



GD2 and T2 cost benchmarking response

NORTHERN POWERGRID'S KEY POINTS

- **As Ofgem moves into the cost benchmarking phase of the RIIO-2 reviews, it is essential that its approach reinforces the strong incentives that are meant to be a cornerstone of RIIO and which drive significant long-term benefits to customers in the form of lower costs.**
- Our response offers perspectives from electricity distribution where this may be of value. There are however many differences between the sectors (and the available data) and so it is vital that Ofgem does not use GD2's cost benchmarking as its starting point for ED2.
- Totex benchmarking was given a prominent role in RIIO and this should be retained:
 - there are trade-offs between different categories of cost that need to be captured;
 - a totex approach can mitigate the modelling and incentive distortions that result from a disaggregated modelling approach; but
 - totex benchmarking will be greatly weakened if Ofgem combines it with "bottom up" cost drivers such as workload, which are within company control and have poor incentive properties, since inefficiency in volumes would lead to higher allowances.
- If Ofgem does wish to conduct disaggregated benchmarking we agree Ofgem should use the largest groupings of costs it can, especially where they meet CEPA's criteria; this will help to mitigate some of the problems with disaggregated benchmarking, provided that the cost drivers have good properties.
- Ofgem should adopt models that have a sound economic and regulatory basis. Key to achieving this will be the of cost drivers which are outside of company control, relevant and complete. Having done this:
 - it should let the data speak, based on the strength of the estimated relationships; but
 - must not prioritise "model fit" as this would lead to data mining and undermine sound regulatory principles such as cost drivers being beyond company control.
- We agree that Ofgem has identified an appropriate set of models (functional forms and techniques) to consider.
- Ofgem should maintain a high bar for making regional adjustments, because every network company faces issues that will raise its costs relative to other companies. Ofgem should take steps to mitigate the "one way bet" that companies can currently make by requesting one.
- In respect of regional labour adjustments, there are many counter-veiling factors that can act to offset the actual impact on company costs, and Ofgem should be open to wider evidence:
 - the evidence from ED1 indicates the adjustments were too high. The companies that received the biggest adjustments are outperforming the most; and
 - Ofwat has found empirically that regional labour cost differences are an insignificant driver of cost that does not justify being controlled for in its regressions.
- On real price effects, Ofgem must recognise the theoretical and empirical evidence that justifies these allowances; labour costs being a good example. The data sources used should be those that are best suited to the task; Ofgem ossifying its data sources to those used by regulators in the last 10 years, like CEPA suggests, would not be good practice.

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Introduction

1. This is Northern Powergrid's response to Ofgem's consultation on cost benchmarking for the T2 and GD2 price control reviews, which was published on 28 June 2019 ("the Consultation").
2. Ofgem states in the introduction to the Consultation, at paragraph 1.2, that it is not consulting on the cost assessment tools for ED2 but that *"the cost assessment tools we discuss in this consultation may be capable, in principle, of application to RIIO-ED2"*. Yet Ofgem made similar statements in the GD2 and T2 methodology consultation and has subsequently consulted on using the same approach for ED2 in its August 2019 open letter and framework consultation.
3. Ofgem must not do the same in respect of cost benchmarking. While there are some generic issues in cost benchmarking that could indeed be capable of application across different sectors, where they share similar characteristics, there are many differences between electricity distribution and the sectors that are being consulted on at present, both in terms of their characteristics (the assets being used and service being delivered) and the available data (where regulatory reporting differs significantly, reflecting those different characteristics). It is therefore vitally important that Ofgem does not allow GD2 (or T2) to set the cost benchmarking template for ED2.¹
4. Notwithstanding this, our response offers perspectives from electricity distribution where this may be of value to Ofgem. The rest of this document sets out our answer's Ofgem's consultation questions and its chapter structure follows that in the Ofgem consultation document.

Chapter 2 questions: model selection

Question 1: What model estimation options should be considered for our cost assessment and why?

5. Ofgem has identified an appropriate set of model estimation options for considering in relation to cost assessment. We agree with Ofgem that further analysis will be required before making any decisions on estimation techniques.²

Question 2: Do you agree with our proposed criteria for developing potential cost pools? If not, what additional criteria do you propose and why?

6. We agree with the proposed criteria for developing potential cost pools. They capture well the significant issues that can arise in terms of cost-trade offs or cost-boundaries.

¹ We also note that there were some well-documented weaknesses of the ED1 disaggregated cost benchmarking models, in particular, which mean they also should not form a starting point for ED2.

² Paragraph 2.17 of the Consultation

7. We do not however think it is necessarily an advantage of more granular models that they may make it *“possible to better identify explanatory variables that reflect the specific costs and drivers under consideration”*. This is because these more specific explanatory variables may not perform well on the criteria for good cost drivers, such as being beyond the control of companies. If the cost driver is partly or wholly within company control – for example a volume or workload driver – it may appear to explain costs well because it is highly correlated with the total cost. But this does not tell us anything about whether the volume of activity is efficient, and higher volumes are likely to be correlated with company-wide inefficiency. Indeed a model containing a volume driver with a strong statistical fit may simply reflect that such granular cost drivers are correlated with inefficiency.

Question 3: Should we continue to use the Cobb-Douglas functional form? If not, why?

8. The Cobb-Douglas functional form is a standard approach to considering cost relationships and we see no reason not to continue using it.
9. Ofgem should however consider any potential alternative approaches based on their merits. Where the data supports different functional forms, these may be appropriate.

Question 4: Do you agree with the proposed model selection criteria and model development phases?

10. We agree with the model selection criteria. However, we would propose a reordering to reflect some sense of priority around these criteria, noting that there may well be trade-offs, especially if no model passes all tests with flying colours.
11. In our view the economic rationale for the model must take precedence. A model that passes on all other criteria, but fails on this one, would not be a good model to adopt at a regulatory price control. In this respect we would like to see Ofgem emphasise the importance of the incentive properties that are created by the benchmarking model, to ensure that they support business decisions that promote good outcomes for customers, and avoid perverse incentives.
12. We agree that Ofgem must resist the temptation to data mine (the Consultation, paragraph 2.40). A certain degree of exploratory testing is inevitable in empirical work but this must always be guided by clear supporting principles.
13. Transparency, in particular, is valuable for decision makers within Ofgem, not just wider stakeholders. A lack of transparency was a particular issue with the disaggregated modelling at ED1, including but not limited to the smart grids adjustment. Such models are more likely to lead to bad decisions, since decision takers lack visibility of what is driving the results.
14. Ofgem should also be careful to apply the robustness test equally across different approaches. This is because it is easy to see the effect of changing one assumption in a simple totex model. But the results of a granular model are built up from many small decisions, which have a cumulative impact; a like-for-like robustness test requires the cumulative impact of all of these decisions to be understood.

Chapter 3 questions: aggregated analysis

Question 5: Should the cost driver of the totex regression model be determined by the cost drivers of the 'bottom-up' models, or should the totex regression model account for different explanatory variables? Why?

15. The principle advantage of totex models comes from the use of cost drivers that reflect the underlying factors that drive whole-business costs, such as the number of customers. High-level cost drivers like these can be entirely outside management control, and hence provide a robust test of the efficiency of different business models and management approaches. This creates strong incentives and there is a compelling regulatory logic to adopt such an approach.
16. If "bottom up" models have been developed with category-specific cost drivers, using these in an aggregated form would embed any underlying weakness in those drivers (for instance if they are partly within company control). In addition, using a weighted driver does not provide a genuinely separate test of company efficiency.
17. In our view, relying on a composite driver made up of a weighted average of drivers from underlying disaggregated models would be a missed opportunity, since a high-level cost driver with better regulatory and economic incentive properties could be used instead.

Question 6: What could be appropriate cost drivers in middle-up models for opex, capex and repex? Why?

18. Large cost categories like these appear more likely to be well-suited to aggregated, robust and external cost drivers such as the number of customers.

Question 7: For which opex activities are there trade-offs that support the rationale for testing 'totex and opex plus' modelling?

19. As a matter of general principle, we would tend to support more aggregated modelling rather than more disaggregated modelling. We therefore see merit in considering this approach further.
20. From our perspective, based on experience in electricity distribution, we anticipate that there will be important trade-offs between a wide category of costs within opex. For example, higher expenditure on inspections and maintenance would generally be expected to lead to fewer faults and hence lower spend in that category. There may well be other relationships between the relevant cost heads for gas distributors. Our expectation would be that the thorough application of the principles around "opex plus" could lead to the grouping together of many opex cost heads into one pot. We also note however that trade-offs may well extend beyond opex cost heads. See our answer to Question 9.

Question 8: Are there other particular costs that we should aggregate and test in our analysis?

21. Our comments in response to question 7, above, on our perspective from electricity distribution are also relevant to question 8. Beyond this, we have no views to offer on gas distribution.

Chapter 4 questions: disaggregated analysis

Question 9: Are there trade-offs between opex and capex activities that support the rationale for considering 'opex plus' modelling?

22. From our perspective in electricity distribution, there are likely to be and these trade-offs are likely to be best addressed by totex analysis. To give two examples:
- a. For business support costs and capital costs, contractors used in the delivery of capital investment will include a business support overhead recovery rate. An efficient company making greater use of contractors is likely to have lower business support costs and higher capital costs when compared to another efficient company using a business model that involves less use of contractors.
 - b. In electricity distribution, greater time spent on engineering analysis (and targeted asset inspection) can significantly reduce the volume of activity that is required, by targeting intervention only at those assets that genuinely require it. This can reduce capital costs while leading to higher indirect costs.
23. There must be direct analogies to gas distribution.

Question 10: Which cost areas should be assessed using workload drivers as opposed to other cost drivers? Why?

24. As a general rule, workload drivers appear likely to be within company control to some extent. Not only will they depend on company measurement, company asset management or operational decisions could affect them. Wherever this is the case, they will perform badly on the criterion that a cost driver should not be determined by the company, as far as practical.
25. The Consultation notes that "asset condition and corresponding repex and maintenance workloads is at least partly due to the inherited state of the distribution network"³. Almost four decades since the privatisation of British Gas, and two decades since the separation of the network business, it is difficult to argue that there has been no opportunity to address the state of the asset base inherited at privatisation. And to the extent that differences in efficiency in gas distribution are due to the fact

³ The consultation, page 40, paragraph 4.42

that comparative competition has only existed since the GDPCR, this can be transparently addressed through an efficiency glide path if Ofgem considers it necessary.

Question 11: Should repex (or some categories of repex) be excluded from our regression analysis and assessed using other techniques?

26. From our perspective in electricity distribution, there can be significant trade-offs between major categories of cost. For instance, where load related replacement is necessary, the life of the asset will be extended at the same time; potentially avoiding an age-related fault that might otherwise have occurred soon, or avoiding planned asset replacement.
27. We would be surprised if similar trade-offs did not exist in relation to repex and other gas distribution cost categories.
28. Moreover, if Ofgem excludes categories of cost, assesses them separately, and then requires companies to deliver specific asset based solutions through the use of price control deliverables, this would be highly damaging to incentives within the price control period.

Question 12: Are there other approaches to disaggregated benchmarking that we should consider?

29. Because Ofgem has included a mid-level approach to disaggregated analysis in its model set, we think it has a reasonably good coverage.
30. Ofgem should not consider analysis similar to the highly disaggregated modelling that it undertook at the ED1 review with approximately 40 disaggregated models, many of which had extremely granular approaches to assessing unit cost and volumes, on a line-by-line basis, and which had many well-documented shortcomings such as:
 - a. their lack of transparency to decision makers in Ofgem and other stakeholders;
 - b. the unclear incentives they create;
 - c. the risk of companies optimising against the models; and
 - d. the risk of error created by such complex models.⁴

⁴ Frontier Economics, 2018, A review of Ofgem's benchmarking at RIIO-ED1, pages 10-11

Chapter 5 questions: non-econometric analysis

Question 13: Should we assess business support costs at a group level in order to address cost allocations across companies within groups?

31. As a general rule we argue that Ofgem should start from the theory in its models, and then also allow the data to speak for itself (without resorting to data mining).
32. Yet this proposal also raises a number of significant regulatory and practical questions.
 - a. A number of companies in the electricity transmission sector also operate in other licenced sectors (e.g. electricity distribution); this implies potential scale effects, but also raises difficult questions since appropriate cost drivers in different sectors will not be directly additive (as highlighted in response to question 14).
 - b. Some of the GDNs have partial ownership links with each other (or electricity networks) yet we presume Ofgem is not proposing to assess their costs together; this would then imply that ownership structuring choices would begin to influence Ofgem's benchmarking results (and, potentially, vice versa).
33. Even with the relatively simple example of Cadent's current ownership and managerial structure, if Ofgem were to assess group level business support costs, rather than company level costs, it would still need to set allowances at a company level. Ofgem would therefore find itself replacing the company's judgement of cost-allocations across companies with its own, when Ofgem is unlikely to be better placed than the company and its accountants to assess these proportions.
34. Yet if both theory and empirical evidence support the presence of fixed costs, it is important that Ofgem ensures adequate allowances are provided for the fixed costs of the smaller groups of licensees. Ofgem will need to consider how to do this regardless of whether it chooses to benchmark at the licence or group level.

Question 14: Which types of business support costs should be benchmarked, and how should they be benchmarked?

35. Ofgem should benchmark business support costs through regression analysis, using independent cost drivers that should influence the scale of the business (such as customer numbers), ideally as part of its totex benchmarking or also as part of any "opex plus" benchmarking.
36. There is no rationale to support using data on business support costs from different sectors. The relationship between the explanatory variable, and the efficient level of business support costs, will vary depending on the type of business in question. Retailers and electricity distributors are undertaking a different activity to gas distributors, for example, and the efficient level of business support costs will differ, even if their number of customers, or any other appropriate cost driver, happen to be equal.

Question 15: Which types of business support costs should be excluded from benchmarking?

37. Ofgem should maintain a high bar for exclusions of certain types of business support costs from benchmarking. Such exclusions create significant regulatory boundaries and can distort incentives. In making exclusions, Ofgem would also need to assess whether other categories of costs might be offsetting.
38. We also note that, at ED1, a 50% weight was placed on totex analysis which included business support costs. This reduced the prominence of the bottom up approach. We would support a higher weight on totex analysis in future.

Chapter 6 questions: regional and company specific factors

Question 16: How should we estimate and model the impact of regional factors?

39. Ofgem should start from the theory but also let the data speak for itself, and include regional factors including regional labour in the regression analysis.
40. Like Ofwat, Ofgem should be willing to make **no adjustment at all** where the data does not demonstrate an economically and statistically significant relationship.⁵ If there is a lack of a robust relationship, Ofgem should not automatically fall back on pre-modelling adjustments (as it indicates it may in the Consultation at paragraph 6.38). It should instead consider the information provided by the lack of a relationship, which it may not have considered when it took previous decisions. As Ofgem highlights, an insignificant explanatory variable means that Ofgem cannot reject the proposition that there is no relationship at all between the variable and the level of costs.⁶
41. Pre-modelling adjustments, like those Ofgem made at RIIO-1, have one serious shortcoming: if the data used to specify the adjustment is flawed, these flaws will be directly translated into the modelling outcomes.⁷
42. Flawed data can of course also cause problems for regression analysis of course; but at least in this case modelling tests can serve as a check and balance to identify these flaws and also whether there are counter-veiling factors that mean, in aggregate, the relationship with costs is a weak one.
43. For example, companies in the South East and London will no doubt be able to evidence factors that raise labour costs and reduce productivity in urban areas. Yet there are counter-veiling factors that they are less likely to measure fully when developing their evidence case, such as:

⁵ CEPA, Cost benchmarking and regional adjustments, June 2019 report for Ofgem, page 90

⁶ Table 2.3 of the Consultation.

⁷ CEPA's June 2019 report for Ofgem on regional adjustments, highlights a potential "con" of including regional labour variables in the regression as being that the explanatory variable could be a poor proxy and this could lead to perverse outcomes. This issue is also highlighted as a potential con of pre-modelling adjustments: poor explanatory variables could well result in **even more perverse** outcomes if that variable is used for a pre-modelling cost adjustment.

- a. greater density and lower travel distances, which reduces travel time; and
 - b. lower exposure of assets to damage during weather such as high winds.
44. These factors will act to reduce costs in a predominantly urban area and offset some (or potentially all) of the factors giving rise to higher costs, such as greater congestion. And in terms of urbanity adjustments, the area within the M25 is not unique in the UK. Every urban area in the UK will enjoy the same issues in terms of road congestion, high amenity pavement surfaces, and the fact other utilities (water, cable, phone, university campus IT networks etc.) must be worked around.
45. Indeed, this seems to be borne out in the outcomes being seen in ED1, where Ofgem made relatively large pre-modelling adjustments for companies operating in the South East and London:
- a. UKPN received the largest adjustment, and is forecasting to outperform the price control by more than any other group; while
 - b. SSE received the second largest adjustment, and is forecasting to outperform by the second largest amount.
46. In light of these outcomes at ED1, with regionally adjusted data seemingly contributing to significant regional disparities, Ofgem should maintain healthy scepticism of any data presented to it that supports regional adjustments at the levels used in ED1.

Question 17: Do you agree with the proposed criteria for justifying regional cost factors that we have outlined?

47. We can only find one set of criteria in the Consultation, at paragraph 6.11. Here Ofgem has set out three criteria for justifying regional labour factors:
- a. the company must define the factor;
 - b. the factor must be beyond the control of an efficient company; and
 - c. the impact on the company must be materially different from most others.
48. This provides a basic set of guidance for companies that wish to propose an adjustment. To it, Ofgem should add that ***the justification should be complete***, e.g. it should consider and evidence any counter-veiling issues that might offset part of the difference to other companies.
49. Even with this change, these are not a set of criteria for identifying whether an adjustment should be made. Neither do they place companies at any risk for suggesting unwarranted adjustments (or arguing for higher levels of adjustment than are genuinely necessary). In this way, the process for proposing regional adjustments is still a “one way bet” for any company making a case.
50. If Ofgem were to make every adjustment that met these criteria, it could find itself making a very large number of adjustments, or making excessively large adjustments. For instance, at ED1 it may have allowed Scottish Power Manweb’s case for a network based adjustment in full, rather than

Ofgem recognising that the company was also benefitting from a higher cost driver in the ED1 regressions (modern equivalent asset value, MEAV) as well as suffering from the higher cost.

51. As part of its decision it should therefore recognise the incentive for individual companies to propose un-warranted or excessive adjustments, and make the following points clear:
 - a. That Ofgem will consider whether the evidence case recognises and assesses counter-veiling factors fully.
 - b. That a high bar will be applied to whether any adjustment is made, and to the scale of that adjustment, with Ofgem making a conservative and balanced assessment of all the evidence, including whether the factor is statistically significant.
52. At future reviews, Ofgem should also consider stipulating at an earlier stage in the process that:
 - a. pre-modelling adjustments will only be made for factors explicitly included in business plans;
 - b. that companies should be conservative and balanced in their assessment; and
 - c. a penalty will be imposed if counter-evidence and assessment leads Ofgem to make only part, or none, of the adjustment.
53. Only by introducing some jeopardy into the process will Ofgem help counterbalance the incentives created by the current “one way bet” that individual companies can make when requesting an adjustment.

Chapter 7 questions: real price effects and ongoing efficiency

Question 18: What RPEs should we account for, how should we gauge materiality, and what criteria should we use for index selection?

54. In setting RPEs, Ofgem should account for any real price effects that there is a logical and evidential base for. It is likely that most of the categories and costs that have been subject to RPE estimation in previous price reviews will be sufficiently material to warrant consideration for GD2 and T2.
55. We think Ofgem should use the following criteria in selecting indices:
 - a. level of correlation to company cost;
 - b. inability of *individual* companies to materially influence the measure; and
 - c. that the data will be sufficiently reliable.
56. There are two serious flaws in CEPA’s proposed “necessary” criteria for RPE indices. If Ofgem were to limit itself to series that have been used by regulators to assess real price effects in the last 10

years, it would ossify its data sources, and could rule out what may be the best available data, thus damaging consumer interests. While regulatory precedent should certainly be given due regard, it would be wrong for Ofgem to refuse to consider new data in this way in any area.

57. This also goes to the flaw in the fact that CEPA define these requirements as “necessary”. No index is perfect against all of these criteria. Those that match company costs more closely may depend to some extent on the companies themselves. Those that are entirely independent may suffer from the fact they may not mirror company costs on a year to year basis, or potentially over periods measuring several years.
58. Ofgem will have to take a regulatory decision based on the imperfect data sources available to it. If it is unwilling to set an indexed approach based on these indices, then it will need to return to the standard pre-existing regulatory approach, of setting a fixed upfront allowance for real price effects. Ofgem cannot simply use CPI indexation as an alternative:
 - a. CPI itself factors in productivity gains across the wider economy, since it is the product of changes in input prices and changes in productivity of those inputs, yet Ofgem typically makes a separate productivity assumption; Ofgem would therefore need to mitigate this double-count.
 - b. There is very strong theoretical and empirical evidence to show that that real wages grow over time as productivity improves; therefore real price effect allowances are necessary.
59. Some of CEPA’s longer list of desirable properties may also warrant limited weight:
 - a. It is far more important that Ofgem use the best data available for the task, rather than publically available data. There are many data providers that rely on subscription fees to fund their research work, and where these data sources are the best available, they should be used. CEPA’s criteria would militate against these and, by worsening the data the price control is based on, would be detrimental to consumers.
 - b. It is also un-necessary that a *published* forecast be available. Many series will not have such a forecast. In RIIO-1, Ofgem used its own averages of the available historical data on growth rates as the best available indicators of future growth rates. In effect, this means that Ofgem can always calculate its own reasonably based forecast, making CEPA’s criterion redundant.
60. For Ofgem to introduce indexation, it is essential that the index will provide a better match for expected costs than the approach to date in relation to RPEs (where an upfront allowance is set based on forecast real price effects at the outset). If Ofgem does identify input factors where it is not possible to identify an index Ofgem is willing to use, but where the evidence indicates (on the balance of probabilities) that companies will face positive real price effects, Ofgem should set a fixed allowance for that incremental expected cost pressure.

61. We also note that all indices carry some risk that they might be discontinued. Whichever index is chosen Ofgem would therefore need to develop clear rules for how this eventuality would be handled.

Question 19: What common input and expenditure categories are appropriate for structuring RPEs?

62. The input and expenditure category template provided by the RIIO-1 reviews appear to provide a reasonable starting point for RIIO-2. Where there are specific candidates that appear superior, Ofgem should be open to these.

Question 20: How should we identify an appropriate ongoing efficiency assumption?

63. There have been extensive studies of ongoing efficiency, both recently and at prior reviews, that provide a starting point.
64. We note in electricity distribution that, three decades after privatisation and the implementation of comparative competition, the legacy of inefficiency resulting from nationalised businesses is all but eliminated. Ofgem will need to consider the extent to which this is the case in sectors where comparative competition has only been implemented more recently, or not at all.

Question 21: How should we determine frontier shift?

65. It appears here that Ofgem is contemplating additional analysis on frontier shift, based on analysis of movements in outturn cost. As a matter of principle, outturn costs will reflect:
- a. the “size” of the distribution task changing;
 - b. ongoing efficiency; and
 - c. outturn real price effects.
66. By definition, an analysis of the net effect of all three will be captured in Ofgem’s benchmarking in any event. Ofgem will therefore need to control for each appropriately (for example by selecting appropriate cost drivers, allowing for ongoing efficiency through a time trend/years dummies and controlling for changes in input prices over time).
67. It is not clear that anything further is needed although once Ofgem has provided more details on its proposed approach we will be able to comment more fully.

Chapter 8 questions: combining elements of cost-assessment

Question 22: Should we set the efficiency benchmark at the upper quartile level?

68. In all likelihood, yes. The upper quartile is an established approach to setting efficiency benchmarks that has been used at many regulatory reviews. We can identify no superior approaches at this time.

69. In electricity distribution, the upper quartile should be set at the totex level, and it is quite possible this applies in gas distribution. There are myriad trade-offs between different categories of cost, where higher cost on one can lead to lower cost on another. A “cherry picking” approach would therefore create a set of cost allowances that no one company could mean, and would be inconsistent with the need to ensure companies can finance their activities.
70. This issue may also be accentuated by other characteristics of the sectors or the benchmarking models. For example, where there are more companies in a sector this is likely to lead to greater diversity of business models, and potentially more scope for Ofgem to create an impossible combination of these business models. The more Ofgem disaggregates a cost base, the more significant this problem will also be. Ofgem can therefore also help to mitigate it by focussing on totex or mid-level modelling, as opposed to greater levels of disaggregation.
71. We note Ofgem is proposing to remove interpolation between a company’s proposed costs and its own benchmark in setting allowances. In light of this, Ofgem should consider whether it is instead appropriate to allow a glide-path.

Question 23: Are there types of expenditure that we should model using only historical or forecast data?

72. The answer to this question is likely to be specific to the sector and cost type being considered.
73. Trying to determine this answer on a cost-by-cost basis is likely to be difficult, and involve a significant exercise of discretion and judgement. This could lead to perverse outcomes, and modelling distortions like those at the ED1 review (where companies were allowed to re-submit plans that were “optimised” against Ofgem’s disaggregated modelling choices, improving benchmarking scores without a commensurate reduction in costs).
74. These factors stress the importance of Ofgem:
- a. using high-level benchmarking approaches like totex benchmarking, which can help Ofgem to look through and over these choices, and develop models which are transparent enough that it can easily see and understand all of the factors driving its results; and
 - b. ensuring there are strong incentives in place for companies to submit robust, challenging, forward looking cost plans, where the business plan incentive, as finally designed by Ofgem, may not achieve this, especially as it lacks any real rewards for submitting plans that are challenging in terms of their costs.
75. In its supporting paper CEPA suggests that, in respect of whether to use historical or forecast information, Ofgem could rely on whichever approach results in the lowest modelled cost⁸. CEPA acknowledges that this may look to some like a form of cherry picking. We agree. A decision rule of

⁸ CEPA Appendix 1, pages 32 and 33

this kind would ensure that forecasts showing that costs will reduce would be accepted, while forecasts showing that costs will increase would be ignored. CEPA's proposal, if adopted, seems highly likely then to lead to infeasibly low allowances which are inconsistent with Ofgem's duty to secure that licence holders are able to finance their activities. We accept that forecast cost increases versus historical levels require appropriate justification, but Ofgem must adopt a balanced and evidence based approach to its cost appraisal.

Question 24: If we use a combination of aggregated and disaggregated modelling approaches, how should we determine the weight we apply to each?

76. We think Ofgem should use aggregated analysis to determine the entirety of its efficiency score; and then use detailed engineering or bottom up scrutiny to verify that each company in question can live within that allowance (i.e. to provide decision support against engineering argumentation).
77. If it eventually uses mixed weightings, like at RIIO-1, Ofgem should use as high a weighting on aggregated modelling as it feels is possible. At ED1 it used 50% in the slow track determinations; it should also consider higher proportions.
78. Ofgem must also ensure that any decision on the weights is not overly influenced by mis-perceptions of model robustness. At its ED1 fast track determinations, Ofgem used a high weight of 75% on disaggregated models due to apparent concerns about the robustness of totex models. These concerns were however largely because of the transparency of the impact of an explanatory variable in a totex model, and the lack of equivalent transparency in disaggregated analysis. In its final analysis for ED1, Ofgem in fact identified that its fast track disaggregated analysis had *lacked* robustness, relative to its totex models, rather than the other way round.