Response to Ofcom consultation:

Wholesale Fixed Telecoms Market Review 2021-26

Further consultation on certain proposed remedies

From:

County Broadband, Community Fibre, euNetworks, Fibrus, INCA, Jurassic Fibre, Swish Fibre, WightFibre, and Zayo

December 10th 2020

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1 Executive summary

1. The respondents[1] welcome the opportunity to respond to the Wholesale Fixed Telecoms Market Review 2021-26 - Further consultation on certain proposed remedies (the November consultation), although we note that the time allowed for this consultation was extremely short and has not allowed us the time to perform all the analyses we would have liked. Additionally, the November consultation was issued a very short time before the completion of the Wholesale Fixed telecoms market review (WFTMR) process, with Ofcom's Final Statement expected in March 2021, leaving Ofcom very little time to consider the responses and act accordingly.

2. The proposals in the November consultation cover modification to a range of remedies originally set out in the WFTMR consultation in January 2020, most of which are relatively minor in terms of impact. However, it includes proposals for changes to how PIA rental charges are calculated as well as material changes to the price levels for some of those prices for the next charge control period (2021 – 20126). These proposals are material and of deep concern to the respondents.

3. PIA is the cornerstone of The Government's and Ofcom's efforts and policies to encourage fibre deployment across the country as quickly as possible. The proposals set out in the November consultation constitute a significant threat to achieving those goals and we urge Ofcom to reconsider.

4. Ofcom's proposed changes to how PIA rental charges are calculated arise from submissions from BT and Openreach[2] (BT), suggesting that although rental prices based on actual occupancy rates would reduce in the short term, they would be likely to increase in the medium to long term due to BT's planned withdrawal of its copper

[1] County Broadband, Community Fibre, euNetworks, INCA, Jurassic Fibre, Swish Fibre, Wight Fibre, and Zayo.
[2] For ease of reference, we will refer to BT and Openreach as 'BT' through this document.

cables (which will result in a significant reduction in occupancy levels and corresponding increase in rental pricing).

5. BT considers this issue to be relevant only to 2 bore and 3+ bore ducts. BT proposes that this could be avoided by a simple change to occupancy levels, assuming that 3 parties on average occupy 2 bore and 3+ bore ducts. This would result in an approximate doubling of average PIA rental prices.

6. Ofcom appears to accept BT's argument on face value, but proposes a different solution, namely a departure from using occupancy levels as the cost distribution key in favour of an approach intended to reflect the value each occupier of a 2 bore or 3+ bore duct might derive from such occupancy. Ofcom's approach results in increases to rentals for 2 bore and 3+ bore ducts as well as to joint boxes, with a 33% increase to 2 bore duct rental over the next charge control period.

7. We do not consider that Ofcom's proposal offers sufficient transparency to ensure that prices are fair, nor do we believe that Ofcom has any evidence to support its proposals. We are deeply concerned at the short-term effect of Ofcom's proposals and also that, if implemented now, they would simply be a first step in the process of implementing BT's proposal. BT's proposal would result in PIA-based FTTP deployment becoming unviable.

8. We disagree with BT's base assumption that its PIA prices should increase significantly due to its planned copper retirement. Having reviewed BT's costs and network architecture in detail, we recommend that Ofcom should either:

    a. Adjust BT's asset value to remove assets remaining on BT's books but which have already been recovered through relevant revenues. This would result in approximately a 40% reduction of PIA prices and would enable a continuation of the transparent occupancy-based cost allocation of duct costs to PIA users, without resulting in significant price increases; or

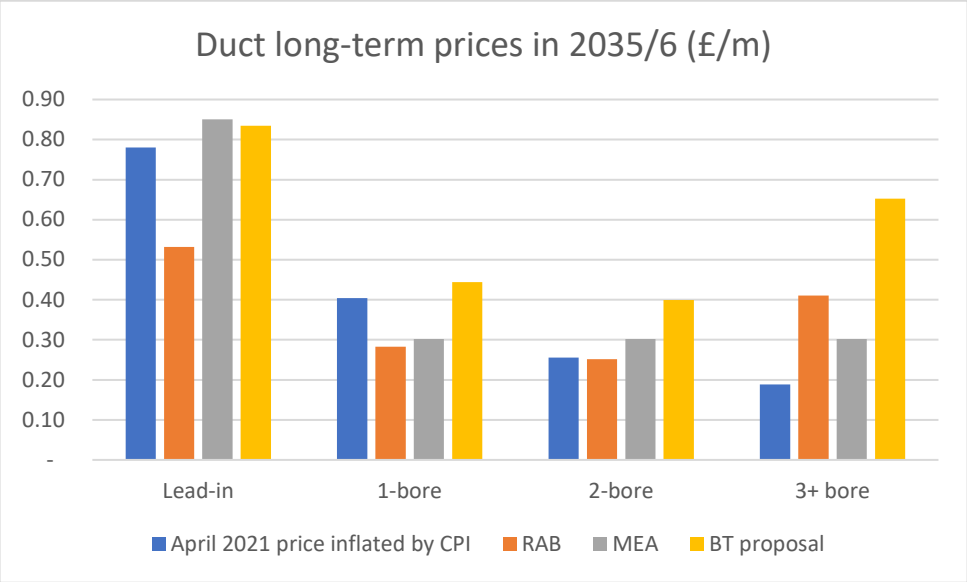
    b. Apply the equivalent of scorched node/earth approach when calculating BT's duct costs, effectively applying the principle of a modern equivalent asset

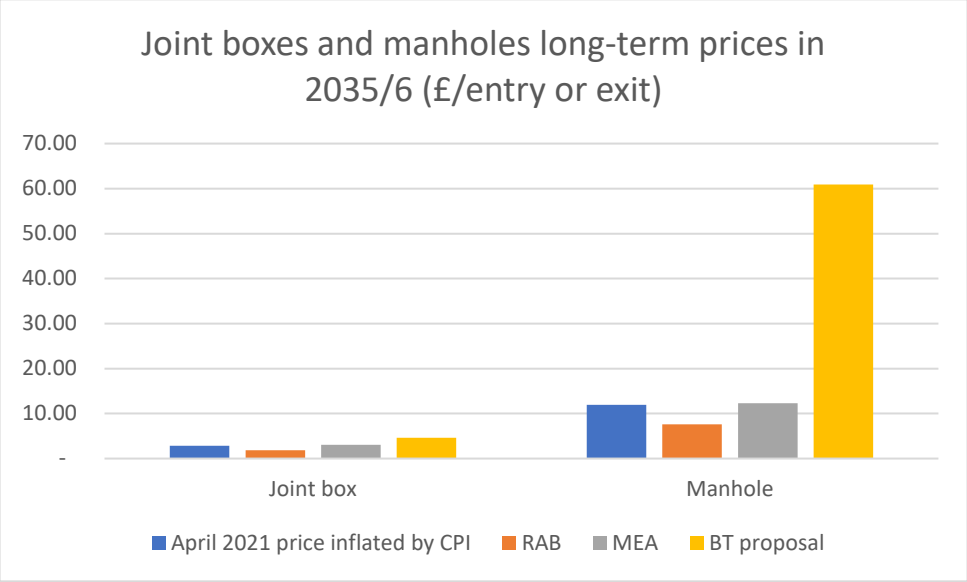
(MEA). Experience from the respondents and other builders and operators of modern fibre networks suggests that a single bore duct is sufficient, with no need for 2 bore or 3+ bore ducts. We therefore propose that Ofcom modify BT's cost base to reflect that of a modern full fibre network, including only the costs of single bore ducts across the network. This adjustment would result in reduced unit costs for 2 bore and 3+ bore ducts and would allow for a continuation of using actual occupancy levels to allocate costs between BT and PIA users. For convenience, we have used a national average occupancy level of 3 in our analyses; we believe this to be a good proxy for likely long term average occupancy.

9. We recommend that Ofcom take the time to review our proposals, reconsult on its preferred option and implement one of our proposed solutions for this coming market review period. The significance of PIA pricing is such that any resulting delay in the overall WFTMR timing would be acceptable.

10. Should Ofcom, however, chose to not implement one of our proposals for this market review period, then it should implement a neutral place-holder charge control, that would not prejudice the outcome of reviewing our proposals for the next market review. It is however critical that Ofcom signal now that it intends to find a solution that does not result in significant increases to PIA rental prices and that offers transparency and fairness to both PIA users and BT.

    We have used Ofcom's WFTMR PIA model to assess the indicative outcomes of the BT proposal, the RAB approach with a RAV adjustment and the MEA approach. These are set out below:





11. Ofcom's decisions on the PIA rental charging approach are of existential importance to altnet fibre operators. We urge Ofcom to pause and consider carefully what would be the best solution for the UK.

12. We broadly agree with the other proposals set out in the November consultation, always with the caveat that we disagree fundamentally with Ofcom's proposed way of setting pricing for dark fibre access in Area 3.

2 Introduction and background

13. In January 2020, Ofcom issued its Wholesale Fixed telecoms Market Review consultation (the WFTMR), which combines the reviews of a number of relevant markets including the Physical Infrastructure Market Review (PIMR), the Business Connectivity Market Review (BCMR), and the Wholesale Local Access Market Review (WLAMR).

14. The WLAMR presented proposals for product and geographic market definitions for each market covered, SMP analysis of the resulting relevant markets and also the remedies in markets where SMP was established.

15. Industry stakeholders responded to the WFTMR in May 2020 and have also engaged with a number of subsequent follow-on consultations since then, assisting Ofcom in the process of reaching its final conclusions to be set out in the WFTMR Final Statement currently scheduled for March 2021, with the decisions taking effect on April 1 2021.

16. The core objective on the WFTMR (alongside Ofcom's primary duties to protect consumer interest) has been to encourage investment in competing fibre network across the UK. This objective has been visible through the introduction of CPI-CPI% charge controls in the WLAMR and the BCMR and the focus on ensuring that the Physical Infrastructure Access (PIA) remedy in the PIMR is fit for purpose for scale deployment.

17. This consultation (the November consultation) proposes modifications to a number of remedies proposed in the WFTMR, in particular:

- Pricing of PIA rental and ancillary services;
- Dark fibre pricing and implementation; and
- SOGEA pricing

18. The November consultation was issued on November 6th, with a response deadline of December 8th. It was presented as a selection of relatively minor modifications to

remedies proposed in the WFTMR, and it was not until after careful review the significance of some of the proposed changes became clear.

19. In particular, the proposed change to how PIA rental prices are calculated and the proposed changes to the actual prices for the coming charge control period are of deep concern to the respondents and, despite intense work to analyse the impact and develop constructive proposals for alternatives, it has not been possible to complete this response by December 8th. Instead, it is being submitted on December 10th. We have kept Ofcom informed of our timing and expect Ofcom to take full account of this response.

20. The parties represented in this response (the respondents) are all investors in and operators of new fibre networks in the UK[3] and have overall welcomed Ofcom's pro-investment approach. The respondents have engaged actively in several parts of the WFTMR process (including the preliminary and preparatory consultations run during 2018 and 2019), investing substantially in this engagement.

2.1 Respondents

21. The following parties form part of this response:

22. County Broadband - Established in 2003, County Broadband has transitioned over the past two years from a wireless operator, to a predominantly fibre operator. The company received £46m investment in late 2018 to support the deployment of circa 36,000 homes passed and is now preparing for its next funding round in 2021 to support deployment to a further 150,000 rural premises in the East Anglian region. The company employs substantial use of Passive Infrastructure Access (PIA), as well as its own installation of ducts and poles.

23. Community Fibre - Community Fibre is London's largest fibre only communications network provider and one of the largest users of BT's PIA product in the UK. Backed by large institutional investors including Warburg Pincus, DTCP, Amber Infrastructure

[3] INCA represents many alternative network operators.

and RPMI. Community Fibre is on track to expand its 100% full fibre network to one million properties by the end of 2023.

24. euNetworks - euNetworks is a Western European provider of bandwidth infrastructure services. We focus on delivering scalable, fibre based products and solutions to a customer base that is at the centre of technology transformation. Our customers require fibre based data centre to data centre connectivity, both within the key cities in Europe and between these cities, supporting both their bandwidth growth and the performance requirements that their applications demand. Our customers' needs shape how we develop our network further. We own and operate 17 dense fibre based metropolitan city networks. These are connected with an intercity backbone covering 51 cities in 15 countries. Our metro networks are in London, Manchester, Dublin, Amsterdam, Rotterdam, Utrecht, Paris, Frankfurt, Cologne, Dusseldorf, Stuttgart, Munich, Hamburg, Berlin, Vienna, Milan & Madrid. euNetworks leads the market in data centre connectivity, directly connecting over 440 in Europe today, with further data centres indirectly connected. We are also a leading cloud connectivity provider, direct connection to all key cloud platforms and access to additional platforms. Our product set of Fibre, Wavelengths and Ethernet is bundled to deliver bandwidth solutions for our customers, from euTrade to Cloud Connect, DC Connect, and Media Connect.

25. Fibrus - Fibrus is building Full Fibre Networks in 105 towns in regional Northern Ireland. By the end of Nov 2020 the company had works underway or complete in 13 towns. The company has also be awarded Project Stratum and has already commenced build on a 16,000km fibre network to cover all parts of rural Northern Ireland. The majority of Fibrus network infrastructure utilises PIA for a network that will pass over 300,000 homes in NI.

26. INCA - INCA is a trade association. Its members are supporting, planning, building and operating sustainable, independent and interconnected full fibre and wireless networks that advance the economic and social development of the communities they

serve and permit the provision of applications and services through open competition, innovation and diversity. INCA's aims are to:

- support the development of sustainable independent networks through collaboration on the provision and procurement of products and services and adoption of common standards.
- support collaboration between members to create new, independent digital infrastructure that can be shared by operators and suppliers.
- support mutual trading between members.
- represent the interests of independent networks.
- promote the advantages and successes of independent networks.

INCA has more than 150 members, including: network owners, operators and managers; access and middle mile networks; public sector organisations actively promoting the development of 21st century digital infrastructure; vendors, equipment suppliers, and providers of services that support the sector.

27. Jurassic Fibre - Jurassic is a full-fibre broadband provider focused on bringing the best ultrafast connectivity in the UK to the underserved communities and businesses of the South West, and in particular Devon, Dorset, Somerset and Cornwall. This will secure the region's reputation as the best place to live, work and holiday in the world, and provide a platform to attract inward investment to seaside and rural communities that have traditionally been allowed to fall behind the rest of the UK.
28. Swish - Swish is a full-fibre broadband provider, bringing truly exceptional connectivity services to homes and businesses in the Home Counties. Our goal is clear and simple - to improve lifestyles and enhance the future of our communities by connecting people, businesses and services instantly through reliable broadband.
29. WightFibre - WightFibre provides phone, TV and broadband services to homes and businesses on the Isle of Wight. The WightFibre Gigabit Island Project, a £90M+ project, will see full-fibre broadband deployed to around 60,000 homes and business

across the Island by 2022 and to a total of 72,000 homes by 2025. Already (Nov 2020) 23,000 homes can receive full-fibre broadband. WightFibre is owned by Infracapital Partners and was the first company to receive funding from the government's Digital Infrastructure Investment Fund on 2017.

30. Zayo - Zayo Group is a global provider of communications infrastructure services, including Dark Fibre, Wavelength, data centre connectivity, Ethernet and IP services. Zayo operates in the United States, Canada, France, Germany, Netherlands, Belgium, Switzerland, Italy, Ireland and the United Kingdom. Zayo was founded in 2007 and is headquartered in Boulder, Colorado, with European headquarters in London and Paris. Zayo's UK network spans more than 133,000miles of fibre strands and connects over 130 data centres via unique routes including alongside national gas pipelines and within London's sewer system. Zayo provides many customers with dedicated fibre connections utilising a combination of on-net, new construction and off-net leased fibre. Zayo extends its network to customer premises with a combination of purchased dark fibre as well as self-installed new-build fibre.

3 Pricing of PIA rental and ancillary services

31. The November consultation proposes changes to the way PIA rental charges are calculated as well as to the actual levels of those charges to apply for the charge control period. Additionally, Ofcom proposes to change the interpretation of the 'Basis of Charges' pricing remedy it has proposed for PIA ancillary services. We present our analysis and views of each of those proposals below.

3.1 Pricing of PIA rental charges

32. In the WFTMR, Ofcom proposed that the rental charges for spine duct should continue to be based on the occupancy levels of BT's different duct configurations. For charging purposes, the spine duct configurations are split into the following categories:

- Single bore duct,
- 2 bore duct, and
- 3+ bore ducts

33. Ofcom proposes changes to how pricing is calculated for 2 bore and 3+ bore rentals, but not for single bore rental.

34. When considering the spine duct rental charges, it is important to clarify that each PIA user is assumed to be using a 25mm subduct, so all pricing is for 25mm equivalents in the spine duct, regardless of whether the PIA customer uses less than 25mm of space. If a PIA user needs more than 25mm of space, then it has to pay for extra 25mm equivalents.

35. There are also other PIA rental services that Ofcom proposes to change pricing for, these are:

- Manholes, and
- Joint boxes

36. This is also to reflect the proposed move to a value approach, as opposed to the current occupancy approach, to distribute costs between BT and PIA users. Ofcom's proposals result in only marginal changes to the prices proposed in the WFTMR and are derived from the Ofcom value approach to duct cost allocation.

37. Additionally, PIA users also rent space in BT ducts for customer connections. These are known as lead-in ducts. Ofcom is not proposing any changes in either pricing approach or price levels for lead-in duct rental.

38. Likewise, Ofcom is not proposing any changes to rental prices for pole space.

39. In the WFTMR Ofcom proposed that a PIA user should be liable for rental charges to cover the following proportions of costs for the 4 products in question:

3.1.1 Rental pricing for 2 bore and 3+ bore spine duct

40. The November consultation now proposes to change the approach used from occupancy levels (the occupancy approach) to pricing reflecting the assumed value a PIA user could derive from using the individual lengths of duct (the value approach).

41. Ofcom explains that its proposed change results from responses to the WFTMR received by BT and Openreach, in which it is pointed out that the level of occupancy of BT's spine ducts is likely to change considerably over the next 10-15 years, potentially resulting in significant changes to the pricing of spine duct rental of the occupancy approach is continued.

3.1.1.1 BT / Openreach proposals

42. BT and Openreach have argued that occupancy is likely to increase significantly in the short term, as BT as well as competing PIA users deploy fibre across the UK.

Table 3.1: Shares of unit costs as proposed in the January 2020 Consultation

Network element	Share
2 bore	19%
3+ bore	9%
Joint box	3%
Manholes	14%

This would therefore result in a reduction in spine rental. However, BT and Openreach have argued, once BT is allowed to stop offering services based on copper (the copper retirement programme), the removal of copper from its ducts will result in a significant reduction in occupancy – particularly because copper cables use significantly more space per customer served than fibre – resulting in potentially significantly higher pricing in the longer term.

43. The BT proposal to resolve this issue and prevent significant variations in pricing over time is to adopt a simple assumption of 3 occupants for each 2 bore and 3+ bore spine duct, going forward. We understand that BT's rationale for proposing an average occupation level of 3 is based on the Ofcom assumption that there will be three competing fibre networks across large parts of the UK.

44. The single bore duct rental is currently set on a 50% occupation assumption and BT is not proposing any change to that.

45. BT is also proposing that the sharing of manhole and joint box costs should be adjusted such that for manholes the PIA user should pay 33% (total cost for entry and exit), and for joint boxes a PIA user should pay 46% (again total cost for entry and exit).

3.1.1.2 Ofcom proposals

46. In response to the BT proposals, Ofcom has acknowledged that there is a risk that spine duct rental pricing for multi-bore[4] ducts could vary substantially over time and agrees that this should be avoided to the extent possible.

47. Instead of accepting the BT proposal of an occupancy level assumption of 3, Ofcom has developed a proposal that attempts to distribute the costs of the duct in accordance with the potential commercial value each occupant could access through the occupancy of the relevant duct the 'value approach'. Ofcom proposes that the pricing of single bore duct is reasonable (rental represents 50% of the costs of the duct) and would not need to be adjusted to fit into its new pricing approach, but the current occupancy based pricing of multi-duct rental would.

48. Ofcom proposes that in 2 bore ducts, a PIA customer would be able to address 25% of the commercial value accessible from that duct and for 3+ bore ducts, Ofcom proposes that a PIA customer would be able to address 10% of the commercial value accessible from that duct. Ofcom has explained to us that the average number of

[4] For ease of reference, we use the term multi-bore duct as a collective term for 2 bore and 3+ bore spine ducts.

ducts in the 3+ bore category is approximately 5. It is thus clear that Ofcom's approach is that PIA users pay for half a bore in each case.

49. Ofcom offers no additional rationale for why each PIA user paying for half a bore is equitable in the short term, nor in the longer term. Discussions with Ofcom have revealed that Ofcom has developed this approach as a proposal but is receptive to alternatives that could help address the underlying problem (that the occupancy approach would result in reductions in rental prices in the short term and increases in the longer term).

50. Additionally, Ofcom does not suggest that its current proposal would survive this coming charge control period. In the November consultation Ofcom states "*any decisions on the approach to PIA pricing in future market reviews would take account of all relevant factors at the time*"[5], thus there is no suggestion that the proposed pricing approach and price levels would be a longer-term solution that Ofcom can commit to at this time. This means that altnets face the risk that prices would increase for future charge control periods to reflect the principle of an average occupancy of 3 (as proposed by BT).

51. We do not find that Ofcom's proposals offer the sufficient levels of transparency or cost-reflectiveness to justify the significant changes they cause.

52. We are concerned that Ofcom's proposals are not evidence-based and appear to be largely arbitrary.

53. We are concerned that Ofcom proposes to adjust only some charges and leave others with their previous cost allocation methods unchanged. This creates a patchwork of inconsistent cost allocation methods that could cause significant problems in the future.

54. We are also concerned that Ofcom's proposals implicitly agree with BT's proposition that it should recover its entire book value on all its legacy duct assets, despite those

[5] Paragraph 3.14.

assets already having been recovered, and also despite those assets being disproportionate to the needs of a modern fibre network.

55. Ofcom's proposals would appear to be a first step towards implementing the BT proposal and our impact illustrations, set out later in this response and in Annex 1 to this response, show that Ofcom's proposals are consistent with a longer-term move to the BT proposal.

56. Implementation of the BT proposal would represent a doubling of network costs for altnets using PIA and could result in many altnets not being long-term viable. In the 2018 WLAMR Ofcom relied on a CAP on BT's existing PIA rental charges, due to the lack of costing data for the PIA product and the uncertainty of PIA volume forecasts at the early stage of the improved PIA remedy.[6] Additionally, Ofcom stated: "*we recognise the importance of regulatory consistency and predictability over time. We think that investors will place considerable weight on us providing effective constraints on Openreach's ability to set inappropriate charges in the long-term and in the short-term*"[7]

57. Ofcom's expressions of confidence in the 2018 WLAMR Statement that its costing and cost allocation methodologies for PIA were appropriate to provide long term stability for investors and operators relying on PIA to deploy new fibre networks appear to have been incorrect and may have misled investors and operators to make what may prove to be unviable investments.

3.1.2 Pricing of manholes and joint boxes

58. Ofcom also proposes changes to the pricing approach and the rental price levels for manholes and joint boxes. This is also to reflect the proposed move to a value approach, as opposed to the current occupancy approach, to distribute costs between BT and PIA users.

[6] 2018 WLAMR paragraph 5.31
[7] 2018 WLAMR paragraph 5.40

59. Ofcom's proposals result in only marginal changes to the prices proposed in the WFTMR and are derived from the Ofcom value approach to duct cost allocation.

60. Ofcom is now proposing price changes as set out below:

Table 3.2: Proposals vs original methodology

Network element	Current Proposal	2018 WLA/ 2019 PIMR	Jan 2020 Proposal
2 bore	25.0%	22.1%	19.3%
3+ bore	10.0%	9.8%	8.8%
Joint Boxes	15.0%	14.4%	14.4%
Manholes	3.3%	3.3%	3.3%

61. For 2 bore rental in particular, this represents a 33% increase over the pricing proposed in January 2020. Every single change proposed by Ofcom represents an increase in underlying network costs for altnets.

3.1.3 PIA pricing principles and history

62. Since the Future Telecommunications Investment Review (the FTIR) was published in July 2018 and Ofcom published its associated document "Regulatory certainty to support investment in full-fibre broadband"[8], the overriding Government and Ofcom policies have centred around encouraging investment in new fibre networks, by BT and competitive providers, and the cornerstone of competitive fibre deployment has been the availability of a PIA product that is stable and fit for scale deployment.

63. In its 2017 WLAMR consultation, Ofcom consulted on how the PIA product could be improved and it also consulted on the costing and pricing of PIA services. Its proposals were to largely continue the existing pricing approach, despite those prices being based on original prices set by BT, using BT models with only limited transparency for Ofcom. Ofcom stated that it would improve transparency over time as it collected more relevant data.

[8] https://www.ofcom.org.uk/__data/assets/pdf_file/0025/116539/investment-full-fibre-broadband.pdf

64. At that time, alternative infrastructure operators (altnets) expressed concern that PIA prices should be not only cost reflective, but also stable over the long run. There was considerable nervousness that prices set using BT's assumptions and modelling would not be a reliable basis for long-term pricing stability that would also reflect BT's efficiently incurred costs.

65. In its 2018 WLAMR Final Statement, Ofcom stated that it was comfortable that the pricing approaches proposed would provide stable, fair and reasonable PIA charges on a forward-looking basis.

66. In the 2018 WLAMR, PIA rental charges were reduced significantly; spine duct rental reduced by 53-65% and lead-in duct by 35%.

67. Now, only 2 years after those 2018 WLAMR statements and prices, Ofcom is proposing significant changes to how prices are set and to the resulting price levels for the main PIA products, prices that would significantly increase the cost base for many altnets that have made long-term investments on the assumption of a stable PIA cost base.

68. It is deeply concerning that Ofcom issues proposals like this with only a 30-day consultation period and just before the completion of the WFTMR process, leaving insufficient time for appropriate analysis and considerations. The potential consequences for altnets are devastating and Ofcom should ensure that either a more appropriate interim solution is implemented for the period of this coming charge control review or delay the implementation of the WFTMR until a more comprehensive review of alternative options has been completed.

3.1.4 BT cost recovery from PIA charges

69. The occupancy approach has been used consistently by BT and Ofcom to set PIA rental charges. We consider it to be a useful and transparent cost allocation principle and one that Ofcom should think carefully before departing from.

70. Although, at face value, the occupancy approach would seem to present issues of price stability as occupancy of BT's ducts increases and then potentially falls again,

it is worth considering whether the issue lies elsewhere than in the allocation method, perhaps in the calculation of the actual unit costs of BT's infrastructure.

71. The November consultation has caused many altnets to carefully assess how the BT duct, manhole, joint boxes and pole costs are calculated, leading to the following observations:

    a. Having reviewed the revenues collected by BT for services using the duct and pole infrastructure, we have concluded that BT has, in fact, already recovered all of its existing capital investment in those assets and should therefore now only be allowed to recover new investment[9] and operational costs; and

    b. In any event, even if BT were to continue to set prices using the book value of its assets (ignoring that it has already recovered the full capital investment), BT should only be allowed to incur efficiently incurred costs. Once the copper has been retired, it would not be efficient to operate a duct infrastructure that is dimensioned to accommodate copper cables when it could likely accommodate its entire fibre network (including PIA usage) in a single bore duct.[10],[11] If this is not the case, it would be due to BT's (legacy) tree and branch network architecture which offers no benefit to PIA users and which is inefficient from a duct capacity perspective.

72. We discuss each of those scenarios in more detail later in this response.

3.1.5 Occupancy approach

73. In the November consultation Ofcom states "*It was not our intention that the share of unit costs that a PIA user would pay would fall in future review periods as Openreach*

[9] We note that, in many instances, property developers contribute substantially to the costs of building duct infrastructure for new housing developments. It is critical that Ofcom ensures that BT cannot recover such costs through PIA.

[10] We note that a typical 89mm internal diameter single bore duct can accommodate 7 25mm subducts. See for example report commissioned by Ofcom: https://www.ofcom.org.uk/__data/assets/pdf_file/0023/33971/duct_pole.pdf)

[11] The Respondents confirm that they build multi-service networks and do so without difficulty with using a single 25mm subduct equivalent in the vast majority of cases.

(or any other telecoms provider using PIA) deploys an FTTP network."[12] We do not understand this statement, as an occupancy approach (as deployed consistently by Ofcom for the past 10 years, and which gave rise to reductions in some PIA charges in recent market reviews) would naturally result in reduced prices as occupancy rises, and increased prices as occupancy falls.

74. The occupancy approach ensures that BT and PIA users contribute to the overall duct costs in accordance with the portion of the ducts they use.[13,14,15] This ensures that BT can recover its costs in a fair manner.

3.1.5.1 Ofcom's value approach

75. We understand why Ofcom would wish to avoid significant fluctuations in PIA pricing; it is essential to altnets that their underlying network cost base is stable and predictable, and we appreciate that Ofcom is concerned at the prospect of significant fluctuations in PIA spine rental charges.

76. Our concerns relating to Ofcom's proposed value approach are that it departs from transparent cost allocation and does not provide a longer-term path to ensure that PIA prices are cost based, transparent, and (importantly) stable. Ofcom's proposed value approach results in price increases based on no evidence that PIA users cause that level of cost, nor that they enjoy the benefits of that proportion of the duct capacity.

77. Ofcom's assertion that a PIA user occupying space in a 2 bore duct can compete for 25% of the customer connections for that length of duct is difficult for us to understand. It is clear that Ofcom has no evidence that its proposed cost allocation

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[12] Paragraph 3.12.

[13] Although many PIA users would pay for more space than they actually use, due to a PIA user being assumed to use a 25mm subduct.

[14] By the portion of the duct used, we mean the portion of occupied duct as opposed to the portion of the full duct capacity, regardless of whether it is all in use.

[15] We understand the duct utilisation/occupancy to be calculated on a national average basis, rather than for where PIA is used. If the latter, the utilisation should be significantly higher – particular in single bore ducts where the minimum utilisation would be 2 (BT- (assuming that BT occupies only the equivalent of a single 25mm subduct - and one PIA user).

methodology is fair and reasonable, and we consider it would be open to challenge either for this market review or one following, should Ofcom decide to keep using this approach in the longer term.

78. We believe, however, that BT's actual and efficiently incurred costs of building, operating, maintaining, and upgrading its duct and pole infrastructure is significantly lower than that which is currently used by Ofcom when setting the PIA rental charges. We look first at BT's recovery of its capital investments in its duct and pole infrastructure.

3.1.6 Regulatory Asset Value adjustment[16]

79. In our view (and in accordance with the EC guidance, Ofcom's RAV adjustment in 2005, its objectives in the current WFTMR review and the approaches taken by other regulators) [17], when applying the Regulatory Asset Base (RAB) the Regulatory Access Value (RAV) of a non-replicable asset should not include assets for which the regulated party has already received compensation through revenues.

80. The RAV should be set as the costs incurred to date to bringing the asset into its current condition, where these costs have not already been recovered through revenue. Such an approach, which is usual in other network utilities, ensures that the owners of the assets achieve a fair return on their investment over the life of the asset. It ensures that the asset investors are appropriately incentivised, but avoids these investors earning economic rents that would add unnecessary costs to the users of the assets.

81. When adjusting BT's RAV in 2005, Ofcom noted:

The possibility of expropriating assets is a matter that Ofcom takes very seriously. Ofcom agrees that clawing back profits which are due to unanticipated efficiency gains would

[16] In compiling our response, we have collaborated with CityFibre, and have drawn on their analysis of the RAV adjustment.

[17] Please see Annex 2 for a more comprehensive discussion of the underlying principles and relevant references for why we believe this to be the appropriate approach for valuing BT's duct and pole assets.

damage incentives to increase efficiency. However, the opportunity for over-recovery resulting from the 1997 revaluation to CCA did not result from any efficiency on the part of BT, …. Ofcom believes that removing the opportunity for over-recovery in future should have minimal effect on economic incentives. [18]

82. To fully value the opening RAB Ofcom should take the following steps:

    a. Take the RFS for each year since 2005 and calculate the return in excess of the regulated WACC as assessed by Ofcom at that time. As the RAV adjustment was made in 2005 and removes over-recovery in periods prior to this, we believe it can safely be assumed that the opening position for 2006 does not require any adjustment.

    b. Remove any excess return for non-access, so any over recovery could not be attributable to duct)

    c. Remove excess for products where excess return was legitimately allowed by Ofcom to incentivise static efficiency (i.e., where a cost based price cap had been imposed)

    d. The remaining over recovery should be deducted from the RAB value for each year (i.e., closing RAB for each year = opening RAB + revaluation – book depreciation – over recovery as calculated above+ over recovery

83. Although we have not performed this calculation in detail, we can make a reasonable approximation as follows: -

84. Frontier Economics, in a report prepared for Vodafone calculated that the total excess return for the period from 2006 to 2018 was £10.5bn[19]. To this can be added the returns for 2017/18, 2018/19 and 2019/20[20] to give £11.8bn over the period since 2006/7.

[18] Ofcom Consultation Document "Valuing Copper access Part 2 – Proposals" 16 March 2005 Paragraph 3.20
[19] Frontier Economics "Profitability and the Incentive to Invest" 28 September 2017
[20] See Annex 1 of the CityFibre response.

85. This over recovery is over twice the current book value of the duct and poles, (£5.5bn from Ofcom's pricing model) and as the adjustments we set out above will be relatively small, it is very likely that a full calculation will show that the spend to date on the existing duct and pole network has already been recovered in full.

86. The significant reduction in unit costs for all BT's ducts and poles resulting from writing down the RAV (which altnets and downstream competitors to BT have already paid for in their interconnection and access charges), once shared between BT and PIA users, using actual occupation data, would likely result in reasonable PIA rental prices that can be projected into altnet business plans for the longer term. The alternative could be to accept an average occupation level of 3 across all sizes of ducts (including single bore) and calculate the rental prices on that basis to improve stability. In our view an average occupancy level of 3 is not an unreasonable assumption to use.

87. In our view, it is Ofcom's duty to both ensure that BT can recover its efficiently incurred costs AND to ensure that PIA users do not pay for assets that have already been recovered. We strongly support BT's right to recover its costs but urge Ofcom to consider urgently applying the RAV adjustment to recognise that all BTs ducts and pole infrastructure has already been completely recovered.

88. Once the RAV has been adjusted, the remaining costs (including forward-looking network adjustment costs) should be distributed between BT and PIA users based on actual occupancy levels – using occupancy forecasts to reflect anticipated changes in occupancy during the 5-year charge control periods. As it will be in BT's interest to have PIA users cover as much of the charges as possible, and copper uses a lot more space than fibre, this approach will provide an incentive for BT to recover its copper assets in an efficient and timely manner.

3.1.7 MEA cost adjustment

89. If Ofcom agrees to adjust the BT RAV, then it would be appropriate that its operating costs and costs of maintenance and repair of BT's current duct and pole inventory

should be covered through PIA rental charges. If, however, Ofcom decides against the RAV adjustment, then it would be appropriate that BT only be allowed to recover the costs of a modern efficient network, not a network dimensioned to accommodate copper and using a tree and branch architecture that requires multiple duct bores where modern networks require only a single bore.

90. BT operates a legacy network, designed for analogue copper-based technologies and services. The network has evolved to a certain extent over time[21], but the physical infrastructure is still very much as designed to accommodate those legacy technologies and equipment.

91. Whilst the MEA approach is commonly used in situations where communications providers have to make 'build or buy' decisions (and it is therefore important that the regulated access price is set to reflect the investment the communications provider would make if it were to build rather than buy access to the regulated services), it is also used in situations where no build or buy decisions are involved, including for setting mobile call termination rates (MTRs).

92. Regulators across the world[22], including Ofcom, use bottom-up LRIC current costing with MEA asset valuations for setting MTRs, despite this form of access not involving a build or buy decision. The rationale for this is typically that consumers should only be charged at the level reflecting the costs of a modern efficient network. We believe this is equally applicable to PIA rental charges which will set the underlying network cost base for competing fibre providers across the UK.

93. When copper cables are withdrawn, the regulated provider benefits from the revenues associated with the scrap value of the copper. It should therefore also face the consequence that its network becomes over dimensioned, and any excess capacity should be removed from its books, offset by the copper scrap value.

[21] For example, there has been a reduction in exchange sites.

[22] BEREC BOR (18) 103 termination Rates at European Level January 2018. file:///C:/Users/GitaSorensen(GOSCons/Downloads/8162-termination-rates-at-european-level-janu_0%20(1).pdf

94. When fixed telecoms was first liberalised and cost-based interconnection and access was mandated, regulators used bottom-up LRIC costing and, in many cases, adopted the scorched earth or scorched node approach to costing the network, using the principle that new competitors should not pay for legacy network designs. At the time, the main difference between legacy and new networks was the use of fibre transmission (and later IP) in modern national networks, with legacy networks still relying on copper and analogue technologies.

95. Since then, incumbent fixed providers have updated their networks and many regulators (including Ofcom) have opted to move the using fully allocated costs (FAC) or top-down LRIC (using the regulated operators actual costs) in lieu of the more theoretical bottom-up LRIC costing.

96. The move from copper to fibre in the access network represents a new significant difference between legacy and new modern networks. Our proposal to use MEA costing for BT's duct infrastructure is effectively equivalent to the use of scorched node bottom-up LRIC costing; by simply assuming single bore ducts the process of adjustment is much simpler and involves less conjecture about fundamental network architecture and design.

97. We note that Ofcom has used both scorched node and scorched earth approaches in its fibre costing model to model BT's FTTP costs and altnet FTTP costs respectively[23], and we consider it appropriate that a similar approach is applied to the costing of PIA access. Our proposal to simply assume single bore ducts across all of BT's network is reasonable based on the experience of altnets deploying multi-service fibre networks and it is simple to implement as an adjustment to the FAC instead of needing detailed complex bottom-up cost modelling.

98. Ofcom and the Government want BT and altnets to invest in and operate new, modern, fibre networks across the UK and they want consumers and citizens to

[23] Ofcom consultation: Promoting investment and competition in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26: Annex 17

benefit from access to such networks and services across the networks at affordable prices. Given that PIA has been widely recognised as the cornerstone of competitive fibre investment, it is important that it is available at price levels that enables fibre deployment to as many parts of the UK as possible. Keeping BT's PIA charges high to either reflect an already recovered asset base or to allow recovery of an inefficient legacy network would not support those objectives and flies in the face of good regulatory practice.

99. Therefore, if Ofcom does not agree to implement the RAV adjustment as set out above, we strongly recommend that Ofcom applies the Modern Equivalent Asset (MEA) approach when calculating the unit costs for PIA users to access BTs ducts and poles. We believe that, once copper retirement has been completed, BT would not need 2 bore or 3+ bore duct configurations, as a single bore should be able to accommodate both BT's own use and PIA use. It is possible that, near exchanges and aggregation nodes, BT may require a second bore to accommodate its tree and branch network architecture. However, as that affords no additional benefits to PIA users and would not be the case if BT designed a new and efficient fibre network today, we do not believe that the additional costs of 2 bore ducts should be included when calculating PIA rental charges.[24]

100. With regards to manholes and joint boxes, BT may well need fewer and perhaps smaller manholes for a network consisting of single bore ducts. It is also possible that smaller joint boxes would be appropriate. If adjusted using an MEA approach, this should result in reduced unit costs.

101. We recommend that the MEA costs be recovered from BT and PIA users in accordance with actual occupancy levels. We believe the most appropriate way to do this is to use occupancy forecasts for the 5-year charge control periods. As it will be in BT's interest to have PIA users cover as much of the costs as possible, and copper

[24] We note that, in any case, the incremental costs for a 2 bore duct over a single bore duct are limited.

uses a lot more space than fibre, this approach will provide an incentive for BT to recover its copper assets in an efficient and timely manner.

3.1.8 Adjustment of manhole and joint box pricing

102. BT proposes to link the cost allocation of manholes and joint boxes in accordance with the spine duct occupancy changes over time, but we are concerned that this would be incorrect.

103. The occupancy of spine ducts depends on the diameters of cables used. As copper is phased out and replaced with fibre, the total amount of space required is reduced. For manholes and joint boxes, however, the level of occupancy is measured in the number of entries and exits used, which is not directly related to the diameter of the cables used for the entries and exits.

104. Manholes are typically located where several ducts intersect (like a railway station), so a manhole caters for more than a single duct. Also, although BT is planning to replace its copper with fibre, it is not, to our knowledge, planning to reduce its number of duct routes and number of entries and exits needed in manholes.

Likewise a joint box may cater for more than one duct, so it may not be logical to link the occupancy of a joint box directly to the level of occupancy of ducts using that joint box.

105. We therefore believe that the current occupancy levels of manholes and joint boxes are unlikely to change significantly due to BT replacing copper with fibre, but the occupancy will increase due to the incremental use of those assets by PIA users. As it is not known what the incremental PIA occupancy will be, we have made the conservative assumption of leaving the sharing of those costs unchanged from the January WFTMR proposals which were using actual occupancy data.

3.1.9 Comparing long-term outcomes

106. In order to provide an indication of the likely long-term outcomes of the pricing options described above, we have conducted some high-level modelling which

provides an estimate of unit prices in 2035/6 under three cases: the BT proposal made in its response to the January 2020 consultation, the RAV adjustment and the MEA cost adjustment.

107. In all of these cases, we have taken as a starting point the forecast FAC cost base for 2025/6 from Ofcom's PIA model and projected this forward to 2035/36 using a simple straight line projection of costs and volumes.

108. In the RAV scenario, a 40% reduction in FAC costs is applied in 2026/7, and from the time forwards it is assumed that costs increase at the same rate as the base FAC forecast. This provides a high-level estimate of the impact of setting the capital value to zero but including all future investments from that point onwards.

109. In the MEA scenario, the unit prices for 2 and 3+ bore spine duct are set to be equal to those for single bore duct, providing an estimate of the impact of using single bore duct as the appropriate MEA.

110. The BT proposal scenario simply uses the base FAC forecast with no adjustments applied.

111. The sharing assumptions used in each case are shown in the table below:

	RAV	MEA	BT proposal
Lead-in duct	90.0%	90.0%	90.0%
Spine duct – single bore	50.0%	33.3%	50.0%
Spine duct – 2 bores	33.3%	33.3%	33.3%
Spine duct – 3+ bores	33.3%	33.3%	33.3%
Joint boxes	14.4%	14.4%	23.0%
Manholes	3.3%	3.3%	16.5%

112. Illustrations 1 and 2 below show the resulting unit prices for each scenario, with current prices (inflated to 2035/6) included as a reference.

Illustration 1

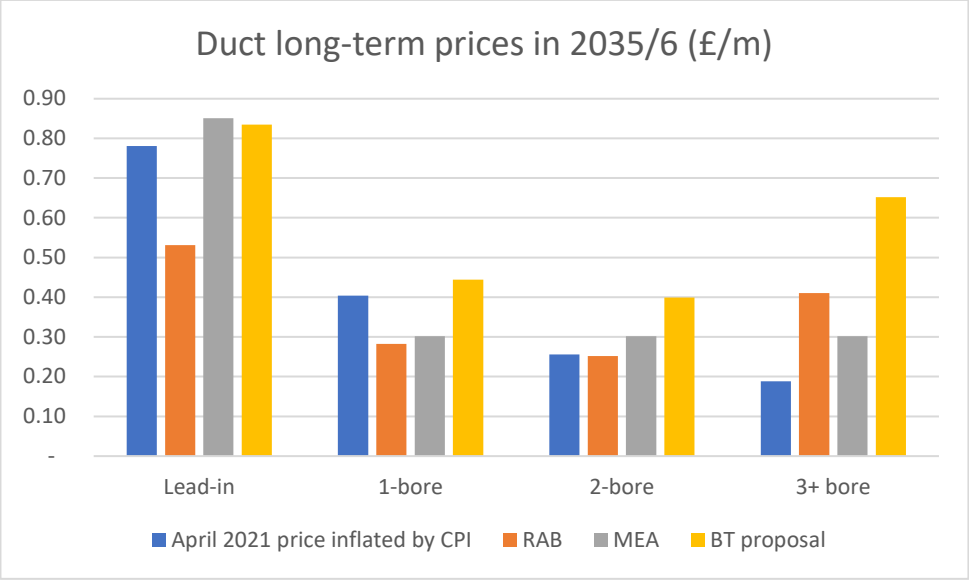
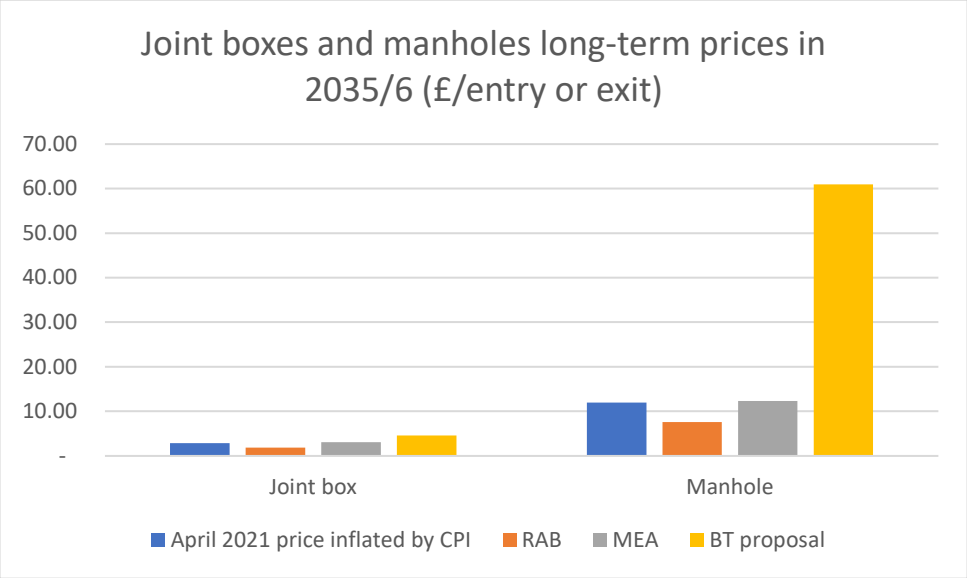


Illustration 2



3.1.10 Timing

113. The RAV and MEA costing approaches set out above provide long term solutions that ensure both the right for BT to recover its reasonable and efficiently incurred costs, and the need for transparency and stability in how pricing for PIA services is set. Both approaches overcome the potentially catastrophic effects of a significant

rise in PIA rental due to copper retirement. We believe that the RAB approach with a starting RAV adjustment is the most appropriate approach, given the limited replicability of duct and pole infrastructure and we urge Ofcom to introduce this at the earliest possible opportunity.

114. Additionally, the two proposed costing approaches reduce the long-term costs of PIA access to a level that would enable altnets to deploy further into what is currently known as Area 3, thus reducing the need for Government subsidies and any special intervention by Ofcom such as the BT Commitment which we consider causes market distortion by effectively gifting BT the exclusive franchise to deploy in its selected (and most commercially attractive) parts of Area 3.

115. We recognise that this consultation falls very late in the WFTMR process, with only limited time for Ofcom to analyse response and include its decisions in the WFTMR Final Statement, due for release in March 2021.

116. The issues that arise from the consultation are, however, of such a magnitude that we believe it would be appropriate for Ofcom to issues a follow-up consultation as quickly as possible and accept the resulting delay to the overall WFTMR implementation timetable.

117. Should Ofcom decide that it is not possible to collect the relevant data and undertake the necessary modelling to implement its preferred adjustment from the two set out above, then it is imperative that the price regulation for the next charge control period does not assume that the BT proposals (of recovering the full book value of its duct assets and using an occupancy assumption of 3 for 2 bore and 3+ bore ducts) is the appropriate outcome. We strongly disagree that the charges resulting from BT's proposed approach would be appropriate – whether for BT cost recovery or for fair, reasonably transparent stable and cost-based PIA rental charges.

118. Should Ofcom decide to implement neither the RAV adjustment approach nor the MEA approach for the 2021 – 2016 charge control period, we propose that Ofcom consider the following possible solutions:

- Flat nominal charges (CPI-CPI)
- Flat real prices (CPI-0%)
- Prices set based on occupancy forecast for the 5-year period.[25]

119. Below are illustrations of the outcomes of the above three approaches alongside Ofcom's WFTMR proposal and Ofcom's November 2020 proposal. Our illustrations present price levels for three charge control periods, finishing in 2036. We have created three sets of illustrations, one for each of the following three scenarios:

- Ofcom adopts the RAB approach with starting RAV adjustment starting in 2026,
- Ofcom adopts the MEA costing approach starting in 2026, and
- Ofcom adopts the BT proposal starting 2026.

120. The illustrations below are at the aggregate level, using the BT mix of single, 2, and 3+ bore duct categories along with joint boxes and manholes. We have also produced illustrations for each of these categories separately and these are set out in Annex 1 to this response. It is important that Ofcom recognises that its pricing approach until now has encouraged altnets to use 3+ bore ducts wherever possible and, therefore, the migration path to a new pricing approach must be one that does not penalise PIA users for doing so.

121. Our illustrations represent the different options Ofcom has for setting an interim pricing approach for the 2021 – 26 period, and then implementing either the RAV adjustment or the MEA costing approach from 2026 onwards for 2 5-year charge control periods.

[25] As an illustration, we have modelled an occupancy forecast for multi-bore duct based on the Openreach occupancy shown in Ofcom's January 2020 consultation, with the addition of 3 or 4 extra 25mm occupiers (for 2 and 3+ bore duct respectively) over the 5-year period.

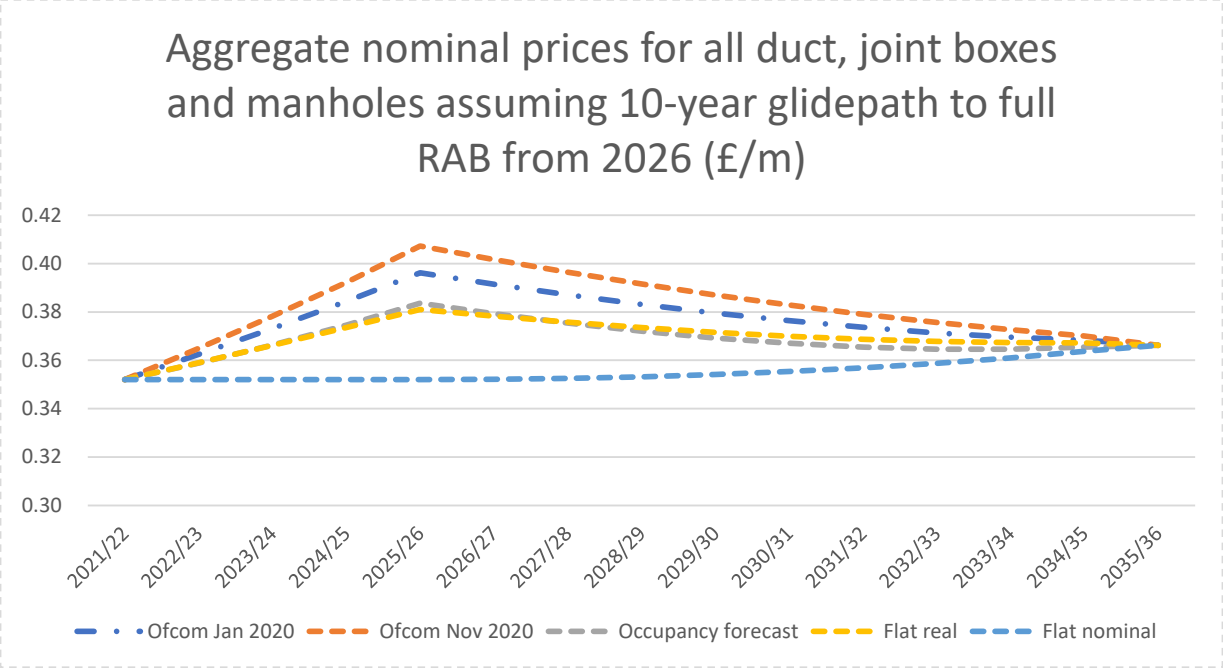
122. Illustration 3 below shows aggregate PIA charges if Ofcom adopts the long term RAB approach with a starting RAV adjustment. This illustration[26] uses the following assumptions:

a. All costs are reduced by approximately 40% as a consequence of the RAV adjustment; and

b. The end price is for RAB-based costs with an occupancy rate of 3 for 2 and 3+ bore duct.

c. Single bore duct, lead-in, manhole and joint box occupancies are unchanged from the Ofcom January 2020 proposals.

Illustration 3



123. Illustration 4 below shows aggregate PIA charges if Ofcom adopts the long term MEA costing approach. This illustration[27] uses the following assumptions:

[26] Aggregate impact for Spine duct only and for all ducts but excluding manholes and joint chambers can be found in Annex 1.

[27] Aggregate impact for Spine duct only and for all ducts but excluding manholes and joint chambers can be found in Annex 1.

a. Single bore and lead-in duct costs are not adjusted

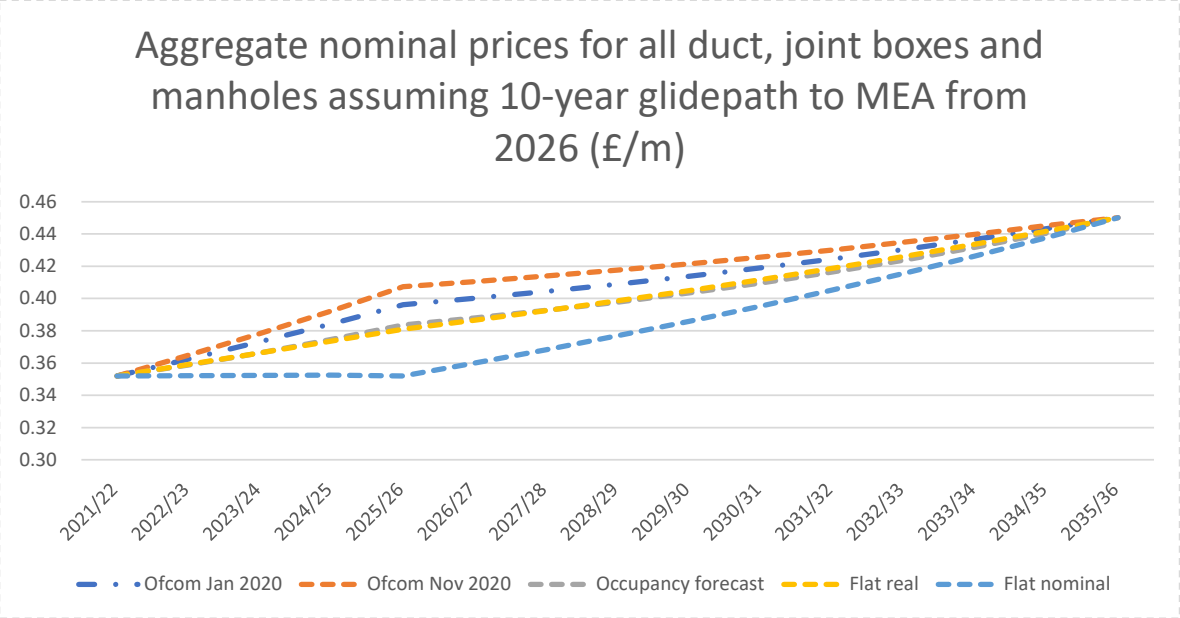
b. 2 bore and 3+ bore costs are changed to single bore costs

c. Manholes and joint box costs are not adjusted

d. Spine duct occupancy is assumed to be 3.

e. Occupancies for lead-in, joint boxes and manholes are unchanged from the Ofcom January 2020 proposal.

Illustration 4



124. Illustration 5 below shows aggregate PIA charges if Ofcom adopts the long-term approach proposed by BT. This illustration uses the following assumptions[28]:

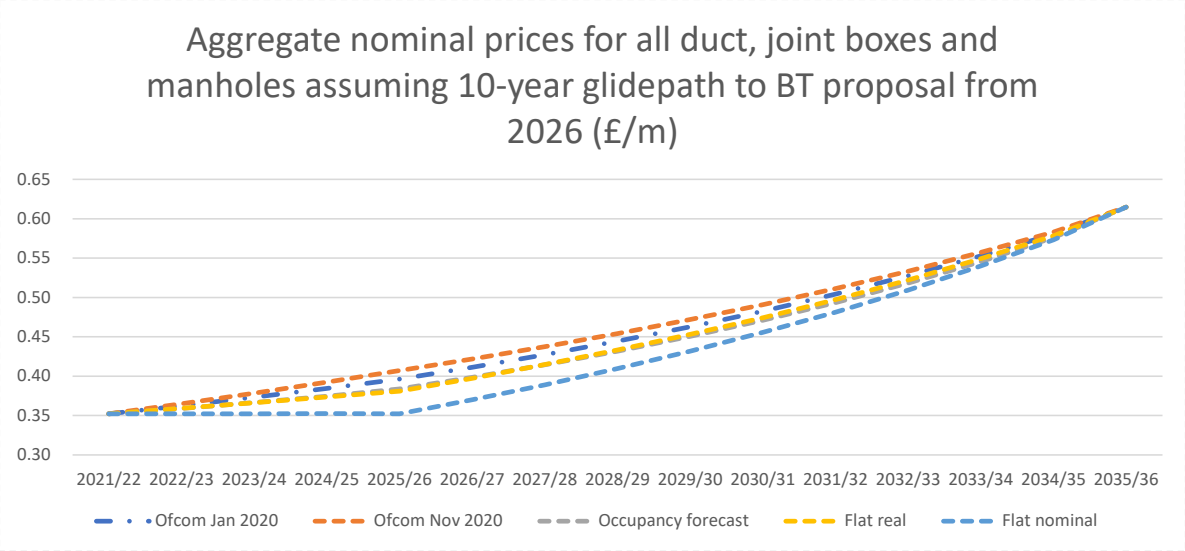
a. Costs are not adjusted and are distributed according to an occupancy level of 3 for 2 bore and 3+ bore

b. Occupancy levels for single bore and lead-in duct remain unchanged.

[28] Aggregate impact for Spine duct only and for all ducts but excluding manholes and joint chambers can be found in Annex 1.

c. Manhole and joint box allocations are adjusted as per the BT proposal (46% for joint chambers and 33% for manholes – in total including an entry and an exit)

Illustration 5



125. If an interim costing approach is introduced for the 2021 – 26 period, then it should be selected based on the principle that it should create minimal distortion until the longer-term stable solution has been designed and implemented.

126. Using that criterion, it is clear that, unless Ofcom proposes to implement the BT proposal (which would enable BT to over-recover its costs and provide no incentives to withdraw its copper assets in an efficient manner), the Ofcom November 2020 proposals are inappropriate and would penalise PIA customers in the short term, only for the price to have to be reduced after that.

127. We believe that, in the absence of adopting either the RAV adjustment approach or the MEA costing approach for the 2021 – 26 charge control period, the most appropriate interim pricing approach for PIA rental services is to adopt flat real pricing. Flat real prices result in price levels at the end of this charge control period that are closest to the outcome that would have resulted from either the RAV adjustment or

the MEA costing approaches and therefore cause minimum distortion in the short term until the stable long-term costing approach is introduced.

128. Alternatively, we believe that pricing based on an occupancy forecast over the 5-year period would be the most appropriate. In our graphs we have used a relatively conservative occupancy forecast, the details of which are set out in Annex 1.

3.1.11 Summary of PIA rental proposals

129. We propose the following approach for the setting of PIA rental charges:

130. The pricing should

a. Ensure that BT can recover its efficiently incurred costs – neither over-recover nor recover costs of inefficient legacy network assets;

b. Be transparent and cost-oriented; and

c. Be stable and enable long-term planning for PIA customers to reduce investment risks and therefore accelerate fibre deployment.

131. Based on those criteria, Ofcom should:

a. Introduce the RAV adjustment for the 2021 – 26 period and commit to the RAB approach until 2036. We recognise that this would involve significant analysis and modelling work and would require a new consultation and delays to the completion of the WFTMR process. We consider such delay to be acceptable.

b. Alternatively, Ofcom should introduce the MEA costing approach for the 2021 – 26 charge control period. As for the RAV adjustment we acknowledge and accept that this would cause delays to the WFTMR timetable (although likely less so that the RAV adjustment).

c. If Ofcom decides against making either of the two changes described above for the 2021 – 26 charge control period, it should apply either flat real pricing (CPI-0%) or an occupancy-forecast based costing for this period as in interim step and then implement one of the two options above from 2026 onwards.

3.2 PIA ancillary pricing

132. Ancillaries account for a significant portion of total PIA costs during the deployment period. Once a network is deployed and operational, the rental charges constitute the majority of the PIA costs.

133. For PIA ancillary services (ancillaries), Ofcom proposed in the WFTMR to apply a 'Basis of charges' (BoC) remedy. Ofcom has historically interpreted the PIA ancillaries BoC remedy as meaning that charges should fall within the floor and ceiling of Distributed Long Run Incremental Costs (DLRIC) and Distributed Standalone Costs (DSAC) respectively.

134. Ofcom now proposes to change its interpretation of the ancillaries BoC remedy to the following:

"the price for each PIA ancillary service should reflect any incremental external charges paid by BT (e.g., the cost of external labour used to provide the ancillary), plus an allowance for any incremental costs incurred by BT when providing ancillaries (e.g., BT's internal labour and costs of any planning and ordering systems relating to PIA ancillaries), including an appropriate mark-up for common costs (e.g. general overheads) and a return on capital employed (where applicable)."[29]

135. Ofcom further states:

"To ensure prices reflect the cost of provision, we consider that total costs associated with PIA ancillary services under the basis of charges obligation should be consistent with the operating and capital costs of the relevant PIA ancillaries in the Regulatory Financial Statements (RFS), i.e., we expect prices for PIA ancillaries to be similar to fully allocated costs (FAC) rather than an alternative cost standard such as distributed standalone cost (DSAC). We consider that this would ensure prices for PIA ancillaries are not excessive while allowing BT to recover its efficiently incurred costs.

[29] Paragraph 7.8.

Referencing FAC is also consistent with the way we are proposing to charge control other PIA services."

136. Setting DCAS as a ceiling would enable BT to set unreasonably high charges, so we agree with Ofcom's proposals. However, to ensure that the external charges applied are reasonable, we recommend that Ofcom undertake a benchmarking exercise to verify the external charge levels. Benchmarking could, for example, be done by asking altnets to supply copies of their contractual terms with external contractors for similar services.

137. We also agree that the total ancillaries' costs (including BT's internal costs and rate of return) should be reconcilable with the cost levels in the RFS.

4 Dark fibre pricing and implementation

138. Ofcom explains that it considers the way costs were allocated to EAD circuits in the 2017/18 Regulatory Financial Statement (RFS) was inappropriate and resulted in overallocation of costs to EAD LA circuits over EAD standard circuits. We understand that this change will not impact on the active leased lines charge control (as that is set at CPI-0% to incentivise fibre investment), but it does impact on dark fibre access (DFA) pricing as those prices are set to reflect underlying costs. The changes also result in a reallocation of costs from WLA fibre services to Ethernet access services resulting in an increase in local costs for dark fibre.

139. Ofcom also proposes changes to the DFA pricing resulting from changes to Ofcom's cost forecasts in in its top-down model.

140. Subject to our view that DFA pricing should be set using reasonable efficient operator costs as it is otherwise not possible for an altnet using PIA services to replicate the regulated DFA product, we consider the proposed changes to be appropriate given the costing method chosen by Ofcom and have no objections.

141. With regards to DFA implementation, Ofcom has received objections to its proposals from BT and have adjusted the timetable for DFA implementation accordingly. We have no objections to Ofcom's proposals.

5 SOGEA pricing

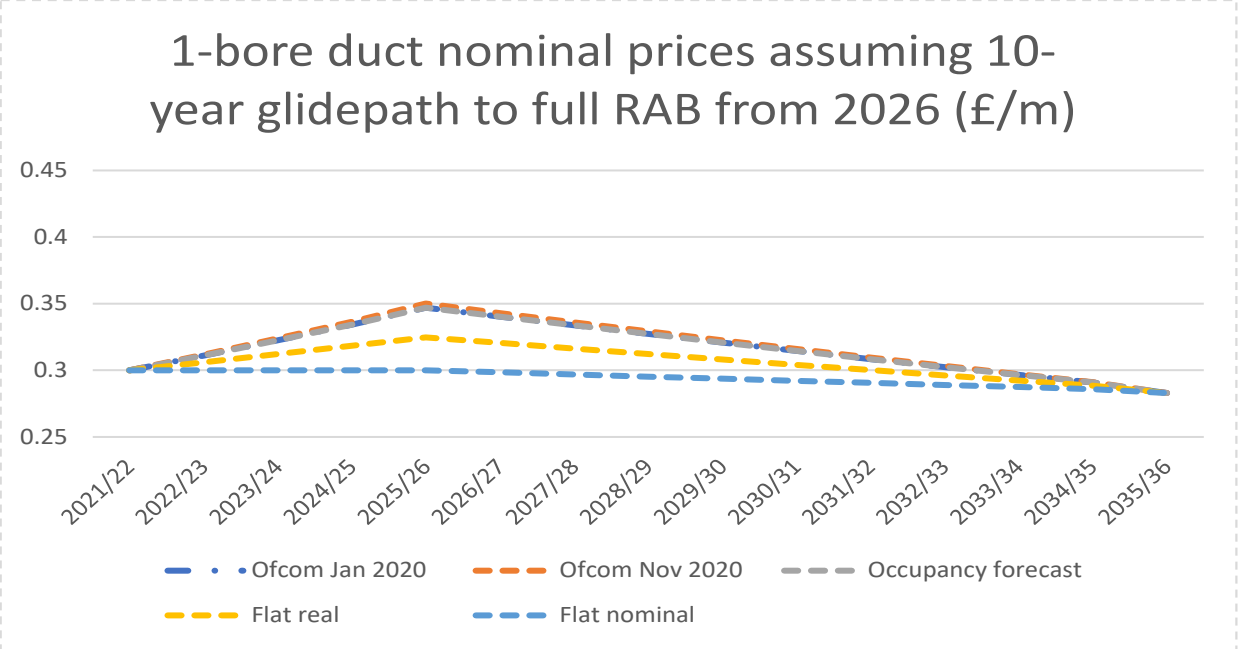
142. Ofcom proposes to impose a charge control on the Single order GEA (SOGEA) service replacing the original proposal in the WFTMR to regulate the SOGEA service using a fair and reasonable pricing remedy. Ofcom proposes that the first year maximum SOGEA should be equal to the proposed MPF charge control cap plus the VULA 40/10 cap.

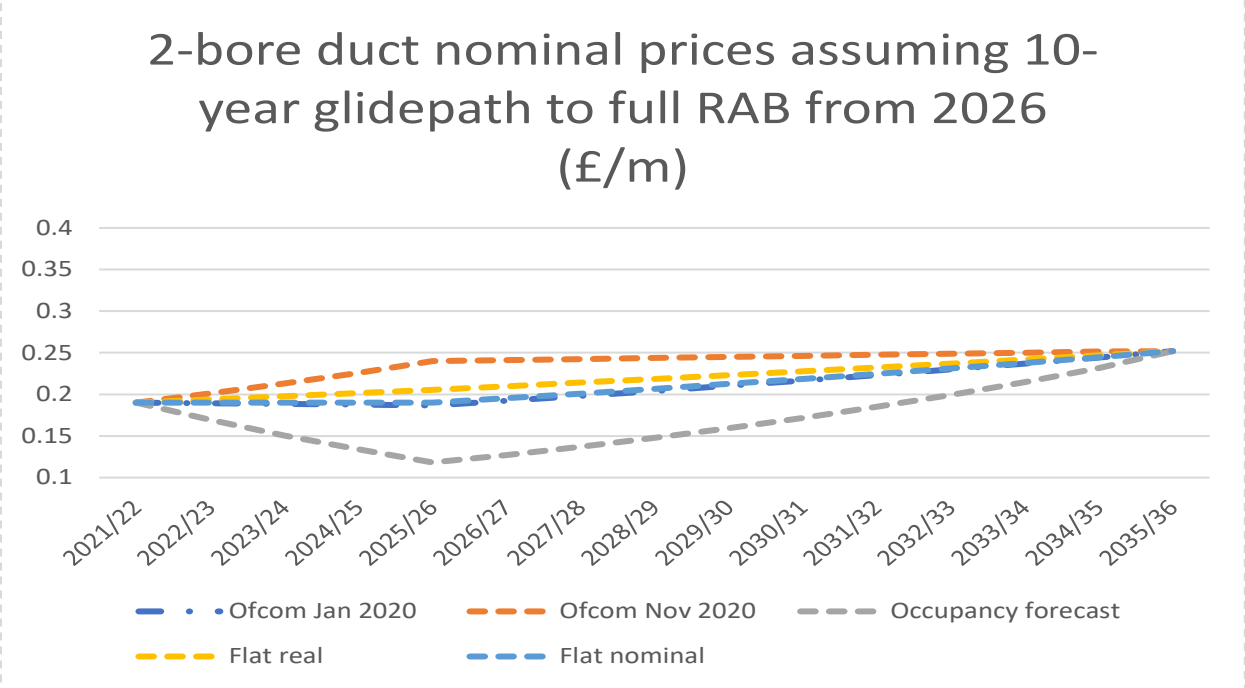
143. We have no objections to Ofcom's proposed approach.

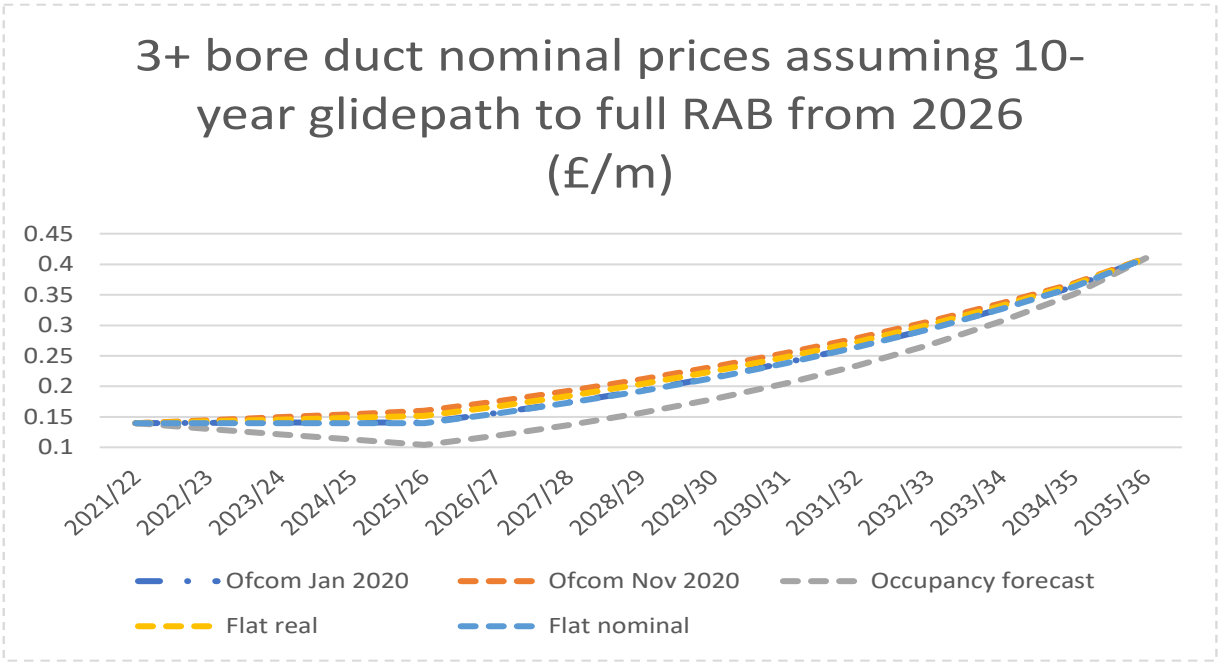
Annex 1 Detailed impact illustrations

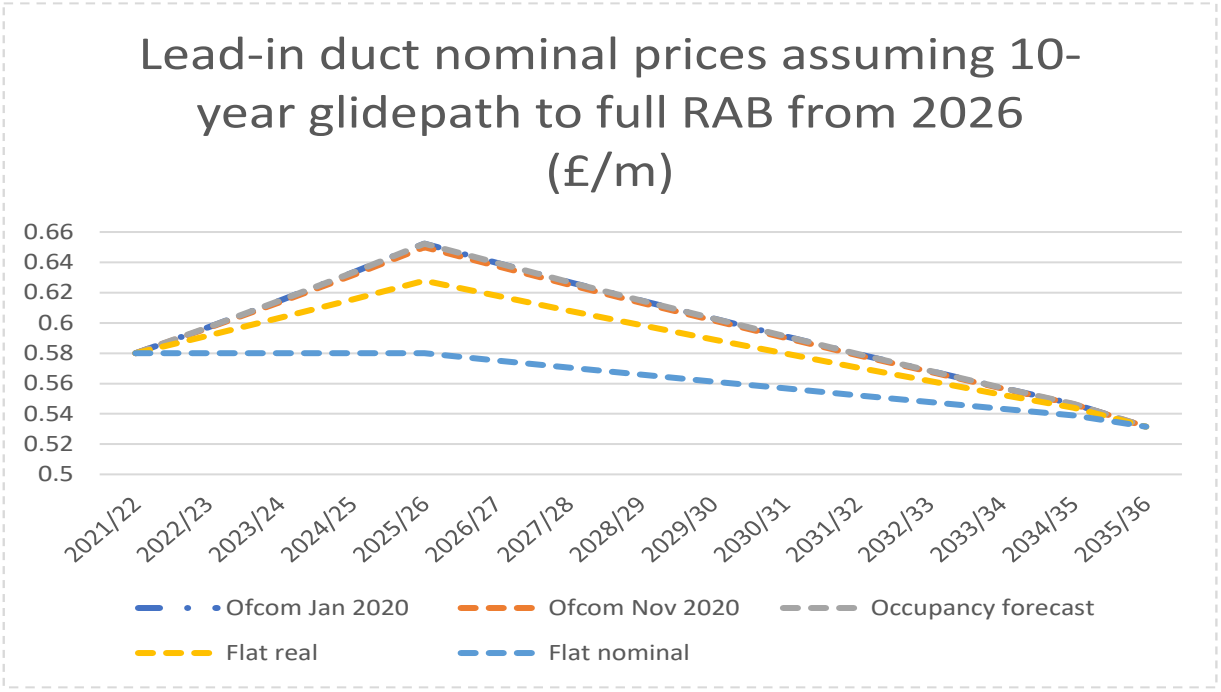
1. In this response we have presented indicative illustrations of the impact of a number of different costing and cost allocation methodologies that Ofcom could adopt to set PIA rental charges. In order to not overwhelm the main response document, we only included the impact on the full set of PIA rental products, not the impact on individual elements or groups of elements of that overall product portfolio.
2. In this Annex we present impact illustrations for the following products and groups of categories:
    a. Single bore spine duct only;
    b. 2 bore spine duct only;
    c. 3+bore spine duct only;
    d. Lead-in duct only;
    e. Manholes only;
    f. Joint boxes only;
    g. Aggregate spine duct only (single bore, 2 bore and 3= bore);
    h. Aggregate spine duct and lead-in duct; and
    i. Aggregate spine duct, lead-in duct, manholes, and joint boxes.
3. Impact on each of these groups of products are shown for the RAB approach with RAV adjustment, the MEA approach, and the BT proposal approach.
4. We also provide separately alongside this response document a copy of our excel models to show how these illustrations have been derived.

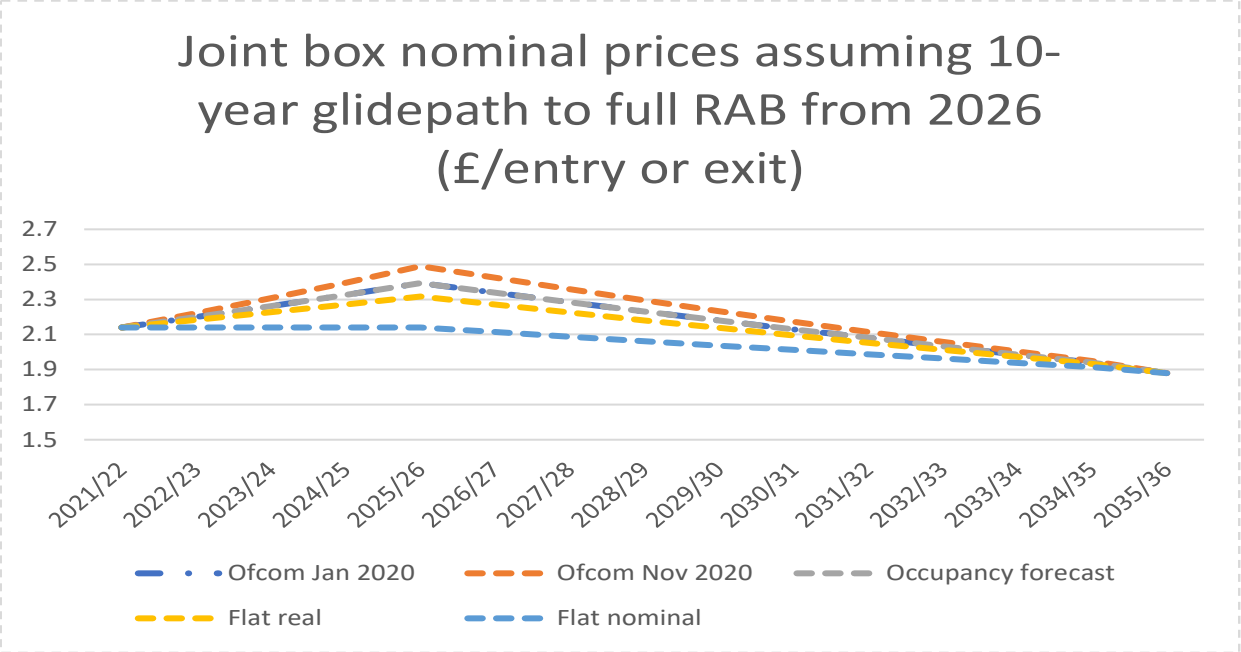
RAB approach with RAV adjustment

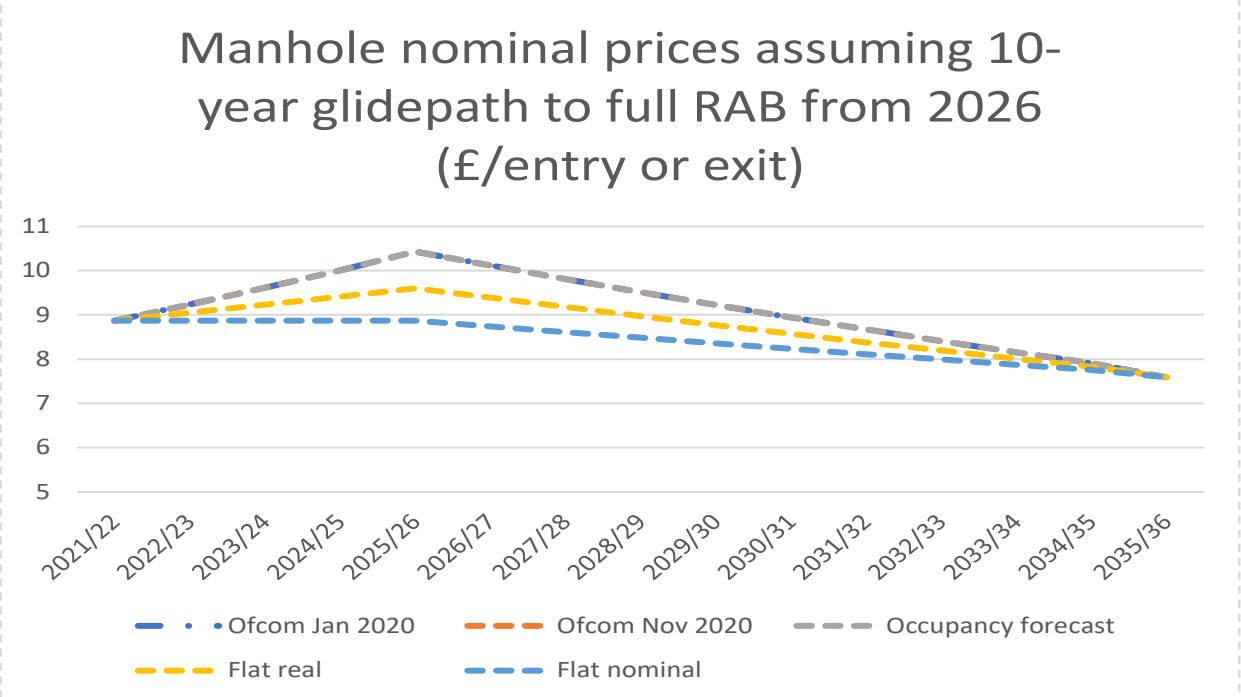


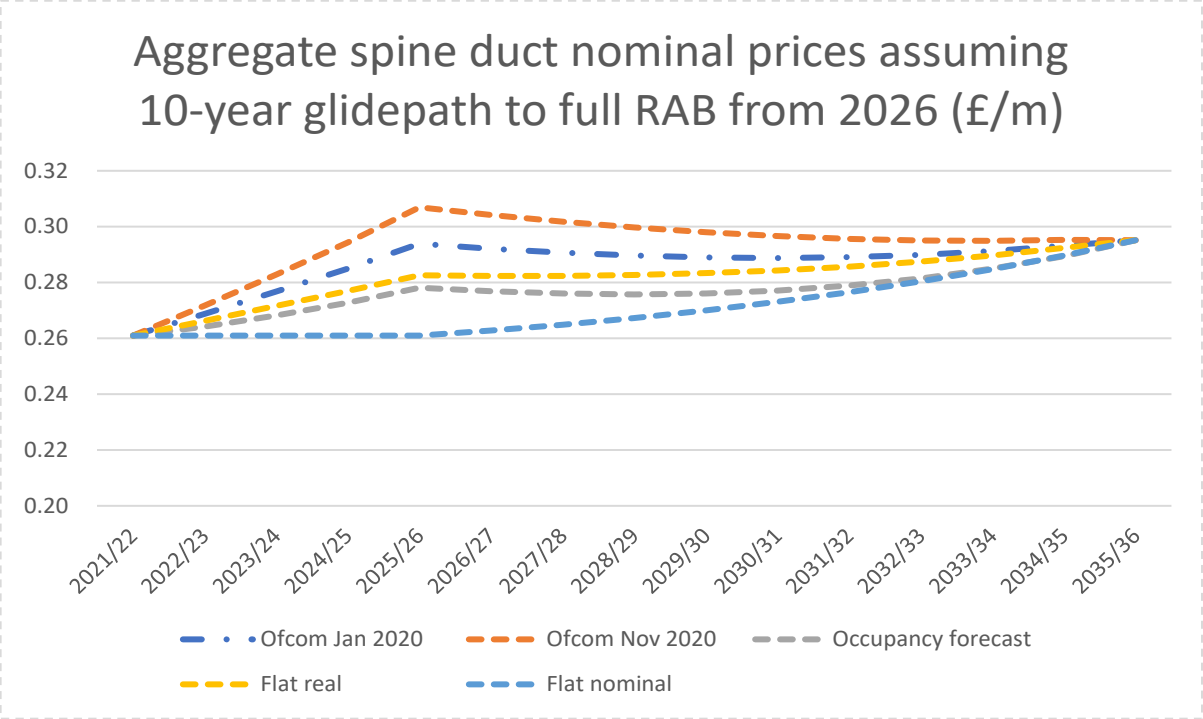


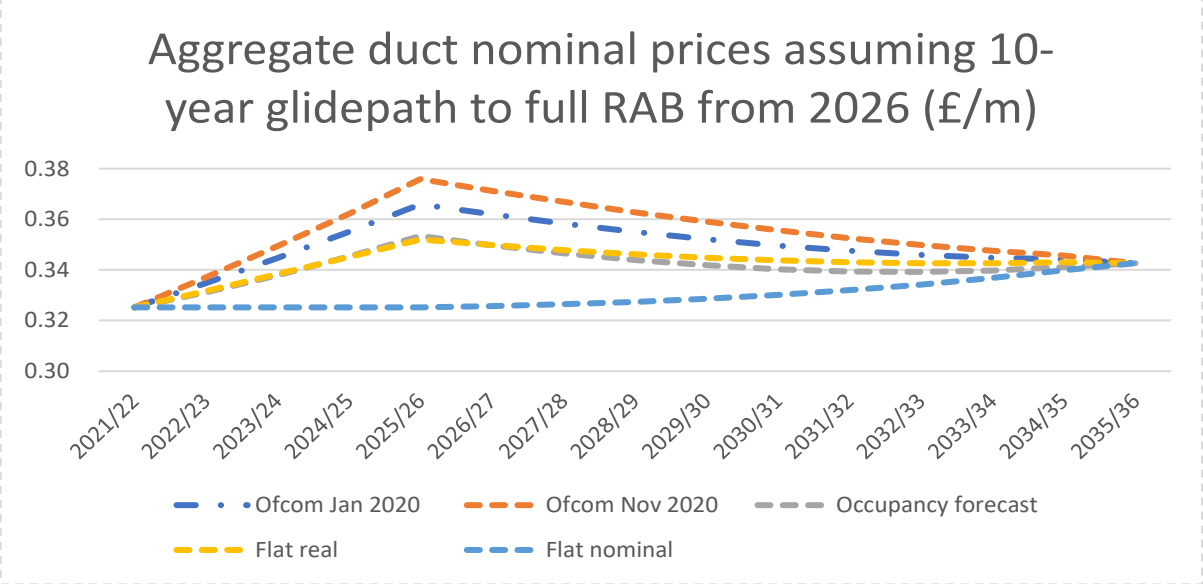

3+ bore duct nominal prices assuming 10-year glidepath to full RAB from 2026 (£/m)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

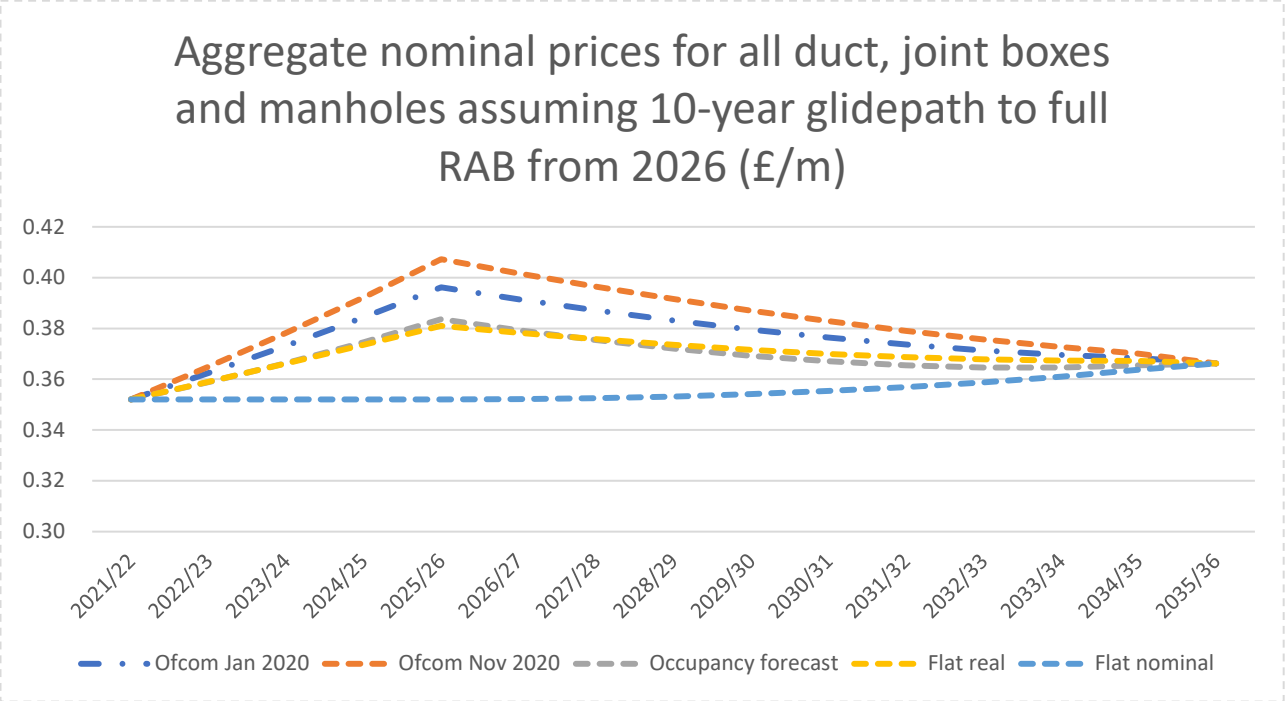

Lead-in duct nominal prices assuming 10-year glidepath to full RAB from 2026 (£/m)
0.66
0.64
0.62
0.6
0.58
0.56
0.54
0.52
0.5
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Joint box nominal prices assuming 10-year glidepath to full RAB from 2026 (£/entry or exit)
2.7
2.5
2.3
2.1
1.9
1.7
1.5
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

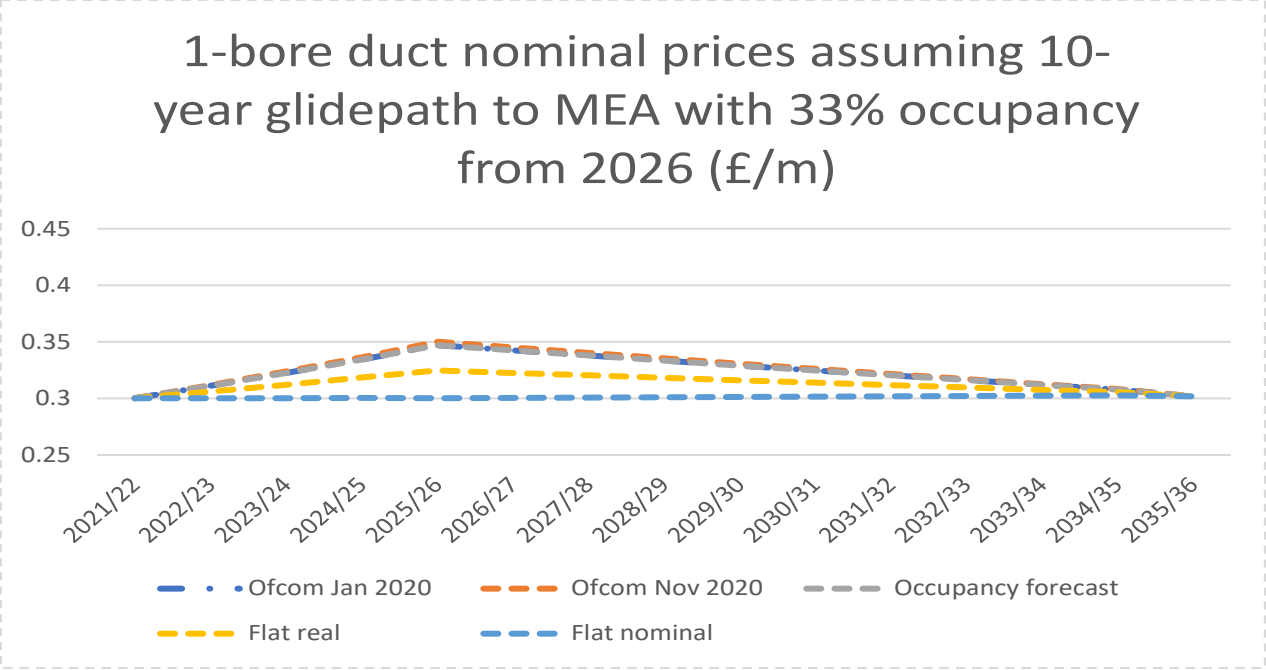

Manhole nominal prices assuming 10-year glidepath to full RAB from 2026 (£/entry or exit)
11
10
9
8
7
6
5
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

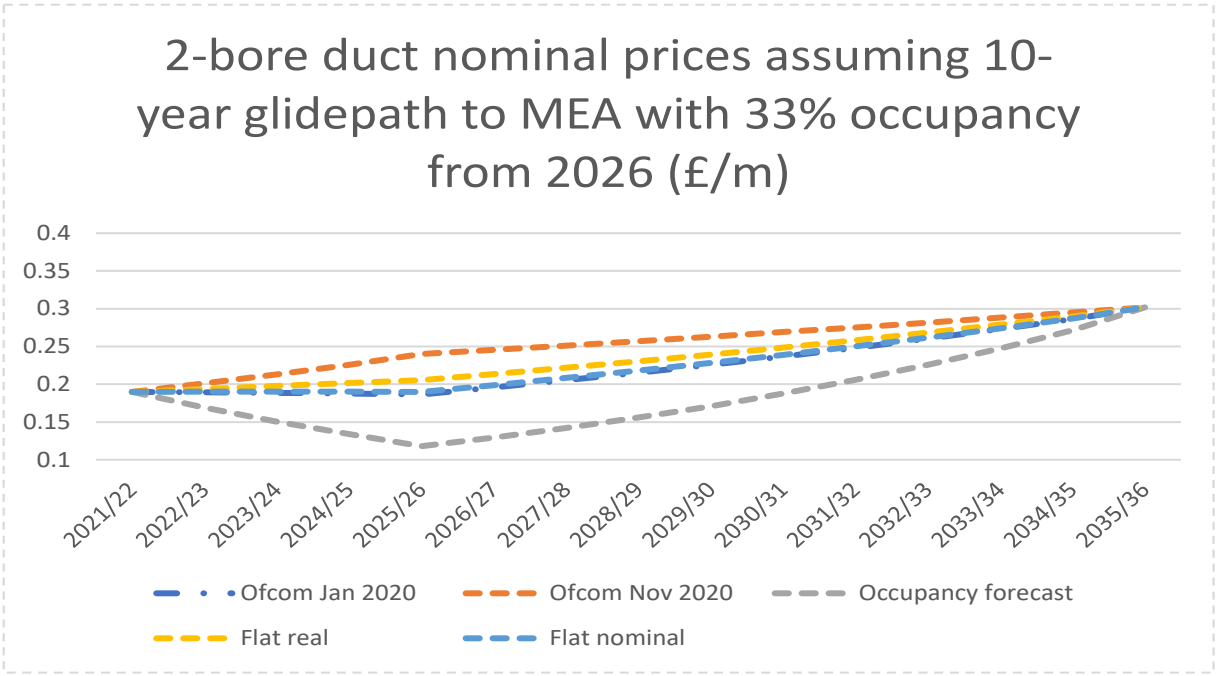

Aggregate spine duct nominal prices assuming 10-year glidepath to full RAB from 2026 (£/m)
0.32
0.30
0.28
0.26
0.24
0.22
0.20
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

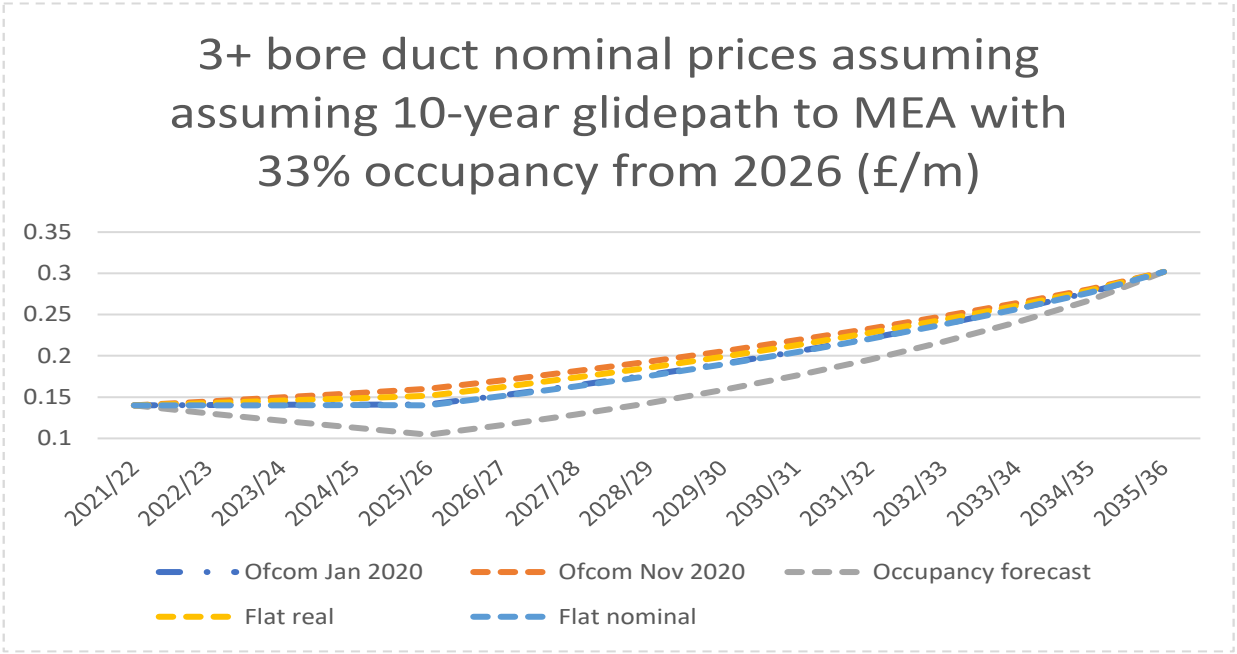

Aggregate duct nominal prices assuming 10-year glidepath to full RAB from 2026 (£/m)
0.38
0.36
0.34
0.32
0.30
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

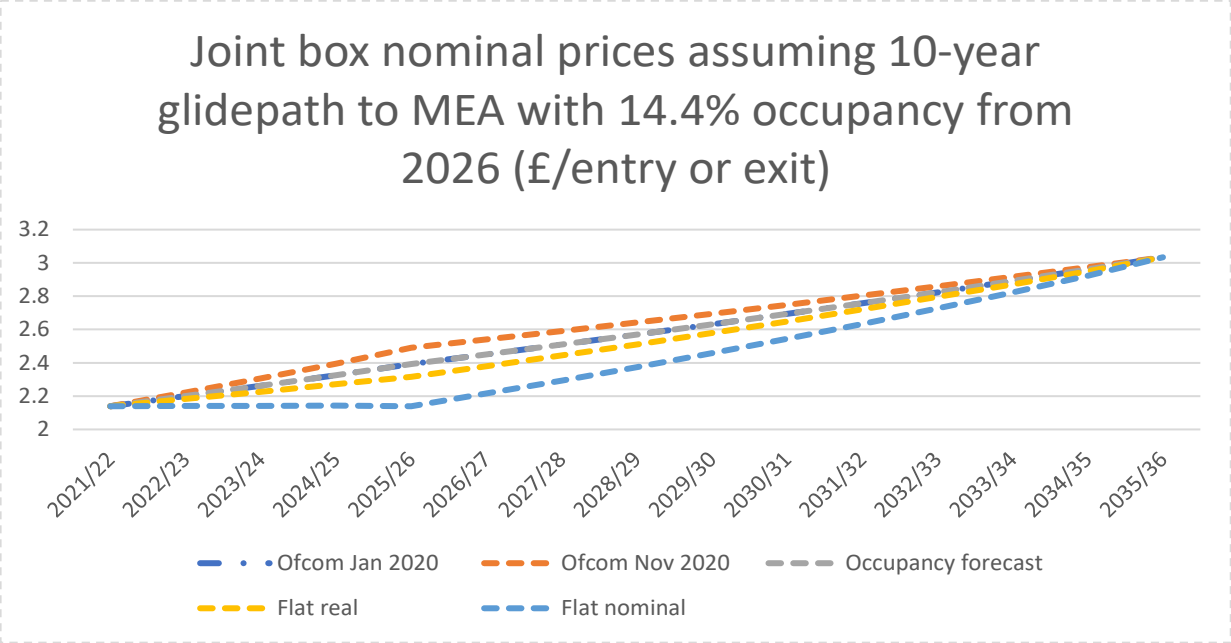


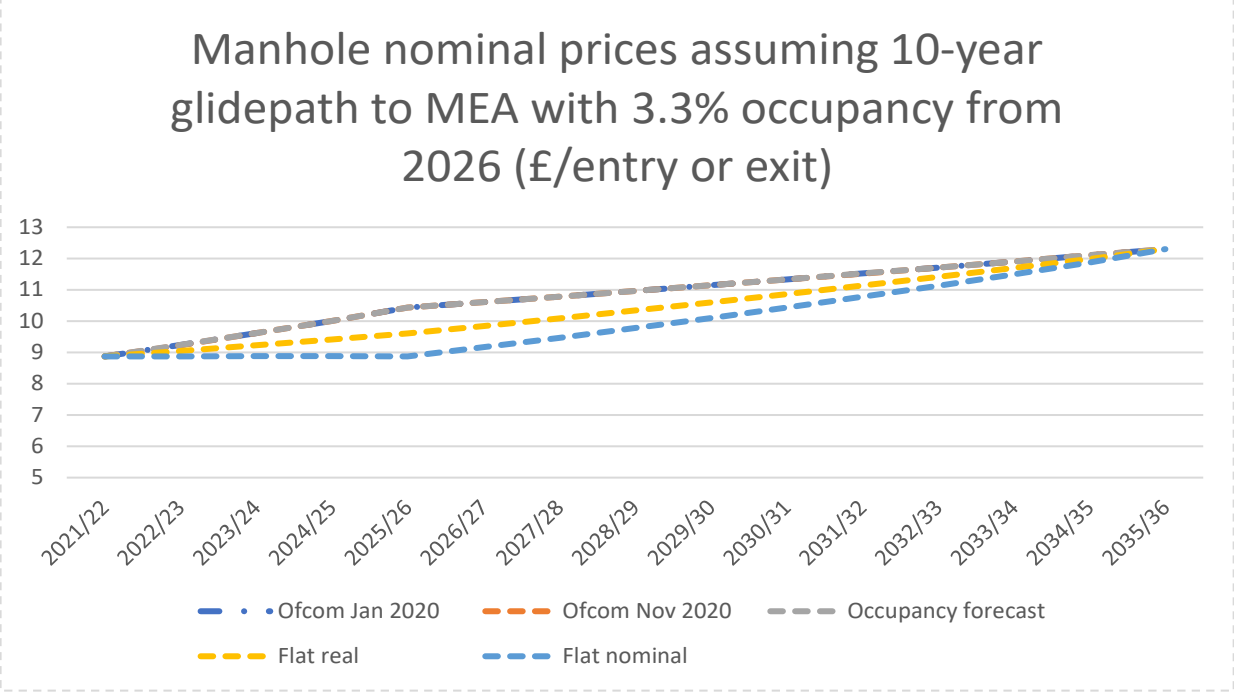
MEA approach

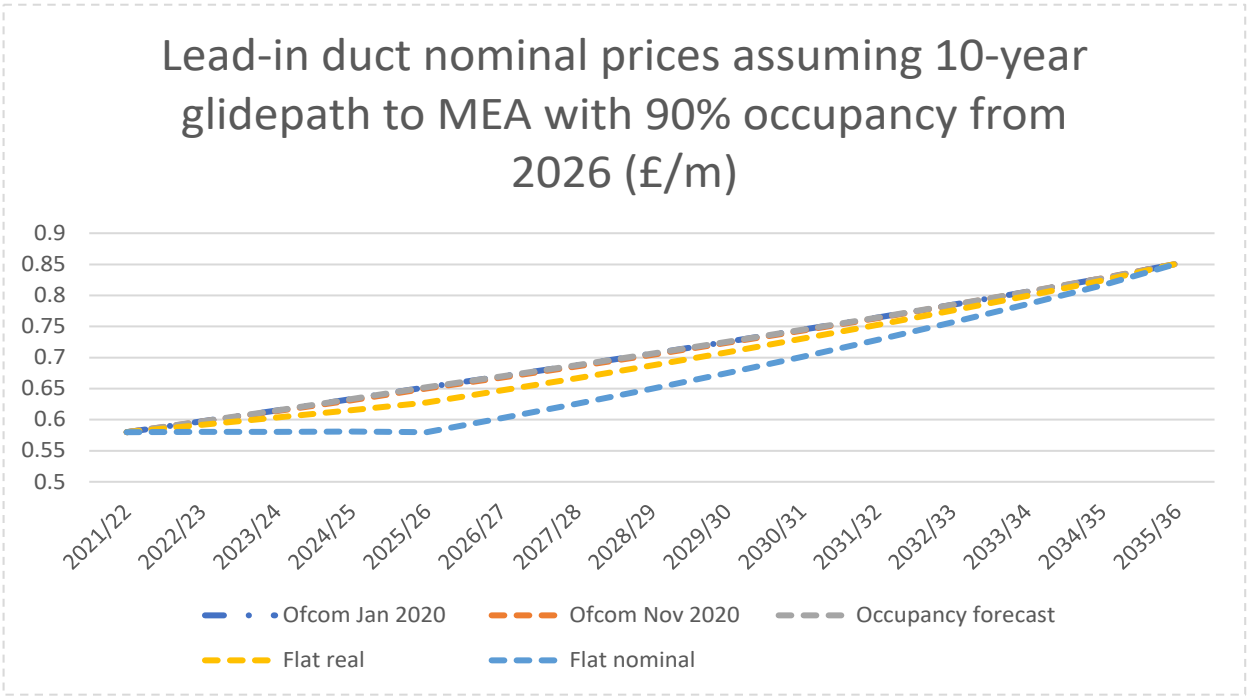


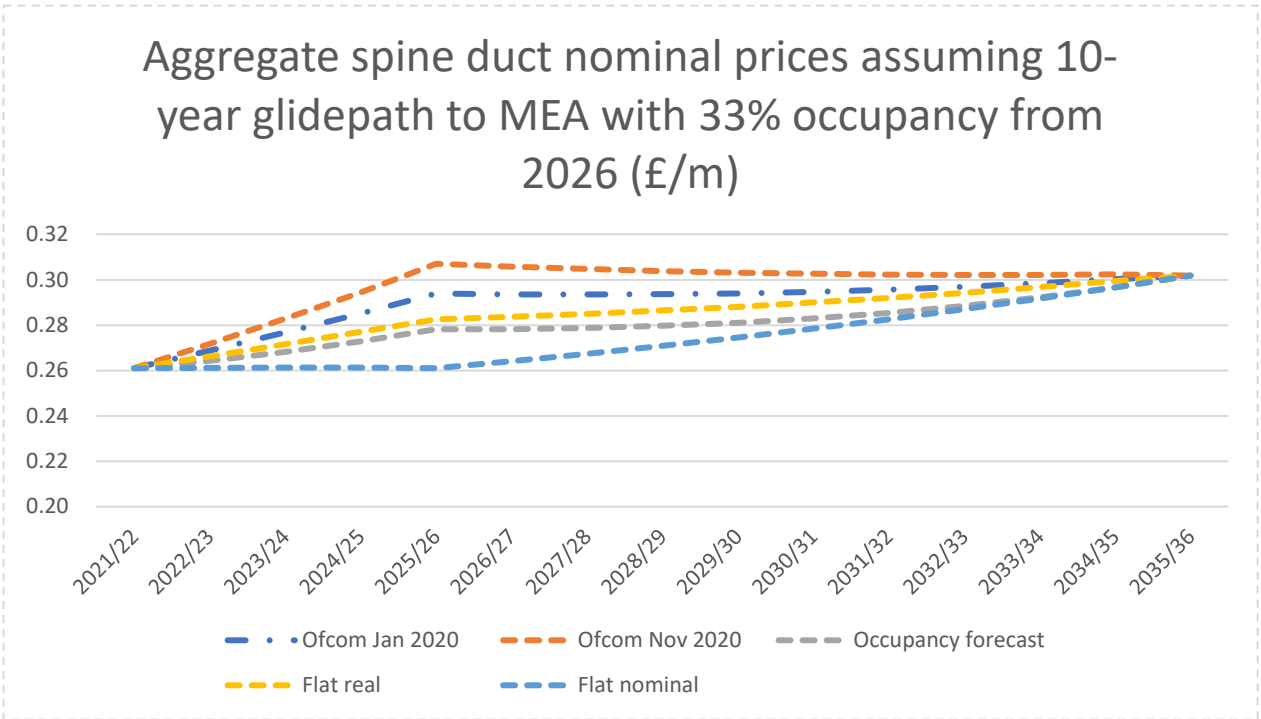

2-bore duct nominal prices assuming 10-year glidepath to MEA with 33% occupancy from 2026 (£/m)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

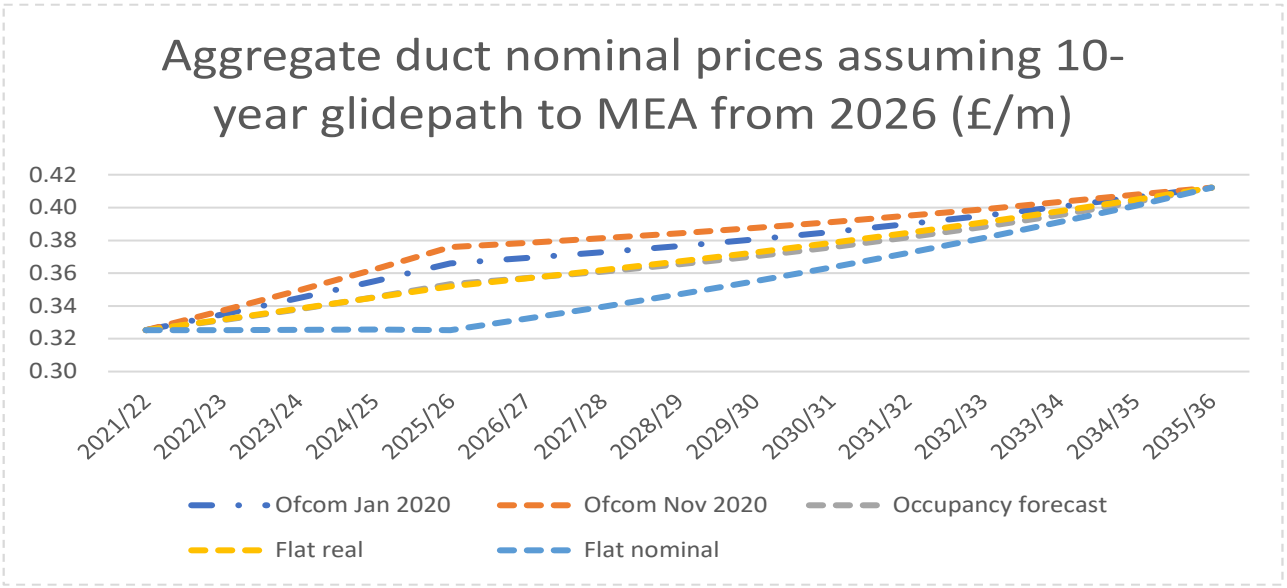

3+ bore duct nominal prices assuming assuming 10-year glidepath to MEA with 33% occupancy from 2026 (£/m)
0.35
0.3
0.25
0.2
0.15
0.1
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

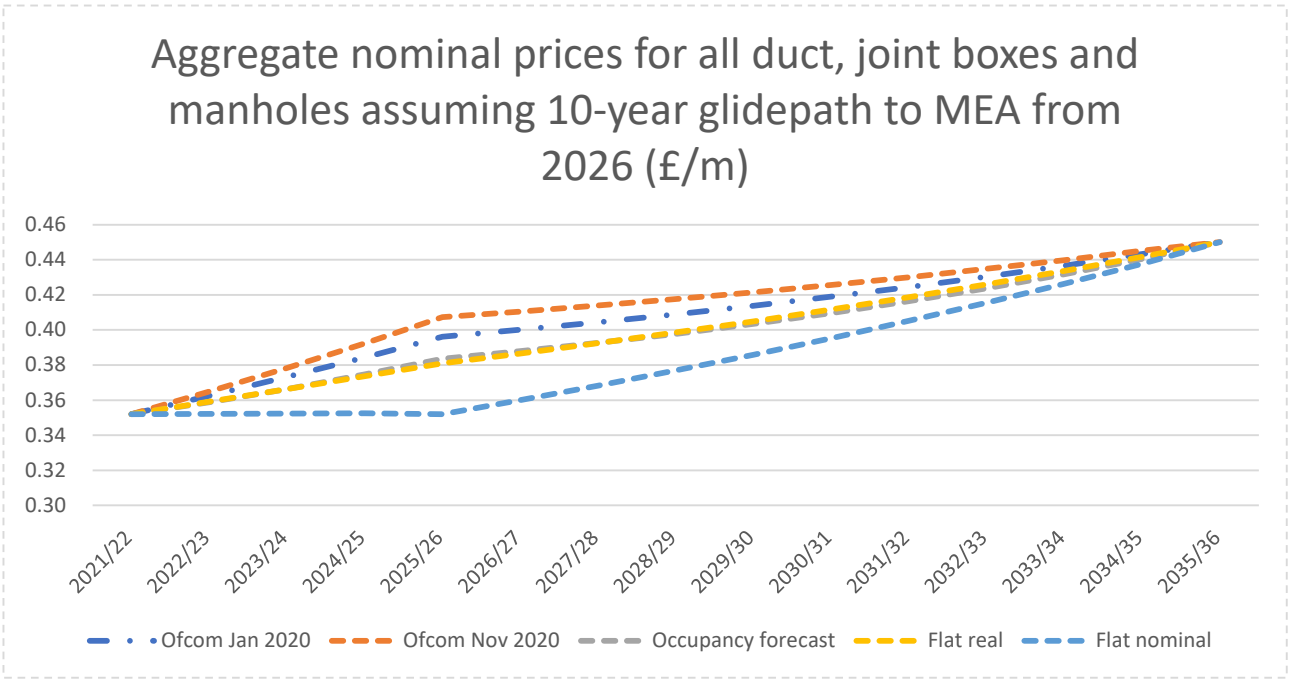

Joint box nominal prices assuming 10-year glidepath to MEA with 14.4% occupancy from 2026 (£/entry or exit)
3.2
3
2.8
2.6
2.4
2.2
2
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Manhole nominal prices assuming 10-year glidepath to MEA with 3.3% occupancy from 2026 (£/entry or exit)
13
12
11
10
9
8
7
6
5
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

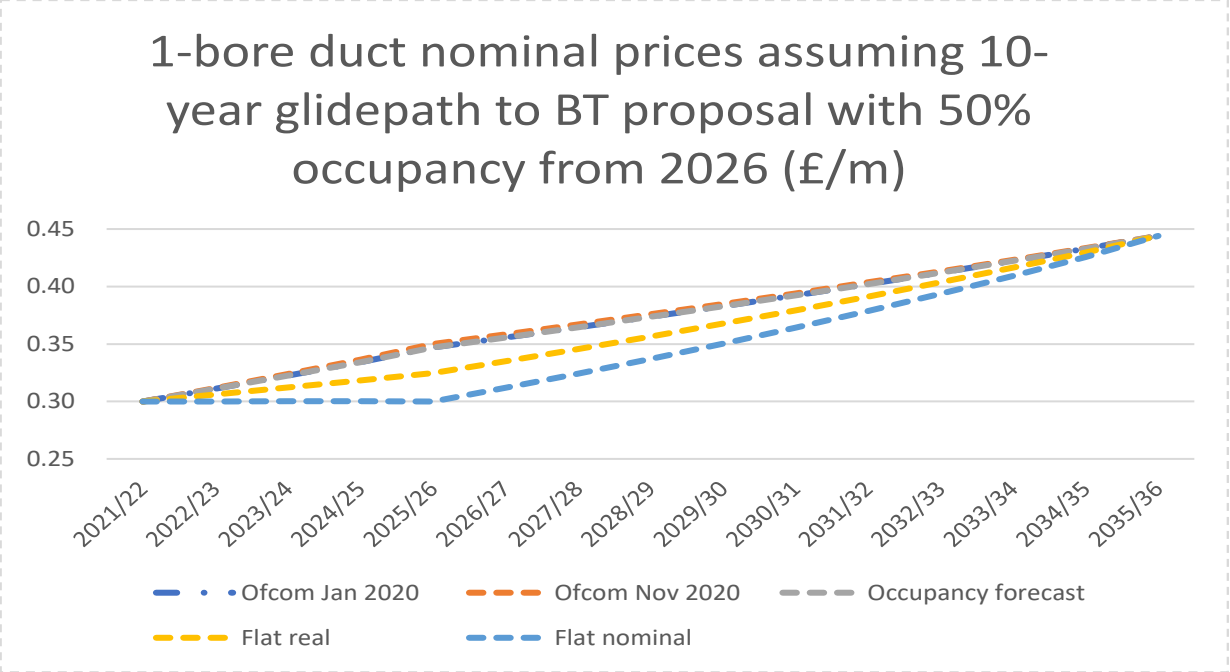

Lead-in duct nominal prices assuming 10-year glidepath to MEA with 90% occupancy from 2026 (£/m)
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

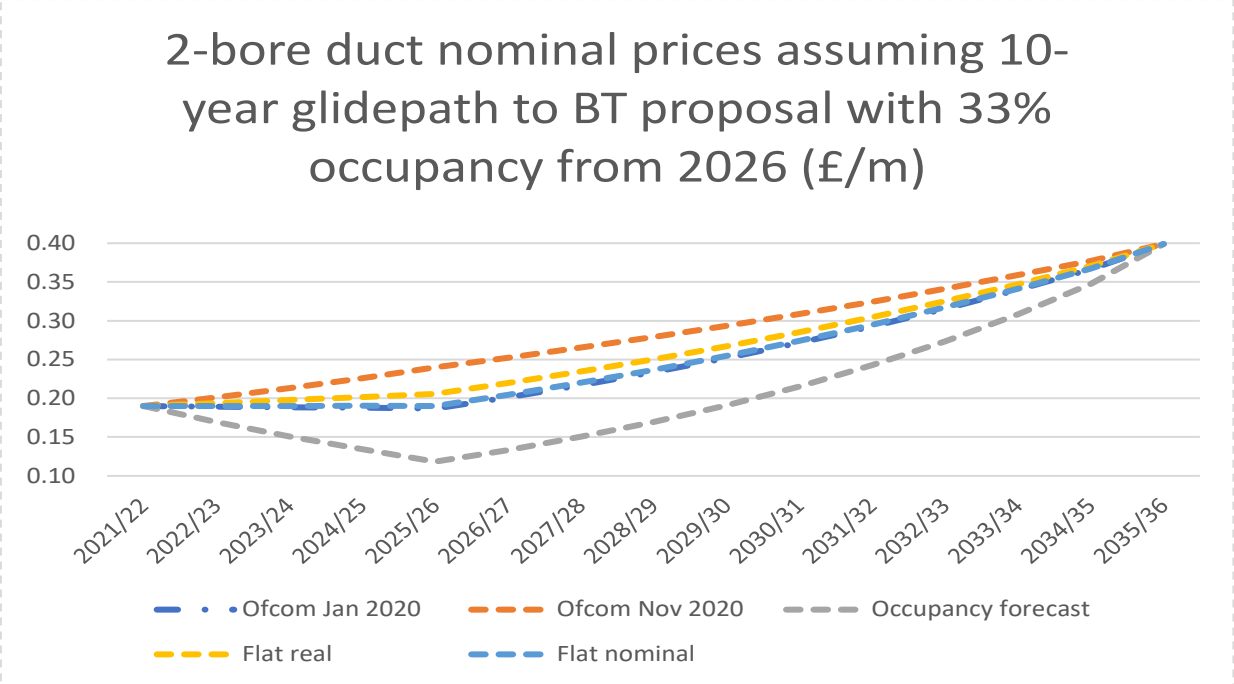

Aggregate spine duct nominal prices assuming 10-year glidepath to MEA with 33% occupancy from 2026 (£/m)
0.32
0.30
0.28
0.26
0.24
0.22
0.20
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

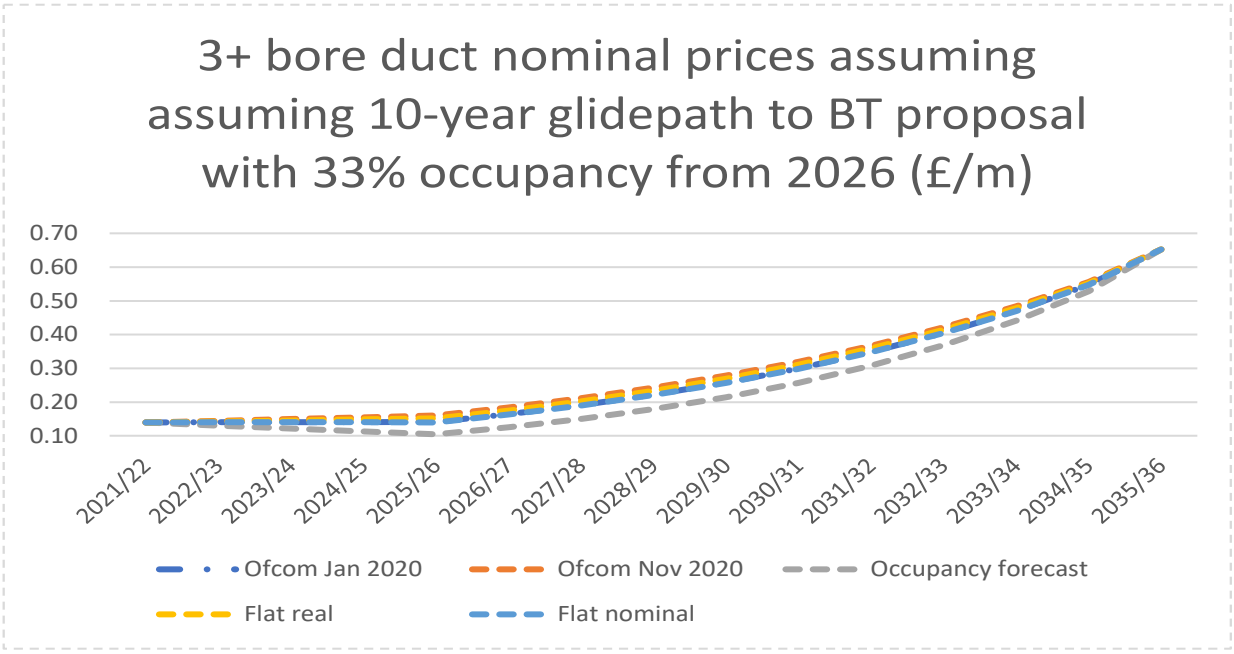

Aggregate duct nominal prices assuming 10-year glidepath to MEA from 2026 (£/m)
0.42
0.40
0.38
0.36
0.34
0.32
0.30
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

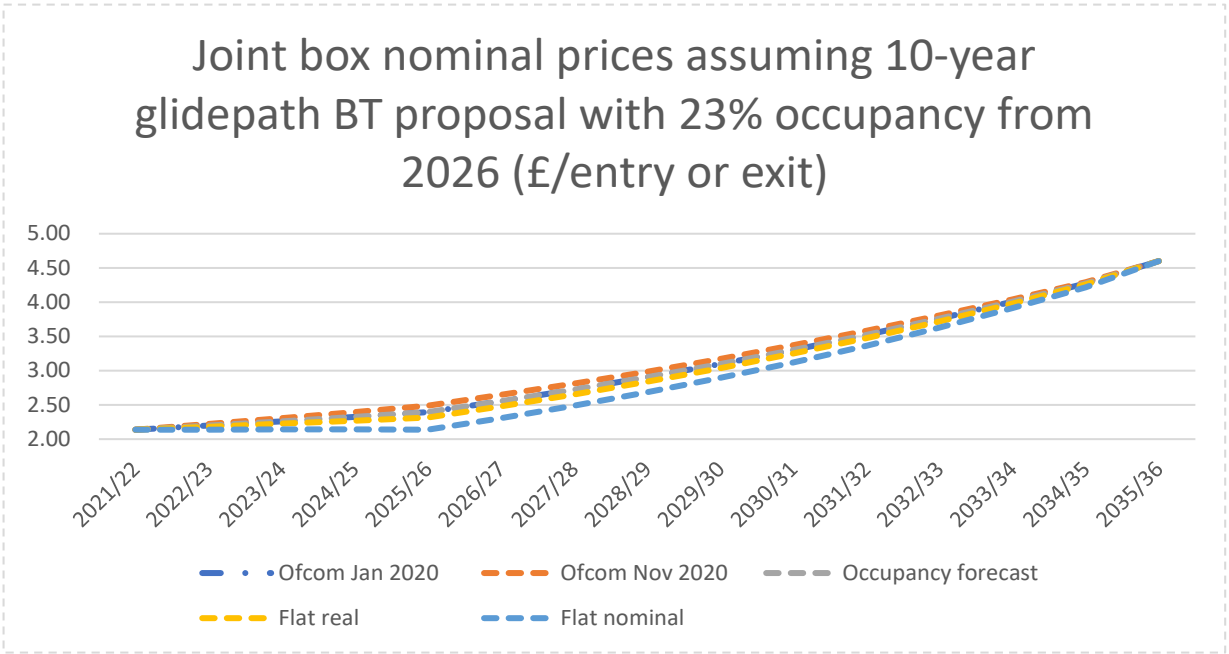

Aggregate nominal prices for all duct, joint boxes and manholes assuming 10-year glidepath to MEA from 2026 (£/m)
0.46
0.44
0.42
0.40
0.38
0.36
0.34
0.32
0.30
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

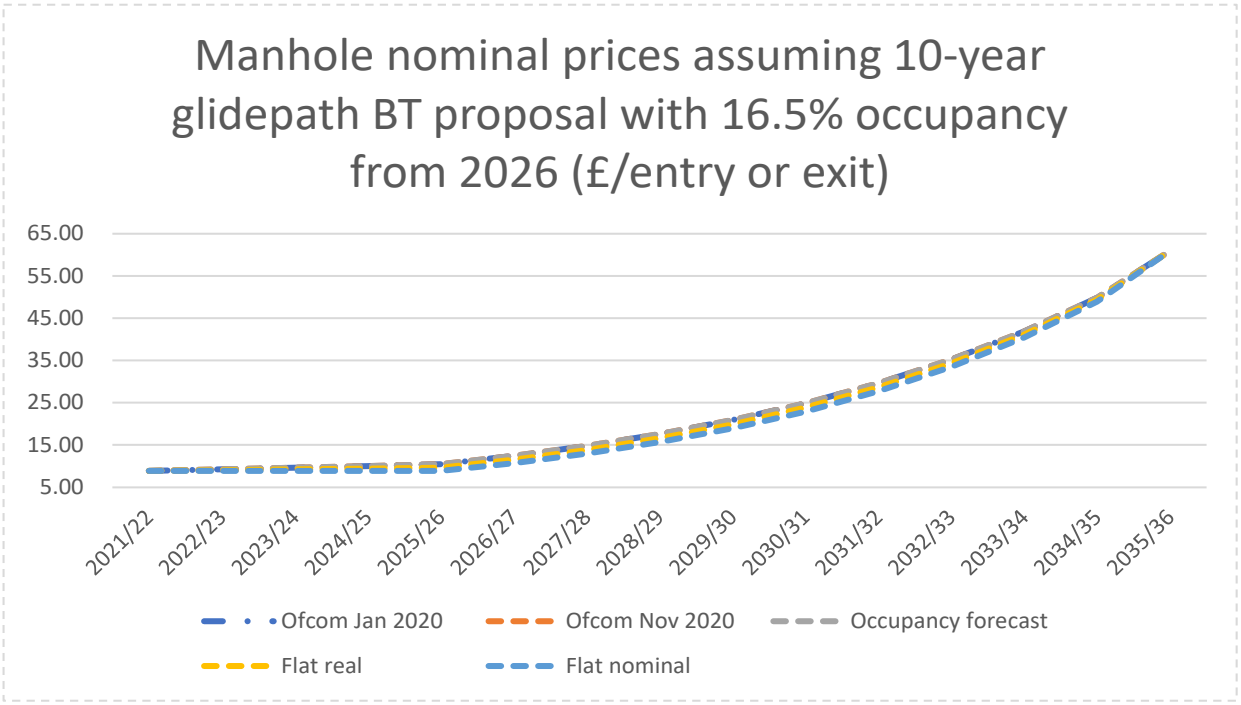
BT proposal approach

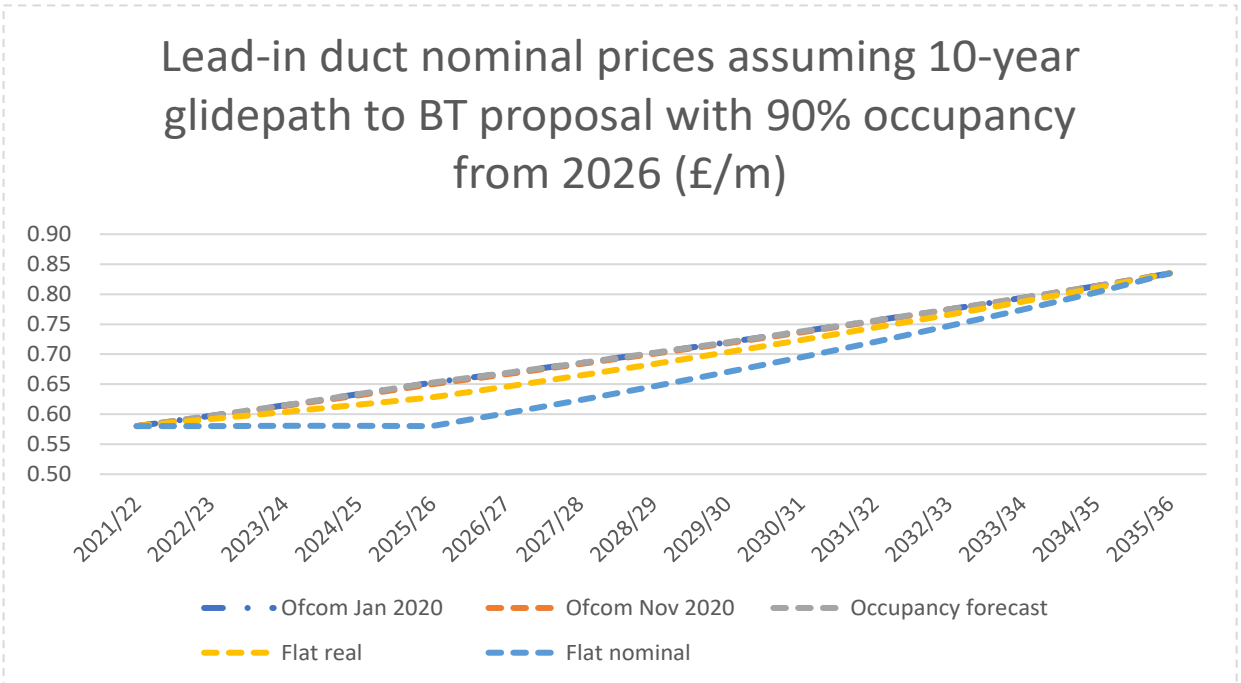


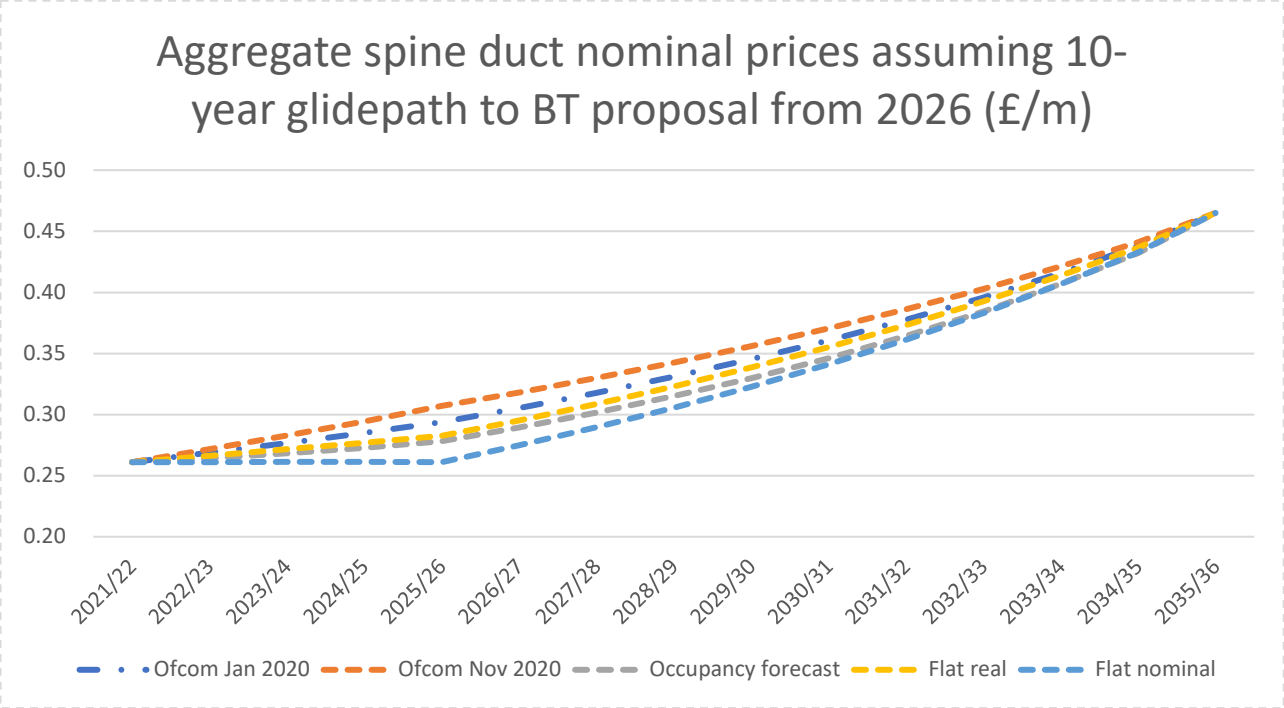


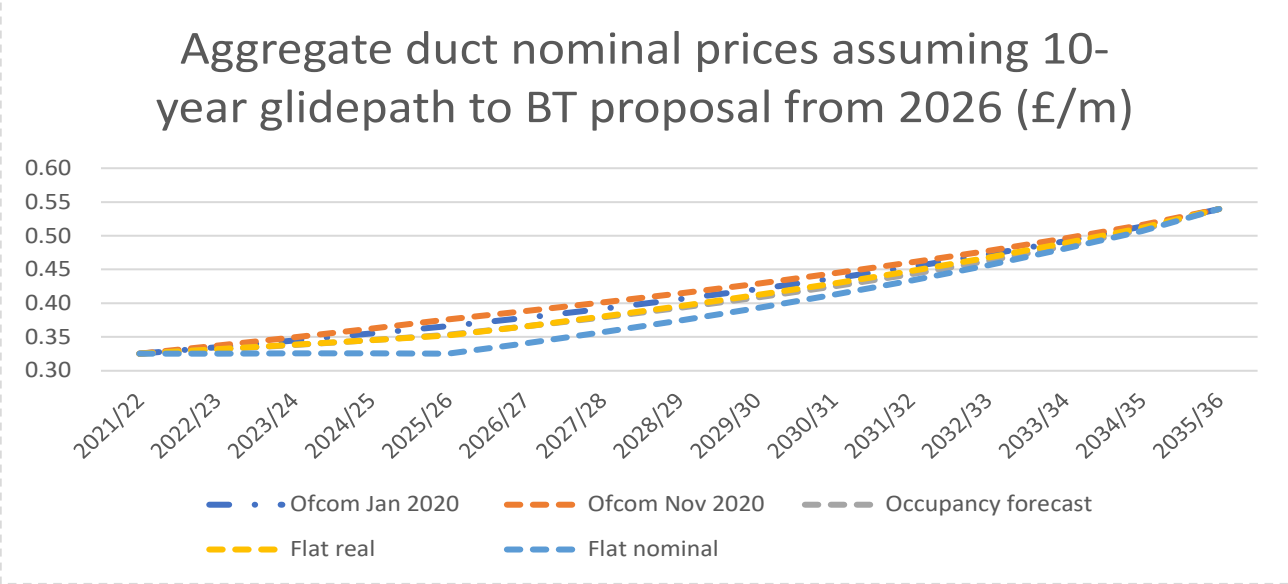

3+ bore duct nominal prices assuming assuming 10-year glidepath to BT proposal with 33% occupancy from 2026 (£/m)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

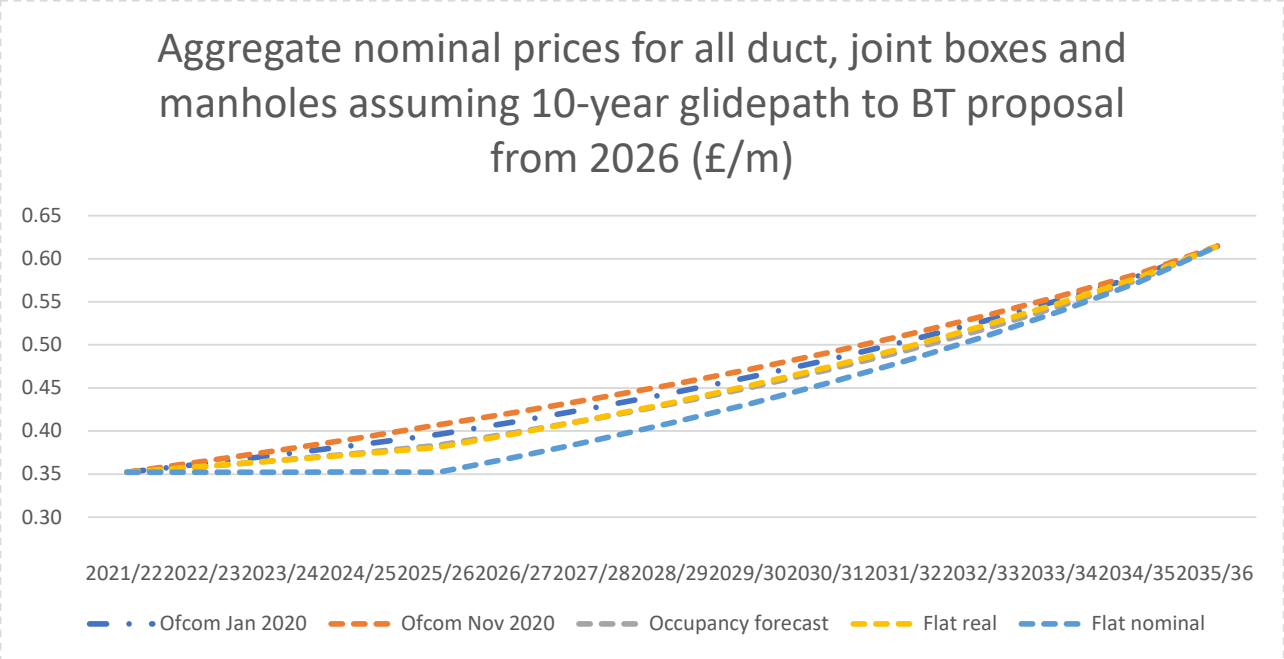

Joint box nominal prices assuming 10-year glidepath BT proposal with 23% occupancy from 2026 (£/entry or exit)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Manhole nominal prices assuming 10-year glidepath BT proposal with 16.5% occupancy from 2026 (£/entry or exit)
65.00
55.00
45.00
35.00
25.00
15.00
5.00
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Lead-in duct nominal prices assuming 10-year glidepath to BT proposal with 90% occupancy from 2026 (£/m)
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Aggregate spine duct nominal prices assuming 10-year glidepath to BT proposal from 2026 (£/m)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Aggregate duct nominal prices assuming 10-year glidepath to BT proposal from 2026 (£/m)
0.60
0.55
0.50
0.45
0.40
0.35
0.30
2021/22
2022/23
2023/24
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34
2034/35
2035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal


Aggregate nominal prices for all duct, joint boxes and manholes assuming 10-year glidepath to BT proposal from 2026 (£/m)
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
2021/222022/232023/242024/252025/262026/272027/282028/292029/302030/312031/322032/332033/342034/352035/36
Ofcom Jan 2020
Ofcom Nov 2020
Occupancy forecast
Flat real
Flat nominal

Annex 2 – RAB approach justification and analysis

1. This Annex provides additional analysis and references to support our section in the main body regarding the introduction of a RAB approach to PIA costing, including a RAV adjustment to exclude assets that have already been recovered through revenues. In this analysis, we have collaborated with CityFibre.

2. Ofcom set out its approach to PIA pricing in its earlier consultation document.

3. *"In developing the proposed charge controls, we have had regard to our overarching legal duties. … we propose to exercise our discretion in setting these controls in favour of an approach that is aimed at supporting investment in fibre networks.*

4. *Our proposals seek to do this by ensuring that:*

    a. *Openreach has the opportunity to recover efficiently incurred costs; and*

    b. *a level playing field exists between Openreach and competing telecoms providers that make use of PIA to provide downstream products.*

    Establishing a level playing field between Openreach and rival networks would be important for ensuring that BT and its competitors have appropriate conditions to support their investments. In addition, providing Openreach with the opportunity to recover its efficiently incurred costs would support Openreach's incentives to invest more generally."[30]

5. Ofcom's objectives as set out above appear to be supported by all stakeholders. However, as we set out here, its existing proposals do not create a level playing field nor meet its objectives on cost recovery.

EC Recommendation on broadband costing methodologies

6. Ofcom noted in the WFTMR Consultation:

[30] WFTMR Consultation, Volume 4, Paragraphs 5.8 to 5.10

"Consistent with our duties, we are taking due account of any applicable European Commission (EC) recommendations or guidelines."[31]

7. The EC issued recommendations on costing methodologies for use in broadband in 2013. The recommendation sets out the appropriate methodologies to use in modelling the costs of physical infrastructure, distinguishes these from the methodologies applicable to other assets used by telecommunications operators and explains why they are appropriate (our emphasis added) .[32]

> *Unlike assets such as the technical equipment and the transmission medium (for example fibre),* ***civil engineering assets*** *(for example ducts, trenches and poles)* ***are assets that are unlikely to be replicated****. Technological change and the level of competition and retail demand are not expected to allow alternative operators to deploy a parallel civil engineering infrastructure****, at least where the legacy civil engineering infrastructure assets can be reused for deploying an NGA network.***
>
> *In the recommended costing methodology the Regulatory Asset Base (RAB) corresponding to the reusable legacy civil engineering assets* ***is valued at current costs, taking account of … the costs already recovered by the regulated SMP operator****. This approach sends efficient market entry signals for build or buy decisions and avoids the risk of a cost over-recovery for reusable legacy civil infra structure.* ***An over-recovery of costs would not be justified*** *to ensure efficient entry and preserve the incentives to invest because the build option is not economically feasible for this asset category.*[33] *[Emphasis added]*

3.1 Under this RAB approach therefore the current cost of the asset must take account of the costs already recovered by the SMP operator. This contrasts with the approach used in modelling costs for other assets, which should model the

[31] WFTMR Consultation, Volume 1, Paragraph 2.5

[32] Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU) (NGA costing recommendation")

[33] NGA Costing Recommendation, Recital (34) and (35)

"incremental capital (including sunk) and operating costs borne by a hypothetically efficient operator ... and adds a mark-up for strict recovery of common costs"34

Ofcom's approach to the cost of duct

8. In fact, Ofcom has for many years taken a hybrid approach to the valuation of duct.

9. The opening RAB for duct and copper cables as at 31 March 2005 was adjusted downward from depreciated, indexed historic costs to adjust for the over recovery of a revaluation that had taken place in 1997.[35] At that time it was expected that the recorded deprecation and the amounts recovered would be equal in all future years and hence no further RAB adjustment would be required in future.

10. Ofcom recognised that removing the potential to over recover an asset in future does not impact economic incentives significantly. It noted that:

> *The possibility of expropriating assets is a matter that Ofcom takes very seriously. Ofcom agrees that clawing back profits which are due to unanticipated efficiency gains would damage incentives to increase efficiency. However, the opportunity for over-recovery resulting from the 1997 revaluation to CCA did not result from any efficiency on the part of BT, …. Ofcom believes that removing the opportunity for over-recovery in future should have minimal effect on economic incentives.* [36]

11. Although this "RAV adjustment" made in 2005 has remained in place ever since for both Regulatory Financial Statements (RFS) and pricing models, no subsequent attempts to adjust the regulatory values for over recovery have been made. In effect Ofcom has been using a "part RAB" rather than a "full RAB" approach. As we note above this may indeed be the correct approach for pricing active services but it is not appropriate for civil engineering infrastructure assets which can be re used to deploy fibre.

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[34] NGA Costing Recommendation, Recital. (29)
[35] Ofcom Final Statement "Valuing Copper Access" 18 August 2005
[36] Ofcom Consultation Document "Valuing Copper access Part 2 – Proposals" 16 March 2005 Paragraph 3.20

RAB approaches adopted by other UK regulators

12. A full RAB approach is well established in UK network regulation, where a "build or buy" approach is not considered feasible. Where a risk of double recovery has been identified as a result of past actions, other industry regulators have taken the necessary actions to adjust the RAB at the start of a price control period to ensure that any such double recovery will not continue in future periods.

13. Three examples from different industries illustrate this approach:[37]

14. In 1997, the RAB for Northern Ireland Electricity was adjusted downwards by £97m for an underspend in capex unrelated to efficiency).[38]

15. Also in 1997, the RAB of the gas pipeline operator, Transco. was written down by 40% to ensure that the discount on book value on privatisation was taken into account appropriately,[39]

16. In 2002, the RAB of airport operator, BAA was written down by £135m, to avoid double recovery of pensions costs.[40]

17. We note that none of these examples, nor Ofcom's own 2005 RAB adjustment amount to retrospective regulation; they do not remove any over recovery of costs in previous prices, but rather seek to avoid any further over recovery in future pricing.

Summary

18. In summary, the EC guidance, Ofcom's RAV adjustment in 2005, its objectives in the current WFTMR review and the approaches taken by other regulators all recognise that the RAB value of a non-replicable asset should not be set at current values. Such an approach is relevant to incentivise a "build or buy decision" as it will not be

[37] For summary of these and other examples see "UR-151 Correcting for Unforeseen Outcomes: Regulatory Precedent" published on gov.uk

[38] See Monopolies and Mergers Commission (MMC), Northern Ireland Electricity plc- Conclusions, 1997

[39] See MMC, A report under the Gas Act 1986 on the restrictions of prices for gas transportation and storage services, 1997

[40] Competition Commission, BAA Plc: A Report on the Economic Regulation of the London Airports Companies, 2002

economically viable for a competing operator to replicate these assets at any price but it is not appropriate for use in relation to assets such as ducts.

19. For such assets. the RAB should rather be set as the costs incurred to date to bringing the asset into its current condition, where these costs have not already been recovered though revenue. Such an approach, which is usual in other network utilities, ensures that the owners of the assets achieve a fair return on their investment over the life of the asset. It ensures that the asset investors are appropriately incentivised, but avoids these investors earning economic rents that would add unnecessary costs to the users of the assets.