



**SGN**

Your gas. Our network.

# Response to Draft Determination: Section C: Ensuring efficient cost of service

## RIIO-GD2 Business Plan

4 September 2020

Positive impact

Safe and efficient

Shared net zero future



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## Structure of the document

Our response to the draft determination is split over six sections for ease of reference:

**Section A:** Executive Summary and Introduction.

**Section B:** Embedding the customer voice. This covers embedding the consumer voice, the CEG, and Ofgem's three consumer facing output categories - meeting the needs of consumers, an environmentally sustainable network, and maintaining a safe and resilient network. This section also covers cross-sector, sector-specific and bespoke outputs, ODIs and the CVP.

Here you will find answers to the following consultation questions;

- Core Questions (Q1 to Q9)
- Gas Distribution Sector Questions (GDQ1 to GDQ25),
- SGN Questions (SGNQ1 to SGNQ7) and
- NARMs Questions (NARMQ1 to NARMQ4).

**Section C:** Ensuring efficient cost of service. This covers the efficiency expectations approach to cost assessment, normalisation, regressions analysis, technically assessed cost and the business plan incentive. In this section we also provide our views on how COVID should be accounted for in the GD2 plan.

Here you will find answers to the following consultation questions;

- Core Questions (Q10 to Q11) and
- Gas Distribution Sector Questions (GDQ26 to GDQ41).

**Section D:** Ensuring efficient financing. This covers allowed return to debt, return on equity, the weighted average cost of capital and other finance issues such as tax.

Here you will find answers to all of the Finance consultation questions (FQ1 to Fq38).

**Section E:** Managing uncertainty and the move to net zero. This covers both cross sector, sector specific and bespoke uncertainty mechanisms, the approach to innovation and the move to net zero.

Here you will find answers to the following consultation questions;

- Core Questions (Q12 to Q33),
- Gas Distribution Sector Questions (GDQ42 to GDQ53) and
- SGN Questions (SGNQ8).

**Section F:** Totex incentive mechanism, process concerns, interlinkages and appeals.

Here you will find answers to the following consultation questions;

- Core Questions (Q34 to Q43)
- SGN Questions (SGNQ9)

These sections incorporate our responses to the questions set out in the draft determination appendices. Responses are denoted by: 'Q' for questions from the core document; 'GDQ' for questions from the gas distribution annex; 'FQ' for questions from the Finance annex; 'NARMQ' for questions from the NARMs Annex, and 'SGNQ' for questions from the SGN Annex.

For each substantive point we have then applied the following nomenclature;

**Type 1.** Factual or computational errors.

**Type 2.** Inconsistencies in stated approach or in the application of a methodology.

**Type 3.** Disagreement as to how the methodology should be applied.

**Type 4.** New evidence presented to respond to a point.

**Type 5.** Evidence that SGN has provided but hasn't been taken into account or given sufficient weight or given sufficient weight (i.e. SQs responses etc).

**Type 6.** Broad agreement with position put forward in draft determination.

Where substantial new evidence is provided, or there is a high level of confidentiality associated with the information provided, we have included this as an appendix and referenced it.

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## Section C: Ensuring efficient cost of service

### 5 Ensuring efficient cost of service

Setting appropriate cost allowances is one of the key building blocks of a well specified price control. Without these allowances set accurately, companies might be underfunded to deliver key statutory requirements (such as the safety requirements under PSR). Similarly, the delivery of key customer priorities and environmental objectives is dependent on the price control providing suitable funding. These concerns must be balanced against providing value for money for current and future consumers by not setting allowances above the efficient level. It is therefore critical that a robust approach is followed to determine these allowances in a way that balances these concerns.

SGN developed a high quality, challenging and well justified business plan that set out an efficient set of spending plans in line with the needs and wishes of our customers. We are therefore disappointed and surprised by the revisions to our spending plans as set out in the DD. Having considered the DD very carefully, we believe that the overall cost assessment process is flawed due to errors in methodology development undertaken by Ofgem and errors in the way Ofgem has implemented the approach.

With respect to methodological errors, our key concerns include:

- A move to the 85<sup>th</sup> percentile, despite complete failure to apply Ofgem's own test for shifting away from UQ, and the impossibility of undertaking perfect benchmarking in a sector with 4 management groups – this approach adds a further £49m of unjustified benchmarking efficiencies compared to our plan which is roughly equivalent to the UQ in the DD modelling. This gap increases to £125m once the errors are corrected. **See GDQ27**
- Ofgem's inappropriate selection of ongoing efficiency at the top of their consultants' range and Ofgem's interpretation of wider CEPA advice – e.g. the double count of innovation which is already included in the comparator data. In addition, there are numerous errors in implementation (e.g. errors in compounding, and underlying data inconsistencies e.g. NGN values not compounded). Overall the approach adds £100m ongoing efficiencies beyond the already challenging assumption in our plan and this figure reduces to £75m once the identified errors are corrected. **See Q11 and GDQ28**
- **Redacted**
- Poor technical assessments – e.g. fixed overheads have been arbitrarily cut from LTS projects, projects have been erroneously ignored – this creates a further £30m unjustified disallowance. **See GDQ39 and GDQ40**
- No recognition of additional Opex requirements and stranded overheads from volume disallowance – this creates another £30m of unfunded works that must be undertaken. **See GDQ35.**
- Requirements are not covered by uncertainty mechanisms even though DD states they are **Redacted** – this means that SGN is unable to recover £22m in efficient costs. **See GDQ29**
- There are unfunded outputs such as GSoPs (Section 4.2.8), timed appointments (section 9.2) – these changes are expected to cost SGN £30m to implement for which no funding has been provided.
- **We believe these add a further £340m of unjustified stretch to our Totex allowances.**

In addition to this Ofgem has applied an outperformance wedge of 25 bps on cost of equity equivalent to £60m of Totex outperformance. **See FQ10 and FQ11.**

We also have identified a large number of implementation errors and process concerns, including:

- There are a number of errors within the data files that result in material changes to the efficiency rankings of the networks and add 4% to industry allowances whilst removing £75m from the Southern network (Please refer to Annex 1-Draft Determination Error Log).
- The errors and data anomalies identified highlight the lack of assurance within the models. (Please refer to Annex 2- Data Anomalies).
- There was a significant lack of overall transparency during the process – we received key files late in the process and with incomplete data (e.g. Synthetic Unit Cost Model).
- We have significant concerns over the application of methodology e.g. inconsistencies in model outputs vs DD documents, and the approach to implementing the ongoing efficiency assumption.
- Concerns over linkages between data files e.g. Synthetic Unit Cost model output not aligning to that of the [3]SyntheticCosts data file
- Robustness of synthetic unit costs – implausibly complex analysis which was impossible to QA in time given for such a material driver. Clear evidence of inconsistencies across GDNs which must be investigated.

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To resolve the unjustified shortfalls contained in the DD, Ofgem needs to:

#### Catch-up Efficiency:

- Address data concerns, errors in the regressions and republish a new DD starting point for allowances. This needs to be combined with an ongoing dialogue and consultation with stakeholders to reach a robust position for the FD.
- Apply a more appropriate benchmark in the regressions to reflect the confidence in the models (at most upper quartile but given model robustness issues Ofgem should consider whether a reasonable judgement would better reflect the wide range of efficiency scores e.g. the average). **See GDQ27.**
- Retain the Totex approach and the 13 year regression but ensure that GD1 historical data is used as an effective cross-check on validity of GD2 forecasts. **See GDQ26 and GDQ30.**
- **Redacted**
- Acknowledge that maintenance MEAV is an inappropriate driver for maintenance costs and that this should be replaced with a higher weighting for full MEAV (34% to 42%) within the Totex CSV. **See GDQ32.**
- Ofgem must ensure where workloads are disallowed for regressed cost categories (primarily Repex), the fixed overheads associated with this workload are not removed, and these should be added back into the regression assessment. Where projects are subject to technical assessment, the associated overheads should be subject to a relevant benchmarking adjustment in line with that of non-regressed costs. **See GDQ35 and section 5.7.3.**

#### Ongoing efficiency:

- Apply a more appropriate ongoing efficiency assumption – Ofgem should drop the unevidenced/inappropriate innovation adjustment of 0.2%, and select a central estimate acknowledging the validity of GO measures and placing more weight on data since the financial crash (e.g. 0.65%).
- Use the last year of outturn data in the regression analysis, and therefore update the productivity starting year to 2020/21 (see **GDQ31**). Apply a more reasonable productivity target for the remaining forecast year of GD1, recognising that this is largely an outturn year during which productivity cannot have been as high as Ofgem has assumed, in particular, given the impact of COVID-19 in 2020. Alternatively, Ofgem could start applying the productivity from the first year of GD2. (Irrespective of which start year Ofgem chooses for productivity, the same year must also be used for indexing RPEs during the period, in order to have consistency in the frontier shift approach). **See GDQ10, GDQ28 and GDQ31.**

- Change the scope of the application of the productivity target to apply only to regressed costs, as was done in GD1 (or at least, Ofgem to provide fuller explanation as to why it has now expanded the scope). Alternatively, if Ofgem continues to use solely Value Added measures in setting allowances, it must ensure these are only applied to a sub-set of Totex, as set out in the First Economics paper undertaken for the ENA.
- Address errors in the calculation of ongoing efficiency. **See GDQ28 and Annex 1-Draft Determination Error Log.**

#### RPEs:

- Review RPEs considering network business plan submissions, correct compounding errors, and ensure that the mechanism for indexing RPEs specifically captures the same starting year as Ofgem eventually chooses for productivity. Ofgem should also introduce a re-opener to reflect the uncertainty around COVID-19. **See Q10.**

#### Technically assessed costs

- Workloads developed to deliver our HSE obligations in GD2 must be included within our allowances.
- The technically assessed projects need to be consistently assessed with regards to overhead allocations whereby the treatment should be relevant to that of the non-regressed costs.
- There are important errors in the technical assessment process where evidence has been misinterpreted or hasn't been assessed. This needs to be addressed prior to final determination.
- We can see no justifiable rationale as to the differentiation between 'high' and 'low' confidence projects given that the evidence base and approach was consistent across all.
- There are no major points of overlap across any of our projects. These should be reinstated within our allowances. Where projects have been disallowed the evidence presented that supports their inclusion needs to be re-assessed.
- The new evidence submitted for reinforcement projects involving forecast accuracy and local housing developments demonstrate the need for these projects. These should be reinstated within our allowances.

#### Other:

- Properly scrutinise the raw data for outliers and unexplained trends. **See Annex 2-Data Anomalies.**
- Ensure that the disaggregation models are working correctly due to the interlinkages with Repex working models. **See GDQ41.**
- Ensuring uncertainty mechanisms fully cover all relevant costs.
- Given the significant cost assessment challenges, even once the concerns above the addressed will still result in ambitious Totex targets and therefore the outperformance wedge is inappropriate. **See FQ10 and FQ11.**

## 5.1 Efficient totex allowances

This section of the Core document discusses Ofgem's approach to cost assessment, including the extent of efficiency stretch and other approaches applied to costs e.g. technical assessment and workload adjustments. Our specific concerns on these issues are detailed more fully in later sections of this response.

We note, however, that a general issue with Ofgem's approach to efficient Totex allowances in the DD has been the prevalence of data errors and formula errors within Ofgem's analysis. We have collated two Annexes, which are referenced throughout our response below, and which detail areas where there are inconsistencies between the December BPDT submissions of the eight GDNs, and errors within the data files that were provided by Ofgem.

The documents are attached Annexes to this section as follows:

- Annex 1-Draft Determination Error Log
- Annex 2-Data Anomalies

We would stress the importance of these inconsistencies being reviewed and investigated as we believe these have led to the incorrect assessment and determination of DD allowances.

Given the scale and number of errors identified and the number of changes Ofgem will need to make to correct its errors, we do not think the cost assessment approach provides a robust basis to make the final determination without further consultation. There is therefore a compelling need for a further iteration to make sure that all issues are appropriately addressed (and consulted on) ahead of the final determination. We think it is important that the draft determination is restated by Ofgem on an error corrected basis so that networks and other stakeholders can see the full implications and impacts of Ofgem's policy choices.

## 5.2 Driving efficiency

This section of the Core document relates to Ofgem's assumptions on RPEs and ongoing efficiency (collectively referred to as frontier shift). We discuss our concerns with each below.

### 5.2.1 Real price effects and ongoing efficiency

Ofgem's Draft Determinations for RPEs and Ongoing Efficiency are flawed and should be amended for the FD.

- On productivity, Ofgem should correct its compounding errors and other issues in the data; remove the unevidenced/inappropriate innovation adjustment of 0.2%; select a central estimate acknowledging the validity of GO measures and placing more weight on data since the financial crash (e.g. 0.65%); use the last year of outturn data in the regression analysis, and therefore update the productivity starting year to 2020/21 (see GDQ31); apply a more reasonable productivity target for 2020/21 recognising the impact of covid-19; and ensure the productivity target is applied to an appropriate scope of our cost base. See GDQ10, GDQ28 and GDQ31. See also First Economics report for the ENA.
- On RPEs, Ofgem should reflect on our business plan submissions on appropriate indices; correct compounding errors; ensure that the mechanism for indexing RPEs specifically captures the same starting year as Ofgem eventually chooses for productivity; and introduce a re-opener to reflect the uncertainty around COVID-19. See Q10.

- Q10. Do you agree with our proposed RPEs allowances? Please specifically consider our proposed cost structures, assessment of materiality, and choice of indices in your answer.**

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### 5.2.2 Ongoing efficiency

- **Q11. Do you agree with our proposed ongoing efficiency challenge and its scope?**

The ongoing efficiency challenge proposed by Ofgem goes far beyond what is supported by the evidence. To address the issues underlying its ongoing efficiency assumptions, Ofgem should:

- remove the part of the efficiency challenge that pertains to innovation funding, as it is unevidenced and incorrect;
- choose an ongoing efficiency challenge for GD2 that takes into account the extensive and consistent evidence that ongoing efficiency will be lower, as presented by Ofgem's own commissioned consultants, CEPA. We consider that 0.65% would represent a more suitable ongoing efficiency assumption for Totex – reflecting the mid-point of a more reasonable range of 0.3% (drawing on the latest BoE forecasts) to 1.0% (reflecting regulatory precedent and a proper interpretation of the CEPA evidence which places more weight on GO numbers and post-GFC data). Alternatively, if Ofgem continues to use solely VA measures in setting allowances, it must ensure these are only applied to a sub-set of Totex, as set out in the First Economics paper undertaken for the ENA;

- ensure that the starting year for ongoing efficiency is consistent with the starting year that is used to index RPEs during the price control. As we explain in our response to GDQ31, Ofgem should use the latest year of outturn data in its final determinations (FD) (for the year 2019/20), and therefore ongoing efficiency assumptions are only needed from the year 2020/21. Ofgem should apply a substantially lower ongoing efficiency challenge for the year 2020/21, the majority of which is in the past and which will clearly be impacted by COVID-19. Or, alternatively, Ofgem could begin the productivity challenge from the first year of GD2;
- change the scope of the productivity target to only apply to regressed costs, as was done at GD1, or explain the justification for a significant expansion in scope; and
- correct the numerous errors in the ongoing efficiency spreadsheets.

We disagree in the strongest terms with the ongoing efficiency challenge proposed in Ofgem’s draft determination, of 1.4% for Opex and 1.2% for capex and Repex. No balanced assessment of the available evidence on economy-wide productivity and the specifics of the gas distribution sector could reach the level of efficiency challenge proposed by Ofgem. Below we provide an overview of the key problems with Ofgem’s ongoing efficiency challenge, and the sections below set out more detail on these points.

- There is undisputable evidence of a prolonged period of extremely low productivity growth in the UK since the global financial crisis. The OBR’s 2020 Economic and Fiscal Outlook states that, “*Since 2008, output per hour has grown by an average of just 0.3 per cent a year, compared to a little over 2 per cent over the preceding four decades*”.<sup>316</sup> Ofgem’s productivity estimates are at odds with this evidence as well as evidence presented by its own consultants:
  - Of the 40 EU KLEMS estimates presented by CEPA, 31 show productivity of 0.5% or below, and 10 of these show negative productivity.<sup>317</sup> Only 2 of these estimates are at or above the level of the ongoing efficiency challenge proposed by Ofgem.
  - CEPA’s EU KLEMS estimates based on the latest decade (2006-2016) are on average 84% lower than its estimates based on a longer period including the previous decade (1997-2016).

Furthermore, the EU KLEMS database ends in 2017, and does not capture the fact that the UK economy is now in recession linked to the current COVID-19 crisis. Ofgem does not explain why this evidence can be disregarded and why it believes such an imminent recovery from either the long-term productivity slump or the short-term impact of COVID-19 is likely.

- Ofgem has not carried out a balanced assessment of the evidence presented to it by CEPA and has misrepresented CEPA’s conclusions and recommendations.
  - CEPA provides a range within which it recommends Ofgem sets its ongoing efficiency challenge. However, CEPA does not provide any recommendation within that range, and our understanding is that CEPA views the bottom end of the range to be equally valid to the top end.<sup>318</sup> Ofgem’s point estimates at the very top of this range fails to take into account CEPA’s balanced recommendation, and Ofgem’s justifications for its decision are wrong. For example, Ofgem gives no weight to Gross Output (GO) measures of productivity, which point to significantly lower productivity. CEPA clearly states that there is no consensus on which measures of productivity are preferable, and that good regulatory practice is to consider information provided by both methods.<sup>319</sup>
  - Ofgem incorrectly reports CEPA’s recommended range in its draft determination (Ofgem states the bottom end of CEPA’s range on Opex is 0.7%<sup>320</sup> when in fact it is stated in the CEPA paper as 0.5%<sup>321</sup>).
- Ofgem’s inclusion of a 0.2% uplift to ongoing efficiency, representing efficiency delivered through innovation funding, is flawed, unsupported by evidence and does not reflect the purpose of innovation funding.

<sup>316</sup> OBR (2020) Economic and fiscal outlook, <https://obr.uk/efo/economic-and-fiscal-outlook-march-2020/>, Annex B

<sup>317</sup> CEPA Frontier Shift Annex, tables 2.2 and 2.3.

<sup>318</sup> CEPA never expresses a recommended end of the range and is clear that the bottom end as well as the top end could be supported, e.g. it states that giving some weight to Gross Output measures of productivity “would support a lower bottom-end of the range”. CEPA Frontier Shift Annex, p.5

<sup>319</sup> CEPA Frontier Shift Annex, p.12

<sup>320</sup> Ofgem DD core document para 5.35.

<sup>321</sup> CEPA Frontier shift methodology paper, page 6.

- This figure double-counts productivity gains from innovation already captured in EU KLEMS.
  - It also double-counts ongoing efficiency from innovation captured in baseline costs submitted in companies' business plans, and therefore already extracted from the sector via Ofgem's benchmarking model as 'catch-up'.
  - CEPA describes the 0.2% figure as "an assumption"<sup>322</sup>, which appears to be completely unsupported by any evidence and based purely on CEPA's unsubstantiated view of what constitutes a reasonable return for customers from innovation funding.
  - The primary purpose of NIC/NIA innovation funding is not to deliver cost reductions. The NIC in particular is only available to projects that deliver low carbon and environmental benefits to customers. While some projects may deliver cost savings, Ofgem should be acutely aware that not all innovation funding will deliver a monetary return in the form of lower costs.
  - Penalising companies with an unevidenced 'innovation spending' uplift to ongoing efficiency is at odds with Ofgem's stated focus on encouraging innovation as part of the RIIO framework.
  - There are strong parallels between Ofgem's proposed use of an innovation uplift on ongoing efficiency, and the Smart Grid Benefits appeal by Northern Powergrid at RIIO-ED1. The Competition and Markets Authority (CMA) found Ofgem's Smart Grid Benefits adjustment to be unjustified.<sup>323</sup>
- There are errors and major departures from precedent in Ofgem's application of the ongoing efficiency challenge to company allowances:
    - Ofgem's formula for compounding its ongoing efficiency challenge is incorrect and overstates compounded ongoing efficiency.
    - Ofgem compounds its efficiency challenge starting in GD1 (from 2019/20). At final determinations, Ofgem should use the latest year of actuals (for the year 2019/20), and therefore an ongoing efficiency assumption is only needed from the year 2020/21. Ofgem should apply a substantially lower ongoing efficiency challenge for the year 2020/21, the majority of which is in the past and which will clearly be impacted by COVID-19. One option would be for Ofgem to use the ongoing efficiency implied by its time trend for GD1. Or, alternatively, Ofgem could begin the productivity challenge from the first year of GD2;
    - The scope of ongoing efficiency in Ofgem's GD2 modelling suite is far wider than it was at GD1. Ofgem has not provided any explanation for this, or even noted it in its draft determinations.
  - As set out by First Economics in its report for the ENA,<sup>324</sup> CEPA's work on Frontier Shift is subject to errors and issues in its use of the EU KLEMS data. Some of the key issues identified by First Economics are:
    - erroneous application of Value Added (VA) productivity metrics to companies' whole Totex base, rather than to costs excluding intermediate outputs: "This is a straight-forward pick'n'mix error. If Ofgem wishes to use value-added productivity growth metrics it needs to isolate the value-added within energy network companies' expenditures and provide for future cost savings only in this portion of firms' costs – i.e. excluding materials and 'other' costs."
    - erroneous application of labour productivity growth to companies' whole Totex base, rather than to labour costs only.
    - ignoring the underlying structural break in productivity within the historical time period of EU KLEMS data selected.
    - using a simple arithmetic average rather than a geometric average to calculate compound annual growth rates, resulting in an overestimate of compound annual growth rates of up to 0.3%.
    - placing excessive weight on near-economy-wide measures of productivity growth, rather than focusing on industries more comparable to the gas distribution sector.
  - **We built highly challenging ongoing efficiency targets into our business plan. These were stretching but achievable. Ofgem's ongoing efficiency figures go far beyond these and are simply unachievable.**

In our GD2 business plan we applied ambitious productivity savings from the start of GD2. This was detailed as a mid-point average of 1% in our Business Plan, however reflecting this as an average compounded value, in line with Ofgem's position, this would be re-stated as 0.83% (and in fact this would be lower still if it was converted to a compound average to be applied over 7 years, as Ofgem has done). These savings were consistent with the

<sup>322</sup> CEPA Frontier Shift Annex, p.25

<sup>323</sup> CMA (2015) , [https://assets.publishing.service.gov.uk/media/5609534de5274a036c000012/NPg\\_final\\_determination.pdf](https://assets.publishing.service.gov.uk/media/5609534de5274a036c000012/NPg_final_determination.pdf)

<sup>324</sup> First Economics (2020) Frontier Productivity Growth

costs, outputs and regulatory framework we envisaged within our December Business Plan. However, in light of the significant changes in proposed workloads, the material reduction in incentives to achieve productive efficiency set out in Ofgem's DD, and the new challenges we now face due to the current pandemic we would stress that such levels of efficiency are unachievable. A 0.65% ongoing efficiency would be more reflective of the current environment.

- There has been no consideration of the impact COVID-19 or Brexit may have on ongoing efficiency. Ofgem must address these issues at final determinations.

Type 1 – spreadsheet errors in applying ongoing efficiency assumptions (both in CAGR calculation and frontier shift compounding calculations), ongoing efficiency assumption applied to historical years;

Type 2 – innovation funding adjustment unevidenced and not reflective of the reality of innovation funding, Ofgem's ongoing efficiency assumptions do not reflect the evidence presented by CEPA; inconsistencies in CEPA's methodology for assessing EU KLEMS data;

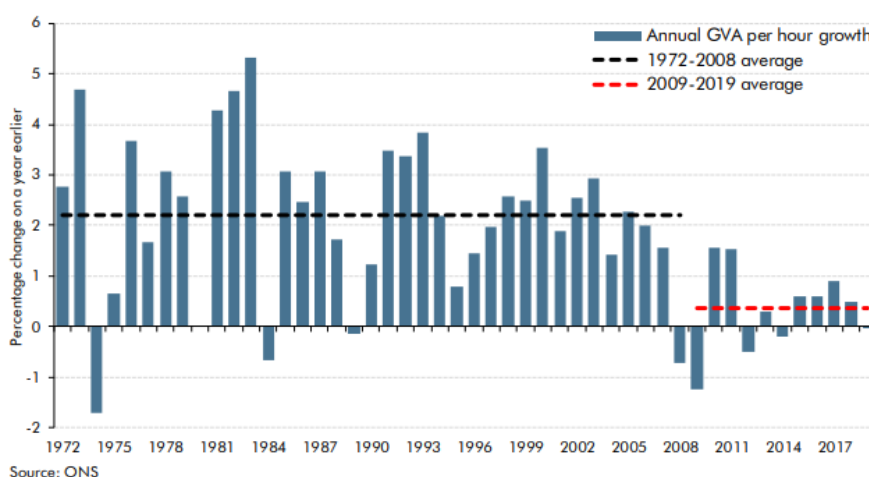
Type 4 – new evidence presented to support a lower ongoing efficiency assumption.

#### **Current evidence points to a prolonged productivity slump which Ofgem's ongoing efficiency challenge ignores**

There is extensive evidence of a prolonged period of extremely low productivity growth in the UK (often referred to as the 'productivity puzzle' or the 'lost decade') since the global financial crisis. This has been documented by numerous organisations and academic institutions, including the Office of National Statistics (ONS)<sup>325</sup>, the Bank of England (BoE)<sup>326</sup>, the Office for Budget Responsibility (OBR)<sup>327</sup>, McKinsey<sup>328</sup> and LSE<sup>329</sup>.

As an example, the OBR's latest Economic and Fiscal Outlook<sup>330</sup>, published in March 2020, looks at historical evidence on UK labour productivity growth. It states that "[g]rowth in labour productivity has been persistently weak since around the time of the financial crisis. Since 2008, output per hour has grown by an average of just 0.3 per cent a year, compared to a little over 2 per cent over the preceding four decades". This is illustrated in the chart below, with the blue and red dotted lines showing average productivity before and after the financial crisis.

Chart B.1: Productivity growth since the 1970s



The OBR goes on to state that the persistent weakness in productivity had already prompted it to lower its productivity growth assumptions once already, as well as pushing out the forecast date at which it believed that the economy will

<sup>325</sup> For example, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/whatistheproductivitypuzzle/2015-07-07>

<sup>326</sup> For example, <https://www.bankofengland.co.uk/-/media/boe/files/speech/2018/the-fall-in-productivity-growth-causes-and-implications>

<sup>327</sup> For example, [https://cdn.ubr.uk/EFO\\_March-2020\\_Accessible.pdf](https://cdn.ubr.uk/EFO_March-2020_Accessible.pdf), Annex B

<sup>328</sup> For example, <https://www.mckinsey.com/featured-insights/regions-in-focus/solving-the-united-kingdoms-productivity-puzzle-in-a-digital-age#>

<sup>329</sup> For example, <https://blogs.lse.ac.uk/businessreview/2020/03/07/if-the-uk-is-high-tech-why-is-productivity-growth-slow-economists-weigh-in/>

<sup>330</sup> OBR (2020) Economic and fiscal outlook, <https://obr.uk/efo/economic-and-fiscal-outlook-march-2020/>, Annex B



return to steady-state productivity growth. With continued weak outturn data, the OBR has now further reduced its productivity growth forecasts and further delayed the return to steady-state productivity growth to 2030-31.

Further to this, as of the second quarter of 2020 the UK is in recession, following the emergence of COVID-19.<sup>331</sup> In light of this, as well as the uncertainty around the impact of the UK's exit of the European Union, any prospect of a near-term recovery from the current productivity slump appears highly unlikely. This is reflected for example in the BoE's latest monetary policy report, issued since Ofgem's draft determinations. One of the BoE's key judgements in that document is that "there is some long-lasting scarring, largely due to persistent weakness in productivity."<sup>332</sup> It goes on to state that, "In the UK, the supply capacity of the economy is projected to be around 1½% lower by the end of the forecast period, largely due to weaker productivity."

Ofgem does not explain why this evidence can be disregarded and why it believes that the economy will imminently recover from this productivity slump. In fact, as we discuss further below, Ofgem starts compounding its ongoing efficiency challenge from 2019/20, implying that this recovery has already taken place.

#### **Ofgem's ongoing efficiency challenge could not result from a balanced assessment of the evidence provided by CEPA**

To inform its view of ongoing efficiency, Ofgem commissioned CEPA to carry out an assessment of evidence and provide recommendations on ongoing efficiency (as well as RPEs, which we discuss separately in our response to GDQ 10). CEPA considered the following sources of evidence on ongoing efficiency<sup>333</sup>:

1. growth analysis using the 2019 EU KLEMS database, a well-established and widely used source of growth accounting data;
2. forward-looking productivity forecasts for the UK economy from the OBR and BoE;
3. historical performance of companies; and
4. sector-specific drivers of possible productivity improvements, for example resulting from innovation funding.

CEPA identified a 'reference range' based on its analysis of data on Value Added productivity measures from EU KLEMS of:

- 0.6% to 1.0% for Capex and Repex; and
- 1.0% to 1.2% for Opex.

CEPA then highlighted three further pieces of evidence that Ofgem should consider in deciding where to set its ongoing efficiency challenge in relation to the EU KLEMS range shown above:

- *"Giving some weight to the Gross Output (GO) measures from EU KLEMS, which would support a lower bottom-end of the range for the ongoing efficiency challenge of 0.5%. This is calculated from the weighted average of all industries between 1997 and 2016.*
- *Productivity forecasts from the OBR and BoE, which would support a higher top-end of the range for the ongoing efficiency challenge for Opex, and a lower value for Capex/Repex.*
- *Ensuring a reasonable return for consumers from the innovation funding provided in RIIO-1, which could support an upwards adjustment of up to 0.2% depending on the extent to which Ofgem believes that innovation benefits are already being delivered in the companies' RIIO-2 business plan proposals."*

CEPA's final recommended ranges for Ofgem to consider have a lower bound of 0.5% based on analysis of Gross Output measures from EU KLEMS. The upper bounds are based on the top end of the reference ranges shown above (based on Value Added measures), plus an uplift of 0.2% to reflect an innovation efficiency challenge. This gives:

- 0.5% to 1.2% for Capex and Repex; and
- 0.5% to 1.4% for Opex.

Having commissioned detailed expert reports, Ofgem's draft determinations both misrepresent CEPA's recommendations and fail to constitute a balanced assessment of the evidence and areas for consideration that CEPA presents in its report. We set out more detail below.

<sup>331</sup> ONS, <https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/coronavirusandtheimpactonoutputintheukconomy/june2020>

<sup>332</sup> Bank of England (2020), Monetary policy report, August 2020, <https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2020/august/monetary-policy-report-august-2020>

<sup>333</sup> CEPA Frontier Shift Annex, p.5

### The draft determination misrepresents CEPA's recommendations

Ofgem states in its draft determination that CEPA's suggested range, taking account of the three considerations above, is<sup>334</sup>:

- 0.5% - 1.2% for Capex and Repex; and
- 0.7% - 1.4% for Opex.

This is misleading for two reasons. First, the range Ofgem reports for Opex is simply incorrect: the bottom end of CEPA's recommended range for Opex is 0.5%, as described above, not 0.7%. This error presents CEPA's recommended range as being higher than it in fact was.

Second, these figures are rounded to one decimal place. The unrounded figures for the top end of this range, as used in Ofgem's modelling suite, are:

- 1.22099568912107% for Capex and Repex (rather than 1.2%); and
- 1.44053222320421% for Opex (rather than 1.4%).

The Capex/Repex and Opex ongoing efficiency figures Ofgem selects are therefore approximately 1.75% and 2.90% higher, respectively, than the number Ofgem presents as the highest part of the CEPA range. The impact of this difference on the final ongoing efficiency challenge, particularly when these figures are compounded, is significant. We do not know what the unrounded figures at the bottom end of CEPA's range are. We have requested CEPA's full underlying analysis from Ofgem, but this has not been provided. Failure to produce this information in a timely manner impacts SGN's ability to fully engage with Ofgem's modelling and undermines the consultation process Ofgem has committed to undertake.

Furthermore, Ofgem refers to CEPA's initial range, based on Value Added measures of productivity from EU KLEMS, as "baseline figures", which implies that CEPA considers use of only Value Added measures of productivity to be somehow standard. However, CEPA never refers to these figures as "baseline figures" - CEPA is very clear that this is a "reference range", and that there is no consistent expert view on whether Value Added or Gross Output measures are better.

### Ofgem has not considered CEPA's range and evidence in a balanced way

CEPA has provided Ofgem with a range from which to select its ongoing efficiency assumptions and puts forward areas for Ofgem to consider when selecting point estimates within the range. Our understanding is that CEPA views the bottom end of the range to be equally valid to the top end. CEPA never expresses a recommended end of the range, and is clear that the bottom end as well as the top end could be supported, e.g. it states that giving some weight to Gross Output measures of productivity "would support a lower bottom-end of the range".<sup>335</sup> A reasonable and objective assessment of this balanced range would be a point estimate approximately in the middle, with some upward or downward adjustment based on Ofgem's weighting of the evidence presented by CEPA. Ofgem's point estimates at the very top of this range ignores CEPA's balanced recommendation, and Ofgem's justifications for its decision to disregard some of the evidence presented by CEPA are wrong.

First, CEPA recommends that EU KLEMS should form the main source of evidence on the ongoing efficiency challenge.<sup>336</sup> CEPA presents details of the point estimates it has calculated from the EU KLEMS data, and on which it bases its reference range. These are shown in the tables below. Of these 40 point estimates, only 2 fall at or above the point estimates chosen by Ofgem (note that TFP estimates relate to Capex/Repex, so we compare those to the 1.2% figure, and constant capital estimates relate to Opex, so we compare those to the 1.4% figure). In contrast, 31 of these estimates fall at or below the bottom end of CEPA's recommended range, and 10 of these estimates even point to negative productivity. We do not believe that a reasonable and balanced assessment of this evidence, applying appropriate weight to the factors set out in CEPA's report, could point to an ongoing efficiency challenge at the extreme top end of CEPA's recommended range.

<sup>334</sup> Ofgem Draft Determinations, paragraph 5.35

<sup>335</sup> CEPA Frontier Shift Annex, p.5

<sup>336</sup> CEPA Frontier Shift Annex, p.36

Table 2.2: EU KLEMS data for VA efficiency benchmarks for RIIIO-2 (to 1 d.p.)

Sample	TFP VA 1997 – 2016	TFP VA 2006 – 2016	LP VA at constant capital 1997 – 2016	LP VA at constant capital 2006 – 2016
Construction	0.3%	0.4%	0.4%	0.3%
Unweighted average selected industries	1.6%	0.9%	2.2%	1.2%
Unweighted average selected industries (exc. manufacturing)	0.6%	-0.3%	1.0%	-0.6%
Unweighted average all industries (exc. real estate, public admin, education, health and social services)	0.3%	-0.8%	-0.4%	-3.0%
Weighted average all industries (exc. real estate, public admin, education, health and social services)	1.0%	0.2%	1.2%	-0.2%

Source: CEPA analysis of EU KLEMS data

Table 2.3: EU KLEMS data for GO efficiency benchmarks for RIIIO-2 (to 1 d.p.)

Sample	TFP GO 1997 – 2016	TFP GO 2006 – 2016	LEMS GO at constant capital 1997 – 2016	LEMS GO at constant capital 2006 – 2016
Construction	0.1%	0.2%	0.1%	0.1%
Unweighted average selected industries	0.5%	0.3%	0.6%	0.3%
Unweighted average selected industries (exc. manufacturing)	0.3%	-0.1%	0.4%	-0.2%
Unweighted average all industries (exc. real estate, public admin, education, health and social services)	0.2%	-0.3%	0.1%	-0.6%
Weighted average all industries (exc. real estate, public admin, education, health and social services)	0.5%	0.1%	0.5%	0.1%

Source: CEPA analysis of EU KLEMS data

Second, Ofgem gives no weight to Gross Output measures. The top end of CEPA's range is based purely on Value Added measures, which as CEPA highlights, will always give a higher measure of productivity than Gross Output. CEPA is clear that there is no consensus over which measure is better, and that, *"it is typically seen as good regulatory practice to consider the information provided by both methods when developing a range for ongoing efficiency estimates."*<sup>337</sup> Ofgem provides just one paragraph on this in its draft determination, stating that:<sup>338</sup>

*"We have considered giving some weight to GO measures from EU KLEMS. However, we believe that the practical difficulties in estimating GO (as highlighted in the CEPA report) limit the weight that can be reasonably placed on them (compared to VA measures). We therefore do not think it is appropriate to give any weight to GO measures. GO measures typically result in lower productivity results than VA, so excluding them from our analysis results in a higher proposed level for ongoing efficiency."*

The "practical difficulties in estimating GO" that Ofgem provides as its only justification for placing no weight on the Gross Output measures, are described by CEPA in the following extract<sup>339</sup>:

*"One argument made in favour of the GO measure is that by identifying intermediate inputs as a controllable factor of production, it better reflects the business decisions taken by companies. However, producing consistent sets of GO measures across industries requires careful treatment of intra-industry flows of intermediate products, which may be difficult empirically."*

*An advantage of the VA approach for labour productivity measures is that is far less sensitive than GO labour productivity measures to changes in the vertical structure of different firms in the sample set – for example, if a firm uses outsourcing to replace labour with intermediate inputs. This is because such a substitution between labour and intermediate inputs will cause a fall in both value-added output measure and in the labour used. These changes have opposite impact on estimated labour productivity, hence making the VA measure less sensitive to outsourcing than GO measure (as GO will not change necessarily because of outsourcing). The opposite is true for total factor productivity measures."*

No empirical analysis is perfect, and CEPA is clear that the challenges around using Gross Output measures can be overcome. However, practical difficulties in calculating this element do not provide sufficient reason to entirely discard information provided by Gross Output measures. Indeed, they have not been in past regulatory determinations, including at GD1/T1 where Ofgem drew on both Gross Output and Value Added measures to set its ongoing efficiency assumption.<sup>340</sup> This is all the more true given, as Ofgem recognises, this will necessarily tend to bias its analysis towards a higher proposed ongoing efficiency level.

CEPA clearly explains that both Gross Output and Value Added measures have advantages as well as disadvantages. In fact, the second paragraph above states that while Value Added measure are less sensitive than Gross Output for labour productivity, the opposite is true for total factor productivity (TFP) measures, implying that Gross Output is in fact preferable when setting ongoing efficiency for Capex/RepeX. Overall, CEPA recommends that, *"we would not suggest*

<sup>337</sup> CEPA Frontier Shift Annex, p.12<sup>338</sup> Ofgem Draft Determinations, paragraph 5.38<sup>339</sup> CEPA Frontier Shift Annex, p.12<sup>340</sup> Ofgem (2012) RIIIO-T1/GD1: Initial Proposals – Real price effects and ongoing efficiency appendix, <https://www.ofgem.gov.uk/ofgem-publications/48211/riiio1andgd1initialproposalsrealeffectspdf>, p.21

putting 100% weighting on the GO measures (i.e. completely replacing the VA values)",<sup>341</sup> suggesting that at least some weight should be given to Gross Output measures.

As explained in the First Economics report commissioned by the Energy Networks Association (ENA), if Ofgem continues to place sole weight on VA measures, then consistent with this the productivity target should only be applied to a sub-set of the cost base, otherwise this would represent what First Economics describe as a "pick and mix" error.

Finally, CEPA recommends that Ofgem consider placing some weight on productivity forecasts from the OBR and BoE. Doing so would point to a slightly higher number for the ongoing efficiency challenge for Opex, and a lower estimate for Capex and Repex. In response to this, Ofgem states:<sup>342</sup>

*"We have considered including productivity growth forecasts from the Office of Budget Responsibility (OBR) and Bank of England (BoE). These forecasts are influenced by short and medium term risks to the economy such as the UK's exit from the European Union and COVID-19. In the context of a rising trend in longer term productivity forecasts, we do not wish to place significant weight on such economy-wide and short-term forecasts, as network companies are not exposed to these short-term risks (to volume and revenue) as their comparators in the wider economy and are better able to withstand any short-term shocks. OBR and BoE forecasts may therefore underestimate productivity in network companies and are not appropriate for setting ongoing efficiency."*

We disagree with Ofgem's statement that network companies are not exposed to short-term risks such as the UK's exit from the European Union and COVID-19. We also consider this argument to be asymmetric – Ofgem's argument implies that network companies are sheltered from productivity downturns but can benefit from short-term periods of high productivity in the benchmark sectors. There is no evidence that Ofgem has sought to strip out short-term effects from the top end of its productivity range. If Ofgem's view of ongoing efficiency is based on a presumption that network companies will not be affected by factors such as COVID-19, it must provide some evidence supporting this assertion, which companies must have the opportunity to review and consider. Further discussion on the impact of COVID-19 is contained within 'COVID Cost Drivers Technical Assessment', a supplementary document to our response.

We also note the views of First Economics on the topic of the current economic climate:<sup>343</sup>

*"There seems to be a general acceptance that 2020 will be a lost year for productivity growth across the economy. Thereafter, concerns about capital shallowing perhaps ought not to be so relevant in a regulated, monopoly industry. However, Ofgem will also need to consider the impacts that COVID-19 and recession are having all the way down through the industry supply chain. It may be that the regulated licensees themselves are largely unaffected by "scarring", but it could still be that contractor partners struggle to manage the effects of revenue loss and future uncertainty. Where this is the case, it is not unreasonable to think that COVID-19 could ultimately impact network costs in an unfavourable way."*

At the very least, the implication of this statement is that Ofgem cannot use its high productivity figures for the year 2020/21 in its analysis. (Assuming that Ofgem will use outturn data for 2019/20 in final determinations, and therefore ongoing efficiency assumptions are only needed from the year 2020/21.) The year 2020/21 has been substantially disrupted by COVID-19 and cannot simply be assumed to have experienced very high long-run productivity growth.

**In conclusion, Ofgem should re-consider the evidence provided by CEPA, in particular the strong evidence from EU KLEMS that supports a figure at the middle or even bottom end of CEPA's range.**

### **The 0.2% uplift for ongoing efficiency from innovation funding is flawed and has no evidential basis**

CEPA's Frontier Shift Annex considers whether ongoing efficiency in RIIO-2 may be impacted by innovation funding provided to networks during RIIO-1. It concludes that some causality can be expected between innovation funding and ongoing efficiency, and estimates an impact of 0.2%, based on "a reasonable estimate for the level of cost savings required to provide consumers with a reasonable return on innovation funding in RIIO-1."<sup>344</sup> CEPA adds this uplift on top of its reference range based on Value Added measures from EU KLEMS data. Ofgem's proposed ongoing efficiency

<sup>341</sup> CEPA Frontier Shift Annex, p.36

<sup>342</sup> Ofgem Draft Determinations, paragraph 5.39

<sup>343</sup> First Economics (2020) Frontier Productivity Growth

<sup>344</sup> CEPA Frontier Shift Annex, p.25

challenge includes this uplift.<sup>345</sup> There are a number of issues around the inclusion of this figure in the ongoing efficiency challenge.

#### ***Inclusion of the 0.2% results in double-counting***

Firstly, this uplift results in double-counting of the ongoing efficiency delivered by innovation funding. EU KLEMS data already captures productivity growth resulting from innovation spending by companies in other sectors. CEPA justifies this by stating that, “[t]his type of regulated funding for innovation is not available to industries in competitive markets considered in the EU KLEMS analysis.”<sup>346</sup> Whether or not companies in the sample receive innovation funding is irrelevant – all else equal, natural monopolies would be expected to spend less on research and development than companies operating under more competitive conditions. This is because market pressures require continuous innovation and productivity improvements to deliver the products that consumers want at competitive prices. The same demand and associated existential risks do not exist for energy networks.

Indeed, this is part of the very reason that competition is seen as being so beneficial for customers where it is possible, because it is competitive pressure that forces firms in competitive markets to strive for dynamic efficiency improvements. The purpose of Ofgem’s innovation funding is to replicate these competitive conditions. Ofgem sets this reasoning out clearly in its RIIO handbook<sup>347</sup>:

*“Under an incentives-based regime, network companies will innovate where they have confidence that they will achieve commercial benefits from doing so (the profit motive and reputational motive will be relevant here). In the context of delivering innovation related to meeting the requirements of the wider sustainable energy sector, where the commercial benefit of the innovation may not be as clear, network companies may be slow to deliver the level of innovation in the timescales required.*

*In these circumstances the regulatory framework needs to provide the encouragement or stimulus to enable innovation on energy networks that stakeholders agree is needed for a sustainable energy sector but that the network companies might otherwise have little incentive to pursue.”*

It is clear from this that Ofgem’s innovation funding is not incremental to innovation carried out in comparator sectors in the EU KLEMS data, but an attempt to move monopoly networks to a position that is equivalent to comparators.

Ofgem further suggests that monopoly companies can drive efficiency gains beyond those achieved in competitive sectors.<sup>348</sup>

*“We have considered the possibility that both TFP and labour productivity measures from sources like the EU KLEMS could underestimate the scope for efficiency gains within regulated sectors such as electricity and gas networks in GB. This is because, not only are network companies less exposed to negative shocks, the lack of competitive pressure means they should be able to place greater management focus on driving high efficiency gains.”* [Emphasis added.]

By this reasoning, Ofgem appears to indicate it has adopted the position that regulated monopoly markets would deliver higher levels of efficiency for customers than competitive markets. Such a view is inherently contradictory to fundamental economic theory. It would suggest that the entire basis and purpose of existing competition law, the benefits of free competitive markets, as well as the rationale for effective regulation of monopoly sectors (as reflected in Ofgem’s statutory duties), is misplaced. In short, it is a plainly absurd position and wrong - and suggests that Ofgem’s underlying objective is to justify the highest possible productivity number it can (and by any means possible), rather than adopt a balanced and fair appraisal of the evidence before it.

A further source of double-counting arises because companies’ efficiency gains from innovation funding are already included in baseline costs submitted in company business plans. The majority of savings achieved through innovation-funded projects in GD1 have been incorporated into our baseline plans and are not included in our ongoing efficiency assumptions (the latter being the basis on which Ofgem removed “embedded” efficiency – see GDQ 28). For example, our baseline costs reflect savings driven by our ‘ignite’ programme, which has driven insertion rates from 60% to over 90% in Southern, and from 48% to 86% in Scotland. Other innovations such as core and vac, associated tool improvements, and CISBOT (cast iron joint sealing robot) have minimised excavation volumes, whilst innovation such as microstop and self-amalgamating tape mean we only have to cut risers off in extreme circumstances. Ongoing benefits delivered by these

<sup>345</sup> Ofgem draft determination, paragraph 5.41

<sup>346</sup> CEPA Frontier Shift Annex, p.19

<sup>347</sup> Ofgem (2010) Handbook for implementing the RIIO model, paragraphs 14.2-14.3

<sup>348</sup> Ofgem draft determination, paragraph 5.42



efficiency improvements are all reflected in our GD2 plans but were **not** included in our ongoing efficiency calculation which now forms the basis of Ofgem's embedded efficiency calculation. The only savings captured in our submitted ongoing efficiency are those that we expect to make from projects completed in the final two years of GD1. If Ofgem wishes to introduce its own productivity assumption in relation to benefits arising from RIIO-GD1 innovation, it must first properly remove the embedded efficiency arising from this funding – otherwise this is straightforward double counting.

CEPA highlighted in its Frontier Shift annex (as a learning from the Smart Grid Benefits appeal), “the importance of establishing the extent to which innovation benefits have already been embedded in the business plans submitted by the companies.”<sup>349</sup> It is clear that Ofgem has not done so.

### ***The uplift is inconsistent with the purpose and allocation of innovation funding***

The primary purpose of innovation funding within the RIIO framework is tackling challenges related to the energy transition – not achieving cost efficiencies. Ofgem's Gas Network Innovation Competition (NIC) and Network Innovation Allowance (NIA) governance documents clearly set out the purpose of NIC and NIA funding, explaining that the NIC is, “an annual competition to fund selected flagship innovative Projects that could deliver low carbon and environmental benefits to customers”. The purpose of the NIA is less specific: “to fund smaller innovation Projects that will deliver benefits to Customers as part of a RIIO Network Licensee's price control settlement”.<sup>350</sup>

While these projects clearly could deliver ongoing efficiency benefits, this is not necessarily their primary purpose and it is not correct to assume that all innovation funding in RIIO-1 could deliver a direct monetary ‘return’ in the form of reduced costs. In fact, given the focus of innovation funding, it is highly likely that the vast majority of ‘returns’ to consumers through these projects will be non-monetary, particularly around environmental benefits such as future emissions reductions. For example, we estimate that innovation work we have carried out on the high volume gas escapes toolbox (HVGET) and stent bags could help to reduce leakage during a gas escape by 4.7ktCO<sub>2</sub>e in GD2.<sup>351</sup> To quantify this, of over 117 NIA projects we have carried out during GD1, at least 49 have core benefits relating to safety, environment, customers or society, rather than financial savings.

CEPA's approach therefore of attempting to determine “what cost savings to consumers would be required in order to make providing the innovation allowances seem a reasonable investment”<sup>352</sup>, is not appropriate.

### ***The 0.2% figure appears to be completely unsubstantiated***

Based on CEPA's description of its approach to estimating the returns to innovation funding, the 0.2% figure is purely an assumption:

*“Table 2.6 lists the main assumptions used to estimate proxy for efficiency improvements to give consumers a reasonable return on innovation funding. This set of assumptions, including an assumption of 0.2% annual improvement in ongoing efficiency during RIIO-2, would provide consumers with a return of 4.2% on the innovation funding provided in RIIO-1.” [Emphasis added]*

**Table 2.6: Main assumptions used to estimate proxy for efficiency improvements to give consumers a reasonable return on innovation funding**

Element	Assumption
Ongoing annual efficiency improvement in the absence of innovation funding	1%
Size and speed of benefits in terms of average annual cost savings	1% reduction in annual costs from the end of RIIO-2 (which is equivalent to the annual innovation funding over 8 years of RIIO-1) Based on an assumption of straight-line improvement in efficiency during RIIO-1, this is consistent with a 0.2% additional improvement in annual ongoing efficiency during RIIO-2 as a result of RIIO-1 innovation funding.
Duration of benefits from innovation	20 years

Source: CEPA analysis

<sup>349</sup> CEPA Frontier Shift Annex, p.29

<sup>350</sup> [https://www.ofgem.gov.uk/system/files/docs/2017/06/gas\\_network\\_innovation\\_competition\\_governance\\_document\\_version\\_3.0.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/06/gas_network_innovation_competition_governance_document_version_3.0.pdf),  
<https://www.ofgem.gov.uk/ofgem-publications/116765>

<sup>351</sup> SGN Business Plan, p.94

<sup>352</sup> CEPA Frontier Shift Annex, p.23

The only analysis supporting these figures appears to be a sensitivity analysis, where the impact of an alternative figure for each of the four assumptions above is tested, and the implied return to consumers reported, as shown below. CEPA then states that, “[b]ased on this sensitivity analysis, it appears that an annual efficiency improvement of up to 0.2% during RIIO-2 is a reasonable estimate for the level of cost savings required to provide consumers with a reasonable return on innovation funding in RIIO-1.” It is unclear why this is implied by the sensitivity analysis.

Table 2.7: Sensitivity analysis on implied rate of return to consumers

Change in assumption	Assumption in sensitivity	Implied return to consumers
Ongoing efficiency improvement in the absence of innovation funding	0%	5.1%
Size and speed of benefits in terms of average annual cost savings	0.1% annual improvement in ongoing efficiency during RIIO-2 as a result of RIIO-1 innovation funding (i.e. 0.5% lower costs by the end of RIIO-2)	-0.6%
Size and speed of benefits in terms of average annual cost savings	0.3% annual improvement in ongoing efficiency during RIIO-2 as a result of RIIO-1 innovation funding (i.e. 1.5% lower costs by the end of RIIO-2)	7.2%
Duration of benefits from innovation	45 years	6.4%

Source: CEPA analysis

We have requested from Ofgem any other analysis or evidence underlying the 0.2% assumption, but none has been provided. If there is no supporting evidence for this figure, Ofgem’s application of an uplift, worth tens of millions of pounds in allowances, on the basis of “an assumption” is incorrect and arbitrary.

CEPA makes a number of other important assumptions in arriving at the 0.2% figure, including that:

- the benefits of RIIO-1 innovation funding are fully realised during the RIIO-2 period only. This is clearly inconsistent with the fact that NIC funding is often targeted at projects that tackle long-term challenges such as decarbonisation (for example, there is a significant focus in the GD sector on testing readiness for hydrogen networks, which will clearly not generate cost savings during GD2), and the fact that a substantial proportion of the benefits of RIIO-1 innovation projects has already accrued to customers during GD1; and
- the only benefits that accrue to consumers are cost savings, with no account taken of environmental benefits, improvements in quality of service, or other benefits. This is also inconsistent with the purpose of much of the innovation funding provided to networks.

These assumptions are not valid. The inaccuracy of the first assumption is clearly illustrated by CISBOT, which was developed through RIIO-GD1 NIC funding.<sup>353</sup> The robotic technology developed allows cast iron joints to be repaired under live conditions and has delivered extensive benefits through RIIO-GD1. We have used this innovation on most of our high failure tier 3 mains through the course of GD1, reducing the amount of gas in buildings and leakage across the network. However, as explained in our business plan innovation annex, going forward into GD2 there will be limited opportunity to continue remediating at the same rate on this category of mains as we targeted a significant portion through GD1.<sup>354</sup> This is a clear example where the vast majority of financial benefit from RIIO-1 innovation funding has already been realised in RIIO-1, and the benefits in RIIO-2 are limited in comparison. We have also explained above why the second assumption is incorrect. This is yet another reason why the 0.2% figure cannot be relied upon.

CEPA does clearly set out the numerous simplifying assumptions and limitations of its analysis (“We have made the following simplifying assumptions, which seem appropriate for the level of accuracy that could be delivered through this exercise”). Ofgem ignores these issues and places full weight on the resulting estimate.

Finally, we note that CEPA in fact identified three factors that might influence forward-looking ongoing efficiency<sup>355</sup>:

- innovation funding;
- opportunities for efficiency gains during transformational periods for network companies; and

<sup>353</sup> [https://www.ofgem.gov.uk/sites/default/files/docs/2013/11/decision\\_on\\_the\\_first\\_year\\_of\\_the\\_gas\\_network\\_innovation\\_competition\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2013/11/decision_on_the_first_year_of_the_gas_network_innovation_competition_0.pdf)

<sup>354</sup> SGN (2019) RIIO GD2 Business Plan Appendix, Innovation, p.10

<sup>355</sup> CEPA Frontier Shift Annex, pp.18-19

- the extent to which meeting reputational incentives without baseline funding will erode some cost savings.

CEPA states that it does not consider the second and third issues further in its report as “they are something Ofgem would need to consider at a sector or company level once it has taken a position on the cost allowances it proposed to set for RIIO-2 in comparison to RIIO-1.” Ofgem seems to have ignored this recommendation. We believe this again demonstrates that Ofgem has not taken a balanced view of ongoing efficiency. We note in particular that Ofgem does not appear to be assuming a transformational period for GDNs in RIIO-GD2 (and any transformation that does occur will be subject to uncertainty mechanisms); and the third issue on the changing incentives under RIIO-2 would have the impact of reducing ongoing efficiency.

### ***There are parallels with Smart Grid Benefits – which was successfully appealed***

There are strong parallels between Ofgem’s proposed use of an innovation uplift on ongoing efficiency, and the Smart Grid Benefits (SGB) adjustment which Ofgem attempted to implement in RIIO-ED1. The SGB adjustment was appealed by Northern Powergrid, and the CMA found Ofgem’s Smart Grid Benefits adjustment to be unjustified.<sup>356</sup> Most pertinently, it is clear that Ofgem attempted to introduce the SGB adjustment at RIIO-ED1 because of its guess that innovation should drive incremental cost reductions – in other words, the same underlying rationale now being provided for the 0.2% innovation uplift. Much like Ofgem’s current adjustment, the quantification of the SGB adjustment was based largely on guesswork, assumptions, and a fundamentally flawed methodology.

### ***The uplift has important implications for future incentives to innovate***

Penalising companies with an unevidenced ‘innovation spending’ uplift to ongoing efficiency is at odds with Ofgem’s stated focus on encouraging innovation as part of the RIIO framework. Companies will now anticipate a mechanistic link between any discretionary innovation spend, and direct reductions in future allowances (irrespective of whether cost reductions might actually arise from the innovation undertaken). The clear implication is that companies will be disincentivised from making any discretionary innovation investment during RIIO-GD2. This effect is magnified because Ofgem has set out that the scope of innovation funding at GD2 will only cover projects related to the energy transition or vulnerable consumers, meaning that these projects are unlikely to deliver direct financial benefits, but likely to attract an uplift in ongoing efficiency in future.

### **There are errors and major departures from precedent in the application of Ofgem’s view of ongoing efficiency**

In its cost assessment modelling suite, Ofgem calculates net ongoing efficiency by subtracting its estimate of embedded ongoing efficiency from its ongoing efficiency challenge. There are a large number of errors and inconsistencies in Ofgem’s calculation of embedded ongoing efficiency, which we address in our response to question 28, “Do you agree with our proposed approach to estimating embedded ongoing efficiency and values calculated?” Here we focus on errors in the application of the net ongoing efficiency figures.

First, Ofgem’s formula for compounding its view of net ongoing efficiency is incorrect.<sup>357</sup> The formula treats the net ongoing efficiency figure as a positive growth factor, compounds this, and then converts the resulting figure into a negative number – this is wrong. The correct formula should convert the OE figure into a negative number before compounding it (as it is scaling down allowances). The standard formula for compounding can then be used:  $(1 - \text{OE rate})^t - 1$ . This error results in an overstatement of compounded net ongoing efficiency. **Ofgem should correct the error in its formula for compounding net ongoing efficiency.**

Second, Ofgem compounds its view of ongoing efficiency starting in 2019/20, and then uses the resulting compounded figures for GD2 to scale down allowances. This is conceptually incorrect for the following reasons:

- Ofgem’s selected point estimates for ongoing efficiency include 0.2% relating to returns for innovation funding. CEPA clearly states that the 0.2% figure assumes that “the benefits of the RIIO-1 innovation funding are fully realised during the RIIO-2 period only”<sup>358</sup>. Applying this figure to RIIO-1 is incorrect.
- Ofgem should use the latest year of outturn data in its final determinations (for the year 2019/20), and therefore ongoing efficiency assumptions are only needed from the year 2020/21. Ofgem should apply a substantially lower ongoing efficiency challenge for the year 2020/21. Our own business plan projection indicated relatively flat productivity is expected in the last two years of GD1, and this is now further compounded by the effect of COVID-

<sup>356</sup> CMA (2015), [https://assets.publishing.service.gov.uk/media/5609534de5274a036c000012/NPg\\_final\\_determination.pdf](https://assets.publishing.service.gov.uk/media/5609534de5274a036c000012/NPg_final_determination.pdf)

<sup>357</sup> See spreadsheet ‘[10] FrontierShift’, all tabs ‘Calc\_FS[GDN]’, cells AE72:AK124.

<sup>358</sup> CEPA Frontier Shift Annex, p.24



19. Furthermore, CEPA's estimates based on EU KLEMS clearly indicate that productivity during this period must be at a substantially lower level than Ofgem's chosen point estimates of 1.2% and 1.4%. Alternatively, Ofgem could begin the productivity challenge from the first year of GD2;

- Extending the logic of this approach suggests that Ofgem could retrospectively apply its view of ongoing efficiency as far back in history as it chooses, irrespective of whether the evidence suggests a different productivity factor should be applied. There is clearly a fundamental flaw in this logic. No rationale has been provided by Ofgem for selecting 2019/20 as the start year. Ofgem may consider that it is rolling forward from a 'base year' which is the last year of actuals, but we note that no such concept exists under the RIIO-GD2 method because the efficiency scores and 85<sup>th</sup> percentile are calculated from the entirety of the RIIO-GD2 period.

**To correct this for final determinations, Ofgem should use the latest year of actuals (for the year 2019/20), and therefore an ongoing efficiency assumption is only needed for the forecast year 2020/21. Ofgem should apply a substantially lower ongoing efficiency challenge for 2020/21, the majority of which is in the past and which will clearly be impacted by COVID-19. One option would be for Ofgem to use the ongoing efficiency implied by its time trend for GD1. Or, alternatively, Ofgem could begin the productivity challenge from the first year of GD2.**

We also note that in applying ongoing efficiency to company allowances, Ofgem has also taken a significant departure from its own established method and scope for the ongoing efficiency challenge. It has not explained or even noted this departure in its draft determination documents. Ofgem stated in its GD1 final determination that *"we have not applied productivity assumptions in our assessment of non-regressed costs."*<sup>359</sup> In contrast, at GD2 ongoing efficiency is applied to all costs, including pre-regression normalisations, non-regressed modelled costs, technically assessed costs, as well as allowances for bespoke outputs and uncertainty mechanisms. Ofgem has not provided any explanation for why it is now suitable to treat these costs differently compared to GD1, significantly increasing the scope of its ongoing efficiency challenge.

Furthermore, at ED1 Ofgem's view was that the ongoing efficiency assumptions built into companies' business plans were "in line with the savings an efficient company could make", and therefore made no adjustment for ongoing efficiency.

To correct this, Ofgem should apply its productivity target to the same scope of cost base as was applied at GD1 or adopt an approach similar to that used at ED1. We also note that if Ofgem retains the use of VA values only in the FD, this productivity assumption can only be applied to a subset of Totex, as explained in the First Economics report for the ENA (otherwise Ofgem will have introduced a "pick and mix" error).

### 5.3 Setting baseline allowances

Ofgem's baseline allowances are set through its approach to cost assessment which we discuss below. Baseline Totex comprises forecast controllable costs, including direct and indirect Opex, Capex and Repex, and is inclusive of the ongoing efficiency challenge. Non-controllable costs, pass-through costs and RPEs, while included in overall allowed revenue recoverable by GDNs, are not included in baseline Totex and are treated separately.

### 5.4 Approach to GD cost assessment

We have significant concerns around Ofgem's approach to GD cost assessment as set out in the DD. These are detailed in GDQ26 to GDQ28 below, but in summary some key issues in this section are as follows:

Redacted

- We agree with the use of a top-down model as it addresses trade-offs between activities, it is more robust and has better incentive properties, compared to a disaggregated approach (see GDQ26)
- However, we disagree with the use of the 85th percentile in the strongest possible terms and consider that Ofgem's FD approach should apply, at most, the upper quartile instead. (see GDQ27)
- Errors in the modelling have contributed to a significant mis-statement of cost allowances in the DD and this needs to be corrected. (see GDQ28)

<sup>359</sup> Ofgem, RIIO-GD1 Final Determinations, Real price effects and ongoing efficiency appendix, paragraph 3.27

**GDQ26. Do you agree with our proposal of using a top-down regression model?**

**We agree with the use of a top-down model as it addresses trade-offs between activities, it is more robust and has better incentive properties, compared to a disaggregated approach.**

As drawn upon in our consultation response in 2019<sup>360</sup> we strongly believe the use of a top-down model should be a central part of the cost assessment process and welcome the use of this by Ofgem for the draft determination.

In RIIO-GD1 top-down and bottom-up econometric modelling were combined in equal weighting. However, the statistical robustness of the disaggregated models was often an area of concern. This is likely to have been driven, at least in part, by the issues around determining meaningful cost drivers for the bottom-up analysis. Therefore, in line with the Ofgem/CEPA model selection principles<sup>361</sup> we agree with the move away from the inclusion of bottom-up econometric modelling.

The use of top-down modelling has a number of benefits that can help achieve more robust modelling and create desirable incentives for companies:

- Acknowledges that there are trade-offs between cost categories and measures overall value-for-money delivered by companies;
- Easy for companies to interpret and respond to incentives to minimise total costs;
- More transparent modelling process;
- Avoids issues faced by disaggregated models, such as volatility in efficiency scores over time and between GDNs, and differential incentives to reduce costs in different categories.

However, we remain deeply concerned regarding how the top-down model has been applied within the wider cost assessment process. For example, the construction of the Totex CSV does not adequately address the relationship with the costs, whereby some components of the CSV are not supported by engineering or economic rationale. In addition, the GD1 data (across the whole GD1 period) should be utilised, at the very least, to cross-check the viability of what companies have proposed in their plans, and there are numerous data errors and anomalies that should be corrected. Finally, we do not believe the modelling approach sufficiently controls for the regional cost pressures in London and the South of England. All these points are addressed in subsequent answers in this response.

**GDQ27. Do you agree with our proposed approach to benchmarking modelled costs at the 85th percentile?**

**For the reasons expanded on below, we disagree with the use of the 85th percentile in the strongest possible terms and consider that Ofgem's FD approach should apply, at most, the upper quartile instead. Ofgem has failed to apply its own proposed tests for changing the benchmark – had these been applied, Ofgem would have stayed with the Upper Quartile. Further, the flaws in the current approach, combined with the general limitations of regression analysis in a sector with only four management groups, means the 85<sup>th</sup> percentile cannot be employed for the GD sector. Ofgem should further consider whether the range and volatility of its approach, combined with the removal of other protections that were in place at GD1 (e.g. IQI interpolation or "glide path"), merits the use of a different benchmark that factors in the full range of scores (e.g. the average) as opposed to focussing the benchmark on only one or two licensees.**

The current approach creates a serious risk that efficient sector costs are under-funded – meaning there is the very real prospect of financeability problems and/or challenges for the GDNs in delivering minimum statutory requirements, contrary to customer interests. In summary, the use of an 85<sup>th</sup> percentile has the following key problems.

- It is a major departure from long-established regulatory precedent, Ofgem's stated rationale does not stand up to scrutiny, and this major policy shift is simply not supported by the evidence or the robustness of the models.

<sup>360</sup>360 SGN Cost Assessment Consultation Response – Page 8 Section 3. Aggregated econometric analysis

<sup>361</sup> RIIO-GD2 cost assessment [https://www.ofgem.gov.uk/system/files/docs/2019/06/maindocument\\_riio-2\\_tools\\_for\\_cost\\_assessment.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/06/maindocument_riio-2_tools_for_cost_assessment.pdf) page 18

- It is a departure from the advice provided by Ofgem's own consultants, CEPA, which was accepted by Ofgem in its RIIO-2 tools for cost assessment consultation (June 2019).
- Ofgem has frequently explained that the Upper Quartile was used because it is not possible to place complete confidence in the outcome of a statistical regression model (or indeed, cost assessment techniques more generally). Considering this, the Upper Quartile has been seen as striking a good balance between setting a stretching target, while recognising the fundamental challenges and weaknesses of the econometrics. No evidence has been put forward by Ofgem as to why it considers that these challenges have been overcome, beyond the mere assertion that its current modelling suite is more robust and enables higher confidence than its past benchmarking models (see GD Sector document paragraph 3.25). In fact, the DD models contain a substantial number of basic errors and unsupported judgement calls as explained in more detail below. Even if Ofgem did have more confidence in its DD models than it has had in the past, it is clear that that confidence was entirely misplaced, given the number and materiality of errors, and the apparent lack of proper quality assurance.
- Importantly, in its cost assessment consultation, Ofgem said that it would only consider moving away from the upper quartile if the GD2 models could be shown to be less variable than previous results. In fact, the GD2 model results are substantially more variable (in terms of efficiency scores) than the equivalent Totex results at GD1. Ofgem has not met its own test for moving away from the upper quartile, nor does it even appear to have attempted to apply the test.
- None of Ofgem's other stated reasons for this major policy change stand up to scrutiny (see GD Sector document paragraph 3.26 – 3.29).
- Even if the modelling errors identified by GDNs in response to the DD are corrected for the FD, there can be no guarantee that others will not remain, given the procedural flaws (i.e. late or lack of provision of models) and the complex, meshed set of spreadsheets, Stata code, and VBA code that are required to actually operate the model from start to finish. Ofgem cannot rely on the GDNs providing sufficient quality assurance and scrutiny if we have not been given an adequate opportunity to do so.
- Consistent with the errors mentioned above, the cost assessment process overall has been rushed over a 6 month period from practical discussions on data normalisations to publication. This has not afforded Ofgem or the GDNs the benefit of a more considered and iterative approach that would have promoted confidence in the underlying data and the resulting models. This lack of scrutiny compared to other price control processes does not provide a robust basis to adopt a more demanding benchmark at the 85th percentile which puts undue strain on the relatively untested data and models.
- The 'glide path' (i.e. IQI interpolation) in RIIO-1 provided an additional layer of protection for companies and customers against the risk that the benchmarks were wrong. The removal of IQI interpolation therefore serves to heighten Ofgem's reliance on its modelling approach for RIIO-2. It logically follows that the evidential hurdle for setting an appropriate benchmark should now be even higher - Ofgem needs to demonstrate a very high degree of confidence that its modelling approach captures genuine differences in managerial efficiency and not just statistical error or 'noise', in order to justify a move to 85th percentile.
- With a cross-section of only 8 GDNs, and only four management groups in the sector, it is entirely inappropriate to use the 85th percentile from a technical perspective – there are simply too few data points to enable this.
- Ofgem has calculated efficiency scores based solely on company forecasts (i.e. efficiency scores are calculated as GD2 forecast modelled costs over GD2 business plan submissions). This means that actual, historical data is less relevant than forecast data in the allowance-setting process under the DD models. While we do not necessarily take issue with the use of forecasts, it clearly has an impact on the confidence that can be attached to the outputs of the models, given the inherent uncertainty and risks surrounding forecast benchmarking. The GD1 data (across the whole GD1 period) should be utilised, at the very least, to cross-check the viability of what companies have proposed in their plans. Failure to do this would make reliance on an 85th percentile benchmark even more unjustifiable.
- With a sample of 8 licensees, the use of the 85th percentile means that the cost allowances for the whole sector are almost entirely determined by the cost forecasts of the single licensee which has the second best efficiency score. This is currently SGN Scotland, based on the DD models. As a policy position, this loads even further risk into the modelling. For example, SGN Scotland is arguably an industry outlier in terms of its scale, and the need for normalisations. This means that the allocation of allowances across the sector are now materially impacted by, for example, whether Ofgem's density adjustment for SGN Scotland is accurate; or on how shared overheads are

allocated between SGN Southern and SGN Scotland. The exact same sorts of issues would apply irrespective of which specific licensee sets the benchmark in the FD. It is not clear whether Ofgem recognises the extent of industry-wide risk that will now depend on ostensibly minor decisions on points of modelling detail for a single licensee. This is a precarious basis on which to determine long term cost allowances.

- Ofgem has explained that it has applied the 85th percentile efficiency score, derived from the regressed Totex costs, to certain other cost categories, including non-regressed costs and pre-regression normalised costs. Ofgem has not explicitly acknowledged that this is a further departure from its RIIO-GD1 approach as the efficiency challenge is being applied to a broader pool of costs, implying the modelling process again embeds far more 'stretch' – and therefore greater risk of getting it wrong - than Ofgem appears to have acknowledged. Under this new method, there is further potential for double counting of efficiency and a lack of internal consistency. If Ofgem intends to retain this approach for the FD, the broad scope is a further reason to exercise due caution by selecting the Upper Quartile, or even average, rather than the 85th percentile.
- Ofgem has not specifically mentioned the fact that Ofwat too moved away from established precedent in its PR19 FD. However, to the extent Ofgem internally considers the PR19 FD to be relevant, we wish to point out that it provides no justification for repeating this move in gas distribution, yet alone going further as Ofgem has done in using the 85th percentile. PR19 benefited from much richer data and a more robust process to model development, both of these factors provide the basis for greater confidence in the PR19 models compared to RIIO-GD2. The justifications that Ofwat cited for moving beyond the upper quartile at its FD (due to limited challenge provided to business plans implied by the upper quartile) are also not relevant here. It should also be noted that Ofwat's decision to go beyond the upper quartile is currently being disputed at the CMA by four appealing companies.

Ofgem's approach is plainly wrong in that it is based on multiple errors of fact and fails to achieve its intended objective: rather than driving efficiency, setting an unrealistic and unevidenced efficiency challenge simply results in underfunding and poorer customer outcomes. In the rest of this response, we expand on the points outlined above and provide further supporting evidence for our views.

**Type 1 - Factual or computational errors - we have found numerous errors in the data and normalisation process that have led to a misstatement of the benchmarking results**

**Type 2 - Inconsistencies in stated approach or in the application of a methodology – Ofgem has not applied its own proposed methodology for assessing whether to move to 85<sup>th</sup> percentile.**

**Type 3 - Disagreement as to how the methodology should be applied – Ofgem has significantly over-stepped the available evidential basis for making such a substantial departure from regulatory precedent,**

### Major departure from precedent

Upper quartile benchmarking was used for RIIO-GD1 and RIIO-ED1.<sup>362</sup>

- At RIIO-GD1 Ofgem stated (emphasis added):

***"We defined efficient costs equal to the upper quartile (UQ) GDNs' costs rather than the frontier allowing for other factors that may influence the companies' costs. We also assumed that GDNs would close only 75 per cent of the assessed gap between their forecasts and the UQ. The use of the UQ is identical to previous price reviews (eg GDPCR1, and more recently the electricity distribution price review, DPCR5). Our proposed approach to closing the gap and the use of the UQ rather than the frontier acknowledges that a part of the difference in costs across the GDNs relates to factors other than GDNs' relative efficiency (eg statistical errors)."***<sup>363</sup>

<sup>362</sup> We note that due to the absence of a sufficiently large sample of comparators, benchmarking for transmission networks typically takes a different form, and therefore the question of the use of upper quartile is of less relevance. However Ofgem has also used the upper quartile for some sub-categories, e.g. for business support costs in RIIO-1.

<sup>363</sup> RIIO-GD1: Final Proposals - Supporting document - Cost efficiency, para 1.10

*In setting out our Final Proposals we consider them final and we do not intend to make further corrections for points that are identified by the GDNs. We consider our approach to applying the upper quartile and closing of the 75 per cent gap **accounts for the possibility of some inaccuracies.***<sup>364</sup>

*We defined the benchmark as the upper quartile (UQ) cost for the respective base year (2011/12 for historical models, and 2013-14 for forecast models), and required GDNs to close 75 per cent of our assessment of their relative inefficiency. We considered that such an approach acknowledges that **an element of the models' results represents statistical error as opposed to relative efficiency.***<sup>365</sup>

- At RIIO-ED1 Ofgem stated (emphasis added):

*Our final determinations allowances for totex are intended to be reasonable allowances for the DNOs in RIIO-ED1. We use a toolbox approach to assess efficient costs recognising that there are many ways of assessing what is appropriate. Similarly, our use of upper quartile benchmarking (rather than frontier) and IQI interpolation (where we use 75% our view and 25% DNO's view) **recognise we do not have perfect information.** We believe our final determinations are appropriate. We do not intend to make any further changes*<sup>366</sup>

*We benchmark the efficient level of totex for each DNO using the upper quartile (UQ) of the combined outputs from the three models. This addresses the risk that the combination of three separate UQ benchmarks might result in a benchmark that is tougher than any of the DNO forecasts. **We use UQ rather than the frontier to allow for other factors that may influence the DNOs' costs.***<sup>367</sup>

*Our model for comparative benchmarking, including the use of UQ, **is well established and used by a variety of regulators including Ofwat in PR14.***<sup>368</sup>

*Under the IQI our final cost allowances are based upon 75% of the Ofgem benchmark and 25% of the DNO forecast. As such we are assuming that the DNOs would close 75% of the assessed gap between their forecasts and our efficiency benchmark. Our proposed approach to closing the gap and the use of the UQ rather than the frontier **acknowledges that a part of the difference in costs across the DNOs relates to factors other than DNOs' relative efficiency (e.g. statistical errors).***<sup>369</sup>

Our understanding is that all the price controls prior to RIIO either used an upper quartile approach, or even a less tough benchmark (e.g. upper third, or average). It is also clear that other regulators, such as Ofwat, have often relied on upper quartiles (with the exception of PR19, a point currently in dispute at the CMA, as we discuss further below).

### Failure to follow Ofgem's own proposed process or CEPA's advice

In the June 2019 tools for cost assessment consultation, Ofgem's consultants, CEPA, recommended the use of upper quartile as a starting point.<sup>370</sup> CEPA stated that this would "follow closely the precedent set by previous Ofgem price controls. This is perhaps unsurprising given the extensive work that has been done by Ofgem and its consultants in the past." CEPA pointed to the Ofgem position that "observed differences in predicted vs. actual costs of the energy network companies can relate to factors other than their relative efficiency (i.e. "noise" in the data)." And CEPA identified that there is a need to distinguish between "the "noise", company heterogeneity, and inefficiency in the errors term. In recognition of the risk of this 'measurement error', Ofgem has in the past not used the frontier performer to set the efficiency targets at previous price control reviews. Instead, it has aimed off the frontier by using an upper quartile, third, or average in the past." CEPA states that measurement error refers to "issues with the both the underlying data, noise, and instances where there may be omitted variables (i.e. systematic differences that are not captured by the explanatory variables included in the model)."

<sup>364</sup> RIIO-GD1: Final Proposals - Supporting document - Cost efficiency, para 1.26

<sup>365</sup> RIIO-GD1: Final Proposals - Supporting document - Cost efficiency, para 10.3

<sup>366</sup> RIIO-ED1: Final determinations for the slowtrack electricity distribution companies – Overview, para 4.3

<sup>367</sup> RIIO-ED1: Final determinations for the slowtrack electricity distribution companies – Overview, para 4.12

<sup>368</sup> RIIO-ED1: Final determinations for the slowtrack electricity distribution companies – Overview, para 4.32

<sup>369</sup> RIIO-ED1: Final determinations for the slowtrack electricity distribution companies Business plan expenditure assessment, para A3.32

<sup>370</sup> See CEPA, RIIO-GD2 cost assessment econometric modelling & regional factors, June 2019



Perhaps most importantly, CEPA recommended that Ofgem should only move away from the upper quartile if certain tests were met. The process CEPA recommends is set out below.

*Ofgem's choice of correction / benchmark has been driven by:*

- **The confidence Ofgem has in the data.** *If Ofgem considers that the data is accurate, and is likely to provide robust results, then it may be more inclined to set a tougher target.*
- **The variability in the modelling results.** *If there is a relatively large distribution in the networks' expenditure around the line of best fit this can indicate that there may be a greater degree of measurement error and Ofgem may need to be more cautious.*

*For example, in DPCR5 Ofgem used the upper third for network operating costs "due to greater variability in the data". On the other hand, if the model has good statistical results then Ofgem may have more confidence in choosing a tougher target.*

*There is no statistical guidance or rule around what the appropriate correction / benchmark should be. In its most recent price controls, Ofgem has relied on the upper quartile. This sets the efficiency target at a point that is being achieved (or forecast to be achieved) by a quarter of the networks. We recommend that Ofgem use the upper quartile as a starting point again.*

*We consider that the upper quartile provides a reasonable allowance for the measurement error in the modelling. We recommend that Ofgem moves away from this only if there is greater variability in the results it has observed at previous price controls.*

Ofgem's cost assessment consultation also pointed to the use of an upper quartile and stated that Ofgem intended to follow the advice of CEPA if there was to be any departure from this.

*In RIIO-GD1, we set the efficiency benchmark at the upper quartile level instead of the frontier (i.e. the GDN with lowest cost) recognising model measurement errors, but also that the frontier could have been an unfeasible target for GDNs.*

*In setting efficiency benchmarks in RIIO-1, we were mindful the level of the company with the lowest costs may be unachievable and unrealistic. This was because our models did not account for all company differences or perfectly map costs with cost drivers.*

*In RIIO-GD1, we identified upper quartile (UQ) costs for 2011-12 for our econometric models estimated using historical costs, and for 2013-14 for models estimated using two-year forecast data (separately for our top-down model and combined bottom-up models). We identified UQ costs over the RIIO-GD1 period by rolling forward these benchmark costs from the base year for RPEs and ongoing efficiency. Our final cost allowances were based upon 75% of our view of efficiency and 25% of each GDN's view. This was an additional recognition that the models, results and the target remained affected by measurement error.*

*Our choice of benchmark will be driven by our level of confidence in the data and the variability in the modelling results. If the data is accurate, and is likely to provide accurate results, then we may be more inclined to set a tougher target. Alternatively, if there is a relatively large distribution in the GDNs' expenditure around the line of best fit, this can indicate that there may be a greater degree of measurement error and we may need to be cautious about setting a high benchmark.*

To our knowledge, Ofgem has not followed its own proposed process or the advice of its consultants. The DD contains a single reference to some alleged improvements vs. the past, as stated below:

For RIIO-GD2, we further developed our approaches, building on more detailed and extensive data collection via BPDTS submissions. We have undertaken significant work to normalise GDNs data submissions through the use of adjustments and regional factors. We consider this has delivered improved comparability across GDNs, which in turn has enabled us to develop robust models, better reflecting industry cost structures.<sup>371</sup>

<sup>371</sup> RIIO-GD2 DD, GD Sector, para 3.25

However, these assertions are simply not supported by any meaningful analysis. For example, it is surprising that despite the significant work Ofgem says it has undertaken, there remain so many basic spreadsheet errors within the DD models, several of which are material (see further below). There are also numerous instances where – despite the improvements in BPDT submissions Ofgem has pointed to – there appear to remain significant differences between GDNs in the way costs are reported, and even simple data template issues, reporting issues, omissions and errors. Please refer to Annex 1 and 2 for full details of errors and anomalies identified. It is quite clear that this set of DD models should not have passed Ofgem’s test of assessing whether *“the data is accurate and is likely to provide accurate results”* – yet despite this, Ofgem has doggedly moved to the 85<sup>th</sup> percentile anyway.

In any case, none of the above reflects the key test Ofgem said it was going to apply – namely, assessing whether there is a large distribution of GDN expenditure around the line of best fit, in comparison to previous outcomes. This undermines the transparency of the process and suggests Ofgem has placed too much weight on the policy objective of achieving a strong efficiency challenge without applying sufficient weight to the objective evidence as to whether that challenge is accurate, realistic or achievable.

The efficiency scores Ofgem reported based on its draft determination model are shown in the table below.<sup>372</sup>

GDN	Efficiency Score
EoE	1.10
Lon	1.17
NW	1.04
WM	1.04
NGN	0.89
Sc	0.95
So	0.98
WWU	1.00

For comparison, the efficiency scores Ofgem reported for its two Totex models (one historical and one forecast) in RIIO-GD1 are shown below.<sup>373</sup> We also report the average efficiency score, since Ofgem’s final determination was based on an average of these two models (along with equivalent disaggregated models, which we ignore here).

GDN	Historical	Forecast	Average
EoE	1.01	0.96	0.99
Lon	1.06	1.07	1.07
NW	1.02	1.01	1.02
WM	1.01	0.94	0.98
NGN	0.89	0.97	0.93
Sc	1.00	0.98	0.99
So	1.05	1.01	1.03
WWU	0.96	1.04	1.00

On any basis, the variability of the results from the RIIO-GD2 draft determination model is relatively (and substantially) greater than it was at RIIO-GD1.

- The difference between the most efficient company (NGN) and least efficient (Lon) is 28 percentage points for RIIO-GD2. The equivalent for RIIO-GD1 was 14 percentage points (based on the average model).

<sup>372</sup> See RIIO-GD2 DD, step-by-step guide to cost assessment, Table 6.

<sup>373</sup> See RIIO-GD1: Final Proposals - Supporting document - Cost efficiency, Table 4.1

[https://www.ofgem.gov.uk/sites/default/files/docs/2012/12/4\\_-\\_riiogd1\\_fp\\_cost\\_efficiency\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2012/12/4_-_riiogd1_fp_cost_efficiency_0.pdf)

- The distance between the 85th percentile score and the average score for RIIO-GD2 is 7 percentage points. For RIIO-GD1 this was 2 percentage points (based on the average model).
- The standard deviation for the RIIO-GD2 results is over 8 percentage points. The standard deviation for the RIIO-GD1 average model was below 4 percentage points.

In short, had Ofgem followed its own stated process and compared variability of results to past outcomes, it would have been clear that the RIIO-GD2 results are substantially **more** variable than previous results, meaning that there should be less confidence in increasing the efficiency challenge. This should have led Ofgem to exercise more caution than in the past – arguably supporting a move towards the average score or similar for RIIO-GD2.

A headline comparison of the results is also revealing in relation to how tough Ofgem’s 85<sup>th</sup> percentile benchmark is. The benchmark 85<sup>th</sup> percentile on the RIIO-GD2 model is 0.95. The benchmark upper quartile on the RIIO-GD1 model was 0.98 (average). On that basis the step-change for RIIO-GD2 has resulted in a c. 3% tougher challenge.

In summary, we do not believe Ofgem can objectively evidence that its approach has resulted in improved comparability. We agree with CEPA that, to an extent, the choice of UQ vs. an alternative method is a matter on which regulators may be entitled to exercise some discretion, provided that the evidence supports its position. However, this does not mean Ofgem has free license to introduce major departures from well-established positions, without any supporting evidence or analysis and in conflict with its stated methodology for the price control. Indeed, to do so is contrary to the principles of regulatory best practice. Ofgem’s approach is plainly wrong in that it is based on multiple errors of fact and, as set out below, fails to achieve its intended objective of setting achievable (but stretching) allowances.

### Ofgem’s stated reasoning does not stand up to scrutiny

Ofgem has provided three additional reasons for its proposed move to the 85<sup>th</sup> percentile.

Ofgem’s first reason appears to be because the 85<sup>th</sup> percentile gives what Ofgem calls “high **but achievable** expectations” (**emphasis added**).<sup>374</sup> Certainly the expectations are high, but there is no evidence whatsoever that Ofgem has assessed how achievable they are. Across the sector nearly 20% of the companies’ business plan requests have been disallowed. The biggest cut has been applied to Cadent’s London network, which is facing a cut of more than 33%. While we cannot comment on the detail for other licensees, Ofgem’s approach appears to have delivered some very aggressive cuts. As set out in the financeability section FQ12, these Totex cuts result in a significant shortfall in funding creating downside cost risk in delivering our services and outputs and create material financeability concerns.

Ofgem’s second argument appears to be that the use of the upper quartile in RIIO-GD1 resulted in allowances which were too high. Ofgem states: “all GDNs have consistently outperformed their cost allowances to date while generally delivering a good quality of service. This is shown in the RIIO-GD1 annual reports, which highlight continuous efficiency improvements.”<sup>375</sup> However, this does not evidence that the upper quartile was wrong for GD1:

- Ofgem’s own analysis suggests that, on average across the sector, fully 57% of all Totex outperformance arose from the RIIO-GD1 allowances for RPEs.<sup>376</sup> In fact, according to Ofgem’s numbers, one company would have materially overspent in RIIO-GD1 had RPEs been indexed instead of fixed ex ante. The target allowances for RPEs in RIIO-GD1 had nothing to do with the upper quartile, and Ofgem has already proposed a direct ‘fix’ for this issue by indexing RPEs for GD2, meaning that there is no reason to believe that this (substantial) portion of outperformance could be repeated.
- RIIO-GD1 also saw significant innovation in Repex delivery with much greater use of insertion. The reduced unit costs of these techniques are now in the RIIO-GD1 historical costs and in the RIIO-GD2 forecasts. These savings cannot be replicated again.
- A further material difference will have been caused by IQI interpolation (i.e. the “glide path”). Again, this has now been removed for GD2, and has nothing to do with the upper quartile.

<sup>374</sup> See RIIO-2 DD Core document para 5.10, GD Sector document para 1.8 and 3.29

<sup>375</sup> RIIO-GD2 DD GD Sector document, para 3.26



- Finally, Ofgem cannot disregard the fact that many genuine efficiencies have been achieved during the price control period. Totex outperformance is not inherently bad – in fact, it is the purpose of incentive regulation to encourage and reward companies for revealing efficiencies.

Other factors may also have driven RIIO-GD1 outperformance, but these four features alone, in our view, demonstrate that it would be an error for Ofgem to conclude that RIIO-GD1 outperformance provides adequate justification for moving away from the upper quartile, an already stretching target in GD1.

In addition to these factors, Ofgem has also introduced other amendments to the RIIO-GD2 framework that make it even more unlikely that we will see performance similar to RIIO-GD1. For example, Ofgem has introduced much greater use of PCDs, limited risk trading within NARMS, and uncertainty mechanisms will play a much greater role. Each of these changes is likely to limit the opportunity for potential outperformance compared to RIIO-GD1.

Ofgem's third reason appears to be that its regression model shows negative time trends and that companies should therefore be able to meet a tougher benchmark.<sup>377</sup> However, this entirely fails to recognise that downward trends are to be expected in this data, because of productivity improvements over time – i.e. 'frontier shift', for which Ofgem provides a separate adjustment in the price control. If the 85<sup>th</sup> percentile is intended to also capture 'frontier shift' then this is a clear double count with Ofgem's productivity target (which itself significantly over-steps the evidence as we explain in response to Q11).

In its step-by-step-guide to the cost assessment, Ofgem does acknowledge that its current models will suffer from the same sorts of statistical issues identified extensively in the past as a reason for using upper quartile:

*We selected the 85th percentile score rather than the frontier to acknowledge that part of the difference in costs across GDNs related to factors other than GDNs' relative efficiency (i.e. measurement errors and statistical noise).<sup>378</sup>*

This statement is revealing, because it almost exactly replicates the same statements that were made at previous price controls (and which are quoted above) in support of the use of the upper quartile. It is clear that Ofgem understands that measurement error and statistical noise have not been (and cannot be) eliminated but has nonetheless moved the goalposts in a manner that is unsupported by the evidence.

It is also notable that these new arguments now being put forward by Ofgem represent a complete departure from the reasoning and rationale that was provided at prior price controls. In the past, the sole question Ofgem has asked itself is whether the upper quartile represents a reasonable balance given its confidence in the quality and robustness of the models and data. This question is a conceptually sound one to ask and is supported by CEPA. It is clear that, in the absence of any evidence to support the 85<sup>th</sup> percentile on that conceptually sound basis, Ofgem is instead suggesting that this lack of evidence can be overlooked on the basis of regulatory discretion. In our view, these additional arguments are simply incorrect – the question that should be asked is the same now as it was in past price controls, and Ofgem is wrong if it continues to believe that the evidence in this price control supports an 85% efficiency challenge.

### Process flaws and basic model errors must give Ofgem cause for exercising more caution

A large number of errors in Ofgem's cost assessment approach have been identified, even within the limited time available for review. We set out some examples below. Please refer to Annex 1, however a number of errors are listed below.

- duplication in the normalisation of costs,
- inaccurate assessment of the loss of metering in GD1 (inclusion of meter related income in the adjustment)
- the adjustment to replacement services as a result of reduced workloads
- Errors in the calculation of the Totex CSV
- Final allowances within (9) Allowances not aligning to those of the draft determination document

<sup>377</sup> RIIO-GD2 DD GD Sector document, para 3.27

<sup>378</sup> RIIO-GD2 step-by-step-guide para 1.71

Several of these have a material impact on the price control. It seems clear that any quality assurance process Ofgem may have been through has not been sufficient.

In addition, the process through which GDNs have been asked to review the benchmarking models has not met the normal standard. Ofgem's draft determinations were published on 9<sup>th</sup> July. However, Ofgem did not publish the spreadsheets underpinning this decision until a week later. The first set of spreadsheets that were provided to the GDNs were lacking in many respects.

- The spreadsheets were missing the inter-spreadsheet linkages or VBA code which Ofgem was using to run the model from start to finish. Ofgem first sought to provide this to the GDNs on 4<sup>th</sup> of August but the version of the model provided did not function properly. A final version was provided on 5<sup>th</sup> of August, a full 4 weeks into the 8 week consultation window – four weeks being the very minimum of consultation windows that Ofgem has stated it will offer, typically reserved for “urgent” or “minor” issues.<sup>379</sup> Even that version of the code required additional modification for the model to run. We query whether Ofgem did, in fact, have a fully functioning set of models at the time the draft determination was made – otherwise Ofgem would have been able to provide this on 9<sup>th</sup> July, allowing GDNs the full 8-week window to provide scrutiny.
- The initial model share did not include the Stata code that was being used to run the regressions, which was only provided on 30<sup>th</sup> of July.
- The initial model share was missing several critical components of underlying analysis, including (among other things):
  - the calculations of Repex and capex synthetic unit costs - a major part of the cost driver used in the Totex model – which despite repeated requests was only provided on 20<sup>th</sup> of August; and
  - aspects of the productivity assessment, including the analysis underpinning CEPA's estimate of 0.2% productivity arising from innovation and the calculations CEPA undertook for a number of its alternative EU Klems interpretations. Again, despite repeated requests, this information was not provided.
  - Further detail behind the determination of GD1 normalisations such as the £>0.75m LTS project adjustment to make an informed judgement of its relevance. Response received in SGN-DD-Q76 however the selected project detail was not provided.
  - Absence of understanding of the build-up of the cost cuts for those activities subject to technical assessment.

In light of the above, there seems to be a risk that the DD cost assessment approach was finalised in haste, and without sufficient internal quality assurance by Ofgem. The GDNs have subsequently not been given sufficient time or information to provide such assurance, contrary to principles of regulatory best practice.

The models and meshed set of spreadsheets Ofgem has produced for this draft determination are more complex than any previously used for gas distribution. In our view the degree of structural complexity is likely to mirror that which was used for the RIIO-ED1 determination. A key difference, however, is the length of time available for review: at RIIO-ED1 the DNOs first received a full set of models from Ofgem at the fast-track draft determination in November 2013. This set of models was subject to a full consultation at fast track, and of course was subsequently available to inform bilaterals with Ofgem throughout the period to the draft Determinations in July 2014 (i.e. more than 6 months during which issues and errors could be ironed out). The updated models released with the slow track draft determinations were then available in full for the normal 8-week consultation window, before again being updated for the Final Determination in November 2014. This compares starkly with the c. 4 weeks (or less) that the RIIO-GD2 DD models have been available.

A similar comparison could be made with PR19 where:

- There was an industry wide exercise to normalise historical cost data so that it was comparable
- Consultation on hundreds of models with opportunities for companies to submit their own prior to the assessment of plans
- An initial assessment of plans which included a full run through of the cost assessment models which were published and consulted upon

<sup>379</sup> See Ofgem consultation policy, available at <https://www.ofgem.gov.uk/consultations/our-consultation-policy>.

- Improvements/modifications implemented at the DD and FD to take account of feedback at prior stages.

By contrast, the Ofgem RIIO-GD2 approach has been squeezed into a small window that has been impeded by COVID with the DD being the only opportunity for formal consultation.

Of course, complex analyses of this sort are not straight forward and we would always expect errors to be contained within draft determinations models. However, this is exactly the reason why Ofgem should exercise some caution in its choice of benchmark level – particularly given the process concerns set out – to account for the fact that an analysis of this sort is never likely to be ‘perfect’ and the risk of over-stretching has material consequences for companies and their customers.

### **85th percentile cannot be appropriate for the GD sector**

The ability to carry out robust econometric benchmarking of the gas distribution sector in GB is fundamentally limited by the sample size available to Ofgem. With only 8 licensees and – importantly - only 4 ownership groups, the cross-sectional variation in any data sample, regardless of the time period it covers, is necessarily limited.

The fact that there are only 4 ownership groups is relevant to Ofgem’s assessment. Clearly, data on costs and drivers is reported separately for the eight different licensees. However, many of the processes, engineering skills, innovation, contracting/procurement strategies etc. which all contribute to the delivery of managerial efficiency, will be common across licensees within the same ownership group. Since many of the efficiencies will be driven by central teams/practices, we would not expect to observe significant differences in efficiency scores between licensees under the same ownership group, necessarily limiting the comparisons being drawn from the benchmarking exercise.

Allocation of overheads between licensees is another challenging issue where we are aware of potential inconsistencies between GDNs which limits Ofgem’s ability to achieve “industry cost structures” (para 3.25, GD Annex). Different practices in this respect have the potential to drive arbitrary results for models undertaken at licensee-level. While benchmarking at a Totex level could overcome this problem to an extent, it remains the case that:

- A material proportion (c. 20%) of the cost base is not actually run through Ofgem’s Totex benchmark; and
- Since the 85th percentile is so heavily reliant on the score for one particular company, the allocation of overheads for that company can still distort outcomes for the entire sector.

Another key feature of the sector that will affect the robustness of any benchmarking exercise is the variation in operating conditions between networks. The accuracy of the models relies heavily on Ofgem sufficiently and correctly accounting for external factors such as regional variation. Given the degree of subjectivity involved in Ofgem’s approach of making pre-modelling adjustments to companies’ cost base to remove costs driven by regional factors, it is clearly not possible to be highly confident in the modelling results.

We note that in RIIO-ED1, where the sample size was larger with 14 licensees and 6 ownership groups, Ofgem used the upper quartile in setting the efficient frontier.

In short, we believe that the exogenous constraints on benchmarking for the gas distribution sector mean that Ofgem is unlikely to ever be able to set a target at the 85<sup>th</sup> percentile without running the material risk of getting it wrong. There are simply too few data points in the cross-section to be able to do this with any reasonable degree of confidence.

### **85th percentile loads significant risk onto the modelling outcome**

Through use of the 85<sup>th</sup> percentile with 8 licensees, the results are heavily geared towards the performance of the 2<sup>nd</sup> most efficient firm as explained above. This could potentially introduce a very unstable outcome and even distort incentives going forward.

In a sector with 8 networks, using the 85<sup>th</sup> percentile efficiency score as a benchmark means that the efficiency score of the network assessed to be second most efficient receives 95% of the weight when setting that efficiency benchmark (the remaining 5% depends in the 3<sup>rd</sup> ranked efficiency score). In contrast, using the upper quartile places 25% weight on the 2<sup>nd</sup> placed score, and 75% and the 3<sup>rd</sup> ranked score. It is therefore unarguable that, relative to the UQ, the 85<sup>th</sup> percentile places substantially greater weight on the score of a single licensee.

This creates a risk that small fluctuations in one network’s efficiency score, potentially driven by subjective adjustments by Ofgem or even data errors (such as those outlined above), can have a significant impact on allowances for the whole

sector. When combined with the reliance placed on efficiency scores determined from the GD2 forecasts alone, it is clear that the possibility Ofgem has “got allowances wrong” for the whole sector is hugely increased vs. RIIO-GD1.

Ultimately, the use of 85<sup>th</sup> percentile, combined with benchmarking forecasts, is a precarious basis on which to determine long term cost allowances. Under this approach companies will perceive a significantly increased risk of being under-funded at future reviews, and/or a likelihood of a significant increase in the volatility of Ofgem’s modelling outcomes. Accordingly, the required cost of capital will be affected by the move to 85<sup>th</sup> percentile.

### **Inconsistent application of efficiency to normalised and non-regressed costs**

Ofgem has explained that, to reach its final modelled cost allowances, it has applied the 85<sup>th</sup> percentile efficiency score (in the DD this is 95%) to modelled costs after adding back in:

- pre-regression normalisations and adjustments (e.g. regional labour); and
- the non-regressed cost categories.

In relation to the pre-regression normalisations, it is clear that no further ‘stretch’ should be applied. The entire purpose of removing regional differences in labour costs (and other regional adjustments) from the regression model is because Ofgem recognises that such costs are outside the control of the companies. It is therefore simply wrong (and internally inconsistent) to suggest that a cut (whether 85<sup>th</sup> percentile or UQ) should be applied to non-controllable labour costs.

Secondly, in relation to non-regressed costs, we consider that Ofgem might reasonably seek to introduce a degree of further stretch over-and-above any cost-specific analysis it has applied (i.e. in most cases Ofgem sets effectively an ‘average’ cost challenge and then layers on the 85<sup>th</sup> percentile incremental challenge). For the FD Ofgem should ensure this process remains internally consistent and doesn’t imply too great a stretch on any of the non-regressed areas.

In relation to this, we note that the upper quartile was applied at a different stage in RIIO-GD1 i.e. the upper quartile efficiency score was only applied to any modelled costs that had been determined through the benchmarking models themselves.

The RIIO-GD2 approach for non-regressed costs is a further departure from the GD1 approach and, while we do not disagree with it in principle, it is clear that the extra stretch vs. GD1 inherent in this process should provide further reason for Ofgem to exercise a degree of caution and avoid using the 85<sup>th</sup> percentile.

### **No read across from Ofwat’s approach in PR19**

Ofgem has not specifically mentioned the fact that Ofwat too moved away from established precedent in its PR19 FD. However, to the extent Ofgem internally considers the PR19 FD to be relevant, we wish to point out unequivocally that there is no read across between Ofwat’s approach in PR19 to GD2, for the reasons expanded on below.

Specifically, Ofwat used the upper quartile in its draft determinations, but in its final determinations:

- For wholesale water base costs, the catch-up challenge was set equal to the fourth placed company (out of seventeen companies).
- For wholesale wastewater base costs, the catch-up challenge was set equal to the third placed company (out of ten).

The first thing to note is that Ofwat is regulating a sector in which there is a larger number of comparators, i.e. for wholesale water there are more than double the cross-section of comparators available to Ofgem for GD2 (before common ownership groups are taken into account). By definition Ofwat therefore has a better sample available to it, which provides a stronger basis for it to estimate robust econometric cost models than Ofgem. Ofwat therefore has a starting point from which there may be greater scope to exercise its discretion when deciding where to set the catch-up target. Even with this greater discretion, Ofwat did not go as far as the 85<sup>th</sup> percentile.

It is also clear that the specific results Ofwat was observing were markedly different to the results of Ofgem’s analysis. One of the key reasons Ofwat moved away from the UQ was that various changes between the DD and FD for PR19 meant that in its view:

*most companies (12 out of 17) forecast lower modelled base costs for 2020-25 than the modelled base cost allowance under the historical upper quartile. This compares to six out of 17 companies before the above changes took place.*

In short, had Ofwat retained the upper quartile, according to its reasoning, well above half of the sector would have received more Totex allowance than they had requested. No such issue arises for Ofgem, in part because the model relies on efficiency scores based on forecast data which automatically avoids the situation that Ofwat found itself in when only benchmarking historical costs. It is impossible for Ofgem's model to over-fund companies relative to their plans based on an upper quartile of the business plan forecasts which by definition requires three quarters of the sector to make improvements.

Ultimately, Ofgem's cost assessment approach has resulted in a disallowance vs. company plans of approximately 20% according to Ofgem. In contrast, Ofwat states that *"Overall across the sector our base cost allowances were just 0.4% below company business plans."*<sup>380</sup> This alone, as a simple sense check, illustrates the stark degree of difference between the approach adopted by the two regulators.

For these reasons we do not see that there can be any read across from Ofwat's justification for its approach in PR19 to Ofgem's approach in GD2. Finally, despite these differences, we point out that the PR19 settlement in this area is currently being disputed by four appealing companies at the CMA.

### **GDQ28. Do you agree with our proposed approach to estimating embedded ongoing efficiency and values calculated?**

**Ofgem's approach contains data and formula errors, as well as errors of methodology. These all need to be corrected for the Final Determination.**

Our understanding of Ofgem's proposed approach to estimating and removing embedded ongoing efficiency (OE) is that:

- Ofgem first determines an industry average view of embedded ongoing efficiency (OE), based on a simple average of the OE indices submitted by each of the GDNs in their December BPDT submissions. This step uses data over the GD2 period only;
- it then calculates a compound annual growth rate (CAGR) of these industry averages across the five years of the GD2 period;
- this CAGR is then subtracted from Ofgem's view of OE (i.e. 1.4405322% ongoing Opex efficiency and 1.2209957% Capex and Repex efficiency) to give net OE rates; and
- these net rates are cumulated over seven years, starting from 2019/20. These figures are then converted into an index, and the index numbers for the GD2 period are used in determining final allowances.

We have identified a number of errors within the '[10] OngoingEfficiency' and '[10] FrontierShift' spreadsheets that need to be corrected.

- The numbers entered for NGN's submitted OE are equal to 0.995 in every year, as identified in [10] OngoingEfficiency, tab Inp\_NetworkOE\_GD, rows 110-117. We believe this means that NGN's OE figures are not compounded over time, which is inconsistent with the other GDNs' figures.

**Correction required: Ofgem should compound NGN's submitted OE figures to ensure consistency with other GDNs and with the approach Ofgem has taken.**

- There is an error in the formula used to calculate the CAGR of embedded OE in step 2 above, within [10] OngoingEfficiency, tab Inp\_NetworkOE\_GD, rows 152-156. We have shown the general CAGR formula below. Ofgem uses five years of data to calculate CAGR (i.e. from 2021/22 to 2025/26), and uses a value of t=5, which is incorrect. With 5 years of data, Ofgem should use a value of t=4 because there are 4 increments in the time period considered. Should Ofgem choose to use 6 or 7 years of data, the t value would need to be amended accordingly.

**Correction required: Ofgem should amend its formula for calculating CAGR of embedded OE, to ensure the value of it is consistent with the number of years of raw data being used in the calculation. (We comment below on the number of years used in the calculation.)**

$$\text{CAGR} = \left( \frac{\text{Final value}}{\text{Initial value}} \right)^{\frac{1}{t}} - 1$$

<sup>380</sup>

Ofwat, May 2020, Reference of the PR19 final determinations: Cost efficiency – response to common issues in companies' statements of case

- There is inconsistency in the time period used to calculate embedded OE (in step 2 above), and the time period over which Ofgem compounds its view of net OE (step 4 above). As described above Ofgem uses five years of data to calculate embedded OE ([10] OngoingEfficiency, tab Inp\_NetworkOE\_GD, rows 144-156), but then in its final step compounds net OE over seven years ([10] FrontierShift, all calculation tabs, rows 69-123). If Ofgem wishes to compound its own view of OE across seven years, for consistency it must remove seven years of embedded OE, and to calculate what that level of OE is, it must use seven years of submitted data on embedded OE. Furthermore, because Ofgem only uses five years of submitted data to calculate the CAGR of embedded OE in step 2, this figure does not capture a large proportion of the embedded OE included in our plan at the very start of GD2 (i.e. between 2020/21 and 2021/22).

We note however that Ofgem should not apply an ongoing efficiency challenge to historical years (see our response to CDQ11), so there should not be any reason to remove embedded OE from more than 5 years of data (the GD2 period only).

**Correction required: Ofgem has stated in its SGN-DD-Q88 that it intends to use 6 years of data (i.e. 5 compounding increments) in order to calculate embedded OE over the GD2 period. It should therefore only compound the resulting CAGR over the 5 years of GD2.**

- In tab Inp\_NetworkOE\_GD row 118 to 128, the submitted OE for Scotland and Southern networks have been entered under the wrong network name, i.e. Scotland's submitted values represent those of Southern and vice versa as referenced in tab 2.12\_RPE\_&\_OE rows 174 to 178. Although this does not impact the overall assessment, we recommend it is corrected to avoid confusion.

**Correction required: Ofgem should correct the labelling of Scotland and Southern networks' submitted OE data.**

- There is inconsistency in the embedded OE figures submitted by different companies ([10] OngoingEfficiency, tab Inp\_NetworkOE\_GD, rows 80-140). Different company indices are based to 1 in different years. For consistency, Ofgem should re-base all of the submitted OE indices to 1 in the same year.

**Correction required: Ofgem should re-base company OE indices to start at 1 in the same year.**

Ofgem should also consider whether its method potentially removes too little embedded efficiency, since the benchmark is almost entirely determined by the assumptions built in to SGN Scotland's business plan. It is not clear whether there is internal consistency given the use of a time trend in the regression and the 85<sup>th</sup> percentile – this is an issue Ofgem should consider at the FD.

## 5.5 Normalisations

Redacted

### 5.5.1 Regional factors and company specific factors

We agree with the continuation of regional adjustments to address the London factor. However, we believe there is a case for extending this to the wider South East region Redacted We do not believe that using ONS population data reflects the proportion of work carried out in London and have suggested an alternative approach in GDQ29 where we also discuss the requirement to extend regional factors to Stores and Logistics and Repair activities.

A review is also required to ensure the appropriate local authorities are identified in the determination of the sparsity adjustment and in particular the Isle of Wight.



### 5.5.2 Other adjustments

Ofgem have looked to normalise out a number of historical costs in order to align to the removal of the subsequent costs in the GD2 forecast. Further to this there are a number of normalisations relevant to the GD2 period which are bespoke in nature. We would agree in principle with the removal of these costs to ensure there is a comparable baseline across the GDNs for the purposes of the cost assessment. There are however a number of errors in the computation of these costs of which are identified in GDQ29.

We also believe a review of the treatment of bespoke outputs is required to ensure the relevant cost activities are removed where they are not adequately evaluated using the selected Totex cost drivers and there are evidently material differences between GDNs and subject to separate assessment.

#### GDQ29. Do you agree with our proposed pre-modelling normalisations?

**We agree with the continuation of regional adjustments however we do not believe they go far enough, and we have provided further evidence on the workload inside the M25 and** Redacted

**A review of the Local Authorities is required to ensure the inclusion of all relevant LA's. Ofgem should also apply its regional adjustment to Stores and Logistics costs, which will also face regional variation, and consider whether the historical average approach might be insufficient given the model results.**

**In relation to other pre-modelling adjustments (e.g. to remove volumes Ofgem has deemed inefficient, and to remove non-regressed costs) there are a number of errors and applications of methodology that must be addressed to ensure the accurate assessment. We would further identify that a full review is required of the bespoke outputs ensuring they are adequately identified, and the subsequent treatment is relevant.**

#### Labour Cost

We broadly agree that Ofgem should be adjusting for labour and note their position as follows:

In the 'RIIO – GD2 Regional and Company Specific Factors Annex' section 1.10 Ofgem acknowledge "that the wage differential between London and the rest of Great Britain still appears to be wide enough to warrant an adjustment"

To adjust for this regional labour, ONS Annual Survey of Hours & Earnings (ASHE) wage data has been used. Based on the ASHE data and a standard GDN mix of job roles, London labour costs are 21% higher than elsewhere (South East 6% higher).

Labour Cost adjustments do not apply to Business Support as Ofgem argue that this can be provided from outside a 'London' area. However, we would like Ofgem to consider the inclusion of Stores and Logistics costs within this adjustment as Local Stores exist and incur regional costs.

We also note that, to calculate the regional labour adjustment, Ofgem averages across several historical years of ONS ASHE data to estimate regional indices. Redacted

Redacted and given that the efficiency scores for London licensees appear to be material outliers (even for licensees within the same ownership group, i.e. it seems implausible that SGN Scotland and Southern could have markedly different scores; and similarly that Cadent's London licensee could have markedly different results to the other Cadent licensees). Given this, we suggest that Ofgem might consider whether the ONS ASHE data could be used differently to estimate its regional labour index.

#### Productivity

We broadly agree that productivity should be reflected within the regional adjustment and summarise our understanding of the position below:

The NERA Arcadis UBLE Report submitted as Appendix 5 to SGNs Business Plan submission highlighted the following impacts on productivity whilst working in London inter alia:

- Nature of Streets



- Road structure including high diversity of road surfaces & raised crossings
- Asset location under carriageway as opposed to footway or verge
- Utility congestion leading to requirement of more hand dig
- Permitting & Traffic Management
  - Parking bay & bus stop suspensions
  - High volume of permit conditions including restrictions on working hours
  - Traffic management including manned lights, pedestrian walkways bus routes & cycle lanes
  - Lane rental
- Transport & Logistics
  - Traffic speed & congestion
  - Distance to tips, depots and employees' homes
  - Parking restrictions

In the 'RIIO – GD2 Regional and Company Specific Factors Annex' section 1.15, Ofgem accepted that there is reduced labour efficiency in London and that SGNs labour costs would be adjusted by 15% in line with the productivity impact applied in GD1.

We continue to agree with the application of a 15% productivity adjustment for London recognising the complexity of working in the city of London. There is also an argument that there is an urbanity/productivity percentage that could apply also to South East, in a similar way that the labour factors recognise both London and South East.

Urbanity Productivity currently only applies to Repex, Connections and Reinforcement. SGN believes that this adjustment should also apply to Repair activity as these costs are largely incurred 'in the carriageway' and are adversely impacted by all the urbanity issues impacting Repex, Connections and Reinforcement activity.

(Type 2 – Inconsistencies in stated approach or in the application of a methodology, whereby we believe further cost categories should receive a relevant adjustment.)

Redacted

Clearly, Ofgem need to revisit:

- The extent to which the regional factors are applied to the Southern network
- The extent to which the labour indices reflect the unique nature of Repex contracts
- Whether the Repex CSVs are robust and capture the appropriate cost drivers for Repex.

The Repex CSV is discussed further in GDQ33 and the remainder of this section looks at how the regional factor is applied to the Southern network.

#### Defining London – Population or Workload?

Redacted

Redacted

Redacted

Redacted

### Sparsity

Ofgem calculate sparsity by looking at the ratio of population to area. However, in calculating population density they exclude local authorities (LAs) without a gas supply.

In the draft determination Ofgem excluded the following LA's for Scotland:

- Scottish Borders,
- Dumfries and Galloway,
- Highland,
- Argyll and Bute,
- Perth and Kinross,
- Shetland Islands,
- Orkney Islands.

It is correct to exclude Shetland Islands and Orkney Islands, however the remaining five LA areas (Scottish Borders, Dumfries and Galloway, Highland, Argyll and Bute, Perth and Kinross) do have gas and need to be included within the sparsity calculation.

This was set out in a previous SQ response to Ofgem following our business plan submission<sup>381</sup>.

It has not been possible for us to review all the LA areas removed for each GDN but based on the errors identified we would suggest that this analysis is checked and verified with each of the GDNs prior to the Final Determination as in isolation these would provide an uplift to Scotland's sparsity adjustment of £0.2m.

(Type 1 – Factual or computational errors, due to the incorrect assessment of the relevant local authorities that are relevant to the network.)

### Company-specific factors

As defined in the regional and company specific factor annex<sup>382</sup> (page 11) there are two types of company specific (or special factor) claims:

- Those that relate to adjusting historical RIIO-GD1 data to ensure comparability in the benchmarking; and
- Those that relate to forecast expenditure in RIIO-GD2 that should be assessed outside of the 'standard' benchmarking model to ensure comparability.

For SGN, Ofgem have found that with reference to Isle of Wight, they believe it is not material in nature and have therefore not made a relevant adjustment.

(Type 4 - Disagreement as to how the methodology should be applied, adjustment should be made for Isle of Wight costs as set out in our business plan.)

### Other adjustments

As identified in section 3.46 and discussed in GDQ38, a removal of historical costs has been made for non-regressed activities which is consistent with the approach taken in the GD1 cost assessment in which the following costs were removed: Repex diversions, MOBs, streetworks, smart metering, land remediation, growth governors and SIU Opex. We remain in agreement with the removal of these costs.

### Adjustments of historical costs

#### Large capex projects £<0.75m

We agree with the removal of large capex projects as we do not believe the scale variable adequately addresses the nature of these projects within the regression modelling. The assessment of capex projects would predominately use a MEAV scale driver in which there appears to be no major fluctuations.

We would however like to stress that we are currently unable to determine what has been included in the adjustments and believe there may be inconsistency as to how this has been applied across the periods. To make an accurate assessment of this process we require the supporting data used to determine the adjustments. This was requested in SGN\_DD\_Q76 on the 27th of July with a response being received on the 31<sup>st</sup> of August stating "We aggregated similar LTS, Storage & Entry projects from the RIIO-GD1 RRs. We set a £0.75m project materiality threshold to ensure consistency with separately assessed and disallowed RIIO-GD2 projects". We still believe that this has not provided us the ability to accurately assess the adjustment.

(Type 2 – Inconsistencies in the application of the methodology with their appearing to be projects in years that meet the £>0.75m criteria but have not been normalised out.)

<sup>381</sup> SGN\_SQ\_CA\_4 – Tables 5 and 7 and map on page 4

<sup>382</sup> Draft Determinations – RIIO-GD2 Regional and Company Specific Factors Annex

### IT and Telecoms capex

We agree with the removal of IT and Telecoms historical costs. It would be inconsistent to retain historical IT & Telecoms costs within the econometric modelling where equivalent costs are to be removed for technical assessment as part of the RIIO-GD2 review.

We would however identify that there appears to be an inconsistency in the normalisations across the two periods whereby there is a duplication in an element of the IT and Telecoms cost. This is relevant to the [Redacted] being made on row 20, for the GD1 period, without a corresponding adjustment being made to Row 70 to ensure the total IT normalisation aligns to that of the BPDT. The below example is relevant to the Southern network however the issue is present across all GDNs.

[Redacted]

This error has been identified to Ofgem in SGN\_DD\_Q106.

Further to this we would like to identify our concerns around the approach taken for the technical assessment of the GD2 costs. This is further discussed in section GDQ39 and GDQ40.

(Type 1 – Computational errors, with more IT costs being normalised out then is relevant.)

### Gasholder demolition

Due to the focussed program of holder demolition in RIIO-GD1 which is not required by all GDNs in RIIO-GD2, we agree with the removal of these costs for the cost assessment process for the purposes of comparability across the two price controls.

(Type 6 – Broad agreement with position put forward in draft determination)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

### Other historical adjustments

The adjustments for Xoserve, PPF and pension scheme administration costs as identified in section 3.48 appear reasonable on the basis that they are subject to reclassifications in RIIO- GD2 and would lead to a distortion of the results due to the base costs of the two periods applying different treatments.

(Type 6 – Broad agreement with position put forward in draft determination)

## Adjustments to forecast costs

We agree that costs should be removed where GDNs have taken different approaches to bespoke outputs and uncertainties mechanisms.

Costs removed with allocation to uncertainty mechanisms:

- Iron Stubs – The costs associated with iron stubs are specific to RIIO-GD2 and SGN and NGN identified these costs<sup>383</sup>. We therefore agree that these costs should be removed for the purposes of comparability within the regression modelling. We would however identify, that there has been a duplication in the removal of these costs within the southern network that must be addressed before the final determination<sup>384</sup>. Within [2] Normalisations\_ So the associated costs are removed in tab Cal\_Replex in both row 22 and row 23. All costs associated with Iron Stubs were identified within tab 4.04 Repex\_Mains\_Other, therefore the removal of Other Repex mains as part of the pre modelling adjustments<sup>385</sup> the cost has already been removed, this has resulted in a reduction of £5.98m in the normalised cost base. Iron stubs are further discussed in GDQ43.

(Type 1 – Computational errors as a result of a duplication in the normalised costs.)

- Customer vulnerability - We agree with the removal of customer vulnerability for both SGN and WWU to ensure consistent treatment across all the GDNs. Section 4.2.4 further discusses Customer Vulnerability.

Redacted

- Process Safety – Redacted within the SGN Annex, process safety is suggested to be a pre-modelling movement with the potential of a re-opener or other uncertainty mechanism being attributable to the costs<sup>387</sup>. Once again, we have been unable to identify the associated uncertainty mechanism and it has been subsequently advised in SGN\_DD\_Q54, as included in the above, that there was “lack of robust evidence<sup>388</sup>” The removal of this cost is relevant to the econometric modelling process however we would disagree with the subsequent disallowance of this cost. This is discussed further in SGNQ8.

(Type 2 – Inconsistencies in stated approach or in the application of a methodology as a result of being unable to determine the relevant uncertainty mechanism to which this cost is applicable.)

- IT and Telecoms (Capex) - As identified in the historical section above, we would agree with the removal of the IT and Telecoms costs for the purposes of technical assessment. The removal is however both relevant to a movement to an uncertainty mechanism with the remaining costs being subject to technical assessment. Further detail on IT and Telecoms can be found in Q18 and section 5.7.4.

<sup>383</sup> NGN-RIIO-GD2-Business-Plan-2021-2026 Page 158 6.5 Replacement expenditure

<sup>384</sup> SGN\_DDQ\_Q48

<sup>385</sup> Draft Determinations – SGN Annex Page 38 Table 26 and Page 44 Table 33

<sup>386</sup> Draft Determination – SGN Annex Page 38 Proposed pre-modelling adjustments section 3.12

<sup>387</sup> Draft Determinations – SGN Annex Page 38 Proposed pre-modelling adjustments section 3.12

<sup>388</sup> SGN\_DD\_Q54

### Costs removed associated with bespoke outputs:

As identified within our business plan<sup>389</sup> we put forward a number of bespoke outputs. Due to their distinct nature, for the purpose of the econometric modelling we believe it is relevant to remove any costs which cannot reasonably be evaluated using the selected Totex cost driver; or which are evidently materially different from other GDNs and therefore require specific consideration. We would therefore continue to support the normalisation of these costs from the econometric modelling, so long as they meet these two tests. Any bespoke costs which meet one of these tests can, we believe, remain within the Totex model.

In some circumstances we believe the normalisations currently applied have been inappropriate. We have identified the differing treatments below however we would draw attention to section 4.3 of the response whereby the outputs are discussed further.

### Inconsistency in treatment

On assessing the treatment of bespoke outputs across the GDNs we have determined that there has been an inconsistent approach in the normalisation of fleet activity. It was advised within the GD sector document<sup>390</sup> that funding has not been provided for ULEVs for SGN and Cadent, which we believe is consistent with the tests we outline above. However, it would appear that the normalisation of costs has only been carried out for SGN. A correction is required to the [2]Normalisation of all 4 of the Cadent GDN to remove the associated ULEV costs.

### Assessment of SGNs bespoke outputs

Within the assessment the following bespoke items have been normalised and subsequently allowed in the DD proposals:

- Biomethane – improved access rollout
- Additional maintenance activity to support biomethane
- Shrinkage projects – Utonomy London and southern

We welcome the assessment of the above projects.

(Type 6 – Broad agreement with position put forward in draft determination)

The items identified below have been normalised out and subsequently disallowed.

- Biomethane improved access trials
- Increased fleet replacement rate (8yrs to 6 yrs.)
- Low emission vehicles (SGN\_SQ\_POL13/SGN\_SQ\_CA15)
- Climate change adaptation (Capex costs)
- So/Sc Inn 01 (SGN\_SQ\_POL18)
- Accelerated Tier 1 Mains replacement

Please refer to section 4.3 in which we identify further arguments for the subsequent treatment of the bespoke environmental action plan outputs. In the above list we have also identified SQs of which were responded to prior to DD providing further support for the costs.

We would also draw attention to the evidence provide on the 26<sup>th</sup> of February following CAWG12, which provided additional detail to support our assessment of the bespoke outputs. This communication included the following two documents:

- Uncertainty Mechanisms+Bespoke Output comparison26Feb.xlsx

<sup>389</sup> SGN RIIO GD2 Business Plan Chapter 16 Section 16.3.3 Enhanced service outputs

<sup>390</sup> Draft Determinations – gd\_sector Page 49 section 2.139

- Areas for Normalisation in Business Plan 20200226.docx

A further assessment of this was carried out as a joint exercise across the GDNs and with the consolidated Bespoke template<sup>391</sup> being provided to Ofgem 3<sup>rd</sup> April 2020.

In addition to the above bespoke outputs relating to the environmental action plan there are a number of other normalisations as follows:

- Smart Meter Roll-out additional call outs – See GDQ52
- Responsible Demolition – See Section 4.6
- Riser Inspection Surveys < 6 Storey Buildings - See Section 4.6
- Hazardous Waste – See Section 7.3.11

As specified above we agree with the removal for the purposes of the econometric testing however we would like to identify that there are a number of the bespoke outputs of which we disagree with the final disallowance being proposed.

Further detail on these items can be found in the sections detailed above. We believe these require further consideration before the final determination.

(Type 6 – Broad agreement with position put forward in draft determinations)

It should also be identified that in the removal of costs for TA-SO\_Rep\_01 there has been a duplication in the normalisation of these costs of which has been identified to Ofgem in SGN\_DD\_Q49. The duplication has incurred in [2]Normalisations\_So in tab 'Cal\_Replex' in which it is removed in row 21, being included in the removal of steel >2" and, also under TA-SO\_Rep-01 in row 74. This requires correcting for the Final Determination.

(Type 1 – Computational errors as a result of the respective cost being normalised out twice. This will have resulted in a reduction of allowances being awarded as the costs are subsequently only added back once.)

## Volume related adjustments

To ensure consistency across all GDNs for reinforcement and connections, as was discussed in CAWG 14, we agree with volume related adjustments for GDNs where it is believed the volumes have not represented a P50 level in line with the assumptions adopted by other GDNs.

(Type 6 – Broad agreement with position put forward in draft determination)

## Reclassified costs

Ofgem have reclassified several costs being:

- Gasholder maintenance from Holders (work management) to Maintenance to ensure equal treatment of non-routine maintenance activities reported by other GDNs
- Pension incremental Deficit costs from individual Opex activities to other direct activities

We are comfortable with the movement of these costs.

(Type 6 – Broad agreement with position put forward in draft determination)

## Loss of meterwork adjustment

As identified in section 3.53 of the GD sector document<sup>392</sup> an upward adjustment has been made to Emergency costs in the RIIO-GD1 period to ensure a consistent treatment of the loss of meterwork over the RIIO-GD1 and RIIO-GD2 period.

Ofgem have deemed the relevant adjustment to be 50% of the historical labour costs associated with the metering function. This assumes that GDNs can utilise 50% of those labour costs on other activities.

<sup>391</sup> Consolidated Bespoke template – Final020420

<sup>392</sup> Draft Determinations – GD sector Page 93 Loss of meterwork adjustments



We welcome the consideration of an add back of costs during RIIO-GD1 to ensure a consistent cost base across the periods. The proposal of 50% appears a reasonable assumption we would however like to raise a concern around how the 50% has been calculated based on the BPDT submissions.

Ofgem have identified that to calculate the adjustment they have included staff costs including non-salary costs and contract labour from the metering function. We would therefore assume this would be aligned to template 2.01 of the BPDT rows 431 and 432.

In our attempt to replicate the calculation, for our Scotland and Southern networks, we have determined the costs used to adjust the emergency lines in the normalisations do not only correlate to the two rows identified above but it would appear the customer contribution identified in row 445 has also been included in the determination of this cost on a prorated basis over the costs within the metering section.

We believe this to be an error in the calculation as the customer contribution should not be considered relevant in the assessment of the first call operatives time. This was reported to Ofgem in DDQ\_Q92<sup>393</sup>, Ofgem have acknowledged that this is an error and the adjustment should be aligned to the gross costs.

(Type 1 – Computational error by applying the 50% calculation to a net cost rather than the relevant gross cost. This will have resulted in the efficient costs of the GDNs being incorrectly assessed in the econometric modelling.)

## 5.6 Regression analysis

In relation to Ofgem’s regression analysis:

- We broadly agree with Ofgem’s regression approach in terms of selected aggregation level, estimation technique and time period. Ofgem should utilise the data it has available from across the RIIO-GD1 period to provide a sense-check on the viability of forecast data. (GDQ30)

Redacted

**GDQ30. Do you agree with the selected aggregation level, estimation technique and time period for our econometric modelling?**

**We broadly agree with Ofgem’s approach, although Ofgem should utilise the data it has available from across the RIIO-GD1 period to provide a sense-check on the viability of forecast data.**

### Level of aggregation

As set out in our response to GDQ26, we agree with the use of a top-down model. We strongly agree with Ofgem’s reasoning that a top-down model is preferable over alternatives that include disaggregated models “based on its ability to better account for cost complementarities, trade-offs and potential reporting inconsistencies across GDNs<sup>394</sup>.” Top-down modelling also measures total value-for-money for consumers and provides clear incentives for companies to reduce their total costs, regardless of how these costs are categorised.

Now that Ofgem has adopted this approach for DD (and explained why it has rejected the disaggregated models on the basis of their underlying lack of robustness), it would be a very substantial policy shift for Ofgem to revert back to the use of a disaggregated approach for FD. Should such a move be considered, we would emphasise that Ofgem must signal this to companies at the earliest opportunity and seek to share its proposed models with the companies well before Final Determination. Failing this, Ofgem would be risking a failure of due process and consultation.

(Type 6 – Broad agreement with position put forward in draft determinations)

<sup>393</sup> SGN DDQ Q92

<sup>394</sup> Draft Determinations – GD Sector Page 95 Level of aggregation section 3.60

## Estimation technique

As in RIIO-GD1, Ofgem has selected Ordinary Least Squares (OLS) as its econometric estimation technique<sup>395</sup> using “clustered robust standard errors to account for the fact that, in reality, data points relating to the same GDN are correlated and thus not fully independent (i.e. to address potential heteroskedasticity) and to increase the accuracy when assessing statistical significance.”<sup>396</sup>

We agree with this approach.

Ofgem also tested the robustness of the Totex model by estimating it using both Random Effects (RE) and Stochastic Frontier Analysis (SFA) techniques. We agree with Ofgem’s conclusion that the limited size and cross-sectional variation of the sample means that, while these techniques are useful for robustness testing, they should not be relied upon for setting allowances. At this stage it would be a substantial policy shift to move to an alternative approach for Final Determinations, which would give the companies no opportunity to develop our understanding or review the properties of such models.

(Type 6 – Broad agreement with position put forward in draft determinations)

## Model Specification

As in RIIO-GD1, Ofgem has used a Cobb-Douglas functional form “as it allows for economies of scale to be captured and estimated coefficients can be easily interpreted as cost elasticities<sup>397</sup>.” This is a well-established approach and we agree with its use.

As for its top-down benchmarking model at RIIO-GD1, Ofgem has chosen to use a Composite Scale Variable (CSV) as a cost driver. This is to reflect “the disaggregated cost activities included in our Totex definition<sup>398</sup>”.

While there are drawbacks to the use of CSVs, for example the fact that the weightings must be subjectively determined and place restrictions on the model, we recognise that use of a CSV can be a pragmatic solution when faced with a limited sample size, such as in the gas distribution sector. However, we have set out our specific concerns in the CSV components proposed by Ofgem elsewhere in this response specifically in GDQ32 and GDQ33.

(Type 6 – Broad agreement with position put forward in draft determinations)

## Time Trends

Ofgem’s econometric modelling uses two time variables, capturing linear time trends within the historical and forecast data. We note that these variables are specified in a slightly unusual way, with the value of the historical trend re-setting to zero at the point where the forecast data begins. However, empirically these trends fit the data well, closely tracking trends that are found when time effects are measured using year dummy variables. We therefore conclude that Ofgem’s approach is a reasonable method of reflecting time trends in a parsimonious way (i.e. retaining degrees of freedom within the model).

(Type 6 – Broad agreement with position put forward in draft determinations)

## Time Period

Ofgem uses historical data from GD1 and company forecast data for GD1 and GD2 within its regression, in order to determine coefficients that are then used to determine modelled costs for GD2. We agree with this approach, as it uses all data available to Ofgem to determine relationships between costs and cost drivers.

Ofgem then uses GD2 submitted costs and GD2 modelled costs to determine efficiency scores and the 85<sup>th</sup> percentile. We discussed this in our response to GDQ26. While we do not disagree with this approach, we do believe that Ofgem needs to use the historical data to sense check the credibility of the forecasts.

(Type 3 - Disagreement as to how the methodology should be applied)

<sup>395</sup> Draft Determinations – GD Sector Page 95 Estimation Technique section 3.61

<sup>396</sup> Draft Determinations – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 6 Model specification and estimation section 1.26

<sup>397</sup> Draft Determinations – GD Sector Page 95 Model specification section 3.62

<sup>398</sup> Draft Determinations – GD Sector Page 95 Model specification section 3.63

**GDQ31. Do you believe we should take into consideration revised cost information for the remainder of GD1 including 2019-20 (actuals) and 2020-21 (forecast)?**

We would agree that the latest available information should always be used by Ofgem. The latest information includes the latest information submitted as part of the 2019/20 RRP process and

Redacted

As discussed in chapter 16 of the SGN Business plan, the first half of GD1 was characterised by low cost pressures and a benign economic environment where we were able to deliver strong outputs and able to offset economic impacts through organisational cost savings and deployment of innovation. This however started to unwind from 2015 onwards with growing contractor cost pressures and pay deal increases being evident since year 4 of GD1.

It is therefore important that outturn data on the later years of GD1 are included in the cost assessment process to strengthen the robustness of the cost assessment. We believe it would also be good practice to use the latest outturn data, since this would replace the previous forecasts with the real outturn, and hence reduce the risk of forecast error in the modelling. However, we do believe any atypical costs should be reviewed and normalised as deemed appropriate.

As set out in response to Q10 and Q11 above, Ofgem must ensure that whatever starting point it assumes for productivity (currently 2019/20) is also used for RPEs, to reflect a consistent overall frontier shift.

For the Final Determination consideration is also required on the impact of COVID-19. This has had a far reaching impact on the work we do and as a result the costs incurred to complete them. We anticipate it will also impact on future costs as new measures adopted during the pandemic become embedded in future working practices. This is further discussed in Q11.

### 5.6.1 Opex in regression model

The Opex component of the regression modelling consists of four main cost drivers, MEAV, Emergency CSV, Total External Condition Reports and Maintenance. Whilst we agree in the main with three of the proposed cost drivers, we do not believe Maintenance MEAV, a subset of MEAV including only above ground assets, is an appropriate driver for the cost activities of Maintenance. We believe it would be more appropriate to assess through the use of MEAV extending the weighting of MEAV from 34% to 42%.

**GDQ32. Do you agree with our selected cost drivers for Opex?**

We broadly agree with the components of the drivers for Opex however the requirement for a subset of MEAV for maintenance does not cover all the costs relevant to the area and should be removed. We confirm that MEAV (subject to some important data clean ups we identify) would be a more appropriate driver. Based on Ofgem's current weightings, this would result in the MEAV weighting being 42%.

Ofgem have proposed to use the following Opex cost drivers as part of the top-down assessment:

Cost Activity	Cost driver	Totex CSV weighting	SGN Proposed weightings
Work Management, Other direct activities, Business support and Training and Apprentices	MEAV	34%	42%
Emergency	Customer numbers (80%), external condition reports (20%)	5%	5%
Repairs	External condition reports	6%	6%
Maintenance	Maintenance MEAV	8%	0%

Detail was requested from Ofgem to enable an understanding of how the weightings had been derived. In the response to SGN\_DDQ\_109 Ofgem provided the Stata code used to determine the weightings. We have been unable to exactly replicate the suggested weightings and have looked to request further clarity.

### Data inconsistencies

We would like to identify a number of errors and inconsistencies in the build-up of the above drivers that may have impacted the proposed draft determination allowances.

MEAV currently forms a large part of the Totex CSV, as detailed in the above table, however we have identified an anomaly within the data which requires investigating and, if appropriate, adjusted for prior to the final determination. It can be demonstrated that all GDNs demonstrate a gradual reduction in MEAV each year. However, for one GDN the MEAV starts to rise in 19/20 and 20/21, with significant increases throughout GD2.

This anomaly was identified in a paper submitted to Ofgem on the 26th of May 2020 called 'Data Inconsistencies for Ofgem May 2020'.

We also believe there to be an inconsistency between the GDNs in the reporting of Total External Condition Reports of which will have an impact on the cost driver included within the Totex CSV. We believe this may be as a result of:

- different assumptions on a movement towards more extreme weather. See SGNQ7.
- Most GDNs adopting a declining profile in GD2 with the exception of 1.

We have provided further detail on these anomalies in Annex 2<sup>399</sup> and believe these should be reviewed to ensure a consistent approach in the cost assessment.

(Type 4 – New evidence detailing the inconsistency within the Total External Condition Reports that should be addressed.)

Further to this in the [3]CSV file there are the following errors:

- On tab Cal\_CSVdrivers to calculate Totex csv it would appear the EoE emergency CSV has been incorrectly used for all GDNs. For example, in row 195 for London the formula has been held constant to row 101 being the EoE CSV\_Emergency.
- The computation for MEAV for EoE also appears to align to that of the MEAV\_egep\_MOBs of which is inconsistent to all other DNs.

These have also been identified in Annex 1-Draft Determination Error Log.

(Type 1 – Computational errors included within the determination of the relevant scale drivers included with the Totex CSV, this has resulted in the GDNs costs being assessed against a scale driver that is not relevant to their cost base.)

### Methodology

Currently the cost driver for maintenance is aligned to maintenance MEAV which is defined as “a subset of MEAV only including above ground assets<sup>400</sup>”. We would argue that, although this will address several costs identified within the maintenance cost area it does not address costs associated with the following below ground activities:

- Valve maintenance
- Condition monitoring of
  - Cathodic Protection
  - CIPS – Closed Interval Potential Surveys
- Plant protection
  - Aerial surveys via helicopter
  - Line walking
  - SW/2 (Working in the vicinity of assets >7 barg) 3rd party enquiries
- Drainage

Further to this there is also alterations, leakage surveys, and the cost of resolving water ingress, which is particularly problematic on steel mains.

<sup>399</sup> Annex 2-Data Anomalies: Section 4

<sup>400</sup> Draft Determinations – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 9 section 1.34

We therefore believe Maintenance MEAV should be removed from the Totex CSV drivers and replaced by MEAV which, due to the inclusion of below ground assets, would appear to be a more relevant scale driver. This would result in the assessment of MEAV being 42% of the Totex CSV, taking the entire weighting of the 8% from the removal of maintenance MEAV.

(Type 3 – Disagreement as to how the methodology should be applied. We strongly believe the use of Maintenance MEAV, being a subset of MEAV including only above ground assets, is not an adequate assessment of the full maintenance activities. To adequately reflect the cost base, it should instead be assessed through the use of MEAV, increasing the overall weighting of MEAV within the Totex CSV.)

The use of the Emergency CSV, whereby there is a weighting based on external condition reports (20%) and customer numbers (80%), appears to be a reasonable assessment to capture the differing elements that could drive this activity.

(Type 6 – we continue to agree with the use of Emergency CSV as a scale driver within the Totex CSV.)

For repair, the scale driver is currently aligned to that of Total External Condition reports. Although in the main we agree with the assessment, we would draw attention to the concern that this does not consider the following:

- volatility of costs that can be derived from differing mains repair diameters.
- Pressure Tiers
- Depth of Pipe

As the replacement programme continues to focus on Tier 1, this will ultimately drive a higher weighting towards large diameter repairs which may result in a distortion of the assessment. Although the external condition repairs will continue to decline, the average unit cost of these repairs will inevitably increase.

The use of 'Actioned Repairs' may address some of the above concerns, we are however aware that there are concerns around the accuracy of the data capture in this area. Further to this, the BPDTs submitted in December detail the total costs of repair on tab 2.01\_Opex\_Cost\_Matrix\_C, this is however a high-level cost and does not provide the granular detail necessary to determine a cost per diameter band.

We do therefore believe that further discussions should be had post the 4<sup>th</sup> of September to determine if there is a more relevant cost driver that could be used.

(Type 3 – Disagreement as to how the methodology should be applied. We believe further consideration should be placed on the relevant scale variable for the assessment of Repairs.)

## 5.6.2 Repex in regression model

Redacted

### GDQ33. What are your views on our proposed approach to the synthetic cost driver for repex?

There are a number of significant errors and inconsistencies within the file currently being used to determine the replacement synthetic unit costs which must be addressed to ensure the robustness of the modelling.

Ongoing discussion must continue post the consultation response and prior to final determination to enable challenge and discussion on the robustness of the assessment, particularly as we only received these complex data files three quarters of the way through the consultation process (20<sup>th</sup> of August).

Redacted

, the use of an average industry unit cost for London and South East of England is not adequately addressing the regional impact and therefore it would be relevant to extend a regional adjustment to the Repex synthetic driver across the Southern GDN.

If Ofgem cannot modify the synthetic driver to enable the Redacted we believe Ofgem should look to exclude Repex totally from the regressions and technically assess.

Firstly, we would like to identify that we only received the 'Repex\_Synthetic\_Unit\_Cost\_Model\_Aug20' on the 20<sup>th</sup> of August, we have therefore had limited time to carry out a full forensic review of the model to make an informed assessment. To ensure an informed assessment can be provided we will continue to review the detail post the 4<sup>th</sup> of September.

### Model Errors/Inconsistencies

In the work we have carried out to date we would like to identify that there are several inconsistencies which we believe require addressing to ensure the fair assessment of the unit costs. These are as follows:

- On the 'RepexNetCosts' tab we have identified the following:
  - There are 8 bands identified in the BPDT however within the synthetic unit costs model for Tier 1, Tier 2a, Tier 2b and Tier 3, some of the bands have been omitted resulting in material costs and volumes not being assessed
  - There appear to be several other imbalances
    - One of which relates to an error identified in the BPDT whereby <2" Steel rows 42-51 of tab 4.01 are misaligned
    - The assessment states 'net' however it would appear some income identified in tab 4.03 of the BPDT is not included in the assessment – we would however disagree with assessing net costs as opposed to gross, which is used elsewhere in Ofgem's models
    - A number of errors that relate to >2" steel not aligning to that of the BPDT of which we are unable to identify the cause
- On the 'RepexCosts\_AfterRule1' tab, this summarises costs from 'RepexCosts\_AfterAdjustments' in which it appears to aggregate several rows. It does however not include all rows from the previous tab. We are unable to determine a relevant explanation for this omission. We have also not been able to identify adjustments relating to rule 1.
- On the 'RepexCosts\_AfterRule2to5', there appears to be several yellow blank cells however:
  - We are unable to determine how the rules have been applied and which rule the adjustment is relevant to
  - There appears to be a disproportionate amount of blank yellow cells on Southern network
- On the 'FinalRepexCost' tab we have identified two issues:
  - As with 'RepexCosts\_AfterRule1' there appears to be missing rows in the aggregation on this tab
  - There are several blank yellow cells of which once again there is no identifiable justification for.

We assume the case will also be the same in the volume and services tab however due to the limitation of time these have not undergone a full assessment.

We would also like to identify that the costs detailed in the 'Out\_Repex\_SyntheticUnitCosts' and the detail in [3] SyntheticCosts tab 'Inp\_Repex\_SyntheticUnitCosts' do not appear to align.

An example of this would be the Tier 1 steel 125mm to 180mm in the synthetic unit cost model row 22 is detailed as £166,906 but in the [3] SyntheticCosts row 22 details £175,867.

As identified above, in the process the synthetic cost assessment appears to ignore certain bands, this omission is subsequently carried through to [3] SyntheticCosts whereby the assessment ignores volumes relating to bands that do not fall in line with the diameters identified in the unit costs. For example, within Tab 4.01 of the BPDT, there are 8 lay bands identified however there are only 4 bands allocated a synthetic unit cost. This has resulted in a number of GDNs having volumes not considered for diameter band 5 >250mm to 355mm, with the odd entry also being made in >355mm to 500mm. This will have impacted the overall synthetic cost assessment with the cost driver not adequately reflecting the total respective lay.

A further error is present in the calculation of the Repex scale driver in the Totex CSV determined in [3] csv whereby the following has been identified:

- A significant anomaly in the determination of the CSV for Southern whereby the formula on tab 'Cal\_Services\_SyntheticCost\_Comp' was entered as:
  - '=Inp\_Services\_SyntheticUnitCosts!\$U\$19\*(SUM(Cal\_Services\_volumes!Y509:Y620)-Cal\_Services\_volumes!Y611'.

Where the Y509 should have stated Y609.

- This anomaly was also present on tab 'Cal\_Services\_SyntheticCost\_CAdj'

We have also identified the above errors in Annex 1-Draft Determination Error Log.

(Type 1 – There are a number of errors within the build-up of the synthetic unit costs of which have resulted in an incorrect assessment of the relevant scale driver. The Repex CSV forms 39% of the overall scale driver therefore errors could have a significant impact on the overall assessment. This is specifically seen in the error that has been determined in the [3] CSV file detailed above whereby it has resulted in a significant movement in the GDNs rankings.)

## Methodology

Within the GD Sector document<sup>401</sup> Ofgem have advised that they have adopted the same approach as in RIIO-GD1 in using a synthetic cost driver for the Repex component of the Totex CSV in RIIO-GD2.

The concerns around the use of a synthetic unit costs predominately arise as a result of the volatility that has often been seen across the years. Ofgem have however looked to apply quantitative criteria before computing industry average unit costs.

- Minimum number of observations: data must be provided for a minimum of two historical reporting years and for a minimum of two GDNs.
- Outlier test: unit costs must be within 100% of the industry average unit cost over the same period
- Maximum unit cost variability between GDNs: to check whether individual GDN unit costs are within 40% of the industry average over the same period
- Maximum unit cost variability over time: to check whether unit costs calculated in each year are within 40% of the average unit cost over the considered period.

In addition to this, they have looked to apply five qualitative criteria, in line with CEPA's framework. This included data quality and comparability, routineness of work and materiality before the quantitative assessment, and considered potential drivers that cause differences in unit costs between GDNs and/or over time after the unit costs were computed.

In the application of the criteria, Ofgem state in the Step-by-Step Guide<sup>402</sup> that where criteria 1 and 2 were not met they carried out a computation of the synthetic unit costs for the activity by applying a scaling factor to the closest activity for which it was possible for them to compute the unit cost.

In the application of this process we would assume the scaling factor was less relevant to tier 1 than the remaining workloads. The workloads in the Tier 2 and Tier 3 are likely to have more inconsistency between years therefore not meeting the criteria set out above. We would have concerns around the use of a scaling factor being applied for these diameters due to the bespoke nature of the work. Within the unit cost model, we have identified on tab 'Out\_RepexSyntheticUnitCosts' tab that of the 92 unit costs identified only 40 have been stated as accepted, the remaining 52 have been subject to a scaling factor. This would indicate that over 50% of the determined unit costs have required a scaling factor to be applied which undermines the integrity of the unit cost calculations.

This is further amplified upon review of the mains unit costs beyond that of Tier 1 in which 62% of the unit costs have been determined through the use of a scaling factor. We therefore believe it is important that further consideration is placed on the treatment of Repex as part of the cost assessment and question whether it is relevant to assess anything other than Tier 1 in the econometric modelling.

We would also draw attention to our response in GDQ29 whereby we set out our positioning on regional factors. Further to this we would argue that the regional adjustments currently applied within the normalisation process do not appear to adequately address the regional divides, this is clearly shown in both London and Southern being significant outliers in the

<sup>401</sup> Draft Determinations – GD Sector Page 101 Cost Drivers

<sup>402</sup> Section 1.46 Draft Determination – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 11



regression modelling when both DNs are part of a wider management group. Ofgem must ensure that the determination of the synthetic unit cost adequately reflects regional differences.

We however have further concerns around the statement that the innovative processes i.e. CISBOT<sup>403</sup>, were not adjusted for in the determination of a relevant unit cost. We believe this may have led to a distortion in the industry unit costs suggested particularly for Tier 3 and this should be corrected for the Final Determination. Further distortion may also be present as a result of the issues we raised with Ofgem on the 27<sup>th</sup> of May in a document called “Repex Detail for Ofgem May 2020”.

In determining the relevant time period to use for the synthetic unit cost CEPA suggested that focus should be placed on the forecast data as stated below;

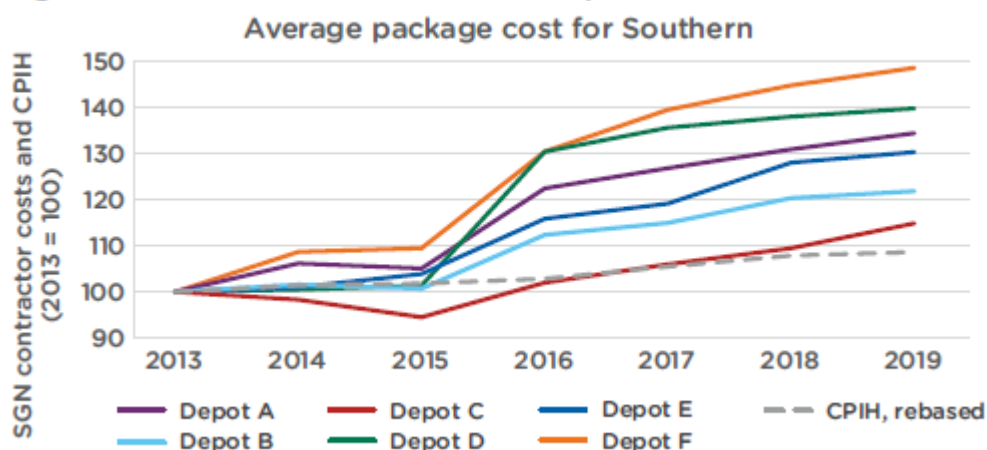
“If our selected Tier 1 breakdown is adopted by Ofgem, it may be advisable to rely on RIIO-GD2 forecast data as unit costs are generally forecast to decrease between RIIO-GD1 and RIIO-GD2 and unit cost differences between diameter bands appear somewhat more sensible from an engineering perspective.”<sup>404</sup>

Despite the suggestion from CEPA, Ofgem proceeded to use the historical RIIO-GD1 unit costs.

We would argue for the use of forecast data in the determination of the synthetic unit costs as we believe there are cost pressures coming in to play in the later years of GD1 and which will persist into GD2, which are identified in the graph below (Figure 12-3).

However, we have concerns that our cost pressures have been diluted in the RIIO-GD2 industry average unit costs included within [3] SyntheticCosts which reflects a decreasing unit cost that we believe to be an incorrect conclusion. We have identified a number of inconsistencies in approach by the GDNs which we believe may be a driver of this below.

**Figure 12-3 Contract labour cost pressures**



(Graph Source: Chapter 12 SGN Business plan page 25)

(Type 2 – We have a number of concerns with the application of the methodology of which we believe will have a significant impact on the overall cost assessment. The use of scale factors appears to play a predominate part in the final synthetic unit cost of which undermines the relevance of the unit costs. We also believe the use of the historical costs are irrelevant however there are a number of inconsistencies in the forecast data as detailed below of which highlight growing concerns over the relevance and process of determining synthetic unit costs.)

Redacted

<sup>403</sup> Section 1.47 Draft Determination – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 12

<sup>404</sup> Draft Determination - Synthetic Unit Costs update (CEPA) Page 23

## GDN Data Inconsistencies

A number of inconsistencies in the reporting of the Repex data provided in the December BPDTs have been identified. We provided evidence of this to Ofgem in May<sup>405</sup>. However, we have identified these in Annex 2-Data Anomalies Section 2 of which we strongly believe require investigating and, where relevant, adjustments made to ensure there is accuracy and consistency in the cost assessment process.

We have looked to summarise the key points below:

- Annex 2: Section 2.1 - A difference in reporting of the CISBOT costs and workloads between tabs 4.03 and 4.12 across the GDNs. We believe this must be addressed as Ofgem have identified that they have not looked to adjust for innovative processes<sup>406</sup> therefore a difference in reporting could potentially distort the final unit costs.
- Annex 2: Section 2.2 - A change in the profile of unit costs between GD1 and GD2 whereby we found an inconsistent relationship within the unit costs, at a band level, that appear to not fit the generally understood profile of costs specifically, Tier 1 band >125mm to 180mm is reflecting a lower unit cost than band >75mm to 125mm. The general principle is that as the band size increases, so does the unit costs for the respective replacement bands. We believe this may have resulted in the diluting of the unit costs for GD2.
- Annex 2: section 2.3 - Addresses concerns about the change in the workload mix in GD2 for certain GDNs, again we believe this could be impacting the assessment of the unit costs and the synthetic cost driver.

In order to ensure the robustness of the data driving the synthetic unit costs and cost driver we believe all of the above points require review.

(Type 5 – Evidence SGN has provided but hasn't been taken into account or given sufficient weight. We previously provided evidence highlighting a number of inconsistencies across the GDNs of which we believe could have a significant impact on the resulting efficiency deemed relevant for each GDN. We do not believe this has been considered in the current assessment and would once again stress that we believe this is resulting in an inaccurate assessment.)

Further to this CEPA refer to the implied unit costs by material type identifying that not all of the GDNs provided this level of granularity.

"In addition, one company has not disaggregated between cast iron and ductile iron mains replacement for RIIO-GD1, which may explain why ductile tier 1 mains replacement does not always seem more expensive than cast iron tier 1 mains replacement based on RIIO-GD1 cost data. This may further support the reliance on RIIO-GD2 forecast data when calculating Tier 1 synthetic unit costs."<sup>407</sup>

The use of historical data at the disaggregated level appears to not be relevant for the cost assessment as one company has not supplied any ductile iron detail in GD1 and one company has applied the same unit costs across the material categories.

For the forecast data it would appear that more of the GDNs have been able to supply data at the disaggregated level providing more robust synthetic unit costs however there are still inconsistencies in the application of the unit costs within the GDNs. We therefore believe a distinction should not be made between the cast iron and ductile iron in the determination of a synthetic cost.

Within the Draft Determinations – Synthetic Unit Costs Update Annex page 11 CEPA suggest that 'there are other potential cost drivers and regional factors that have not been applied in the synthetic unit cost methodology'. This continues to suggest that 'exogenous cost drivers that effect GDNs to different extents (i.e. asymmetrical) which are not reflected in the level of disaggregation, adjustments should be made within the synthetic unit cost methodology if sufficient quality data is available"

Examples of such exogenous cost drivers can be found in the following:

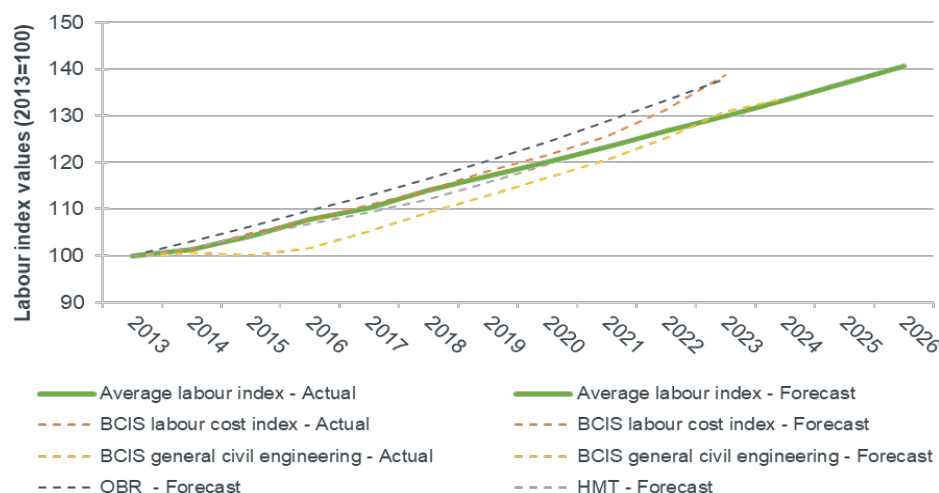
- Overhead allocation (this is however in part addressed through the use of Totex CSV in the Totex top-down econometric modelling)

<sup>405</sup> Data Inconsistencies For Ofgem May 2020 and Repex Detail For Ofgem May 2020

<sup>406</sup> Section 1.47 Draft Determination – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 12

<sup>407</sup> Draft Determination - Synthetic Unit Costs update (CEPA) Page 23

- Contracting strategies
- Other innovations
- Changing market factors (see graph below)



(Graph Source: Chapter 12 SGN Business plan page 25)

As part of the review of replacement costs we have also identified inconsistencies in the treatment of overheads across replacement activities. These are detailed within Annex 2: Section 2.5 which clearly reflects a difference in approach taken by the GDNs to allocate overheads across Repex activities. With some GDNs allocating a considerable amount more to Other Repex which may result in differing levels of overheads being normalised out of the regression assessment which could further distort the comparability across the GDNs.

(Type 4 – New evidence presented, whereby addressing that we have concerns with the allocation of overheads across the Repex activities of which we believe could further distort the average unit costs calculated. And where costs are being allocated to areas such as other Repex, we are of the opinion that this could benefit the GDNs where these relate to costs normalised out of the econometric modelling.)

For Capitalised Replacement, SGN were the only GDN to identify costs and workloads in tab 4.06 of the December BPDT submission. In the determination of the synthetic unit costs, Ofgem have looked to identify a separate synthetic unit cost for Capitalised Replacement as detailed in 'Repex\_Synthetic\_Unit\_Cost\_Model\_Aug20' rows 112:119 of tab 'Out\_RepexSyntheticUnitCosts'. We therefore believe this to be an inconsistency in approach as we would assume all other GDNs have incorporated this in the individual tier replacement tabs within the BPDT.

### Potential Options

In conclusion, there are a number of fundamental issues with the current use and determination of the synthetic unit costs within the Totex CSV. Therefore, we would stress that the consultation with stakeholders must continue post the 4<sup>th</sup> of September consultation response. We have set out below options that must be considered:

If the use of synthetic unit costs continues to be the preferred option, then Ofgem must address the following:

- The determination of the synthetic unit costs must be fully audited, and all errors corrected
- All relevant bands must be included in the assessment for example, band 5 on Tier 1
- A review of all GDNs must be completed, with particular attention to unusual trends between the GD1 and GD2 period, to ensure there is a like-for-like comparison
- The application of the scaling factor must be reviewed, currently over half of the unit costs are determined by this method which is unacceptable and draws question to the integrity of the process
- The regional adjustment must be reviewed to ensure it is relevant for the DNs to which it is applied and adequately addresses the regional idiosyncrasies

An alternative would be to remove Repex from the econometric modelling in its entirety. In this scenario we would strongly argue that it should be subject to a technical assessment whereby each individual GDN would be assessed in its own right and not through comparison to each other.

Redacted

**GDQ34. What are your views on our proposed repex workload adjustments?**

**We strongly disagree with the adjustments made to Repex workloads. We believe that the ‘binary’ approach taken to disallow some of these workloads in full is not appropriate and fails to consider the overriding safety, stakeholder and leakage reduction arguments that were presented in our various Engineering Justification Papers (EJPs).**

We set out below our position for each of the workload categories where an adjustment has been proposed by Ofgem in the Draft Determination documents. We note, however, that the current implied unit costs arising from Ofgem’s benchmarking model for repex work are underfunding the contract cost to deliver that workload particularly in Southern (see previous question) – therefore, before any increase in workload is considered we need to ensure the workload is funded appropriately.

**Tier 1**

For our tier 1 iron mains, in our December submission we proposed a baseline linear workload with additional Dynamic Growth. Dynamic Growth has been well recognised since 2002 and ensures we will meet the HSE enforcement policy programme by the end date of 2032. Without it, we will require the associated opex to continue to repair these assets added in and an additional workload proposed for an accelerated programme of works that delivered a significant increase in leakage reduction as well as other safety and opex reduction benefits.

In the Draft Determination Ofgem have adjusted workloads to disallow both Dynamic growth and our proposals to accelerate the programme.

The removal of dynamic growth is inconsistent with Ofgem policy in all previous price controls and fails to recognise that this is an emerging mandatory workload that must also be managed by the March 2032 HSE Enforcement Policy deadline. The Ofgem decision not to allow this in GD2 will create a bow wave effect that will flow into GD3 putting delivery of the overall programme at risk as well as increasing costs for future customers in GD3.

Our plans to accelerate the Tier 1 iron programme during GD2 were primarily supporting strong stakeholder feedback to complete this work and further reduce the methane leakage from our network. It is apparent that these stakeholder views have not influenced the approach taken by Ofgem which has solely concentrated on minimising Tier 1 iron workload during GD2 at the expense of delivering additional safety, reliability and environmental benefits for customers today.

It is also clear that, in the light of the Covid-19 impact on mains replacement activities during 2020, that the expected shortfall in delivery can only be recovered by completing additional work over the remaining period out to March 2032. Our proposal to accelerate the programme achieves this outcome.

**Tier 1 Iron - Associated Services**

We have been unable to reconcile the T1 Services PCD volumes printed in the SGN annex408 in tables 16 and 17. We believe that these numbers do not include the adjustment to the workloads due to the removal of the T1 accelerated proposal.

Ofgem confirmed in responses to two draft determination questions that we raised (SGN\_DDQ\_Q07 and SGN\_DDQ\_Q08) that the T1 decommissioning PCD target workload shown in Tables 12 and 13 in the SGN annex did not include the adjustment to the workloads due to the removal of accelerated growth.

We believe that Ofgem need to make this same adjustment to the T1 service PCD target workloads shown in tables 16 and 17 in the SGN annex. We raised this point with Ofgem in SGN\_DDQ\_Q84 and in their response they confirmed that “The Tier 1 services baseline target workloads shown in Table 16 and 17 include the adjustment for the removal of accelerated growth.”, however, we don’t believe this to be the case.

The tables below show the T1 service volumes that we submitted in Dec 19, the allowed volumes in the draft determination (July 20) and what we believe to be the correct T1 service PCD volumes based on the disallowed Dynamic growth and Accelerated elements within our Tier 1 programme in GD2. Without this adjustment, and with neither Dynamic growth or our accelerated programme being allowed, the services PCD would be overstated by 6,037 no. of services in Scotland and 10,942 no. of services in Southern.

<sup>408</sup> RIIIO-2 Draft Determinations – SGN (page 16)

**Scotland**

Submitted (Dec 19)			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	1016.3	78,881	77.6
Dynamic Growth	27.0	2,096	77.6
Accelerated	77.7	6,033	77.6
<b>Total</b>	<b>1,121.1</b>	<b>87,010</b>	<b>77.6</b>

Allowed (DD) - SGN Annex			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	1016.3	78,928	77.7
Dynamic Growth	0.0	0	77.7
Accelerated	77.7	6,037	77.7
<b>Total</b>	<b>1,094.1</b>	<b>84,965</b>	<b>77.7</b>

T1 Decommissioning and Service PCD target workloads published in SGN Annex (tables 12 and 16)

Allowed DD - Correction Required			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	1016.3	78,928	77.7
Dynamic Growth	0.0	0	77.7
Accelerated	0.0	0	77.7
<b>Total</b>	<b>1,016.3</b>	<b>78,928</b>	<b>77.7</b>

Ofgem have corrected the T1 decommissioning PCD target workload to adjust for the removal of the accelerated element (SGN\_DDQ\_Q07 and SGN\_DDQ\_Q08) and we believe they need to do the same for the T1 service PCD target workload.

**Southern**

Submitted (Dec 19)			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	3002.3	268,059	89.3
Dynamic Growth	57.5	5,134	89.3
Accelerated	122.5	10,939	89.3
<b>Total</b>	<b>3182.3</b>	<b>284,131</b>	<b>89.3</b>

Allowed (DD) - SGN Annex			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	3002.3	268,149	89.3
Dynamic Growth	0.0	0	89.3
Accelerated	122.5	10,942	89.3
<b>Total</b>	<b>3,124.8</b>	<b>279,091</b>	<b>89.3</b>

T1 Decommissioning and Service PCD target workloads published in SGN Annex (tables 13 and 17)

Allowed DD - Correction Required			
Work Category	Decom Length (km)	Services (no of)	Service per km
T1 Base	3002.3	268,149	89.3
Dynamic Growth	0.0	0	89.3
Accelerated	0.0	0	89.3
<b>Total</b>	<b>3002.3</b>	<b>268,149</b>	<b>89.3</b>

Ofgem have corrected the T1 decommissioning PCD target workload to adjust for the removal of the accelerated element (SGN\_DDQ\_Q07 and SGN\_DDQ\_Q08) and we believe they need to do the same for the T1 service PCD target workload.

### Other Mains (T2b, T3, >2" Steel)

We disagree with the 'binary' decision to disallow these workloads in full in both networks noting that only T3 in Southern was allowed. Using average failure rates from the NARMs model and running the CBA at whole population level has distorted the output from the CBA model which fails to reflect the substantively higher failure rates and exceptional costs associated with the small 'condition based' workload we have proposed in GD2. This is particularly valid for those pipes that have failed and have passed a CBA within a 16-year period during GD1.

The CBA payback for pipes incorporated within T1 iron mains projects is less favourable but removal of this work does and will have a detrimental effect on the cost efficiency and productivity of the Tier 1 iron programme. Our Tier 1 iron unit costs for GD1 were submitted on the basis of this work being completed as part of the overall scheme of projects. The draft determination fails to take account of these losses.

### Tier 2B and Tier 3 Iron Mains

In our December submission for Tier 2B and T3 iron we included a workload that was significantly lower than that allowed for the GD1 period. This smaller workload included mains that fail due to inadequate integrity that require replacement on grounds of safety and that pass a CBA in less than 16 years and additional work associate with Tier 1 iron mains projects that enable more efficient overall solutions to be delivered.

Our view on Tier 2B and T3 is that it is not plausible to have zero funding and zero workload for these mains as we have an overarching duty to manage the safety and reliability of these mains in order to keep our customers and public safe and free from the consequences of failure and in some cases the only safe intervention is to replace the pipe; essentially ongoing repair is judged to be unsafe.

In our response we have submitted updated CBAs (Tier 2B<sup>409</sup>, Tier 3<sup>410</sup>) with a combined workload that reflects the higher failure rates and exceptional costs associated with these pipes and reflecting the arguments set out above.

### >2" Steel

The 'binary' decision to disallow all workload in this category is of the greatest concern for us within the proposals set out in the Draft Determination concerning our Repex programme. This is unsafe and would leave us with continuing and worsening reliability issues much of which is already leading to the frustration of affected customers. This could compromise our legislative requirement under the Pipeline Safety Regulations and thereby the workload must be

<sup>409</sup> SGN Repex- 003 Tier 2BSo - CBA Sept20 and SGN Repex- 003 Tier 2BSc - CBA Sept20

<sup>410</sup> SGN Repex- 003 Tier 3Sc - CBA Sept20

reinstated. The Ofgem decision is diametrically opposed to the strong positive feedback received from all types of stakeholder engagement which appears to have been ignored in its entirety.

Within SGN, we commissioned an independent specialist data analytics company to undertake a detailed predictive analytics project building upon the work we completed and presented to Ofgem and the HSE at the outset of GD1. This work clearly reinforced and identified the high failure rates for some of these steel pipes being observed within our asset repository. This is shown in the failure rate analysis from the PA project incorporated in Section 2 – Other comments.

We also undertook joint research<sup>411</sup> with the other GDNs, specifically relating to steel pipe failures that clearly showed that the current rate of replacement fell seriously short of the rate at which this asset group is deteriorating<sup>412</sup>

In our December submission we identified two discrete workload drivers, both arising from the failure of >2" steel pipes. The first workload driver was reflecting our background run-rate of those pipes in GD1 that have failed and that we have elected to replace on grounds of safety, stakeholder benefit and cost efficiency (passing a CBA). The second workload driver was taking a more proactive approach, responding to the increasing failures we are seeing and the high number of pipes where we are deferring replacement during GD1 in favour of repair. We are aware and drew out in our Engineering Justification Papers (EJPs) the frustration felt by our customers, representatives of communities, and in some cases local authorities when choosing not to replace these failing assets.

The tables below show the year on year population of >2" steel in each network, the length of pipe that we have elected to replace each year, and the length of pipe where we have had pipe failures but elected to defer replacement and continue with ongoing repairs.

Scotland			
>2" Steel (km)			
RIIO-GD1	End year Population	Length Decommissioned	Sum of PON length with repair activity in year*
2013/14	1319.5	5.2	23.7
2014/15	1284.7	3.9	17.9
2015/16	1307.3	4.5	21.4
2016/17	1297.2	5.2	24.8
2017/18	1309.7	3.8	23.8
2018/19	1299.6	3.7	17.4
2019/20	1306.8	5.5	24.9

Southern			
>2" Steel (km)			
RIIO-GD1	End year Population	Length Decommissioned	Sum of PON length with repair activity in year*
2013/14	3143.2	12.6	224.8
2014/15	3134.3	8.8	221.6
2015/16	3129.4	6.2	205.4
2016/17	3110.3	9.4	182.3
2017/18	3129.5	9.5	186.2
2018/19	3126.8	8.3	201.6
2019/20	3119.8	11.3	193.1

<sup>411</sup> App019 – SGN – supinfo – AESL steel report RP6809.pdf

<sup>412</sup> SGN Repex – 007 SteelSo – EJP Dec19 page 9 and SGN Repex – 008 SteelSc – EJP Dec19 page 9



We believe that completing this work in full, as proposed, is in the best interests of our customers, delivers the safety and cost efficiency benefits required and reflects the very clear views of our stakeholders.

In our response we have submitted updated CBAs (Southern<sup>413</sup>, Scotland<sup>414</sup>,) with a combined workload that reflects the higher failure rates and exceptional costs associated with these pipes and reflecting the arguments set out above.

**GDQ35. Where we have disallowed workloads, should we consider making corresponding adjustments to opex costs? If so, how do you think this could be done?**

**Yes, Opex adjustments must be applied where workload has been disallowed as set out below.**

We can confirm that Opex Costs adjustments will be required where our proposed GD2 Repex workloads have been disallowed. This will provide the necessary funding required to allow us to continue to repair and maintain these assets, which would have otherwise been replaced. There is no reflection within NARMS for doing nothing, the averaging approach that NARMS takes does not account for the particular pipes that we would have selected that have higher failure rates and exceptional costs associated with them.

Within the CBA we acknowledge that not all the elements of the CBA impact directly on Opex costs, for example cost of an incident (death or serious injury) or cost of carbon although other elements such as shrinkage and the cost of repairing and emergency would be applied plus all the associated exceptional costs. We will be providing separate submission within our response indicating the Opex impacts of any project that has currently been disallowed.

Any further adjustments to workloads for ease can be done on a pro-rata basis.

The required Opex costs associated with the workloads disallowed within the draft determination are confirmed in the tables below,

**Scotland**

Workload Category (mains and services)	Disallowed Workload (km)	Associated 5 Years Opex cost (£m)	CBA Reference
T1 Iron	104.7	0.793	SGN Repex - 002 Tier 1 Sc - CBA Sep20
T2B Iron	23.7	1.799	SGN Repex - 004 Tier 2bSc - CBA Sep20
T3 Iron	8.6	2.137	SGN Repex - 006 Tier 3Sc - CBA Sep20
>2" Steel	64	1.143	SGN Repex - 008 SteelSc - CBA Sep20
<b>Grand Total</b>	<b>201.0</b>	<b>5.872</b>	

**Southern**

Workload Category (mains and services)	Disallowed Workload (km)	Associated 5 Years Opex cost (£m)	CBA Reference
T1 Iron	180	2.125	SGN Repex - 001 Tier 1 So - CBA Sep20
T2B Iron	37.9	3.675	SGN Repex - 003 Tier 2bSo - CBA Sep20
Other Policy and Condition	40.3	0.012	SGN Repex - 007 SteelSo - CBA Dec19
>2" Steel	148.6	3.477	SGN Repex - 007 SteelSo - CBA Sep20
<b>Grand Total</b>	<b>406.8</b>	<b>9.379</b>	

<sup>413</sup> SGN Repex- 007 SteelSo - CBA Sept20

<sup>414</sup> SGN Repex- 008 SteelSc - CBA Sept20

### Stranded overheads

Further to the costs identified above, through the removal of the workloads and associated costs, the relevant treatment of the fixed overheads within these costs has not been considered by Ofgem.

In the draft determination Ofgem have suggested a workload adjustment of £106m from the replacement programme proposed in our December Business Plan. Further to this they have also looked to disallow the accelerated Tier 1 replacement programme removing a further £48m from the SGN cost base. As a result of these workload adjustments there has been a removal of approximately £33m of fixed overheads over the GD2 period – this has resulted in a further efficiency stretch on SGN as these costs will ultimately be incurred within Opex, but Ofgem have not provided allowance for them. The fixed overheads do not reduce proportionately with workloads – so these allowances need to be re-allocated to other cost categories, instead of being disallowed in their entirety.

We would therefore suggest that, if these workloads are to be disallowed as part of the final determination, an adjustment should be made whereby the respective overheads are added back into the Totex baseline and assessed through the econometric modelling.

### Rejection of Smart Metering Interventions Workload

As discussed in GDQ52, SGN submitted a profiled smart meter roll-out intervention forecast of 4% and 6%, which was rejected in favour of a flat 2.5% rate. As a consequence of this reduced workload, an element of the waiting time which was otherwise applied to smart metering costs will return to emergency, as below:

Costs to be added back for waiting time:

£m's	2020/21	2021/22	2022/23	2023/24	2024/25
Scotland	0.16	0.16	0.17	0.24	1.14
Southern	0.28	0.29	0.70	0.38	1.93

### 5.6.3 Capex in regression model

Connections and Reinforcement are currently assessed through the use of a synthetic unit cost driver. We do not believe the information provided to assess the treatment of connections and reinforcement in the synthetic unit cost model is adequate to draw any meaningful conclusions.

We raise a number of key issues below of which must be investigated and addressed accordingly to ensure the unit costs are relevant for the final determination.

#### **GDQ36. What are your views on our proposed approach to the synthetic cost driver for capex?**

We have not been able to make an adequate assessment of the Capex Synthetic unit costs due to errors and the incompleteness of the data files provided, this must be addressed. There needs to be a clear trace between how the synthetic unit costs are calculated and the files in which they are used.

We believe further consideration is required to differentiate the pressure tiers for reinforcement in order to ensure the unit costs are not distorted and a distinction should be made between New and Existing Housing in the determination of the synthetic unit costs.

The synthetic unit costs used within the Totex CSV are relevant to that of mains reinforcement and connections. We would like to highlight that we only received the 'Capex Synthetic Unit Cost Model Aug20' on the 20<sup>th</sup> of August 2020. As a result, we have had very little time to carry out a forensic review and make a qualified assessment on the data. We have looked to identify below, errors and anomalies in the data where these have been found to date. But to provide a comprehensive assessment on the synthetic unit costs, we will continue to assess post 4<sup>th</sup> of September.

Within the draft determinations CEPA suggest that ‘there are other potential cost drivers and regional factors that have not been applied in the synthetic unit cost methodology<sup>415</sup>’.

This continues to suggest that ‘exogenous cost drivers that effect GDNs to different extents (i.e. asymmetrical) which are not reflected in the level of disaggregation, adjustments should be made within the synthetic unit cost methodology if sufficient quality data is available”.

This point is largely with reference to costs associated with streetworks, further to this CEPA identify labour cost differentials associated with items such as regional adjustments.

Within the draft determination Step-by-Step Guide Ofgem identifies that they ‘did account for differences in regional wages and productivity by applying the same updated indices used to normalise submitted costs<sup>416</sup>’.

We would agree with this however we would state that if any subsequent adjustments are made to the regional indices prior to the final determination the application of indices within the synthetic cost calculations should also be adjusted accordingly.

## Reinforcement

It is clearly identified within the GD Sector document<sup>417</sup> that a distinction has been made between mains below and above 180mm however no distinction has been made between general and specific reinforcement as the two types have similar unit cost. Further to this the synthetic unit costs have been based on an industry historic average.

In the Synthetic Unit costs Update Annex CEPA recommended that ‘Ofgem consider alternative cost assessment approaches for reinforcement as there are significant challenges in applying a synthetic unit cost approach<sup>418</sup>’.

This argument is predominately as a result of the engineering rationale that “the large variability of inputs that can be used to deliver this work alongside the low work volumes means that meaningful unit cost comparisons are unlikely<sup>419</sup>.”

As identified in ‘Table A.4 Reinforcement synthetic unit cost assessed against framework’ document, although reinforcement appears to pass the assessment of comparing unit cost variability between RIIO-GD1 and RIIO-GD2 for the individual GDN, when comparing the unit costs variability between GDNs it would appear the criterion is not met, and is only provides a partial pass when considering the cost variability over time. CEPAs assessment is detailed in the below table.

**Table A.4: Reinforcement synthetic unit costs assessed against framework**

Reinforcement Activity	Criterion 3: Unit cost variability between RIIO-GD1 and RIIO-GD2	Criterion 4: Unit cost variability between GDNs	Criterion 5: Unit cost variability over time	Qualitative Assessment	Overall assessment
All mains less than or equal to 180mm in diameter	Pass	Fail	Partial Pass	Fail	Fail

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Reinforcement Activity	Criterion 3: Unit cost variability between RIIO-GD1 and RIIO-GD2	Criterion 4: Unit cost variability between GDNs	Criterion 5: Unit cost variability over time	Qualitative Assessment	Overall assessment
All mains more than 180mm in diameter	Pass	Partial Pass	Partial Pass	Fail	Fail

Source: CEPA analysis

<sup>415</sup> Draft Determinations – Synthetic Unit Costs Update Annex Page 11

<sup>416</sup> Draft Determinations – Step by Step Guide to the Cost Assessment section 1.47

<sup>417</sup> Draft Determinations – GD Sector Page 107 Cost Drivers Section 3.103

<sup>418</sup> Draft Determinations – Synthetic Unit Costs Update Annex (CEPA) Section 4.3

<sup>419</sup> Draft Determinations – Synthetic Unit Costs Update Annex (CEPA) Section 4.3

We agree with CEPA around the volatility of the costs over the RIIO-GD1 price control, of which the industry average is derived and have identified that Ofgem have included a number of rules applied to remove the outliers from the synthetic unit costs. This appears to be based on a 40% rule as identified in the 'Capex Synthetic Unit Cost Model Aug20', we do however believe further discussion should be had with the GDNs to determine whether this is an appropriate assessment.

Further investigation of the 'Capex Synthetic Unit Cost Model Aug20', has identified that the reinforcement costs have been assessed on a net basis. We believe this to be an error and would suggest the assessment should be completed at a gross basis in line with the econometric modelling assessment as identified in the Step by Step guide<sup>420</sup>.

In addition, the following errors have been identified:

- All costs appear to be omitted from London in 'ReinforceCosts\_AfterRule2\_5' and 'ReinforceVolumes\_AfterRule2\_5' despite appearing to not have failed the rules in all years.
- There appears to be no adjustment for the costs identified as being reclassified to Repex for Cadent's DNs in [2] Normalisations, nor an adjustment for the costs and volumes that have been disallowed for SGN. This may lead to a distortion in the unit cost calculation if the unit costs used within these are atypical. Clarification should be sought to determine the relevant treatment.
- The costs identified in the 'Unit\_Cost\_Model and [3] SyntheticCosts do not appear to align as detailed below:

	Capex_Synthetic_Unit_Cost_Model_Aug 20 per 'ReinforceUnitCosts_Final'	[3] SyntheticCosts per 'Input_Capex_SyntheticUnitCosts'
<180mm	267,291	273,464
>180mm	381,306	393,352

- Reinforcement unit costs collated at a net level despite the econometric modelling assessment being carried out at Gross. However, there is also inconsistency in the application with the following cells in 'ReinforcementNetCosts' appearing to be gross:
  - Cells V76, T88, U88, V88 and W88.

(Type 1 – Computational errors present within the determination of the Reinforcement synthetic unit cost of which currently undermines its relevance.)

The errors have also been identified in Annex 1-Draft Determination Error Log.

Although we have no immediate concerns with the grouping together of general and specific reinforcement and welcome recognition of a distinction between <180 and >180 mains, we continue to believe that this does not adequately identify any variance in costs that may be derived through different pressure tiers. i.e. LP, MP and IP.

As demonstrated by the Synthetic unit cost model between GD1 and GD2 the average industry costs for both <180mm and >180mm show a stepped increase. This may be as a result of a change in workload mix therefore it is important a further assessment is carried out to determine the unit costs at a more granular level to ensure the unit costs are not being distorted.

(Type 3 – Disagreement as to how the methodology should be applied, whereby we believe the unit costs should be calculated at a more granular level to ensure the differences in pressure tiers do not result in GDNs being penalised if their workload mix is more akin to higher pressure tiers of which will have been diluted in the current synthetic cost calculation.)

## Connections

With reference to the 'Capex Synthetic Unit Cost Model Aug20' we have identified the following anomalies (of which have also been included in Annex 1-Draft Determination Error Log):

- On the 'ConnectVolumes\_Override' tab cells T12:AF231 We believe the formula should test both costs and volumes on the same basis as the formula in the 'ConnectCosts\_Override' tab. The formula as entered only tests for costs.
- On the 'ConnectCosts\_AfterRule1' tab two anomalies have been identified:

<sup>420</sup> Draft Determinations – RIIO-GD2 Step-by-Step Guide to Cost Assessment Page 4 section 1.15

- Cells AG18, AG35, AG51, AG67, AG83, AG99, AG115, AG131 and AG141 there is an inconsistency in the formula whereby it appears to sum up a number of categories rather than just one.
- Cells T14 and T18 appear to have a difference in formula from the subsequent cells in the rows.
- We believe the unit costs identified in tab 'ConnectUnitCosts\_AfterRule1', as no further tabs for connection unit costs are included, to be the final unit costs that should align to those detailed in the [3] SyntheticCost tab. However, for all mains types the unit costs do not align. In addition, on this worksheet there are no service unit costs displayed. A description error on an earlier worksheet has resulted in the appropriate costs and volumes being omitted. The formula looks for the categories "Services" and "Total" on the source worksheets, however the "Total" category has been replaced by the descriptor "All".

(Type 1 – Factual or computational errors of which are currently resulting in an incorrect assessment of the synthetic unit cost.)

With reference to the Reinforcement tabs within the workbook, we suspect the file we have been provided with may not include all the relevant tabs, as the connection unit costs do not appear to have been assessed against rules 2 to 5. Further to this, we can see no reference to how the connection service unit costs have been derived within this file.

We are therefore currently unable to adequately assess the relevance of the synthetic unit costs that have been used.

(Type 2 – Inconsistencies in stated approach or in the application of a methodology in which we would assume that the connection synthetic unit cost should have been subject to assessment against the rules identified. We are currently unable to assess if this is the case as the file provided appears to only reflect the calculations up until After Rule 1.)

As with GD1, the synthetic cost driver for connections accounts for mains and service workloads distinguishing between mains domestic and non-domestic and further distinguishing between below and above 180mm diameter. Ofgem have however looked to aggregate new and existing housing as it is believed the costs are relatively similar and in addition to this FPNES has been included within the synthetic unit cost for the GD2 cost assessment, being a notable change from the GD1.

In the Synthetic Unit costs Update Annex CEPA recommended 'that Ofgem considers alternative cost assessment approaches for connections as a synthetic unit cost approach is unlikely to be appropriate. From an ex-ante perspective, unit cost comparisons may be difficult because the complexity of connections can differ significantly between GDNs. For example, connections that require more than 169 kW peak demand may require additional reinforcement. In addition, a development with multiple connections can spread the fixed costs across multiple units, leading to a lower unit cost relative to a single connection<sup>421</sup>.'

The below table from the Draft Determinations – Synthetic Unit costs Update Annex (CEPA) document identifies that, similar to reinforcement, connection unit costs become more problematic when assessing against criterion 4 and criterion 5.

**Table A.5: Connections synthetic unit costs assessed against framework**

Connections Activity	Criterion 3: Unit cost variability between RIIO-GD1 and RIIO-GD2	Criterion 4: Unit cost variability between GDNs	Criterion 5: Unit cost variability over time	Qualitative Assessment	Overall assessment
All mains less than or equal to 180mm in diameter	Pass	Fail	Partial Pass	Fail	Fail
All services	Pass	Fail	Pass	Fail	Fail

Source: CEPA analysis

We agree with the application of regional factors within the consideration of all connection unit costs.

<sup>421</sup> Draft Determinations – Synthetic Unit Costs Update Annex (CEPA) Section 4.4

## Data inconsistencies

We would also like to identify a number of inconsistencies in the BPDT data, which are discussed further in Annex 2: Data Anomalies Section 5. We believe these require investigation to ensure the accuracy and relevance of the industry average unit costs:

- Within Cadent's BPDT submission it has been identified that a volume of connections within Existing Housing service numbers for unauthorised connections. This is discussed in Appendix 09-27 6.4 Unauthorised connections. We do not believe this to be a workload that other GDNs will have included in their submissions for this cost category and therefore believe this requires a review to ensure consistency of treatment in the unit costs.
- From GD1 to GD2 a number of the GDNs appear to change the percentage of overhead allocation within their unit costs. This may be as result of a change in the utilisation of resources however we are unable to investigate this.
- The treatment of the Design and Quotation costs across the GD1 and GD2 period do not appear to be consistent. These costs were not separately identifiable in GD1 by a number of the GDNs. We therefore believe there is an inconsistency in the calculation of the unit costs.
- All DNs appear to be reflecting an increase in Fuel Poor unit costs in GD2, with the current focus being placed on the average costs of GD1 these cost pressures are not being accurately reflected.

The above inconsistencies should be addressed before the final connections synthetic costs are determined.

(Type 4 – New evidence presented of which suggests there has been an inconsistent movement in the build-up of the connections costs between GD1 and GD2 of which we believe requires investigating to ensure the relevance of the final determined synthetic unit cost.)

Based on the current methodology the synthetic costs have been determined through the aggregation of New and Existing housing<sup>422</sup>. We would have concerns that this may lead to an incorrect assessment of the final allowance as it is unlikely that all GDNs will have a similar weighting across each workload. As identified in the Synthetic Unit Cost Model<sup>423</sup> tab 'ConnectUnitCosts' there is a clear distinction between the calculated unit costs for the Mains per km band <=180mm as detailed below:

	Average GD1	Average GD2
New Housing Mains <=180mm	£65,953	£56,902
Existing Housing Mains <=180mm	£110,597	£98,565

(Type 3 – Disagreement as to how the methodology should be applied. We believe a distinction should continue to be made between New and Existing Housing for the determination of the synthetic unit cost.)

We do however welcome that a distinction continues to be made between <180mm and >180mm mains and services. We are also in agreement with a separate fuel poor unit cost being identified as these cover the full service rather than the first 10 metres in public (DLCA).

Further to this, Ofgem have looked to determine an average industry unit cost based on the historical years of RIIO-GD1, we have however seen growing cost pressures over the later part of RIIO-GD1 which we believe will have been diluted through the use of the earlier years of the current price control therefore we believe consideration should be placed on the forecast data. A potential option would be to assess over the 13 years. We would however once again stress the inconsistencies across GDNs in the allocation of costs must be reviewed to ensure there is no bias within the unit costs determined.

(Type 3 – Disagreement as to how the methodology should be applied. We believe it would be relevant to assess the average industry unit cost over a longer time period to ensure it accurately reflects the growing cost pressures evident within the GDNs.)

<sup>422</sup> Draft Determinations – RIIO-GD2 Step-by-Step Guide to Cost Assessment.

<sup>423</sup> Capex\_Synthetic\_Unit\_Cost\_Model\_Aug20

**GDQ37. What are your views on our proposed capex adjustments?**

**While Ofgem have made appropriate adjustments, within the synthetic unit costs calculation, for the removed southern reinforcement projects, we believe that after consideration of our additional information they will be reinstated.**

The workload adjustments identified against SGN specifically relate to 3 Reinforcement projects within the Southern network. These projects are Brackley, Marden and Wivelsfield Medium Pressure Projects.

We agree that the volumes that have been removed in the [3]SyntheticCosts are relevant to those of the 3 names projects above. We have however put forward arguments as to the appropriate treatment of these projects subsequent to the removal from the capex costs. This is further discussed in section 5.7.3.

It should also be noted that the above three named projects were inclusive of fixed overheads of which, despite the removal of the projects, a corresponding reduction is not seen in the level of the overall business overheads. The overhead associated with these projects was approximately £0.5m. Although in itself it is relatively immaterial the impact is amplified when this is considered alongside all other disallowed activities.

**5.6.4 Non-regression analysis**

As per the treatment adopted in GD1, Ofgem have looked to assess a number of activities outside the regression modelling. We would agree with the continuation of a separate assessment of these costs due to regional variations which make inter-GDN comparisons difficult. However, we have identified a number of errors and concerns, of which must be addressed, in relation to the subsequent assessment as detailed in our response below.

**GDQ38. Do you agree with our assessment of non-regression costs and our proposed adjustments?**

**We agree with the removal of costs where it is believed they are not comparable across the GDNs. We would however identify that there are errors within the data files that must be addressed. We also consider that Ofgem should not apply the 85<sup>th</sup> percentile efficiency score to non-regressed costs, as this would be internally inconsistent (see also response to GDQ27).**

We agree that costs should be removed for the purposes of comparability where they create large variations of costs across different networks and are not represented by the proposed cost drivers.

In line with GD1 the following costs have been removed: MOB's, Streetworks, Repex Diversions, Smart metering, Land Remediation, SIU Opex and Growth governors. Each one is discussed individually below:

**MOBs**

It is identified within the GD Sector document that MOB's volumes and unit costs have been assessed against the RIIO-GD1 historical run rate<sup>424</sup>. The historical run rate appears an appropriate assessment for the MOB costs associated with Repex and Capex, we do however have concerns over the use of the number of multiple occupancy buildings as opposed to number of risers in determination of the final allowances. This is further detailed in section 5.7.2.

It should be noted that within [4]MOBs there is an error within the calculation of the maintenance costs. This can be found on the Tab 'Cal\_MaintenanceMOBs' whereby it appears all GDNs formulas are subject to a multiplier that is relevant to EoE – Inp\_NormCosts\_EoE!AJ\$88 and not the respective cell on the individual DNs 'Inp\_NormCosts' tab. This has been raised in SGN\_DDQ\_Q93, which has been responded to identifying that the use of an adjustment factor is an error. It is intended that the adjustment factor will be removed.

**(Type 1 – Computational errors are present within the [4]MOBs of which must be addressed to ensure an accurate assessment.)**

<sup>424</sup> Draft Determinations – GD Sector Non-regression Analysis Page 109 section 3.112



Further to this we disagree with the assessment and full removal of the < 6 storey buildings riser inspection surveys that were identified within our Business Plan as a PCD<sup>425</sup>.

We had proposed a bespoke PCD covering additional riser inspection surveys (<6 storey buildings) and riser valve inspections and repairs (>6 storeys), however the outputs have been rejected with the text suggesting funding being included in baseline allowances<sup>426</sup>. Upon assessment of the allowances we are unable to identify the allocation of this funding. It is critical that we undertake the survey work in order to have a clear picture of the condition of our assets. For more detail please see the SGNQ2 and Section 4.6.

### Streetworks

As identified in section 3.125 of the 'draft\_determination - gd\_sector' document it states:

"Since networks face varying exposures to chargeable permit and lane rental schemes, we have based our assessment on each network's own average streetworks costs in RIIO-GD1 (between 2016-17 and 2019-20)."

We are not in agreement with this approach due to the following:

- This will not fully address the costs associated with new schemes introduced late in GD1 of which there are 9.
- It would appear Ofgem have included the 2019/20 detail we would have further concerns that any impact is diluted by taking the average over those 4 years.
- The suggested reopener as detailed below clearly negates the opportunity for claims associated with highway authorities that have introduced permit schemes in late GD1.

We are aware Ofgem are looking to address new authorities introducing schemes during GD2 as identified in the table in section 4.79 of the draft determination GD Sector document giving the reopener scope as "Limited to streetworks costs relating to new permit and/or lane rental schemes, or new requirements, that are introduced by highway authorities after the RIIO-GD2 price control is set."

We therefore believe it would be more relevant to include the last year of GD1 in the assessment of streetworks costs.

Ofgem have further identified in section 3.127 of the draft determination GD sector document that they have disallowed all costs relating to penalties as deemed to be within GDNs control and are levied by HAs due to failure by a GDN or its contractors to comply with agreed permit conditions. This appears to be a departure from GD1 whereby an efficient level of penalties were allowed. This is identified in section 4.19 of the RIIO-GD1 final proposals in which it is stated "We recognise the local authorities view that we should not allow the GDNs to recover any costs associated with fixed penalty notices. They consider that GDNs should aim for zero penalties, however we recognise that there is an efficient level of penalties and GDNs would incur disproportionate costs, which would ultimately be passed to the customer, if they were to achieve zero penalties. In line with the IAE re-opener decision we have scaled back the proportion of FPNs to permits for Southern and North London to 3 per cent<sup>427</sup>".

Although we agree there is an element within the GDNs control the risk of incurring these penalties will be factored into our contracting partners rates.

We therefore believe Ofgem should:

- Base their assessment on the last two years of GD1, therefore identifying costs associated with highway authorities introducing new schemes and,
- Be consistent with the GD1 approach in allowing an efficient level of penalties.

(Type 3 – Disagreement as to how the methodology should be applied in which we current believe the period selected to determine the relevant streetworks costs does not considered new permit schemes in the last year of GD1.)

### Repex Diversions

As part of the cost assessment for both rechargeable and non-rechargeable diversions Ofgem have taken the view that the historical GD1 costs of each GDN should represent the starting base for the costs in GD2.

<sup>425</sup> SGN RIIO-GD2 Business Plan Our commitment to customers: delivering a safe and efficient service Page 72 Section 7.5.8

<sup>426</sup> Draft Determinations – SGN annex Bespoke PCDs Page 25

<sup>427</sup> <https://www.ofgem.gov.uk/sites/default/files/docs/2012/07/gd1-cost-efficiency-initial-proposals-270712.pdf>

We welcome the following in their determination of the relevant unit cost:

- the cost assessment has considered both the diameter and the relevant mix within these as this can drive distortion in the overall cost assessment,
- the use of the individual GNs unit costs rather than the industry averages.

However, we disagree with the following:

- The downward cost adjustment, as identified in the SGN Annex<sup>428</sup> being based on the average annual historical unit cost as this does not take into consideration cost pressures coming into play at the end of GD1.

An alternative assessment would either be to assess against the GD2 forecast costs or adopt a 13 year approach to derive the unit costs. This would align to the 13 year review that is currently included in the econometric modelling.

Within the application of the historical average in [4] Diversions there is an inconsistency that has been identified on 'Cal\_UnitCostAdj' for example for 'Replacing: Steel Mains <=2"' the historical average has been used for Southern but not for Scotland.

(Type 2 – Inconsistencies in stated approach whereby it is identified that a historical average is used however this appears to have been overwritten in certain circumstances without any clear justification of this decision.)

### Smart metering

Ofgem reference<sup>429</sup> SGN's use of 2%, 4% and 6%, however the detail contained within the [4]SmartMetering data file provided by Ofgem, and the response to a query raised by SGN in response to the draft determination<sup>430</sup> confirms the use of a different profile to determine SGN's revised allowances. The alternative intervention rates used by Ofgem are identified below (\*):

		2022	2023	2024	2025	2026	
	Interventions used in Ofgem's analysis*	5.00%	5.50%	6.00%	6.00%	6.00%	
	Interventions used in SGN modelling	4.00%	4.00%	4.00%	6.00%	6.00%	
	Financial impact pre efficiencies	2022	2023	2024	2025	2026	Total
Sc	Variance						
	Work Management	0.06	0.09	0.11	0.00	0.00	0.26
	Emergency	0.11	0.17	0.23	0.00	0.00	0.51
	Business Support	0.07	0.10	0.13	0.00	0.00	0.30
	<b>Change in Allowances</b>	<b>0.25</b>	<b>0.36</b>	<b>0.47</b>	<b>0.00</b>	<b>0.00</b>	<b>1.08</b>
So	Variance						
	Work Management	0.13	0.18	0.22	0.00	0.00	0.52
	Emergency	0.28	0.41	0.54	0.00	0.00	1.23
	Business Support	0.16	0.24	0.31	0.00	0.00	0.71
	<b>Change in Allowances</b>	<b>0.57</b>	<b>0.83</b>	<b>1.07</b>	<b>0.00</b>	<b>0.00</b>	<b>2.47</b>

The Ofgem-applied intervention rate<sup>431</sup> requires amendment to reflect the profile used in SGN's original December business plan submission, identified in the above table. This would represent a potential increase of £1m in Scotland's

<sup>428</sup> Draft Determinations – SGN Annex page 50 section 3.36

<sup>429</sup> GD-A, section 3.130

<sup>430</sup> SGN DD Query 44

<sup>431</sup> As applied in [4] SmartMetering Local tab rows 20 and 21

GD2 allowances and £2.5m in Southern GD2 allowances feeding into the modelled costs before the application of the relevant efficiencies.

(Type 1 – Factual or computational errors. The determination of the original intervention rates used in the calculation has been incorrect and has subsequently resulted in the build-up of the final allowance being under awarded.)

We further believe that the 2.5% intervention rate requires changing as this is below both the intervention rates proposed by SGN and the 3% proposed by Cadent as is identified in the (4) SmartMetering data file. This is further discussed in our response to GDQ52.

(Type 3 – Disagreement as to how the methodology should be applied. Both SGN and Cadent have identified the intervention rates to be greater than that which has been proposed.)

We also highlight the consequential Opex impacts of this reduced intervention rate in our response to GDQ35.

### Land remediation

In section 3.135 of the GD Sector document it is identified that ‘forecast land remediation costs are generally in line with historical costs, and large work programs such as SGN’s statutory remediation of non-gasholder sites are supported by external evidence.’ The requested funding has therefore been accepted (pre ongoing efficiencies). We agree with this assessment.

(Type 6 – Broad agreement with position put forward in draft determination)

### SIU Opex

As identified in section 3.137 of the GD Sector document the SIU Opex forecast has been accepted.

It is expected that existing subsidy arrangements for SIU Opex will continue and Ofgem are working with BEIS to obtain the necessary Secretary of State authorisation<sup>432</sup>.

(Type 6 – Broad agreement with position put forward in draft determination)

### Growth Governors

Relating to the installation of new district and service governors associated with network reinforcement. Only 3 DNs proposed costs in GD2 – NGN and SGN (Sc and So). Due to “limited and irregular nature of governor data<sup>433</sup>” it has been removed for separate assessment.

Assessed through the use of unit cost benchmarking, weighted average over GD1 (IP and MP combined). The whole GD1 time period was used to reduce the impact of unit cost volatility between years<sup>434</sup>. IP and MP at an industry level appeared similar so combined to give a larger data set for the unit cost calculations.

Costs for 19/20 and 20/21 were removed for NGN as reported less than 1. Removed costs NW and WM as they were significantly lower than the unit costs for all other GDNs and likely to be representative of smaller governor units.

We agree with the removal the above due to the distorting impact these would have on the unit costs.

We would however like to stress that a combined unit cost of IP and MP is not relevant for the assessment of Growth Governors and that these should each be assessed as a standalone unit cost.

Further to this we identified a number of specific Growth Governor projects in our December BPDT submission of which were individually costed and are significantly higher than the average unit costs seen for normal growth governor projects. We would stress that the current assessment of the unit costs cannot be applied to these projects as the delivery would be unachievable.

We would also like to raise concerns that the assessment of Growth Governors does not consider the different sizes and therefore the potential volatility in the associated costs.

Our concerns around the current assessment of Growth Governors is explained in detail in our supporting document ‘Growth Governors Technical Assessment’.

<sup>432</sup> Draft Determinations – GD Sector Non regression Analysis Page 114 3.318

<sup>433</sup> Draft Determinations – GD Sector Page 110 Growth Governors section 3.119

<sup>434</sup> Draft Determinations – GD Sector Page 110 Growth Governors section 3.120

We would further highlight that included within the Growth Governor cost there will have been a fixed level of overhead that has also been disallowed in this assessment. This has resulted in approximately £0.8m of overheads now stranded as a result of the assessment, these costs require adjusting in the baseline accordingly.

(Type 3 – Disagreement as to how the methodology should be applied. We believe the combination of IP and MP is an incorrect assessment of Growth Governors and will have resulted in an incorrect assessment whereby GDNs have more weighting towards higher pressure governors of which will require a higher level of investment. The allowances will therefore be insufficient in this scenario undermining the ability to achieve the suggested programme of works.)

The above identifies our views on the treatment outside of the modelling. We would however draw attention to GDQ27 in which the subsequent application of efficiencies at the 85th percentile is discussed.

## 5.7 Technically Assessed Costs

**We have identified a number of errors and inconsistencies in the way in which the technically assessed costs have been evaluated in the draft determination. We have provided further information and would like to work with Ofgem to ensure that there is a clear and correct understanding of these projects before final determination.**

**Workload reduction.** Where workloads have been reduced, we are concerned that if these workload reductions remain in place then they will have a potentially significant adverse impact on our ability to comply with our safety case, as approved by the HSE. Ensuring the safety and resilience of our network is crucial and is one of our primary functions as a company, so this development especially troubles us. Areas of particular concern include;

- Disallowed LTS projects
- Disallowed E&I projects
- Disallowed Repex work
- Disallowed uncertainty mechanism – process safety
- Disallowed uncertainty mechanism – external/environmental threats
- No ability to risk trade approved projects with emerging (new) risks with no allowance
- Failure to fund adjustments for updated working practices **Redacted**

**Resubmitted workloads.** Where workloads have been ruled out because the population as whole did not support the 16 year payback introduced by Ofgem in the draft determination we have refocused the assessment on the population that is most at risk of failure to demonstrate the value of completing that work.

**Cost reduction.** There are significant reductions in allowed cost, which make these projects financial unsustainable. We have identified a number of errors and inconsistencies that need to be corrected and areas where submitted information has not been fully assessed. We have submitted clarifications and further evidence and are looking to discuss this with Ofgem to minimise the risk of error or misinterpretation in final determination.

### 5.7.1 Bespoke outputs

**GDQ39. Do you agree with areas selected for technical assessment?**

**Yes, we broadly agree.**

**Redacted**

We broadly agree with the areas selected for bespoke cost assessment these are:

- Bespoke outputs. We agree with bespoke outputs being separated out and technically assessed. We note however that in practice the draft determination included a number of them included in baseline allowances.

- Where these represent a step change in ambition and do not have an appropriate volume driver associated with them then we disagree with this approach. Unless SGN is setting the efficiency frontier it means that the ambition that we put forward in our business plan and supported by our customers will be funded to the level of ambition of the frontier setting company and that customer supported output is no longer deliverable.
- On this basis bespoke outputs that are clearly a step change from GD1 should be separately assessed. We have also raised specific concerns in section 4.6 where bespoke outputs have not been technically assessed. These include Riser isolation valves survey >6 storey'; Riser Risk Inspections Surveys <6 storey buildings' and 'Responsible Demolition'.
- These bespoke outputs have robust, costed and clearly quantified outputs which should be accepted, and recognised for technical assessment. **Large repex projects:** We agree with the six large repex projects – IP service reconfigurations, **Redacted** Accelerated Tier 1 mains, Pro-active steel replacement, and Tier 1 Iron stubs – being selected for technical assessment. These are discussed in detail in section 4.6. We support these not being part of the top-down regression because of the bespoke nature of these programmes of work. These are not activities that we have undertaken in any previous price control and therefore have no reliable benchmark.
- **Large capex projects:** We agree with the areas that have been selected for technical assessment. However, we have some specific objections to Ofgem's/their consultants' initial decisions on the technical assessments. In [Section 5.7.3](#), we discuss our responses to these by clarifying Ofgem's/consultants' misunderstanding of the evidence submitted and/or provide new evidence in response to their comments.
- **Information Technology and Telecoms:** We agree with including this area in technical assessments. However, we note that some of the EJPs that we submitted were not reviewed in the technical assessment. It is important to confirm that this has now been rectified.
- **Physical security upgrade programme (PSUP) and Gas holder demolition:** We agree with including this area in technical assessments. Please note that the draft determination had a confusion in our treatment of gas holders, which we clarified in section 4.4.4.

Type 6 – Broad agreement with position put forward in draft determination

#### GDQ40. Do you agree with our proposed approach?

**No, we have identified a number of errors, inconsistencies and misunderstandings which we address below and in supporting documentation.**

Please see our detailed comments on the DD's proposed approach in the next sections:

- Repex projects [Section 5.7.2](#): We have identified and are resubmitting new workload proposals that reflect a cohort of high failure pipes rather than the full population of pipes.
- Capex projects [Section 5.7.3](#): We respond to the points raised by Ofgem/their consultants (QEM) in the technical assessment. We also discuss the evidence on some of the projects in greater detail in Technical Assessments referenced in [Section 5.7.3](#).
- IT and Telecoms [Section 5.7.4](#): We submit supporting information to give greater granularity of projects, resourcing and project plans.
- Gas holder demolition [section 5.7.5](#): We make specific points on the gasholder cost assessment process.
- PSUP [section 5.7.6](#): We do not have further comments in this section.

### 5.7.2 Repex projects

**We disagree with the significant reduction DD proposes on repex workload. It directly contradicts the strong support our customers gave for an increase in workload in order to mitigate (1) the environmental impact of leakage, (2) the social disruption of repeated repairs, and (3) the risk of higher prices in GD3 as we approach the HSE deadline.**

Our arguments are separated by workload categories below.

## Tier 1

**Dynamic growth needs to be reinstated to deliver HSE targets. Accelerated programmes are strongly supported by our customers and we support their reintroduction, if not associated operating costs need to be included.**

Our Tier 1 proposal for both Southern and Scotland has been partially rejected, with dynamic growth being completely disallowed as well as our proposal for an accelerated workload for Tier 1. This leaves a baseline workload for Tier 1 including capitalised replacement and diversions of 607km per year in Southern and 208km per year in Scotland.

Reflecting on some of the comments in the supporting material, we are concerned that the decision to remove both dynamic growth and accelerated workload for Tier 1, together with the associated service activities, was based on a principled position to minimise short-term expenditure<sup>435</sup> rather than a more robust assessment of customer stated priorities and the most strategic approach to delivering the longer term HSE policy to decommission iron mains. As such we believe that the policy put forward in the draft determination will undermine our ability to deliver the HSE target and risks increasing costs substantially in GD3.

**Type 2 - Inconsistencies in stated approach or in the application of a methodology – There is an inconsistency in stated approach between HSE target and Ofgem approach particularly around the inclusion of dynamic growth.**

Dynamic growth is described in the business plan<sup>436</sup> as an important factor for driving workloads in Tier 2a. It is not discussed for Tier 1, except to add clarity to the calculations in the EJP as the workload. This is because it is a clear part of the HSE target, and as such we do not believe that there is any optionality surrounding whether it should be included or not.

By removing dynamic growth from the workload in GD2 we are going to be increasing the repex Tier 1 workload in GD3 by at least 64km in Southern and 33km in Scotland in order to meet the HSE target in 2032. This will be in addition to the workload that is required to be recovered following the delays to the programme in 2020 associated with COVID-19.

In the draft determination two reasons were given for removing dynamic growth and our proposed accelerated repex programme: “the current uncertainty around the future of the gas network”, and “that funding additional workloads above the minimum level could put additional pressure on the labour market”<sup>437</sup>. These reasons are in direct contrast to the reasons why our stakeholders encouraged us to accelerate the workload in GD2 as they expressed concerns about delaying work into GD3 and being potentially exposed to higher contract cost pressures as a result. They also recognised and valued the improved safety outcomes and environmental outcomes associated with reduced leakage<sup>438</sup>.

We are therefore disappointed that Ofgem has chosen not to listen to this customer and stakeholder evidence.

Regarding specific concerns that this could increase contractor pressure specifically, we argue the case that this is a false economy. These constraints will become exacerbated in GD3 as we run towards the end of the mandatory programme and the return on training high skilled gas engineers is reduced. This will increase the constraints on available resources further and increase prices to the end consumer.

By reducing the workload in GD2, combined with the impacts of COVID-19, we estimate that we will have to increase our workload from 815 km/yr currently allowed under the draft determination to 913 km/yr in GD3 putting significantly increased pressure on the contractor market in the next regulatory period. By allowing dynamic growth in GD2, which we consider to be a minimum level, we would increase our workload in GD2 to 834km/yr and limit the uplift in GD3 to deliver 897km/yr addressing the GD1 COVID-19 related shortfall. Whilst this may be possible but very challenging in Scotland, we believe this step up in Southern would be undeliverable and thus failing to achieve the HSE target date by March 2032.

Economically it is not rational to alleviate a constraint today to exacerbate one in GD3, unless Ofgem has a specific strategy to alleviate that constraint. The business plan we submitted was developed within that longer-term context. The

<sup>435</sup> GD2 Engineering Justification Paper Reviews, QEM-1910-RPT-002, pg 51 “Note some networks don't add in dynamic growth. Therefore if OFGEM wanted to keep the spend to a minimum then the volume could be adjusted to remove acceleration and dynamic growth and perhaps even further if we assume that there will be some mains replaced for diversions in GD2. However by reducing the volumes down this would be deferring spend into GD3 as these pipes are mandatory. The network has stretched its proposed replacement volumes to the limit but that is not necessarily bad for the customer in terms of safety.”

<sup>436</sup> Appendix 019 – SGN -Repex – Dec 19, pg 54

<sup>437</sup> RIIO-2 Draft Determinations – SGN – July 2020 – para 3.21, pg 41

<sup>438</sup> MFT Workshop January 2019 London (ref 016), MFT Workshop February 2019 Glasgow (ref 017), Stage 1: Explorative Qualitative Workshops and interviews (Explorative Phase) (ref 002), Stage 2: Max Diff Prioritisation Phase Report (ref 003), Stage 3: Conjoint & WtP Summary report (Valuation Phase) (ref 005), Shaping the Business Plan Qualitative workshops - Environmental Action Plan (ref 084), Shared Net Zero Future round table event - Scotland (ref 090) MFT Workshop January 2019 London and Glasgow (Ref 016, 017); Stage 1: Explorative Qualitative Workshops and interviews (Explorative Phase) (Ref 002); Stage 2: Max Diff Prioritisation Phase Report (Ref 003); Stage 3: Conjoint and WtP Summary report (Valuation Phase) (Ref 005); SGN Sustainability Roundtable – London and Glasgow (Ref 065,066); Share Net Zero Future round table event – Scotland (Ref 090)



HSE have supported the dynamic growth workload in GD1 and supported this approach going into GD2. In GD1 the risk action threshold was agreed with the HSE and they agreed any Tier 1 pipes which exceed this threshold will be treated as if they are mandatory, to be decommissioned within the price control period. We have had discussions with the HSE and we have made it clear we fully support the continuation of the 20%/80% split with additional dynamic growth as we believe it maintains consistency.

**Type 2 - Inconsistencies in stated approach or in the application of a methodology – There is an economic inconsistency in alleviating a constraint in the short-term when it will become more challenging to alleviate in the future and cost customers more.**

The draft determination document also expressed concerns about the current uncertainty around the future of the gas network, we fully acknowledge this uncertainty and have integrated it into our plans. It is only if you have a full regional switch over to electricity that this workload will not need to be undertaken. Whilst there are customers on gas we need to keep gas in the network, and all consumers safe, including those who have a live but unused gas service. We consider it very unlikely that a forced switch-over will be socially acceptable in the foreseeable future.

For these two reasons, and the continued support of our customers and stakeholders, we still support the workloads submitted within our business plan including all disallowed Tier1 mains and associated service activities as the most appropriate approach. Should Ofgem not progress with the accelerated repex, we would consider the inclusion of dynamic growth as a minimum requirement to avoid compounding the delivery challenge that we will face in GD3.

**Type 3: Difference in opinion in terms of the methodology that should be applied. We continue to support the strategy submitted in the business plan of higher workloads in GD2 to reduce environmental impacts, improve safety and mitigate contractor risk to the end of the price control, subject to allowances covering the cost of delivery.**

We accept that it is within the regulators' discretion the extent to which they look to balance savings to the current consumer over cost increase to consumers in the future.

Should the final determination maintain a lower workload than was originally envisage in the business plan then it is important that there is a corresponding adjustment to the operating costs to account for the higher cost of repair and maintenance. **We estimate that by not completing the workload in GD2 will increase operating costs by £2.1m in Southern and £0.8m in Scotland over the GD2 period.** The higher cost of repair will be a result of not having the funding to replace; as a pipe continues to deteriorate and continues to see multiple failures and there will be a repair cost associated with that pipe in order to keep the pipe safe and comply with PSR and GSMR 12hr standard. Repair costs can amount to much greater cost than replacement as it is a cost that will recur each time the pipe has a failure, which as the pipe deteriorates will happen with increasing frequency.

**Type 1 – Factual or computational error: Need to add back the increased operating costs associated arising from the reduction in replacement work and increased repair work**

Tier 1 Resubmission Summary (additional to that set out in the draft determination)

Scotland (GD2)		Southern (GD2)	
Tier 1		Tier 1	
Length to be reinstated (km) – Accelerated	75	Length to be reinstated (km) - Accelerated	125
Length to be reinstated (km) – DG	33	Length to be reinstated (km) - DG	64
Associated Services (# of)	8,427	Associated Services (# of)	16,797
Updated payback (yrs)	N/A	Updated payback (yrs)	N/A
Capital Expenditure (£m)	22.9	Capital expenditure (£m)	38.2
Operating costs (£m)	0.8	Operating costs (£m)	2.1
Supporting evidence	SGN Repex – 001 Tier1So – CBA Dec19 SGN Repex – 002 Tier1Sc – CBA Mar20 Tier 1 Dynamic Growth Technical Assessment		

## TIER 2B

**We will have to complete Tier2b work during RIIO-GD2, we have therefore restated the CBAs to identify the workload that will need to be undertaken that has less than a 16 year payback.**



Across Scotland and Southern we have a population of 2,263km Tier2b mains, of these we had to intervene on 270km and of these interventions approximately 10% were replaced following an assessment by our condition review group (CRG), the remaining 90% were repaired and replacement deferred until efficient to do so. This is in line with our statutory duties to ensure that our assets are in efficient working order and in good repair<sup>439</sup>.

In our business plan we proposed 62km<sup>440</sup> Tier2b Mains and 6,292<sup>441</sup> associated services. At a cost of £28.95m<sup>442</sup> for mains and £4.2m<sup>443</sup> for associated services over five years. These have been disallowed in the draft determination due to the CBA not achieving a payback before 2037. We disagree with this approach.

Work will be required on these pipes during GD2 when their condition deteriorates to a point at which network integrity can no longer be maintained. This factor is not taken into consideration in the draft determination because the CBA assesses the population rather than the individual projects. When the individual project is considered by our Condition Review Group they are replaced if they meet the necessary criteria and it is found that they are no longer appropriate for economical repair.

It is our view that the CBA we presented was too broad to enable the accurate reflection of the workload that we know will need to be undertaken in GD2. In line with guidance, CBAs that were submitted in December covered the whole asset population for a programme of works or asset health improvement<sup>444</sup>. In line with the guidance<sup>445</sup> we assessed the compatibility of this with net zero, the trade-off between existing and future consumers, and discussed it with our CEG<sup>446</sup>. As set out in our business plan we considered that an investment with a 25-year CBA would have approximately 1-3% value at risk associated with different decarbonisation pathways<sup>447</sup>.

**Type 3: Difference in opinion in terms of the methodology that should be applied. We have presented evidence that a 25-year payback has limited risk of asset stranding associated with it [section 4.4]. Whilst we reserve our position on this, we have represented an updated population with less than a 16 year payback.**

We disagree with the use of a 16-year payback as discussed in Section 4.4. as we do not think that it will support necessary investment. However, we recognise that Ofgem has based its draft determination on a 16 year CBA and have therefore moved our assessment to reflect an appropriate population. As a result, we have focused on a smaller cohort of pipes with the highest failure rates and resubmitted on this basis

Our December submission was based on our CRG Tier 2B run rate over GD1 and our view of an efficient programme of replacement as part of T1 projects. Whilst we believe this is the most efficient run rate for this workload type we have presented an alternative view of the run rate aligning with our CRG projects. We added a further 10% to our run rate in our December submission as seen by the column 'Additional T2 CBA supported projects' to allow for the degradation of the network over the five years of GD2. See table 1 below for this breakdown.

**Table xxx: December submission vs Resubmission (km)**

Network	December 2019 Submission				Draft Determination Resubmission			
	Based on CRG T2 approvals	Additional T2 CBA supported projects	T2 Associated with T1 Projects (run rate)	December Submission Total	Based on CRG T2 approvals	Additional T2 CBA supported projects	T2 Associated with T1 Projects (run rate)	DD Response Total
Scotland	8	7	9	24	8	0	0	8
Southern	9	8	21	38	9	0	0	9

<sup>439</sup> Pipeline Safety Regulations 1996, regulation 13

<sup>440</sup>

Appendix 019 – SGN – Repex – Dec 19, pg 57/ SGN Repex – 003-Tier2bSo-CBA & SGN Repex – 004-Tier2bSc-CBA, Tab SGN Calcs and Sensitivities cell R16

<sup>441</sup> SGN Repex – 003-Tier2bSo-CBA & SGN Repex – 004-Tier2bSc-CBA, Tab SGN Calcs and Sensitivities cell R21

<sup>442</sup> SGN Repex – 003-Tier2bSo-CBA & SGN Repex – 004-Tier2bSc-CBA, Tab SGN Calcs and Sensitivities cell R18

<sup>443</sup> SGN Repex – 003-Tier2bSo-CBA & SGN Repex – 004-Tier2bSc-CBA, Tab SGN Calcs and Sensitivities cell R23

<sup>444</sup> CBA and EJP Workshop – RIIO GD2 Price Control, 6<sup>th</sup> Sept 2020, slide 7 and RIIO-GD2 Investment Pack Guidance 20<sup>th</sup> Sept 2019 pg 7 “We expect GDNs to submit CBAs for each asset type at the secondary asset level, with the exception of iron mains, where companies should submit CBAs for each asset type identified at the tertiary asset level.”

<sup>445</sup> RIIO-GD2 Investment Pack Guidance 20<sup>th</sup> Sept 2019 pg 19

<sup>446</sup> CEG minutes, Meeting 15<sup>th</sup> Aug 2019

<sup>447</sup> SGN Business plan, Dec 2019, section 15.6.2, pg 148

The table below provides analysis of predicted failure rates of our Scotland and Southern Tier 2B population. Through selecting the failure rate of the point of our run rate length and dividing this by the average, it provides a factor for accentuated failure. This factor demonstrates that the pipes in this run rate cohort, for example, pipes in the run rate 8km cohort for Scotland, are more than three times more likely to fail than the average failure rate (0.73) for the entire population. Pipes in the run rate 9km cohort for Southern are more than four times more likely to fail than the average failure rate (0.63) for the entire population.

**Table xxx: Scotland and Southern Tier 2 failure rates**

Scotland		Southern	
Tier 2		Tier 2	
Smallest individual asset failure Rate	0.04	Smallest individual asset failure Rate	0.04
Largest individual asset failure Rate	2.89	Largest individual asset failure Rate	2.88
Overall failure rate average	0.73	Overall failure rate average	0.63
Average failure rate of 8km cohort	2.56	Average failure rate of 9km cohort	2.62
Accentuated Failure Factor	3.51	Accentuated Failure Factor	4.16

As a result of the lower workload there will be an associated increase in operational costs arising from the continued deterioration of those pipes. Thus the consequence of reducing workload as predicted in the NARMs model is an increase in mains failures leading to increased emergency calls and associated mains repairs. Increased risk includes the higher potential for a gas incident as defined in our business plan appendix<sup>448</sup>. **We estimate that this will increase operating costs by £3.7m in Southern and £1.8m in Scotland over the GD2 period.**

**Type 1 – Factual or computational error: Need to add back the increased operating costs associated arising from the reduction in replacement work and increased repair work.**

Tier 2b Resubmission Summary (additional to that set out in the draft determination)

Scotland (GD2)		Southern (GD2)	
Tier 2		Tier 2	
Revised Length (km)	8	Revised Length (km)	9
Associated Services (# of)	210	Associated Services (# of)	329
Updated payback (yrs)	5	Updated payback (yrs)	5
Capital Expenditure (£m)	3.06	Capital expenditure (£m)	5.03
Operating costs (£m)	1.8	Operating costs (£m)	3.7
Supporting evidence	SGN Repex – 003 Tier2bSo – CBA Sept20 SGN Repex – 004 Tier2bSc – CBA Sept20 Tier 2b Technical Assessment Repex CBA Methodology document		

### TIER 3

**As with Tier2, we know we will have to complete Tier 3 workload during RIIO-GD2. Allowance was made for Southern whilst it was ruled out for Scotland due to a payback over 16 years. We have restated the CBAs to reflect an updated workload with less than a 16 year payback.**

Across Scotland and Southern we have a population of 221km Tier 3 mains, of these we had to intervene on 21.8km and of these interventions approximately 22% were replaced or refurbished using CISBOT following an assessment by our

<sup>448</sup> Appendix 019 – SGN- Repex – Dec 19 Mains Risk prioritisation system page 8

condition review group (CRG). The remaining 78% were repaired and intervention deferred until efficient to do so. This is in line with our statutory duties to ensure that our assets are in efficient working order and in good repair<sup>449</sup>.

In our business plan for Scotland we proposed 8.6Km<sup>450</sup> Tier 3 and 62 of associated services<sup>451</sup>, at a cost of £6.52m<sup>452</sup> for mains and £0.05m for associated services<sup>453</sup>. These have been disallowed in the draft determination due to the CBA not achieving a payback before 2037, whilst they were allowed in Southern.

This is a similar issue to Tier2 where although we considered the 25 year CBA provided a low value at risk associated with decarbonisation to our customers, it did not reflect a 16 year CBA proposed by Ofgem in the draft determination. As a result we have now restated our CBA to focus on the population of pipes that is a more advance state of deterioration.

**Type 3: Difference in opinion in terms of the methodology that should be applied. We have presented evidence that a 25 year payback has limited risk of asset stranding associated with it [section 4.4]. Whilst we reserve our position on this, we have represented an updated population with less than a 16 year payback.**

The table below provides details of pipe population which have been replaced or deferred in RIIO-GD1.

**Table 1: Deferral and interventions in tier 3 pipes in Scotland in GD1**

Scotland			
T3			
RIIO-GD1	Population (km)	Length Decommissioned (km)	Average of PON length per year with recorded repair activity
Annual Average	220.7	4.7	17.1
Total Average Intervention		21.8	
% of interventions Replaced		22%	
% of interventions Deferred		78%	

As with Tier 2 we accept Ofgem's decision to revert back to the 16 year CBA but also recognise that the CBA analysis we completed should be revised. As a result, we have focused on the population of pipes with the highest failure rates and will be resubmitting a revised CBA on this basis.

Our December submission was based on our CRG Tier 3 run rate over GD1 and our view of an efficient programme of replacement as part of T1 projects. Whilst we believe this is the most efficient run rate of this workload type we have presented an alternative view of the run rate aligning with our CRG projects. See table 2 below for this breakdown.

**Table xx December submission vs Resubmission (km)**

Network	December 2019 Submission			Draft Determination Resubmission		
	Based on CRG T3 approvals	T3 Associated with T1 Projects (run rate)	December Submission Total	Based on CRG T3approvals	T3 Associated with T1 Projects (run rate)	DD Response Total
Scotland	5.0	3.6	8.6	5.0	0	5.0

The table below provides analysis of predicted failure rates of our Scotland Tier 3 population. Through selecting the failure rate of the point of our run rate length and dividing this by the average, it provides a factor for accentuated failure.

<sup>449</sup> Pipeline Safety Regulations 1996, regulation 13

<sup>450</sup> Tables 9 and 10 Appendix 19 – SGN- Repex-Dec 19 pages 41&42

<sup>451</sup> Table 50 Appendix 19 – SGN- Repex-Dec 19 page 89

<sup>452</sup> SGN Repex – 006Tier 3Sc- CBA- Dec19 Tab SGN calc &Sensitivities cell R18

<sup>453</sup> SGN Repex – 006Tier 3Sc- CBA- Dec19 Tab SGN calc &Sensitivities cell R23

This factor demonstrates that the pipes in this run rate cohort, for example, pipes in the run rate 5km cohort for Scotland are twice as likely to fail than the average failure rate (0.70) for the entire population.

Table xxx: Scotland Tier 3 failure rates

Scotland	
Tier 3	
Smallest individual asset failure Rate	0.04
Largest individual asset failure Rate	2.88
Overall failure rate average	0.70
Average failure rate of 5km cohort	2.19
Accentuated Failure Factor	3.13

Should draft determination conclusion remain in place and no workload is allowed for in GD2 then this will increase operating costs by estimated £2.1m in Scotland.

**Type 1 – Factual or computational error: Need to add back the increased operating costs associated arising from the reduction in replacement work and increased repair work**

Tier 2b Resubmission Summary (additional to that set out in the draft determination)

Scotland (GD2)	
Tier 3	
Revised Length (km)	5
Associated Services (# of)	36
Capital Expenditure (£m)	3.82
Operating costs (£m)	2.1
Updated payback (yrs)	6
NPV (£m)	27.5
Supporting evidence:	SGN Repex – 006 Tier 3Sc – CBA Sept20 Tier 3 Technical Assessment Repex CBA Methodology document

## Steel Mains >2"

**Replacing >2" steel was strongly supported by our customers given the level of disruption returning repeatedly to repair corroded pipe and the high environmental emission factor. We address the three points raised in the DD of 'needs case', 'CBA benefits' and 'deferral'.**

Across Scotland and Southern we have a population of 2,432km >2" steel mains, of these we had to intervene on 238km and of these interventions approximately 5% were replaced following an assessment by our condition review group (CRG), the remaining 95% were repaired. This is line with our statutory duties ensure that our assets are in efficient working order and in good repair.

In the December business plan we proposed 148.6Km<sup>454</sup> >2" Steel Mains and 1,479 of associated services in southern at a cost of £27.06m (excl. atypical). In Scotland we proposed 64Km >2" Steel Mains and 582 of associated services, at a cost of £4.98m<sup>455</sup>. This has been disallowed entirely in the draft determination on the basis that the needs case had not been adequately justified, the CBAs did not sufficiently consider deferring investment and limited explanation of how the different workloads would contribute to the benefits presented in the CBAs.

<sup>454</sup> Dec Submission BPDT So – Tab 4.04

<sup>455</sup> All figures taken from December submission BPDT So/Sc

As with Tier2 and Tier3, the breadth of the CBA was too broad to enable the accurate reflection of the workload that we know will need to be undertaken in GD2, despite being in line with guidance<sup>456</sup>.

As a result, we have moved away from using the whole population of >2" Steel, based on average failure rates, and have solely concentrated on those pipes that have the highest failure rates. We have used our modelled predictive analytics failure rates and the work done by AESL to support our CBA and our safety driven approach. We have submitted an updated CBA with a new workload of 110km in Southern that passes the CBA at nine years and 45km in Scotland that passes the CBA at six years.

This updated CBA is in line with our analysis of projects looked at on a case by case basis as individual safety cases. Ofgem has set out its assessment and reasons for not allowing any workloads with associated with >2" steel<sup>457</sup>:

- that the needs case had not been sufficiently justified given the significant increase in workloads,
- that the CBAs did not give sufficient consideration to the option of deferring investment or presented detailed sensitivities on the assumption underpinning the needs case.
- Insufficient clarity on how the different elements of the proposed workloads contribute to the aggregate-level benefits presented in the CBAs

We address each of these points below.

#### Insufficient justification of the needs case

This is disappointing as the >2" steel was strongly supported by our customers<sup>458</sup> due to the high levels of leakage from steel pipes compared to tier 1 iron mains (237tCO<sub>2</sub>e/km compared with 90tCO<sub>2</sub>e/km) and the high customer impact of repeatedly returning to repair steel mains.

Recognising the increased rate of repair on steel mains the networks commissioned a collaborative piece of work to understand in more detail the rate of deterioration and customer impacts<sup>459</sup>. These reports concluded that across the networks an increased rate of failure was being experienced year on year as the rate of replacement currently being undertaken on a reactive basis is less than the rate of deterioration<sup>460</sup>. These conclusions were strongly supported by the HSE.

We note that Ofgem's current position is that the needs case has not been sufficiently justified given the increase in workloads. We consider the evidence compelling and we would welcome an opportunity to present this evidence in more detail, on either a bilateral basis or as part of a working group.

**Type 5 - Evidence that SGN has provided but hasn't been taken into account or given sufficient weight: We are surprised that Ofgem do not recognise the needs case given the very strong customer support that has been documented throughout the plan. If there is any uncertainty, we will work through this in detail with Ofgem and our CEG.**

#### Composition of the CBA benefits.

Given the feedback in the draft determination and the 16 year payback requirement we have reassessed the >2" steel programme, increasing the focus on the cohort of pipes that is presenting the greatest challenge from an emergency, repair and customer disruption perspective, and providing a detailed breakdown of each of the components.

**Type 4: New evidence that is being presented to support a point: Given new guidance that Ofgem consider 16 years to be an appropriate length for CBA we have re-presented a population that has a payback within that period.**

#### Sufficient consideration to the option of deferring investment

The table below shows the replacement and the deferral options applied in GD1. These demonstrate that as projects progress through our Condition Review Group we fully evaluate each of the options and in the majority of cases we chose a deferral on the basis that it does not pass the CBA with a payback within the required period.

<sup>456</sup> CBA and EJP Workshop – RIIO GD2 Price Control, 6<sup>th</sup> Sept 2020, slide 7 and RIIO-GD2 Investment Pack Guidance 20<sup>th</sup> Sept 2019 pg 7 "We expect GDNs to submit CBAs for each asset type at the secondary asset level, with the exception of iron mains, where companies should submit CBAs for each asset type identified at the tertiary asset level."

<sup>457</sup> RIIO-2 Draft Determinations – SGN – July 2020 – para 3.25, pg 43

<sup>458</sup> Business Plan Acceptability Testing Phase 1 and 2 (ref 078, 079)

<sup>459</sup> Two reports were submitted as supplementary evidence: App019 - SGN – SuppInfo- AESL Steel report RP6809 and App019 - SGN – SuppInfo- AESL Steel report

<sup>460</sup> Appendix 019 – SGN- Repex – Dec 19, >2" steel, pg 57

## Deferral and decommissioning lengths.

RIIO-GD1	Southern	Scotland	SGN total
Annual Average	3127.6	1303.5	4431.1
Average Length Decommissioned (km/yr)	9.4	4.6	14
Average PON length per year with recorded repair activity	202.1	22.0	224.1
Total Average Intervention	211.6	26.5	238.1
% of interventions Replaced	4%	17%	5%
% of interventions Deferred	96%	83%	95%

Our CBA assessed the options of deferral concluding that it does not pass, as having no intervention means the pipes will continue to deteriorate. This is not a good investment option as it adds unnecessary pressure to deliver these deteriorating mains in GD3.

We have conducted a 25% sensitivities analysis of our CBAs which has stress tested the benefits against our planned expenditure. The result of this is that even with a reduction in benefits the CBA still passes within the predefined payment window of 15 years.

Type 4: New evidence that is being presented to support a point: Demonstration of appropriate consideration of deferral options within the CBA and historical investment practice.

**GD2 Period (km)**

Network	December 2019 Submission				Draft Determination Resubmission			
	Based on CRG >2" approvals	Additional >2" CBA supported projects	>2" Associated with T1 Projects (run rate)	December Submission Total	Based on CRG >2" approvals	Additional >2" CBA supported projects	>2" Associated with T1 Projects (run rate)	DD Response Total
Scotland	64	0	0	64	45	0	0	45
Southern	149.2	0	0	149.2	110	0	0	110

As a result of the lower workload there will be an associated increase in operational costs of arising from the continued deterioration of those pipes. Should the draft determination's conclusion remain in place and no workload is allowed for in GD2 then this will increase **operating costs by estimated £3.5m in Southern and £1.1m in Scotland.**

Type 1 – Factual or computational error: Need to add back the increased operating costs associated arising from the reduction in replacement work and increased repair work

**Steel mains greater than 2" Resubmission Summary (additional to that set out in the draft determination)**

Scotland >2" Steel		Southern >2" Steel	
Revised Length (km)	45	Revised Length (km)	110
Associated Services (# of)	1,679	Associated Services (# of)	4,021
Capital Expenditure (£m)	5.39	Capital expenditure (£m)	28.76
Operating costs (£m)	1.1	Operating costs (£m)	3.5
Updated payback (yrs)	6	Updated payback (yrs)	9
NPV (£m)	73.58	NPV (£m)	158.04

**Supporting evidence**

**SGN Repex – 007 SteelSo – CBA Sept20**  
**SGN Repex – 008 SteelSc – CBA Sept20**  
**Steel mains above 2 inch Technical Assessment**  
**Repex CBA Methodology document**

**Other policy and Condition**

**Other policy and condition mains are a mix of other non-iron pipes. Work will be required in GD2 as we come across these pipes. Deferring them and leaving to future customers is not option that we consider to be in customer interests.**

Our business plan proposed 61.9Km<sup>461</sup> Other Policy and Condition Mains and 1,205 associated services<sup>462</sup>, at a cost of £3.77m<sup>463</sup> for mains and £0.81m<sup>464</sup> for associated services across the five year period. Of this, the workload in Scotland was allowed but the workload in Southern was disallowed on the basis that it was not supported by the CBA<sup>465</sup>.

Other mains are characteristically small in volume and are made up from a number of non-compliant materials, for example PVC and Asbestos. Furthermore, they are often embedded within a Tier 1 project where it is cost effective to replace these pipes as part of the overall project. We believe this is the right thing to do as it minimises disruption and is more efficient, in addition to avoiding stranding short lengths of non-compliant materials in an otherwise polyethylene network.

HSE expects us to “systematically analyse the outputs from our activities in order to pinpoint any pipe failure ‘hotspots’ where pipes are found not to comply with Regulation 13 of Pipeline Safety Regulations and take suitable and sufficient action to remedy this, including decommissioning where the pipe is judged to have deteriorated beyond safe or effective repair”<sup>466</sup>

We do not understand conceptually why Ofgem has rejected funding for this cohort of pipes. We feel it would have provided a long-term benefit to our customers and a cost-effective programme when connections are needed to be made to alternative material pipes that form part of a Tier 1 project.

*Comparison of workload from GD1 into the Dec 19 Business plan*

Network	GD1 Mains	GD1 Services	GD1 Total	GD1 Av. PA	GD1 5 yr equivalent	GD2 Dec BP
Scotland (approved)	2.9	0.3	3.2	0.4	2.0	0.9
Southern (rejected)	8.0	0.7	8.7	1.1	5.5	3.7

**Risers**

**We agree with the workload numbers but the unit of measure needs to be set as number of risers rather than the number of buildings otherwise this would generate a significant shortfall.**

Whilst we broadly agree with the workloads given in the draft determination, we disagree with the way ‘workload’ is defined, as the number of buildings rather than the number of risers. Clearly a building can have more than one riser and the cost is directly dependent on the number of risers.

For example, in Scotland the workload we proposed was 820 risers. The DD sets this out as 624 MOB (stating that our original proposal was 626). This means that if we replace 16 risers in 1 building, we would be recording this as 1 MOB rather than as 16 risers. In Southern the workload proposed was 4,125 risers and the DD sets this out as 3,438 MOB (stating that our original proposal was 3,441).

While the number of buildings is in line with our forecast as set out in the BPDT, it is the number of risers within a building that drives the total cost. The implication of this change would be that if our programme identifies that the highest risk risers requiring replacement are in all or most cases in buildings where there are multiple risers that we replace at the

<sup>461</sup> RIIO-GD2 BPDT Southern and RIIO-GD2 BPDT Scotland Tab 4.04 cells AV192:AZ192

<sup>462</sup> RIIO-GD2 BPDT Southern and RIIO-GD2 BPDT Scotland Tab 4.07 cells AV120:AX120

<sup>463</sup> RIIO-GD2 BPDT Southern and RIIO-GD2 BPDT Scotland Tab 4.04 cells R73:V73

<sup>464</sup> RIIO-GD2 BPDT Southern and RIIO-GD2 BPDT Scotland Tab 4.07 cells R120:V120

<sup>465</sup> RIIO-2 Draft Determinations – SGN – July 2020 – para 3.27, pg 44

<sup>466</sup> <https://www.hse.gov.uk/gas/supply/mainsreplacement/enforcement-policy-2013-2021.htm> Condition Monitoring



same time, this would only be accounted for as 1 building. We could also replace a single riser in a building, and this would still be accounted for as 1 building. This would not be a true reflection of the work completed and the costs involved for multiple riser replacement.

### 5.7.3 Capex projects

**We have specific concerns regarding the technical assessment of capex projects that appear to be unduly disallowed or accepted only with reduced funding / with UMs. We respond to each of Ofgem's/QEM's concerns in this section.**

These capex projects are of a bespoke nature in their design and construction, as well as being relatively infrequent. This means it would be inappropriate to apply the same benchmarking techniques to these capex projects that may be applicable, for instance, to an activity covered by the repex programme.

Although we had submitted detailed Engineering Justification Papers (often disaggregated at the project-level) with our business plan, it seems that there has been a level of misunderstanding in their evaluation for the draft determination. We recognise the potential for confusion given the complexity of these projects; and following up on our discussions during the bilaterals in August 2020<sup>467</sup>, we submit further evidence to clarify the distinction between different types of projects and sites they cover (where Ofgem mistook some projects as duplicates), as well as the costs involved.

This section evaluates, on a project-by-project basis, the technical assessments presented in:

- Technically assessed LTS, storage and entry point projects (DD SGN Annex Table 48)
- Disallowed projects (DD SGN Annex Table 49)
- Overlooked projects (that were assessed positively by QEM in the technical assessment, but do not appear to have been funded in the DD)
- Reinforcement projects (that were disallowed, but we think should be included in the regression).

In addition to the projects themselves, there are policy related issues that need to be considered in terms of how the projects are treated and whether they are included in the 'A1' or the 'A3' NARMs pots. There appears to be a level of confusion within Ofgem teams on the 6th Aug 2020 NARMs workshop expressing surprise that capital projects were not classified under the A1 pot as with other GDNs.

If they are included in the A3 NARM pot then Ofgem needs to recognise our increased risk exposure relative to other GDNs that have more of their investment in the A1 NARM pot. This is because;

- If they are included in A3, then there is no opportunity to trade between assets when different issues arise. Whilst other networks with more assets classified under A1 have more opportunity to react to emerging issues. This increases the risk exposure to SGN relative to other networks [Section 4.4.5].
- Projects covered by the PCD under the licence proposed in the draft determination leave the network with 100% delivery risk for any delay past the end of GD2 and 100% variance risk should the project deviate from the original EJP. If either of these materialise then 100% of allowances are returned to customers

As we drafted our plan we recognised the risk of declaring a significant number of PCDs, but also recognised the value of increased transparency to our customers and to Ofgem. To manage this we proposed a use-it or lose-it mechanism to cover these unknown and unforecastable experiences, balancing risk between ourselves and our customers appropriately. This has been rejected in the draft determination and needs to be reinstated [section 7.4].

#### 5.7.3.1 Technically assessed LTS, storage and entry point projects (DD SGN Annex Table 48)

**We identified a number of projects where Ofgem's proposed changes to the scope/costs of works seem to be based on misunderstandings or errors. As we received some of the required clarifications from Ofgem late,<sup>468</sup> further meetings are required to resolve any outstanding questions that we have not been able to respond to in the accelerated timeline.**

<sup>467</sup> 'Engineering bilaterals' with Ofgem, QEM and SGN on 11 August 2020 and 21 August 2020.

<sup>468</sup> 14<sup>th</sup> of august we received an important file that provided a level of detail of visibility of the different cost reductions applied to each of the main projects.

Our understanding of Ofgem's cost reductions are based on the DD and its appendices, as well as the August 2020 Engineering Bilaterals and Ofgem's responses to our DD questions<sup>469</sup>.

We first respond to Ofgem's evaluation of overheads, contingency costs, and other unspecified costs, which were common across a number of projects<sup>470</sup>.

Then, we present a table with all projects in Ofgem's Table 48, setting out the reasons Ofgem provided for funding reductions and our responses. For some projects, we provided detailed justifications for why we should be awarded the full funding requested in a "Technical Assessment" appendix. These appendices are referenced in the table and attached to this submission.

- **Type 2: Inconsistency in stated approach.** There is currently a lack of consistency in how overheads are treated according to whether it assessed through benchmarking or technically assessed.

**Treatment of overheads.** We do not agree that the treatment of overheads should be a consideration for the technical assessment process.

The overhead allocations are embedded in our statutory accounts process with our allocation principles having been in place since SGN was formed in 2005. The overhead allocation forms part of the agreed upon procedures that our auditors undertake each year to provide a report to Ofgem. Since 2005 these reports have raised no material concerns. The overheads include the centralised business support costs such as IT, finance, property, management time, training and HR and work management and are allocated according to a fixed methodology that has been reported to Ofgem through our agreed upon procedures. To date we are not aware of any outstanding concerns that Ofgem have raised on these reports. Whilst these costs are incremental to having a capex programme, they are not variable to any volatility or changes to major projects across the years. Given that these overheads are independent of the project, they should not be adjusted as a part of the technical assessment.

Instead, it would be more appropriate to have the same level of efficiency challenge, as identified through the regression analysis, applied to the overheads in the technically assessed projects. In this way, networks would not be unduly penalised for having projects technically assessed.

- **Type 2 – Inconsistency in stated approach: Ofgem has recognised contingency in its definition and on previous projects it is therefore correct that it should be allowed for.**

**Treatment of contingency.** We do not agree that contingency should be removed from projects. A level of contingency was applied to 13 projects and ranged from 7 to 22%<sup>471</sup> according to the stage of project development. The principle of contingency is widely accepted and applied in multiple instances. The Ofgem definition of total installed cost is cited<sup>472</sup> as *"The overall forecast project cost to install and commission the required equipment. Cost includes all contingency costs, Risk margins etc. that make up the project."* The concept has also been widely applied to previous projects. For example, a range of 5% to 15%<sup>473</sup> was found from an assessment of comparator projects and Ofgem decided to apply 15% to NGGTs application to replace a section of high pressure pipeline; 10.5% was applied to Hinkley Seabank<sup>474</sup>; 14.1% was proposed for Beaulieu Denny transmission<sup>475</sup>; and the Treasury Green Book recommends an optimism bias of between 3% and 44%<sup>476</sup> be applied based on a study by Mott MacDonald. With smaller projects, the relative risk as share of total costs is that

<sup>469</sup> Breakdown of cost adjustments was provide by Ofgem on the 14<sup>th</sup> of August. This was in response to questions raised on the have asked a number of DDQs which we are waiting to be answered. These include questions raised on the 23<sup>rd</sup> July (DDQ29, DDQ30, DDQ31, DDQ 32, DQ 33, DDQ 34, DDQ 35 DDQ38, DQ39 and DDQ40), the 27<sup>th</sup> July (DDQ60, DDQ61, DDQ62, DDQ63, DDQ64, DDQ65, DDQ66, DDQ67, DDQ68, DDQ69, DDQ70, DDQ71, DDQ72, DDQ73, DDQ74, DDQ75), the 30<sup>th</sup> July (DDQ80, DDQ40) and the 3<sup>rd</sup> of August (DDQ86)

<sup>470</sup> RIIO-2 Draft Determination – SGN, para 3.57, pg 57

<sup>471</sup> The majority of projects ranged from 7% to 18%. One project, Dunkeld had a higher risk value associated with it at 22% due to a higher level of risk associated with route definition and geotechnical risk.

<sup>472</sup> Engineering Justification Paper Guidance for RIIO -GD2 and RIIO-GT2, 20 Sept 2019, Glossary of Terms, pg 9

<sup>473</sup> RIIO-T1 reopener: One off asset health costs (feeder 9). Ofgem 28<sup>th</sup> Sept 2018, pg 29, Para 3.30, "The evidence from comparator projects suggested that risk/contingency allowances for similar projects typically range from 5%-15%, with an average of around 10% [see Appendix 1]. We acknowledged that the Feeder 9 project is unique, and that we would be willing to accept a risk allowance at the higher end of this range, i.e. 15% of the total project value"

<sup>474</sup> [https://www.ofgem.gov.uk/system/files/docs/2020/05/decision\\_on\\_our\\_project\\_assessment\\_for\\_the\\_hinkley-seabank\\_electricity\\_transmission\\_project\\_0.pdf](https://www.ofgem.gov.uk/system/files/docs/2020/05/decision_on_our_project_assessment_for_the_hinkley-seabank_electricity_transmission_project_0.pdf)

<sup>475</sup> <https://www.ofgem.gov.uk/ofgem-publications/88909/povrytneireport.pdf>

<sup>476</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/191507/Optimism\\_bias.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191507/Optimism_bias.pdf)

much larger; since there is less opportunity for an adverse event to be averaged out over a larger delivery programme.

- **Type 2 – Inconsistency in stated approach: The way we reported capital and operational costs was consistent with the Spackman methodology we were required to use.**

**Unspecified Costs.** Based on the number of SQs on this issue, there appears to be a level of misunderstanding regarding the treatment of operating costs. As instructed, we followed the Spackman approach which looks at the total investment cost as the sum of capital costs (depreciated and return over time) and operating costs and reports them as combined investment costs<sup>477</sup>.

- **Type 1 – Factual or computational error. Double counting of productivity to all technically assessed costs with productivity already included in the business plan at the time of submission.**

**Efficiency calculations.** There is an error in the way efficiency has been treated in the DD. The costs provided in our business plan submission took into account the level of efficiency that we set out within the plan. However, the costs identified in the Technically Assessed Costs section note that the costs do not include ongoing efficiency. This is incorrect; these costs do include SGN's forecast of ongoing efficiency<sup>478</sup>. If additional efficiency is applied, then this will be a significant double count. In order to solve this error, either the company specific efficiency needs to be netted out & Ofgem efficiency applied (as was applied to the benchmarked costs<sup>479</sup>), or the company specific efficiency assumption should remain unchanged (with no additional Ofgem efficiencies applied).

- **Type 2 – Inconsistency in stated approach: The current approach implies that the networks would have been much better off by targeting low confidence and less transparent submissions, instead of following the business plan guidance and aiming for high confidence and detailed submissions.**

**High and Low confidence.** Ofgem's verbal explanations during the engineering bilaterals<sup>480</sup> implied that 'high confidence' projects (where there is sufficient evidence and transparency to evaluate the costs on a project by project basis) get scrutinised in detail. On the other hand, 'low confidence' projects (with insufficient evidence to scrutinise) cause the network to take the risk of a 10% penalty. On this basis, a network would choose to be less transparent as long as the probability adjusted cost of the penalty is less than the cost reduction through detailed scrutiny. This distorts incentives set out by the business plan guidance, which encouraged networks to aim for high confidence and detailed submissions. The results of the draft determination show that high transparency / high confidence submissions (pre-efficiency) risk cost reductions of 25%, whilst low transparency / low confidence submissions only risk 10% penalty.

<sup>477</sup> This feature of the CBA model is why different capitalisation rates are need when comparing operational and capital investment options – a comment picked up by QEM in their summary of cost benefit analysis, GD2 Engineering Justification Paper Reviews, QEM-1910-RPT-002.

<sup>478</sup> SGN ongoing efficiency assumptions were set out in SGN\_SQ\_CA\_11 on the 20<sup>th</sup> March 2020

<sup>479</sup> SGN Business plan – Dec 2019, Section 12.5.7 pg 128 and RIIO-2 Draft Determinations – gas distribution annex, pg 89 para 3.36

<sup>480</sup> Ofgem engineering bilateral, 11<sup>th</sup> of August 2020

## SGN's Response to Ofgem DD – SGN Annex, Table 48: Technical assessment of (capex) Local Transmission System (LTS), storage &amp; entry projects

So/Sc	Project (as named in Table 48)	£m		DD award 09-Jul-20	DD/QEM criticism
		SGN request Business Plan	REVISED 04-Sep-20		
Sc	RO2 Dunkeld	25.77	24.97	23.1	Ofgem considered that efficient costs for design, project management, indirect company costs and contingency should be lower and proposed a £2.67m cost reduction. <b>We revise our funding request from £25.77m to £24.97m.</b> Please see our detailed response in "R02 Dunkeld Technical Assessment" appendix, where we explain that: 1. We identified that we can reduce design costs by £200k and contingency by £800k; 2. We provide detailed breakdown of costs and justifications why further reductions are not possible, along with historical costs data from comparable projects; 3. We signpost to existing evidence from the SQs that support our indirect company costs (efficiency savings and overhead allocation process).
Sc	E&I Upgrade Programme (5 sites)	1.56		1.05	Ofgem mistook SGN's submitted costs for design, project management, materials and MWC as not including efficiency savings from combining works across multiple sites, and reduced the SGN funding again (double-counting the efficiency). QEM mentioned that there may be cross-overs with other submissions, such as Battle PRS 1&2, and issued an 'accept with modified volumes'. <b>We revise our total funding request from £8.17m to £7.99m.</b> Please see our detailed response in "E&I Upgrade Programme Technical Assessment" appendix, where we explain that: 1. SGN's proposed costs already account for efficiencies resulting from packaging multiple sites into one programme. We had presented the packaged costs with efficiencies in comparison to costs without efficiencies in our business plan submission as part of the CBA. 2. We only identified a crossover of works (£0.18m) with the Battle System 1 & System 2 EJPs. We revise our requested funding to take out this £0.18m. 3. We disagree with volume reductions on E&I upgrade works due to Health and Safety reasons.
Sc	E&I Upgrade Programme (4 sites)	0.81		0.55	
So	E&I Upgrade Programme (2 sites)	0.72		0.48	
So	E&I Upgrade Programme (23 sites)	5.07		3.41	
	<i>E&amp;I Upgrade total</i>	<i>8.17</i>	<i>7.99</i>	<i>5.49</i>	
Sc	ICMDL	3.07		1.99	Ofgem proposes to cut funding to 65%, citing that (1) centralised system can cover both networks, so costs for software&implementation can be reduced; (2) additional installation costs for purchase&implementation data loggers is not justified. <b>We disagree, and reinstate our funding request of £7.54m.</b> Please see our detailed response in "ICMDL Programme Technical Assessment" appendix, where we explain that: 1. Our submitted costs already take into account the centralised system efficiencies for software and implementation. 2. Installation costs per datalogger is justified (we provide further breakdown of installation cost). 3. We would not be able to deliver the required works with the proposed funding cut, which are critically needed.
So	ICMDL	4.47		2.89	
	<i>ICMDL total</i>	<i>7.54</i>		<i>4.88</i>	

So	Mappowder	6.08	5.27	3.86	<p>Ofgem proposes to cut funding by £2.22m, citing some materials costs are unjustified/already accounted for, and overheads can be reduced.</p> <p><b>We revise our funding request to £5.27m.</b></p> <p>Please see our detailed response in "Mappowder Technical Assessment" appendix, where we explain: Responding to Ofgem's cost challenge, we re-reviewed our cost estimates for MWC. We clarified that a revised MWC for this project, guided by actual MWC costs being incurred at the Newton Longville PRS rebuild project currently underway, <b>Redacted</b>. This revises our total prime costs estimate to £4.255m. We calculate overheads and apply efficiency consistently for all projects, in accordance with our statutory accounts process. Therefore, we disagree that efficiencies and overheads can be adjusted in a different approach in the technical assessment process. Overall, this revises our gross cost estimate as £5.269m.</p>
So	Winkfield Offtake - System 1 (South East)	8.23		4.84	<p>Ofgem proposes to cut costs almost by half, citing that design costs were double-counted; materials and civil/mechanical engineering costs should match <b>Redacted</b>; and overheads can be reduced.</p> <p><b>We disagree, and reinstate our funding request of £8.23m.</b></p> <p>Please see our detailed response in "Winkfield SE Technical Assessment" appendix, where we explain that:</p> <ol style="list-style-type: none"> <li>1. The systems supplying Winkfield SE is completely independent from that feeding Winkfield South. Each LDZ has a discreet gas supply system.</li> <li>2. The material and civil/mechanical costs provided by our third-party estimator <b>Redacted</b> not include removal of the existing large water bath heaters which we added. We also noted that the costs of the main works contractor increased significantly. Also, as part of the works, SGN intend to install a separate control room thereby separating systems from those used by Cadent, who also have an offtake on the wider site.</li> <li>3. We have provided further justification for our overhead allocation and efficiency targets</li> </ol>
So	Winkfield Offtake - System 2 (South)	7.79		3.81	<p>Ofgem proposes to cut costs almost by half, citing that design costs were double-counted; materials and civil/mechanical engineering costs should match <b>Redacted</b>; and overheads can be reduced.</p> <p><b>We disagree, and reinstate our funding request of £7.79m.</b></p> <p>Please see our detailed response in "Winkfield South Technical Assessment" appendix, where we explain that:</p> <ol style="list-style-type: none"> <li>1. Winkfield South is completely independent from Winkfield SE. Each LDZ has a discreet gas supply system.</li> <li>2. The material and civil/mechanical costs provided by our third-party estimator <b>Redacted</b> include removal of the large water bath heaters, which we had to add. We also noted that the costs of the main works contractor increased significantly and there were additional E&amp;I costs associated with the replacement of legacy systems (not accounted for in other E&amp;I works EJPs).</li> <li>3. We have provided further justification for our overhead allocation and efficiency targets.</li> </ol>

					Ofgem proposes to cut costs by c.£2.5m across materials (for PRS modules), uncertainty, and unspecified costs categories. <b>We disagree, and reinstate our funding request of £14.41m.</b> Please see our detailed response in "Provan Technical Assessment" appendix, where we explain that: 1. The costs for the PRMs at Provan are reflective of recent tendered costs for skid units with comparable inlet pipework sizing; 2. Updates on uncertainty factors, such as uncertainty in the extent of remediation required for the large volume of contaminated material requiring excavation, provide sufficient evidence to justify our costs; and 3. Our efficiency targets and overhead allocation are not excessive, as discussed in the DD Response Technically Assessed Capex section.
Sc	Provan PRS	14.41		11.96	
Sc	Newton Means and Waterfoot PRS	8.54		7.54	<b>We disagree, and reinstate our original funding request.</b> We believe Ofgem's cost reduction was due to errors in treating overheads, as described in detail prior to this table: Overheads to be added back and assessed centrally.
Sc	T8: Pitcairngreen to Huntingtower - R04 and R05	6.71		5.67	<b>We disagree, and reinstate our original funding request for each of these projects.</b> We believe Ofgem's cost reduction was due to errors in treating overheads and contingencies, as described in detail prior to this table: 1. Overheads to be added back and assessed centrally. 2. Appropriate contingency to be added back according to Ofgem precedence.
Sc	Dreghorn PRS	2.42		2.04	
Sc	New PRS (Edinburgh South East Wedge)	2.77		2.34	
Sc	Tranent PRS	2.83		2.39	
So	East Morden	4.49		3.8	
So	Wavendon	4.31		3.65	
So	Westerham PRS - System 1	3.08		2.9	
Sc	Airth	1.23		1.07	
Sc	Lauder	1.13		0.98	
Sc	St Andrews PRS	2.56		2.11	
So	Reading A	3.23		3.09	
So	Woking	2.32		2.09	
Sc	Telemetry Upgrades (8 Offtakes) (Ulysees Telemetry Replacement)	0.5		0.46	
Sc	Telemetry Upgrade (73 PRS')	3.65		3.33	
So	Telemetry Upgrades (2 Offtakes)	0.13		0.12	
So	Telemetry Upgrade (82 PRS')	4.15		3.78	
Sc	Metering Uncertainty Programme (6 sites)	4.15		3.32	

So	Metering Uncertainty Programme (1 site)	0.25		0.2	No further comments.
So	Battle PRS - System 1	1.08		0.49	
Sc	Lockerbie Offtake	1.74		1.74	
Sc	Aberdeen (Craibstone) PRS	0.59		0.59	
Sc	Carleith PRS	0.83		0.83	
Sc	Fairmilehead	1.79		1.79	
Sc	Granton	0.68		0.68	
So	Aylesham PRS	1.27		1.27	
So	Boxhill PRS	1.55		1.55	
So	Braishfield C	1.23		1.23	
So	Godstone PRS	1.69		1.69	
So	Hillside	1.87		1.87	
So	Hurst Green PRS	1.69		1.69	
So	Shalford	4.24		4.24	
So	Shatterling PRS	1.43		1.43	
So	Smarden PRS	1.53		1.53	



## Disallowed projects (SGN Annex table 49)

**A number of projects have been disallowed, due to misunderstandings. Each of these projects is independent of all other projects in terms of its scope, and fully justifiable. Each project should be reinstated.**

During the assessment process a number of projects were disallowed on the basis that they duplicated or overlapped with other projects<sup>481</sup> or that the needs case for investment has not been met<sup>482</sup>. There are a number of points that we absolutely disagree with and there appears to be some confusion that has led to an inappropriate assessment.

- **Overlap of projects.** There are no points of overlap in the projects that we have identified, for the projects where overlaps have been suggested – Battle PRS, Westerham PRS, and E&I Minor Work. To confirm:

**Battle.** Battle 1 and Battle 2 are separated sites that share a joint boiler house and common perimeter fencing; but in all other aspects are completely separate systems that feed two distinct systems and operate independently.

**Type 1: Factual or computational error. There is no duplication between Battle 1 and Battle 2 EJPs**

**E&I Minor Works.** Does not overlap with E&I Upgrade Works. E&I Minor Works cover reactive repair work for activities that are not captured under routine maintenance, (whereas E&I Upgrade Works are proactive) and their EJPs propose work at different sites.

**Type 1: Factual or computational error. There is no cross-over in E&I Minor works and all work is identifiably capex.**

**Westerham.** Westerham 1 and Westerham 2 are entirely independent projects.

**Type 1: Factual or computational error. There is no duplication between Westerham 1 and Westerham 2.**

- **No needs case for investment.** This has been identified for three projects, St Mary's Cray, Georgetown and Replace atmospheric vaporisers. We would again strongly disagree with this assessment.

**St Mary's Cray 1 Boiler and St Mary's Cray CHP Unit.** Ofgem propose disallowing this project because it is not a central requirement of the network and that it was a financial-based assessment rather than condition-based assessment<sup>483</sup>. We disagree with the approach that requires condition-based assessment to justify a project. Such a requirement was not put forward in the Investment Decision Pack Guidance<sup>484</sup>. Moreover, such a requirement would be illogical (it would imply all investment in IT, redundant assets such holders, and operational assets are ineligible for investment). The turbo expander at St Mary's Cray, has a strong financial case for completion with a simple payback of less than 5 years<sup>485</sup> and the submission was based on that. The CHP unit is not central to the operation of the network but is an appropriate and efficient intervention that reduces the cost to the consumer. If it was not in place or was to fail, we would have to replace it with additional heating.

**Type 1: Factual or computational error. The reason given for discarding the project is inconsistent with other assessments**

**Georgetown** The Georgetown asset absolutely needs work that covers a substantial proportion of the site, (namely on pipework and lineguard). The needs case for this maintenance has also been acknowledged by Ofgem's consultants (QEM) in their evaluation of the project. We accept Ofgem's proposal to not deliver a full site rebuild and instead maintain the site. In our "Georgetown Technical Assessment" appendix, we present details on the maintenance needs case and provide a breakdown of revised costs (£0.94m).

**Type 4 - New evidence that is being presented to support a point**

**Campbell replacement atmospheric vaporisers.** Further details on the need for investment have been submitted. The replacement atmospheric vaporisers are located on our Campbell SIUs and has site specific resilience issues associated with it. We are not given the justification behind Ofgem's/their consultants'

<sup>481</sup> RIIO-2 Draft Determination – SGN, para 3.58, pg 57

<sup>482</sup> RIIO-2 Draft Determination – SGN, para 3.59, pg 57

<sup>483</sup> QEM Appendix 1 – EJP Review Outcomes Detail row 5, pg 58

<sup>484</sup> RIIO-GD2 Investment Decision Pack Guidance, 20<sup>th</sup> Sept 2019

<sup>485</sup> SGN Business Plan, section 17.4.2, table 17-4, St Marys Cray is listed as SMC1 boiler and CHP.

evaluation of a 'no needs case'. This is especially confusing given the needs case has been discussed in detail over nine SQs answered prior to the DD.

**Type 5: Evidence that SGN has provided but hasn't been taken into account or given sufficient weight**

**High and Low confidence.** In the SSMD<sup>486</sup> it is clear that under stage 3 of the business plan incentive that high and low confidence is determined as cost confidence and is not an assessment of the confidence that the project is required. This is not consistent with where a project has been rejected due to the needs case, which we consider to be a matter of engineering judgement<sup>487</sup>. Whilst we have provided additional evidence to demonstrate why these projects are necessary, and to justify the investment, we do not think they are eligible to be penalised.

**Type 2: inconsistencies in state approach and application – Inconsistent application of the guidance document.**

**SGN's Response to Ofgem DD – SGN Annex, Table 49: Disallowed (capex) projects**

So/Sc	Project (as named in Table 48)	SGN request (£m) Business Plan	DD/QEM criticism
So	Battle PRS - System 2	2.59	Ofgem proposes to disallow Battle - System 2 project, citing concerns that it overlaps with Battle - System 1 and E&I Upgrades EJPs. <b>We disagree, and reinstate our funding request of £2.59m.</b> Please see our detailed response in "Battle PRS System 2 Technical Assessment" appendix, where we explain that: We are significantly concerned that a key project of £2.59m is disallowed due to misunderstanding over a separate project on the same site (Battle System 1), and overlapping costs of only £0.18 with E&I Upgrades (which we propose to have corrected within the E&I Upgrades paper). 1. Battle PRS – System 2 rebuild is necessary to avoid outages and loss of supply, and disallowance of this project puts our services at risk; 2. The Battle PRS System 2 and Battle System 1 are independent and will be delivered as separate projects. This has been explained in our response to SGN_SQ_ENG_471 in April 2020; but seems to be overlooked by Ofgem's consultants (QEM). 3. Above, in our review of Table 48, we already reduced our funding request for E&I Upgrade Works Programme by £0.18m to eliminate the double-counting. Therefore, costs should not be changed for the Battle – System 2 Programme.
So	E&I Minor Works	1.46	Ofgem proposes to disallow E&I Minor Works programme due to concerns of overlap with other EJPs. QEM further questions if all work are 'minor repairs' and if they should all be treated as capex. Also says "no volumes given so rejected". <b>We disagree, and reinstate our funding request of £1.96m.</b>
Sc	E&I Minor Works (~15 sites)	0.5	Please see our detailed response in "E&I Minor Works Technical Assessment" appendix, where we explain that E&I Minor Works programme, by definition, have no overlaps with E&I Upgrades (or other EJPs). We also clarify our volume assumptions, the 'minor repair' nature of the works, and the appropriate classification as capex.
So	St. Mary Cray 1 – Boiler	1.97	Ofgem disallows project citing 'insufficient evidence of need'. <b>We disagree and reinstate our request to deliver this project</b> , as discussed above in the section before this table.
So	St. Mary Cray 1 - CHP Unit	2.47	
Sc	Replace atmospheric vaporisers (Campbelltown)	0.96	Ofgem disallows project citing 'insufficient evidence of need'. <b>We disagree, and reinstate our funding request of 0.96m.</b> Please see our detailed response in "Campbelltown Technical Assessment" appendix, where we once again explain why it is important to deliver these replacements due to asset deterioration (also in relation to COMAH regulation and added cost and environmental benefits over hot water vaporisers). We point out that we answered 9 separate SQs detailing the needs case for this project, but have not received any justification from Ofgem on why costs were considered unnecessary.

<sup>486</sup> RIIO-2 Sector Specific Methodology – Core Document, May 2019, para 11.46 pg 106

<sup>487</sup> This was posed as a question SGN\_DDQ\_40 on the 30<sup>th</sup> of July and no response has been returned (as of 15<sup>th</sup> of August)

Sc	Georgetown PRS	3.39 (REVISED: 0.94)	Ofgem disallows a full rebuild of site, citing insufficient evidence to justify the full rebuild; and instead suggests SGN should maintain the current system. Ofgem's DD sets out that instead of a full rebuild, maintenance works can be carried out at Georgetown PRS. <b>We accept this proposal; and revise our Georgetown programme to only cover maintenance works on the Lineguard system and pipework, at a cost of £0.94m.</b> Please see our detailed response in "Georgetown Technical Assessment" appendix, where we explain the needs case for lineguard and pipework maintenance (which has also been acknowledged by QEM) and detail the breakdown of £0.94m revised costs.
So	Westerham PRS - System 2	2.63	Ofgem proposes to disallow Westerham System 2 programme due to concerns of overlap with other EJPs. <b>We disagree, and reinstate our funding request of £2.63m.</b> Please see our detailed response in "Westerham System 2 Technical Assessment" appendix, where we explain that the proposed set of works do not overlap with any other EJP, including Westerham System 1. Those two are indepent and will be delivered as separate projects. Desktop feasibility analysis, which may have been overlooked by Ofgem, provide evidence of efficient costs and confirm no overlap.

### Reinforcement projects

**Three reinforcement projects were rejected in the draft determination, we have presented all three with updated evidence and clarification on pressures and model accuracy. All three projects need to progress.**

The draft determinations reduced Southern reinforcement workload with the disallowance of three projects - Marden, Brackley and Wivelsfied - on the basis that there was "insufficient evidence of capacity constraints driving these projects"<sup>488</sup>. Given the focus on housebuilding to drive the economic recovery, it is very important that the reinforcement projects, which are necessary to facilitate that growth, are allowed to progress.

We have strengthened and clarified the evidence to demonstrate that these projects are necessary. In addition, the Prime Minister's recent announcements to stimulate the economy by introducing a £5bn package to support the building of homes and infrastructure<sup>489</sup> further supports the importance of delivering these projects. Please find our detailed evidence in the supporting Technical Assessment appendices. In summary;

#### SGN's Response to Growth projects (SGN Annex, para. 3.31)

SGN request			
So/Sc	Project	(£m)	SGN response and justification for £m request
So	Marden MP (CPM7607)	1.005	Ofgem proposes to disallow the project. <b>We disagree, and reinstate the full £1m funding request to deliver this project.</b> Please see our "Marden Technical Assessment" appendix, where we provide justifications on: 1) Updates on developments planned or under construction demonstrate that developments are progressing faster than was originally anticipated. This justifies the demand forecasts and capacity constraint concerns that necessitate the Marden reinforcements. 2) The accuracy assessments and model maintenance exercises carried out between full validation cycles confirm robustness of the Network Analysis Model estimates underpinning the assessments. 3) A misunderstanding of pressures quoted in EJPs may have led Ofgem/QEM to believe reinforcement requirement is marginal, whereas the risk of failure is significant. With the planned developments and without the reinforcement, pressures would fall to 106mbar by the end of GD2.
So	Brackley (CPM6843)	0.909	Ofgem proposes to disallow the project. <b>We disagree, and reinstate the full £1m funding request to deliver this project.</b> Please see our "Brackley Technical Assessment" appendix, where we provide justifications on: The Brackley reinforcement is required because: 1) The capacity constraints are highly likely to materialise -- local authorities and developers confirmed expected connections of at least 350 homes starting in 2022; and all spare capacity has already been committed to previously accepted development, 2) With the forecasted developments, pressures would drop to -5mbar, which is 345mbar below the acceptable design minimum; and a small increase to operating pressure as suggested by QEM would not be sufficient to maintain adequate pressure,

<sup>488</sup> Draft Determinations – SGN annex, para 3.31, pg 46

<sup>489</sup> <https://www.bbc.co.uk/news/uk-53625960>

			<p>3) Estimates from our Network Analysis Model are reliable, as confirmed by our annual performance checks,</p> <p>4) Replacing ductile mains would be costlier than the proposed reinforcement,</p> <p>5) Interruptibility is subject to consumer agreement; and even if granted, it would only delay, not eliminate the need for reinforcement in GD2.</p>
So	Wivelsfield (CPM6944)	0.665	<p>Ofgem proposes to disallow the project. <b>We disagree, and reinstate the full £0.665m funding request to deliver this project.</b> Please see our “<b>Wivelsfield Technical Assessment</b>” appendix, where we provide justifications on:</p> <p>1) Updates from local authorities, developers, and government guidance give sufficient evidence for the forecasted demand and capacity concerns.</p> <p>2) Annual accuracy assessments and model maintenance carried out between full model revalidation cycles confirm the robustness of the Network Analysis Model estimates underpinning our proposals.</p> <p>3) We believe that a misunderstanding of pressures quoted in EJPs has led to the impression that the requirement for the reinforcement is marginal, whereas in effect the scale of failure is more significant: pressures would drop to 0mbar by the end of GD2 if developments are completed as planned without the reinforcement.</p> <p>4) Finally, raising the operating pressures would require replacing the ductile iron mains to maintain network safety, which would be costlier than the reinforcement project we propose.</p>
	Growth Governors	6.4	<p>In GD2 our Business Plan, we have asked for 60 growth governors workloads (ranging in scale and size and including IP-MP and MP-LP stations). Ofgem’s DD proposed to allow all the workloads, but overruled the volume driver mechanism. Instead, Ofgem proposed a fixed allowance of £4.1m (gross) using unit costs of £56.8k (net) for each governor. This unit cost is calculated as the simple average across all GD1 governors.</p> <p>Please see our detailed response in “<b>Growth Governors Technical Assessment</b>” appendix. We accept the fixed allowance decision instead of a volume driver. However, <b>we request that Ofgem revises the fixed allowance to £6.4m</b>, considering:</p> <p>1. The expected size profile of low-pressure governors to be delivered in GD2, with unit costs differentiated across these size categories (calculated based on GD1 actual data as per Ofgem’s analysis), plus</p> <p>2. The bespoke costs for the medium-pressure governors for the four allowed named projects, which are materially larger in size of all components compared to the simple average of GD1 governors, plus</p> <p>3. The bespoke cost for an additional medium-pressure governor, which upon review will be required in GD2.</p>

## Unidentified projects

In addition to the projects set out above, there are a number of projects that were named and identified as a part of the business plan submission and identified in the QEM report, but it is not clear how these have been treated in main draft determination document. We had expected them to be included as part of the technically assessed costs.

Investment Name(*1)	EJP name	Proposed Value (£m)	QEM Value (£m) (*2)	DD value (£m) (*3)	Reasons QEM cited	SGN Comments
Cathodic Protection Transformer Replacement Programme	SGN E&I - 003CathProt - EJP Dec19	£0.92	£0.25	0.86	Justified and no further action	Please confirm that project has been allowed and the allowance awarded
Compliance transmission Scotland and southern networks	SGN Trans – 031Comp - EJP Dec19	£43.74	£0	40.96	Rejected due to uncertainties in volume Recognition that work is required under PSR but not justified	Confirm PSR requirement as per QEM finding, please confirm that project has been allowed and the allowance awarded
Hooley Pipe Bridge	SGN Trans – 020 Hool – EJP DEC19.docx	£2.3	£2.33	2.12	The solution is the most cost effective solution to reduce risk and for the consumer. Justified	Please confirm that project has been allowed and the allowance awarded

On the basis of our own analysis we have calculated that the DD values in the 5<sup>th</sup> column above have been included in the baseline totex allowance. However, this is not clear in the draft determination and we are seeking positive confirmation that these projects have not been rejected and confirmation of the individual project allowances.

### 5.7.4 IT and Telecoms capex

Redacted

Redacted

Redacted




Redacted

Redacted

Investment Area	EJP Name
Redacted	



[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
Redacted	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

### 5.7.5 Gas holder demolitions

#### We agree with the approach taken on gas holders.

In Appendix 002 – Property, the gas holder submission for GD2 was to maintain the two listed gasholder structures at Provan only. We did not ask for any demolition costs. The costs that we submitted were reclassified<sup>497</sup> into maintenance. This has resulted in the costs being assessed through the econometric modelling of which we are comfortable with.

Ofgem's assessment of demolition costs does not apply to SGN<sup>498</sup> as are either listed, have been demolished or have been transferred to an unregulated business.

### 5.7.6 PSUP Physical Security upgrade programme

We agree with the draft determination position to fully allow the submitted capex costs associated with PSUP sites.

## 5.8 Non-controllable opex

We agree with the proposals and estimated costs for non-controllable Opex. However, since the sector specific methodology decision, further clarity has been received from Ofgem regarding the future direction of the Joint Office of Gas Transporters. This is set out in more detail in [section 7.3.1]

## 5.9 Disaggregation of allowances

Through the use of a top-down Totex model there has been a requirement for the costs to be subsequently disaggregated to enable the allocation of costs at an activity level. However, the approach taken by Ofgem has resulted in a

<sup>497</sup> RIIO-2 Draft Determination – Gas Distribution Annex, pg 93 para 3.52

<sup>498</sup> RIIO-2 Draft Determination – Gas Distribution Annex, pg117 para 3.155 and 3.156

misalignment of allowances. To ensure the correct setting of PCDs and other mechanisms the current methodology should be reassessed.

#### GDQ41. Do you agree with our proposed disaggregation methodology?

**The process of disaggregation has resulted in a misalignment of allowances and ultimately may impact the setting of PCDs and other mechanisms across activities. This must be corrected prior to the final determination.**

Through the use of a top-down Totex modelling process there has been a requirement to determine an approach to compare submitted costs at an activity level. Ofgem have identified that “while this does not impact the overall Totex baseline, it is required for the setting of PCDs<sup>499</sup>.”

Through the review of the disaggregation approach we have determined the following:

- Ofgem’s scalar is based on the ratio of modelled costs to submitted costs less exclusions and reclassifications. In this scalar, modelled costs reflect both modelled regressed and modelled non-regressed and is post-application of the 85<sup>th</sup> percentile.
- The submitted cost part of the scalar will not reflect some of the adjustments in particular cost areas (e.g. costs that are removed and assessed separately, regional adjustments).
- In particular, cost areas which have received more adjustments at the modelling stage, which may be the case for some of the non-regressed separately assessed costs, will tend to receive more allowances than they should, while other cost areas receive less (with overall Totex amount staying the same). This is true for reinforcement which receives a relatively large downward adjustment through the separate assessment of growth governors. However, it may not be the case for all separately assessed costs, depending on the level of modelling adjustments made.

The table below details the impact on the Southern network reinforcement allowance whereby the proposed allowances for reinforcement are approximately £6m more than would be anticipated based on the cost adjustments and application of efficiencies.

Southern Reinforcement							Detail determined from:
	2022	2023	2024	2025	2026	GD2	
<b>BPDT submission</b>	<b>8.0</b>	<b>10.1</b>	<b>7.4</b>	<b>5.6</b>	<b>8.2</b>	<b>39.3</b>	(2) Normalisations
Removal of normalisations:							
CPM6843 – Brackley		-0.9				-0.9	
CPM7607 Marden MP		-1.0				-1.0	
CPM6944 - Wivesfield MP				-0.7		-0.7	
Growth Governors	-1.3	-3.5	-1.9	-0.7	-2.0	-9.4	
Labour adjustments	-0.5	-0.4	-0.4	-0.3	-0.5	-2.2	
<b>Revised costs (Benchmarked)</b>	<b>6.2</b>	<b>4.3</b>	<b>5.1</b>	<b>3.9</b>	<b>5.6</b>	<b>25.2</b>	(4) GrowthGovernors Added back at normalised value Simple trace through of detail
Add back:							
Growth Governors (separately assessed)	0.5	0.6	0.6	0.4	0.6	2.6	
Labour adjustments	0.5	0.4	0.4	0.3	0.5	2.2	
<b>Reinforcement with reversal of relevant adjustments</b>	<b>7.2</b>	<b>5.2</b>	<b>6.1</b>	<b>4.7</b>	<b>6.7</b>	<b>29.9</b>	
Application of Efficiencies:							
Benchmarking Efficiency	-0.2	-0.2	-0.2	-0.1	-0.2	-0.9	
Ongoing Efficiency	-0.2	-0.2	-0.3	-0.3	-0.5	-1.4	
<b>Reinstated efficient reinforcement allowance</b>	<b>6.8</b>	<b>4.8</b>	<b>5.6</b>	<b>4.3</b>	<b>6.0</b>	<b>27.6</b>	

<sup>499</sup> Draft Determinations – GD Sector Page 117 Disaggregation of allowances section 3.157

Suggested Totex post ongoing efficiency	7.6	7.6	6.9	4.5	7.4	33.9	(9) Allowances - Cal_So row 119
<b>Variance between proposed allowances and reinstated</b>	<b>0.7</b>	<b>2.8</b>	<b>1.2</b>	<b>0.2</b>	<b>1.3</b>	<b>6.3</b>	

Please note: the above example has been determined from the original data files provided by Ofgem and has not been amended for any subsequent errors identified within the files that may have driven changes to the efficiencies.

The above concerns raised could have a resulting impact, if the misalignment is not corrected, on the final setting of the price control deliverables and other key mechanisms such as the Repex Diameter Band Adjustment Model (DBAM).

In order to address the above there are two potential alternatives that could be considered. These are as follows:

- Calculate the scaling factor for each cost area individually (potential to be time intensive and potentially not proportionate if the discrepancy only substantially affects some cost areas).
- Calculate separate scaling factors for: i) cost areas which have had costs removed for separate assessment; and ii) cost areas which do not have any costs that are separately assessed. This may be less time intensive, but also less accurate as there may still be some discrepancies caused by other adjustments (e.g. regional adjustments) applied differently to the different cost areas.

