summary

In overall terms, GT17 can be considered a successful period. GMO has been implemented effectively and has delivered cost[1] savings as well as practical benefits to shippers by way of:

- One point of contact for all queries/issues.
- Single transmission code and invoicing system.
- 24-hour telephone service and website.
- Regular engagement forums and necessary market changes.

TSOs have also been effective in delivering either below or close to budget and collaborating for the benefit of the industry. RIGS reporting has been useful in providing clarity and transparency on costs and outputs. That being said, there remains some concerns, issues and challenges. These include the following:

1) GNI (UK) has deferred some of the repex programme and maintenance activity. This puts immediate pressure on delivery of the larger GT22 programme.
2) MEL has undertaken quite a few material projects which were not part of the business plan and have resulted in almost annual BCO[2] requests.
3) End of year reconciliation payments have been material on occasion.
4) Significant work will be required with respect to delivery of the DfE[3] Energy Strategy. This includes system / market operator changes for accommodation of low carbon gas.
5) GT22 final determination imposes various obligations with respect to stakeholder engagement, joint working, environmental action plan updates etc.

We would ask the TSOs and GMO to reflect on these issues and how they can be addressed going forward as further improvement is required. Overall, however, performance in GT17 can be considered very good.

[1] All financial costs in this paper are in 2021-22 (March 2022) prices unless otherwise stated.
[22] BCO = Budgeted Controllable Opex.
[3] DfE = Department for the Economy.

1. Introduction

Background

1.1 There are four Transmission System Operators (TSOs) in Northern Ireland. These include:

a) GNI (UK) – responsible for the South North and North West Pipelines.

b) Premier Transmission Limited (PTL) – responsible for the Scottish Northern Ireland Pipeline (SNIP).

c) Belfast Gas Transmission Limited (BGTL) – responsible for the Belfast Gas Transmission Pipeline.

d) West Transmission Limited (WTL)[4] – responsible for the Gas to the West Pipeline.

1.2 PTL, BGTL and WTL are all part of the Mutual Energy Limited (MEL) group. For the purposes of this report, activity and expenditure incurred by these three TSOs are assessed collectively under the MEL umbrella. GNI (UK) is considered separately.

1.3 October 2017 also saw the go-live of the Gas Market Operator for Northern Ireland (GMO). GMO is a collaboration of the four TSOs, the purpose of which is to provide a 'one stop shop' for commercial activities, which can otherwise be described as operating the gas market.

Price Controls

1.4 GT17 represents the recently completed regulatory period subject to UR determination for the gas TSOs. The price control ran for five years from October 2017 to September 2022. It sets out the allowed revenue for the holders of high-pressure conveyance licences.

1.5 Decisions for GNI (UK) represent fixed revenue allowances, as per the normal regulatory process. Exceptions are however made for some cost items (i.e. rates or licence fees) which are treated as a pass-through.

1.6 The situation differs for MEL who are a mutualised entity with no shareholders; its primary stakeholders being energy consumers. In this model, NI gas consumers absorb deviations between forecast and actual operating costs in return for an absence of equity. In this respect, GT17 is a *'shadow'* or advisory price control for MEL.

Cost and Performance Reports

1.7 We use information returns and the Cost and Performance Report (CPR) to account for delivery against the price control. This document provides an assessment of TSOs performance at the end of the five-year price control period.

1.8 The report provides commentary on GNI (UK), MEL and the GMO. It does not cover capital repayments as allowances for building the network have already been decided outside the price control process.

[4] WTL is not a separately certified TSO but is referred to as one in this document for purposes of simplicity.

1.9 For the TSOs, analysis of costs is split into three sections as follows:

a) Controllable opex – Operational spend within management discretion. This includes staff costs, administration, maintenance and systems operation.

b) Repex – Is also controllable opex within TSO control but is analysed separately as it represents material spend on replacement of assets on an intermittent basis.

c) Total costs – Encompasses all opex costs including pass-through items which are considered uncontrollable such as rates, licence fees and costs incurred on the network at the Scottish end (for PTL).

1.10 The report also looks at GMO performance and implementation of single system operation. Although the cost of GMO is incurred by the respective TSOs, GT17 set indicative allowances for undertaking market operation. GMO is judged against this budget and other Key Performance Indicators (KPIs).

2. GNI (UK) Performance

Controllable Opex

2.1 The graph below details GNI (UK) opex by cost category and in comparison to both the GT17 final determination (FD) allowance and the TSO business plan (BP) request.

Figure 2.1 – GNI (UK) controllable opex in real terms

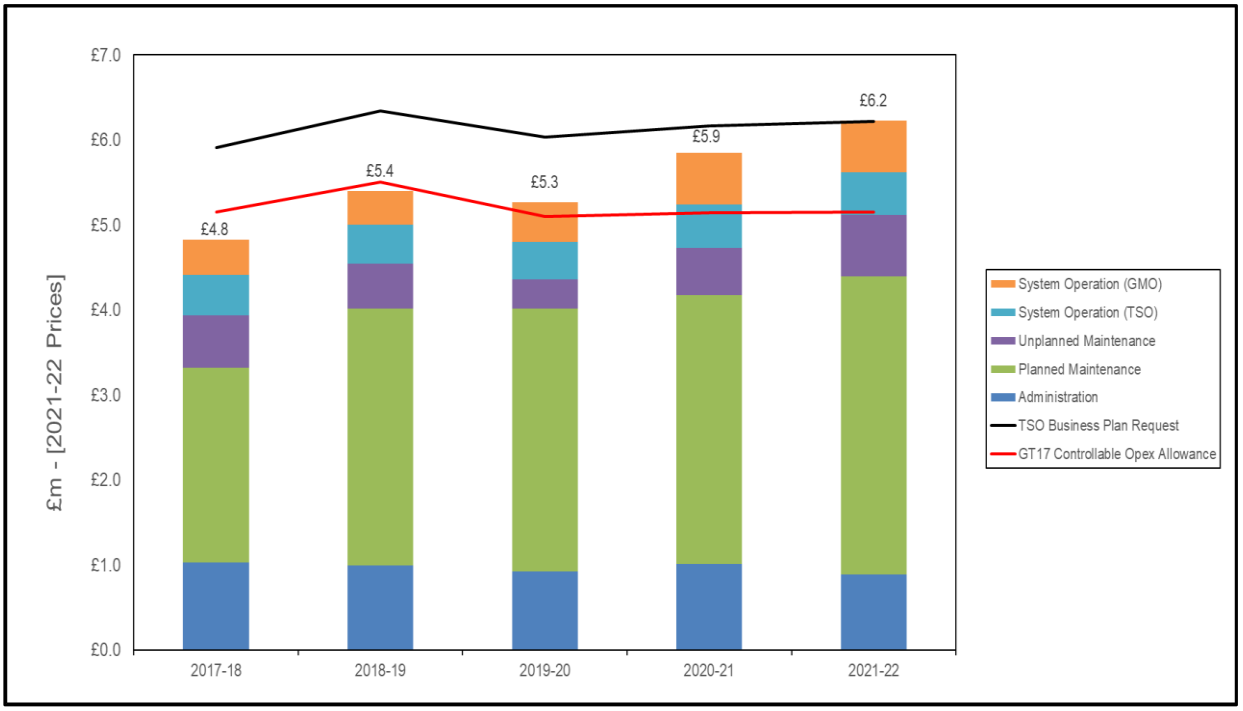


Figure 2.2 – GNI (UK) controllable opex: actual vs allowance

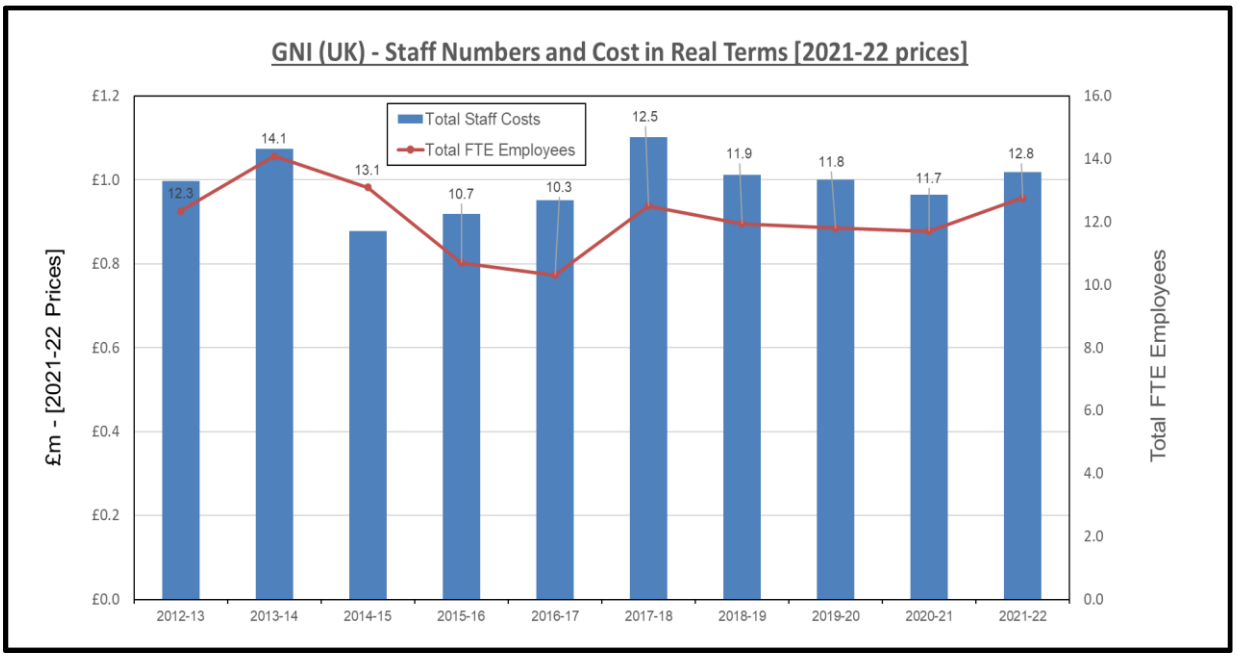
Cost Category	2017-18	2018-19	2019-20	2020-21	2021-22	GT17 Total
GNI (UK) BP Request (£m)	5.91	6.34	6.03	6.17	6.22	**30.68**
FD Allowance (£m)	5.15	5.51	5.10	5.15	5.15	**26.07**
Actual Spend (£m)	4.83	5.40	5.27	5.85	6.23	**27.58**
Differential (£m)	-0.32	-0.11	0.16	0.70	1.07	**1.51**
Variance (Under) / Over (%)	-6.30%	-1.91%	3.22%	13.62%	20.81%	**5.8%**

All figures in 2021-22 prices

2.2 The TSO spend is above the FD budget on a cumulative basis by around 6% over the GT17 period. This has been largely attributed to increases in planned maintenance costs. GNI (UK) has advised that this is principally due to their maintenance contractor rates which were re-tendered during the period and incorporated a material uplift.

2.3 Most other cost categories are below budget, though the last year has a material overspend. Over the longer term, staff costs have remained fairly constant in real terms. Staff numbers have remained within the GT17 allowance, though the spend is slightly above approved levels.

Figure 2.3 – GNI (UK) staff costs and full time equivalent (FTE) numbers



Repex

2.4 Replacement expenditure or repex is much more atypical in nature. It is associated with larger ad hoc costs required to maintain the system. GNI (UK) spend on their GT17 repex programme is detailed below.

Figure 2.4 – GNI (UK) repex: actual vs allowance[5]

Repex Project	FD Allowance £000s	Actual Spend £000s	% Variance (Under) / Over Budget
Cathodic Protection	240	66	-72%
Boiler Refurbishment	835	43	-95%
Control System Upgrades	138	44	-68%
Instrumentation Refurbishment	365	203	-44%
Metering Recalibration	590	177	-70%
AGI[6] security	TBD	TBD	N/A
Cyber Security Upgrades	187	267	43%
Emergency Escapes	456	1	-100%
Outputs not in GT17	-	313	N/A
Totals	**2,810**	**1,114**	**-60%**

All figures in 2021-22 prices

2.5 Repex is underspent by £1.7m (-60%) against an allowance of £2.8m for the period. GNI (UK)

[5] See repex annex for more detail on project delivery.
[6] AGI = Above Ground Installation.

has caught up to some extent in terms of the programme delivery since the last CPR. Much of the work on control systems, instrumentation refurbishment, meter recalibration and cyber security has been undertaken. This has often been delivered below budget.

2.6 However, the boiler programme was deferred and key projects such as cathodic protection and emergency escapes have also slipped into GT22. The TSO has cited the legitimate restrictions around COVID, however little progress was made on the upgrades in the first two years of the price control. We had queried the high level of underspend during the GT22 price control determination. We were assured, as late as February 2022, that those projects would be completed in Q4 2022. It is disappointing that they did not progress to completion.

2.7 Some concerns remain that the delays could impact on delivery of the larger GT22 repex programme. There is an expectation that this work is closed out relatively quickly in the next price control period. This issue will be subject to ongoing monitoring.

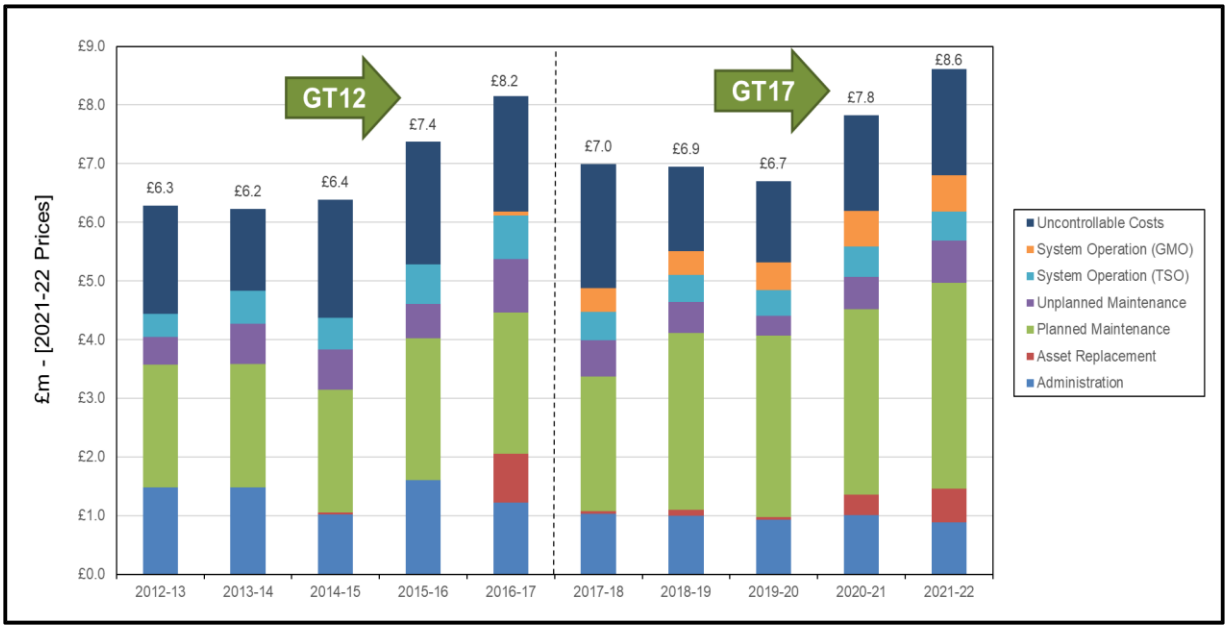
Total Costs

2.8 Total costs incorporate opex, repex and pass-through items. Overall, GNI (UK) are £3m below the GT17 budget across all years. This can largely be explained by:

1) Work not yet undertaken on repex projects;
2) Lower than expected uncontrollable costs; and
3) Reasonable financial control on the part of the TSO.

2.9 The chart below details GNI (UK) performance across a number of years and price controls.

Figure 2.5 – GNI (UK) total cost in real terms



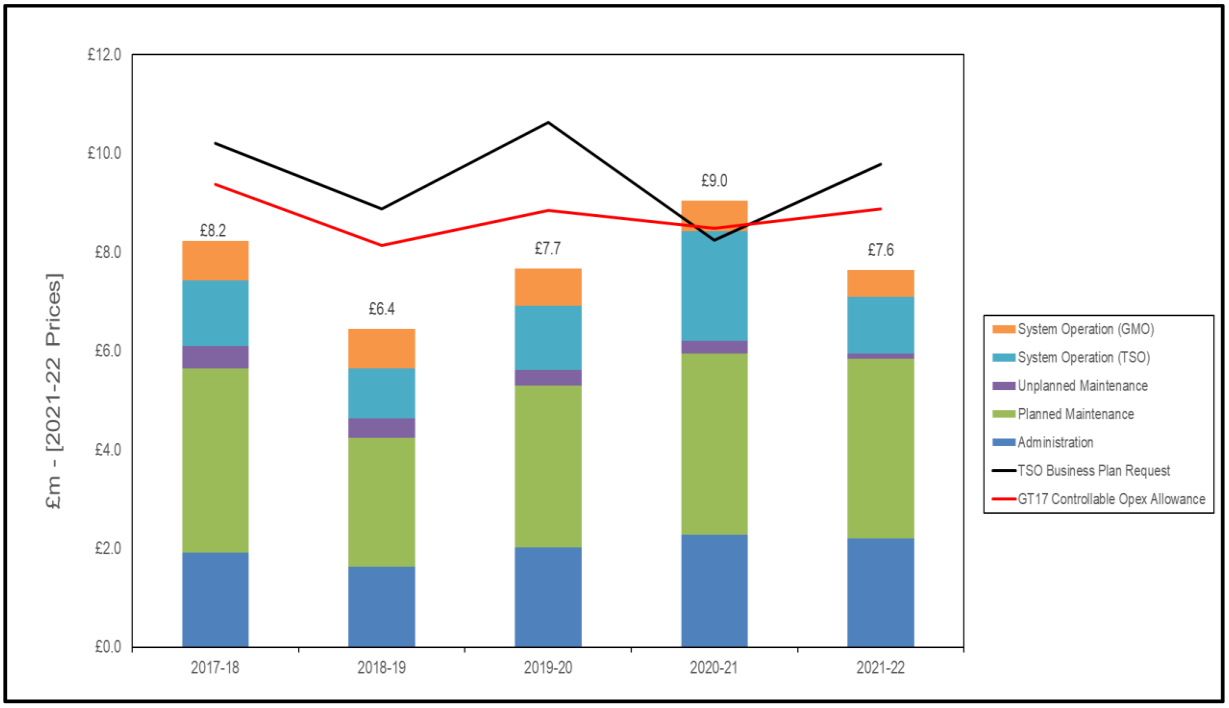
2.10 The graph indicates that GNI (UK) has been reasonably successful in restricting overall cost growth in real terms over GT17. This is a welcome outcome, though we are keen to see delivery of agreed network upgrades. We will continue to monitor progress against spend and outputs in the next price control.

3. MEL Performance

Controllable Opex

3.1 The graph below details MEL controllable cost by opex category and in comparison to both the GT17 allowance and the TSO business plan request.

Figure 3.1 – MEL controllable opex in real terms[7]



3.2 The chart indicates that MEL has managed to outperform GT17 controllable opex allowances by almost 11%.

Figure 3.2 – MEL controllable opex: actual vs allowance

Cost Category	2017-18	2018-19	2019-20	2020-21	2021-22	GT17 Total
MEL BP Request (£m)	10.20	8.88	10.64	8.25	9.79	**47.76**
FD Allowance (£m)	9.38	8.14	8.85	8.49	8.88	**43.75**
Actual Spend (£m)	8.24	6.45	7.67	9.05	7.65	**39.04**
Differential (£m)	-1.15	-1.69	-1.19	0.55	-1.23	**-4.702**
Variance (Under) / Over (%)	-12.21%	-20.80%	-13.40%	6.53%	-13.87%	**-10.7%**

All figures in 2021-22 prices

3.3 Controllable opex is on average c. £0.9m below the FD allowances per annum. This is a welcome outcome which MEL has highlighted a number of reasons for, including:

[7] Figures in relation to the GT17 allowance include BCO (Budgeted Controllable Opex) uplifts.

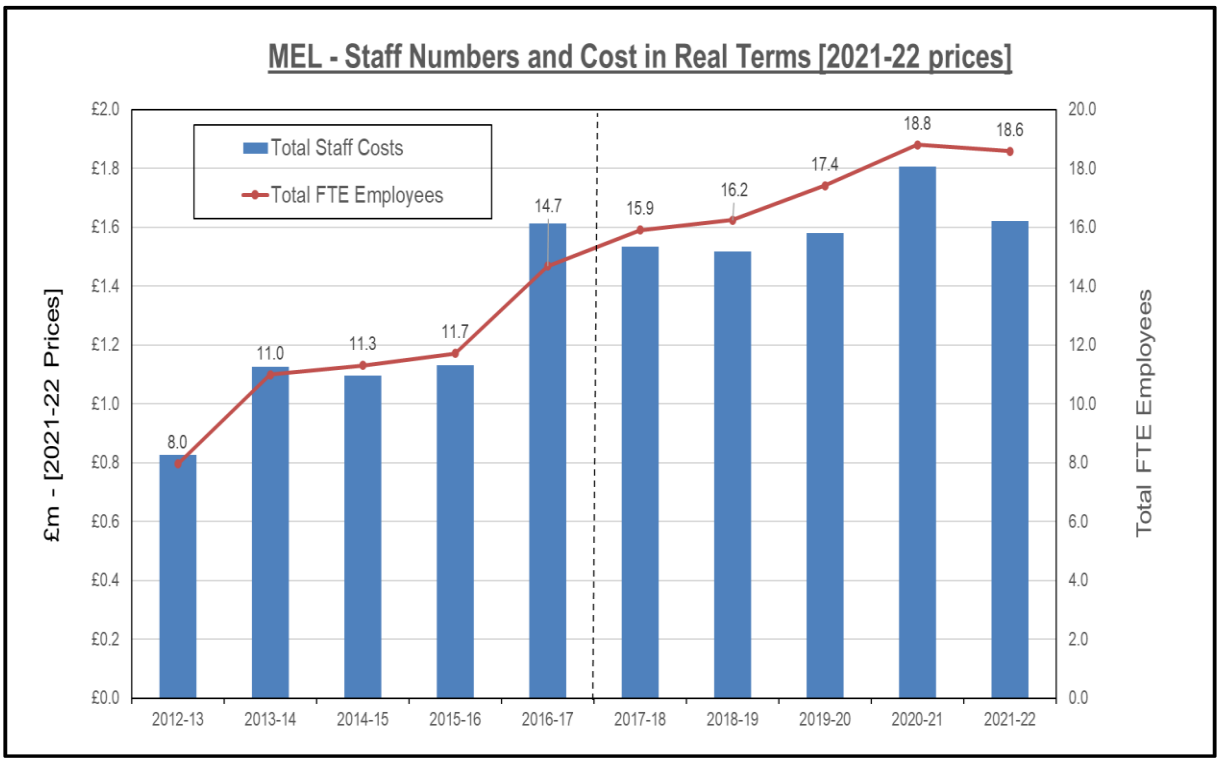
a) Use of new techniques for sub-sea inspections which allowed an unmanned vehicle to be used to visually inspect the lough crossings.

b) Pipeline inspection savings as a result of synergies from collaboration with Moyle interconnector survey work.

c) More activity being undertaken by additional internal engineering staff rather than reliance on external support.

3.4 MEL has seen an increase in staff numbers over the period and against historical levels.

Figure 3.3 – MEL staff costs and full time equivalent (FTE) numbers



3.5 Increases in staff before the start of the price control represent additional responsibility taken by the TSO with respect to the market operator. MEL has however increased engineering support and most recently made provision for dedicated energy transition staff.

3.6 Despite the increased staff spend, this has been more than offset by savings in the maintenance and inspection programme, which has been delivered successfully. This represents an impressive performance, though the staff increase trend would not be expected to continue.

Repex

3.7 MEL spend on their GT17 repex programme is detailed below.

Figure 3.4 – MEL repex: actual vs allowance

Repex Project	FD Allowance £000s	Actual Spend £000s	% Variance (Under) / Over Budget
SCADA[8] Refresh	964	2,432	152%
Boiler house Replacement	1,045	968	-7%
Ballylumford Water Bath Heaters	98	3	-97%
Panel PLC[9] Replacement	638	740	16%
Fire Detection System - Kiosks	240	-	-100%
Transformer Replacement	125	-	-100%
Lagging Replacement	86	25	-71%
Replacement / Overhaul of Valves	167	134	-19%
UPS[10] & UPS Battery Replacement	144	20	-86%
Other Items	668	283	-58%
Outputs not in GT17	1,383	3,337	141%
Totals	**5,557**	**7,942**	**43%**

All figures in 2021-22 prices

3.8 The repex is over budget by £2.4m (43%) against an allowance of £5.6m for the GT17 period. MEL has reported good progress against GT17 targeted outputs including:

- Knocknagoney boiler house replacement delivered.
- PLC panels have been replaced alongside five of eight fire detection systems, which were undertaken at the same time. The costs of these projects are recorded together.
- All UPS systems have been updated.

3.9 The SCADA refresh has been aligned with SNIP Agent and cyber security work. Additional funds have been provided in GT22, though the majority of spend has been incurred in 2021-22. Some other projects have been deferred due to a lack of degradation or sweating of existing assets.

3.10 It is notable that there is significant spend on outputs not foreseen at GT17. This includes work on the SNIP, heat exchangers, block valves and PIG[11] trap procurement. MEL has subsequently asked for a number of BCO revisions.

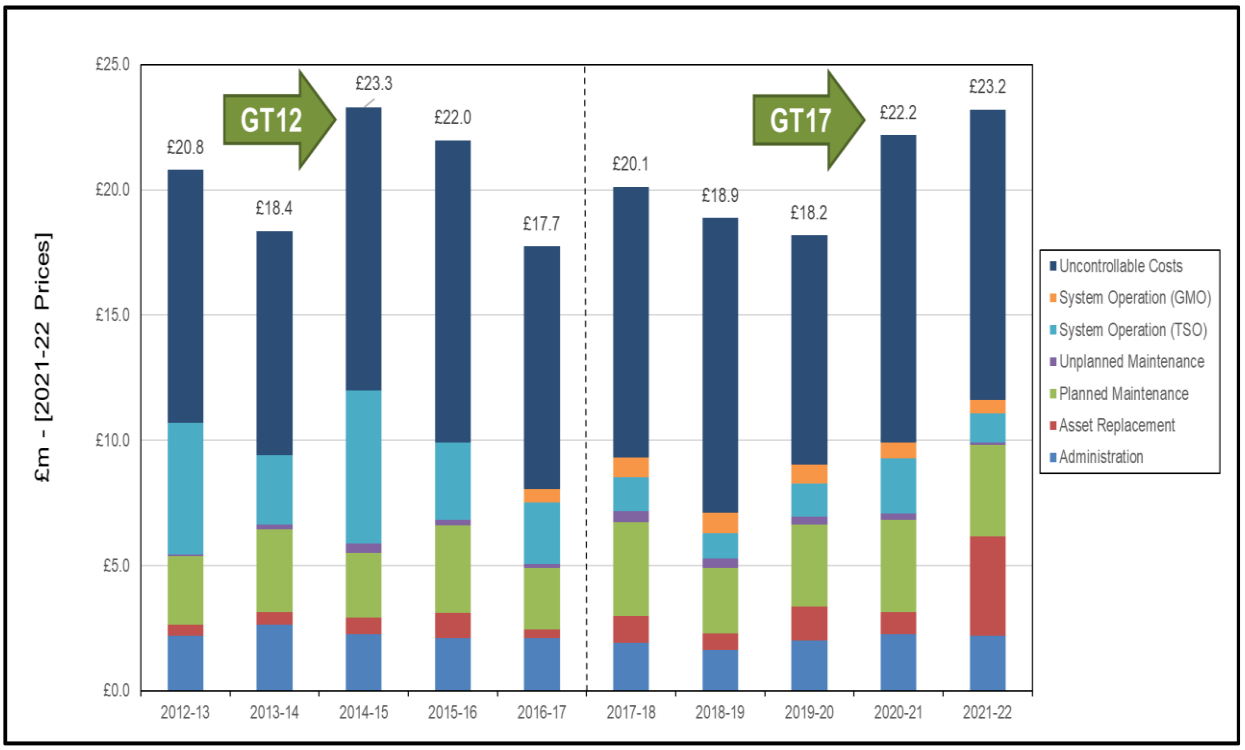
3.11 MEL has delivered the majority of GT17 scheduled outputs, which is a welcome outcome. However, the scale of unforeseen projects and expenditure is somewhat concerning in terms of the robustness of the business planning process. We will continue to engage with MEL on their unforeseen projects and expenditure.

[8] SCADA = Supervisory Control and Data Acquisition.
[9] PLC = Programmable Logic Controller.
[10] UPS = Uninterruptible Power Supply.
[11] PIG trap = Pipeline Inspection Gauge.

Total Costs

3.12 The chart below details MEL total spend.

Figure 3.5 – MEL total cost in real terms



3.13 Overall, MEL are below the GT17 forecasts by around £5.4m and have had success in terms of cost control. This is a welcome outcome, and the TSO can take credit for much of this. However, it is also dependent on uncontrollable costs, which are subject to uncertainty and may rise in the future.

3.14 As the graph indicates, these pass-through costs make up a large proportion of MEL spend. We will continue to monitor progress against expenditure and outputs as the next price control progresses.

4. GMO Performance

Controllable Opex

4.1 GMO went operationally live on the 1 October 2017. It is responsible for a variety of gas market operations such as capacity bookings, code administration, invoicing, balancing, market reports etc.

4.2 The operator is a joint venture made up of staff from MEL and GNI (UK). Even though costs are covered by the respective TSO, GT17 set a budget for these market activities against which GMO are responsible and report. Comparison against FD allowance and the business plan request is detailed below.

Figure 4.1 – GMO NI controllable opex: actual vs allowance

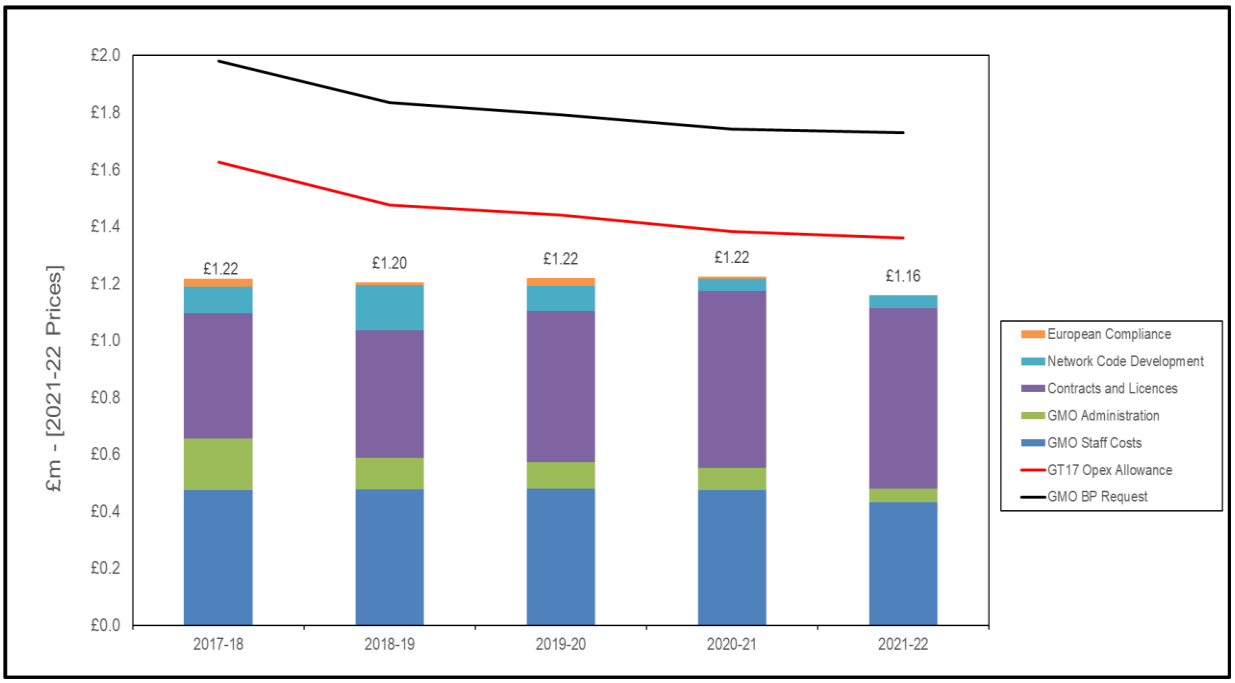


Figure 4.2 – GMO NI controllable opex: actual vs allowance

Cost Category	2017-18	2018-19	2019-20	2020-21	2021-22	GT17 Total
GMO BP Request (£m)	1.98	1.83	1.79	1.74	1.73	**9.08**
FD Allowance (£m)	1.63	1.47	1.44	1.38	1.36	**7.28**
Actual Spend (£m)	1.22	1.20	1.22	1.22	1.16	**6.02**
Differential (£m)	-0.41	-0.27	-0.22	-0.16	-0.20	**-1.259**
Variance (Under) / Over (%)	-25.17%	-18.31%	-15.34%	-11.45%	-14.80%	**-17.3%**

All figures in 2021-22 prices

4.3 Costs are below budget by some 17% on a cumulative basis. GMO have highlighted a number of reasons for this performance including:

a) Administration cost less than anticipated due to pooled corporate services and working from home arrangements.

b) Some spend on the IT system (contracts and licences) has been deferred to later in the period and has only increased in the latter years.

c) Decrease in network code costs due to some project delays, in-house efficiencies and savings from renegotiation of external support contract.

4.4 The GMO has been very successful in controlling and even reducing system operation costs for the TSOs. The TSOs have benefitted from pooling staff resources and sharing IT systems and expertise. GMO has delivered below budget and as of July 2020 also took on responsibility for postalised tariffs.

4.5 The table below details the financial impact on overall system operation costs across the gas TSOs as a whole industry. This includes market and grid operations.

Figure 4.3 – Impact of GMO on gas industry system operation costs

Cost Category	GT12	GT17	Variance
Total Spend (£m)	23.20	15.44	-7.76
Less Mobilisation Budget (£m)	2.18		
Less Atypical MEL IT Spend in 2014-15 (£m)	2.88		
Comparable Spend (£m)	**18.13**	**15.44**	**-2.70**

All figures in 2021-22 prices

4.6 As the table illustrates, the GMO has had a beneficial impact of c. £3m in real term financial savings compared to GT12. This could even be considered a conservative estimate as improvements to cyber security have resulted in additional spend in GT17 and a higher level of security. Comparison on a like-for-like basis would increase the saving. This illustrates well the practical benefit of sharing resources and expertise in certain areas.

Key Performance Indicators

4.7 Besides costs, GMO also report against a number of KPIs. Although no targets were set in the price control, this data provides assurance that the work of GMO is being undertaken in line with expectations.

4.8 GMO have recorded virtually 100% compliance every year for the various KPIs including invoices issued on time, queries being responded to and resolved etc. The shared IT system has also proven reliable.

4.9 GMO has pro-actively undertaken shipper surveys. These indicate that respondents were generally satisfied with GMO services, website, communications and IT systems. The GMO also facilitates four ongoing forums and has successfully implemented market changes. This includes aggregate balancing, which accommodates biomethane injection into the NI network.

4.10 Overall, the implementation of the GMO has proven to be a successful transition.

5. Conclusions and Next Steps

Summary Performance and Issues

5.1 GT17 can be considered successful. GMO has been implemented and has delivered cost savings as well as practical benefits to shippers by way of:

- One point of contact for all queries/issues.
- Single transmission code and invoicing system.
- 24-hour telephone service and website.
- Regular engagement forums and necessary market changes.

5.2 TSOs have also been effective in delivering either below or close to budget and collaborating for the benefit of the industry. RIGS reporting has been useful in providing clarity and transparency on costs and outputs. That being said, there remains some concerns, issues, and future challenges. These include the following:

1) GNI (UK) has deferred some of the repex programme and maintenance activity. This puts immediate pressure on delivery of the larger GT22 programme.
2) MEL has undertaken quite a few material projects which were not part of the business plan and have resulted in almost annual BCO requests.
3) End of year reconciliation payments have been material on occasion.
4) Significant work will be required with respect to delivery of the DfE Energy Strategy. This includes system / market operator changes for accommodation of low carbon gas.
5) GT22 final determination imposes various obligations with respect to stakeholder engagement, joint working, environmental action plan updates etc.

5.3 We would ask the TSOs and GMO to reflect on these issues and how they can be addressed going forward as further improvement is required. Overall, however, performance in GT17 can be considered very good.

Next Steps

5.4 It is anticipated that the next gas transmission *Cost and Performance Report* will be undertaken after year three of the GT22 period. Work is ongoing to amend the RIGS reporting template and guidance. This will incorporate changes for future reporting requirements and obligations.

Annex A – GNI (UK) Repex Delivery

Repex Project	FD Allowance £000s	Actual Spend £000s	% Variance (Under) / Over Budget	Update on Programme Delivery
Cathodic Protection	240	66	-72%	Limited progress. Contract awarded in December 2022 with work to start in February 2023
Boiler Refurbishment	835	43	-95%	Limited progress. GT22 work package to begin in 2023.
Control System Upgrades	138	44	-68%	DCS[12] at Gormanstown upgraded and safety assessment completed.
Instrumentation Refurbishment	365	203	-44%	3 of 4 RTUs[13], 1 of 2 UPS[14] and 7 of 8 battery charger units replaced.
Metering Recalibration	590	177	-70%	6 of 10 turbine meters installed. 1 of 2 chromatographs and 12 of 12 flow computers delivered but yet to be installed. No work on 4 ultrasonic meters undertaken.
AGI security	TBD	TBD	N/A	Work required and budget determined for GT22.
Cyber Security Upgrades	187	267	43%	Cyber strategy developed and compliance work completed at key sites with high-level assessments undertaken for other sites.
Emergency Escapes	456	1	-100%	Construction concluded in Q4 of 2022 on 4 sites with the remaining 9 sites scheduled in Q1 of 2023. Costs will be incurred in GT22.
Outputs not in GT17	-	313	N/A	Spend related to GT12 control system project and marker post replacements.
Totals	**2,810**	**1,114**	**-60%**	

All figures in 2021-22 prices

[12] DCS = Distribution Control System.
[13] RTUs = Remote Telemetry Units.
[14] UPS = Uninterruptible Power Supply.

Annex B – MEL Repex Delivery

Repex Project	FD Allowance £000s	Actual Spend £000s	% Variance (Under) / Over Budget	Update on Programme Delivery
SCADA Refresh	964	2,432	152%	Delayed delivery until GY22/23 but £2.4m spent in last year of GT17. Spend relates to SCADA, cyber security and the SNIP Agent contract.
Boiler house Replacement	1,045	968	-7%	One system delivered but one deferred until GT22.
Ballylumford Water Bath Heaters	98	3	-97%	System has not been replaced. Separate project to decommission.
Panel PLC Replacement	638	740	16%	5 of 5 panels completed but different sites based on criticality.
Fire Detection System - Kiosks	240	-	-100%	Initial work done by MEL staff. 6 of 8 systems delivered under PLC upgrade project.
Transformer Replacement	125	-	-100%	Not sufficient degradation to merit replacement.
Lagging Replacement	86	25	-71%	3 of 4 GT17 sites completed and some GT12 work closed out.
Replacement / Overhaul of Valves	167	134	-19%	Work fully complete on valves.
UPS & UPS Battery Replacement	144	20	-86%	All 5 UPS systems replaced. 3 of 8 battery charging units replaced.
Other Items	668	283	-58%	All projects delivered except two electrical distribution boards, gas chromatograph, some civil works and a meter replacement which has been delayed to align with a meter study.
Outputs not in GT17	1,383	3,337	141%	Significant spend not related to GT17 i.e. Belfast Lough Risk Assessment, SNIP remedial works, pipework diversions, heat exchangers, Kilroot block valve, PIG trap procurement etc.
Totals	**5,557**	**7,942**	**43%**	

All figures in 2021-22 prices