



Promoting competition and investment in fibre networks- Approach to remedies

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1 Executive summary

- 1.1 BT Group welcomes the opportunity to comment on Ofcom’s consultation ‘Promoting competition and investment in fibre networks, Initial proposals – Approach to remedies’ (‘the Consultation’) early in the review process, even though we cannot, at this point, fully comment without an assessment of the competition concerns the proposed remedies are intended to address.¹
- 1.2 BT understands and supports Ofcom’s goal to secure investment in fibre networks (by BT and others). The benefit of world-class digital infrastructure to the UK is clear. We also recognise that we need to invest to improve our customer propositions and to stay ahead of our competitors. Our investment in fibre is well underway (through Openreach) and we have recently announced an acceleration of Openreach’s build to deliver 4 million FTTP premises passed by March 2021, with the ambition to pass 15 million FTTP premises by the mid-2020s, with the right conditions.
- 1.3 We also agree with Ofcom that homes and businesses should benefit from this investment widely, including smaller communities. Wide fibre deployment across the UK will require public funds in areas where deployment is not commercially viable, and a mechanism for supporting deployment which does not result in an unacceptable price differential between geographies.

Our proposals

1. Ofcom should measure competition robustly and roll back or lighten regulation where competitive pressures are shaping outcomes to the benefit of customers.
2. Customers are more likely to benefit from investment in fibre at scale if Ofcom adopts a policy timeframe which aligns with investment timeframes, and signals the regulatory principles that will endure beyond 2026.
3. A key pro-investment principle for Ofcom to establish is that investors who bear commercial risk should have the opportunity to earn a fair reward for bearing that risk. Ofcom should signal that any future regulation will take this into account.
4. Where investment has been undertaken by BT, Openreach should have the flexibility to price its fibre services competitively within the bounds set by competition law to ensure that customers see the benefits of fair competition.
5. Public funding will be required for non-commercial areas and should be specified as soon as possible.
6. The remedies proposed for competitive areas could be applied more widely to encourage investment by BT and others (avoiding the complexity of a regulatory bespoke funding model for BT).
7. If such a model *is* used to support BT’s incentives to deploy, it will need to clearly mitigate investment risks and ensure that Openreach can deploy widely without compromising its ability to compete.
8. Regulated dark fibre is inconsistent with Ofcom’s fibre deployment objectives – it will deter competitive investment and it will deter commercial deployment by a single operator by impeding efficient cost recovery.

¹ BT reserves its position to make further representations to Ofcom when more detail on Ofcom’s specific proposals and/or the bases for those proposals are published.

Ofcom should measure competition robustly and roll back or lighten regulation where competitive pressures are shaping outcomes to the benefit of customers

- 1.4 We agree with many aspects of the remedy proposals. But Ofcom should not regulate where competitive pressures are shaping market outcomes in a way that delivers clear benefits for customers. To do so risks stifling the very competition that Ofcom wishes to encourage as well as the associated customer benefits. To avoid this, Government has called for regulatory forbearance – i.e. regulation only where and to the extent necessary to address competition concerns.
- 1.5 The deployment of fibre networks is now underway by a range of parties and is bringing competition today. The transformative effect of this investment is underpinned by duct and pole access which Ofcom says will remove Openreach's cost, coverage and speed of provision advantages. Customers are using tenders to secure the best network supply terms in return for their volumes. By doing this they can secure the benefits of competition in advance of actual deployment and secure them over the long-term through contracts.
- 1.6 And yet Ofcom's starting point for the remedy package seems to be that BT will hold significant market power up until 2026 in the physical infrastructure market nationwide, as well as the wholesale markets downstream of physical infrastructure nationwide. The proposals imply no effectively competitive geographic areas or market segments, but some variation in remedies to reflect where competition might (or has) emerged.
- 1.7 This starting point is too broad and arises because Ofcom proposes to measure Openreach's market position by reference to connections without regard to the capability of the connection in providing services in competition with other network providers.
- 1.8 But Openreach is primarily a superfast operator in a market moving towards ultrafast. There is a sizeable, established ultrafast operator, namely, Virgin Media which supplies itself with most of the ultrafast connections currently provided in potentially competitive areas, and sets price and service levels which other retailers must compete with (and which creates an indirect constraint on wholesale terms). Virgin Media could also become a wholesaler of fixed access services in direct competition with Openreach.
- 1.9 There are other network rivals investing in fibre-rich networks. These have financial backing and can achieve build costs very similar to Openreach by using duct and pole access and targeting densely populated areas. They also derive full value from any customer gained through investment whereas established operators only gain value from upgrades (for customers they would otherwise retain). Although currently small, they have proven business models (Hyperoptic's focus on multi-dwelling units and social housing) and strategies (CityFibre's anchor tenant-led expansion and Gigaclear's focus on rural communities). Competition from mobile and fixed wireless access technologies is also a realistic prospect, particularly with the launch of 5G.
- 1.10 These developments put competitive pressure on Openreach's superfast position. Significant investment by BT is required, and is underway, to enable Openreach to compete effectively. Over time, Openreach's superfast position will wind down, to be replaced by ultrafast services offered by Openreach and by others. Market outcomes

will depend on competitive dynamics, not least commercial deals that are negotiated with wholesale customers to address their specific needs.

- 1.11 And competition is even greater in the higher value Ethernet market (as Ofcom itself recognises) and will ramp up still further in areas of high demand if unrestricted duct and pole access becomes available this summer.
- 1.12 Wholesale customers have seen the opportunities created by this infrastructure competition. They can choose which network (or network expansion) they commit their demand to, in return for the most competitive terms of supply. Sky has recently issued a request for tender for their wholesale fixed access requirements to achieve precisely this, including market testing in specific local areas. These tenders are likely to be fiercely contested as they provide operators with an opportunity to support investment with committed demand.
- 1.13 The market positions of Openreach and its rivals are, therefore, much more balanced than Ofcom assumes. Access to Openreach's ducts and poles means that build costs are significantly levelled (as is the scale needed to operate efficiently). Regulated prices for legacy services will be set to accommodate rivals' build costs. The open nature of tenders offers the prospect of commercial deals between wholesale customers and Openreach's rivals which would make volumes (and potential scale) more certain for these operators.
- 1.14 Openreach has no material incumbency advantages in these circumstances – it is certainly an ultrafast competitor but not necessarily the dominant player. The competition it currently faces (and will face) reduces the need for regulation (at least, regulation on top of physical infrastructure access). A market power finding which failed to capture these important distinctions between Openreach's superfast and ultrafast market positions would be a clear error and would not align with the Government's call for regulatory forbearance, nor deliver the expected benefits of competition to customers.
- 1.15 This risk is particularly high as Ofcom has not explained the treatment of areas likely to become effectively competitive during the five year review. So an error in Ofcom's competition assessment would endure for five years. We think that Ofcom should give appropriate weight to network capability and more contestable market conditions in measuring market power at the outset. But it should also allow BT to request re-designation where it can be shown that an area is effectively competitive.

Progress has been made but investors still need a longer-term signal of Ofcom's policy position aligning with their timeframes

- 1.16 Investors (including BT) will support investment in fibre networks (involving large up-front costs and the risk of losses) where there is a reasonable prospect of the investment generating value in the longer term. The investment timeframe will span decades.
- 1.17 This is the territory of patient investors, but patience depends critically on a long-term regulatory framework based on predictable and enduring principles allowing investors to understand how regulation will affect value in the near- and long-term. The

Government concluded the same in the Future Telecoms Infrastructure Review ('FTIR') and has identified 'stable and long-term' regulation as one of its strategic priorities for Ofcom.

- 1.18 Significant progress has been made, particularly the proposed move to a five-year review period and the clear policy of inflation-adjusted legacy pricing for this period. These provide a regulatory timeframe better aligned to investment timeframes, and a pricing environment that will support investment (by BT and others) and migration. Ofcom should make clear the principles which will endure beyond 2026, particularly the continuing need for regulation which will support competitive investment, including through appropriately set regulated prices for legacy services.
- 1.19 There should be no presumption that BT will make additional profits due to stable legacy prices. Rather, the policy is in line with the principle of cost-oriented pricing as volumes move away from Openreach's legacy products, and the economic life of the underlying assets reduce, which will increase unit costs. Ofcom accepted (in its July strategy document) the need to address Openreach's ability to recover costs associated with the copper network and to do so in a way which avoided fluctuating prices.
- 1.20 The support proposed by Ofcom to achieve a smooth transition from Openreach's copper to its fibre network is valuable and somewhat mitigates the risk of inefficient parallel running of networks by Openreach. The efficiency gain from timely switchover helps BT make the case for fibre investment but is also needed so that Openreach can compete effectively with fibre operators who do not bear legacy costs which have arisen due to historic regulatory obligations placed on BT.
- 1.21 But uncertainty remains as a successful transition also depends on actions to be taken by Openreach's customers (as well as end customer demand for ultrafast service), which represent largely commercial not regulatory risks.

Confirmation is required that regulation will keep upside in play for BT as would occur in a normal competitive market where risks have been taken and bets have paid off

- 1.22 Competition is already shaping pricing and investment outcomes and will increasingly do so. If BT does not compete successfully, it bears the risk of volume loss to ultrafast rivals. Investment in fibre networks is a way of managing this risk and is a strong indicator of competitive dynamics playing out to the benefit of customers and the UK.
- 1.23 But outcomes are still uncertain, even with investment by BT to meet the competitive threat, and even allowing for Openreach's proposed switchover of customers (and copper de-commissioning) which will reduce the risk of network under-utilisation.
- 1.24 Investing firms need to benefit from sufficient upside potential (should the investment prove to be successful) to offset the downside risks. But BT faces the risk that regulation will remove some of the upside further down the line if it competes successfully (or if competition simply doesn't materialise). Any capping of upside for BT (through regulation) is also likely to affect the returns that network rivals can expect in the future.
- 1.25 Regulation must, therefore, keep this upside in play (as would occur in a normal

competitive market where risks have been taken and bets have paid off). This is the principle of the 'fair bet'; a straightforward concept but critical to get right to support investment incentives. Ofcom should confirm now that it will be honoured (if BT is regulated in the future) as was the case for BT's FTTC investment.

- 1.26 Specifically, BT would welcome confirmation that Ofcom does not envisage regulating higher speed fibre variants (i.e. beyond 40/10 Mb/s) for a period of at least two 5-year review periods (i.e. until 2031). This would be a point at which certain risks will have crystallised (thus reducing the risk of regulatory error) – it does not indicate the date of expected payback.
- 1.27 We also see merit in reaching a common understanding with Ofcom of investment risks that BT faces today (subject to appropriate scrutiny of our assessment by Ofcom). This would allow Ofcom to indicate today a level of upside returns (over the lifetime of the investment) which BT would have the opportunity to earn. This would go a long way to bolster investor confidence, helping to support investment by BT and others.
- 1.28 Ofcom reached such a view as part of its analysis of the fair bet in the context of our FTTC investment, albeit 10 years after the investment commenced. Ofcom should do the same analysis for our fibre investment, but upfront rather than ex post. This would avoid a situation, if regulation *is* considered in the future, where ex ante risks many years earlier would need to be estimated, but with the benefit of hindsight which will make an objective assessment difficult.

Ofcom's proposals to restrict Openreach commercial flexibility are not justified

- 1.29 Ofcom is concerned that rivals may scale back their investment if Openreach reduces its wholesale prices in areas where others are starting to roll-out new fibre network. Ofcom proposes that such geographic discounts should be prohibited for fibre pricing, as well as for all legacy residential and business services, in potentially competitive areas.
- 1.30 We are concerned that a restriction of this sort on Openreach's flexibility to compete would prevent customers from enjoying the legitimate benefits of infrastructure competition. It may also harm the competitiveness of BT's downstream businesses in markets in which they have no market power. In both cases, the proposed intervention would be disproportionate and counterproductive.
- 1.31 We understand Ofcom's desire to ensure that nascent fibre infrastructure competitors should have a chance to become established in the market. But for Openreach to have the ability and incentive to undermine emerging network competition in the way suggested, it would need to hold market power in the supply of fibre services which Ofcom has not shown, and which the evidence does not support. Without it, there is no basis for inhibiting competitive responses which (as Ofcom accepts) deliver benefits for customers.
- 1.32 An incentive is presumed based on an expectation that Openreach *will* have a position of market power to defend between 2021 and 2026. But Openreach's market position cannot be prejudged given the transformative changes as the market moves to ultrafast. Even if BT invests to grow Openreach's ultrafast capability, and even if

Openreach engages in a process of switchover, wholesale customers might still prefer rivals. They are already using tenders to select a network supplier which is increasing competitive pressures. Given the intensity of this competition, Ofcom has not shown that Openreach could count on sufficient gains to outweigh the lost profits from lower prices, which brings into question its incentives to behave in the way suggested.

- 1.33 Pricing incentives are also affected by the need to deploy a network and recover investment costs. Openreach may wish to price competitively to reflect local cost and competition conditions, but it still needs to recover its investment costs. Only last year, Ofcom decided against applying a geographic pricing restriction to Openreach's FTTP services because Openreach could not target rivals by quickly changing fibre prices where it needed to deploy its own FTTP network. This will remain the case from 2021 to 2026.
- 1.34 In fact, no presumption can be made about the scale and scope of Openreach's ultrafast capability at this stage, nor its pricing incentives and ability to target rivals. Rather, given the presence of Virgin Media's existing ultrafast network (which has the potential to upgrade its network to gigabit speeds at much lower cost), and the presence of localised competitors in the higher value Ethernet markets, there is a high risk that regulation could prevent Openreach from meeting competition fairly. This is not in the interests of customers – in fact, customers would be denied the benefits of price competition that Ofcom's policy is trying to achieve.
- 1.35 Ofcom does not examine the unintended consequence of BT scaling back its fibre investment if Openreach's freedom to price competitively is restricted. Put simply, BT is investing to retain its competitiveness which is put at risk if it doesn't invest. If it can't retain competitiveness even with the investment, the investment is less attractive, with knock-on effects for customers and communities, and for the level of infrastructure competition.
- 1.36 Equally, Ofcom does not examine potential adverse impacts on BT's downstream businesses where they continue to purchase Openreach services that have become uncompetitive due to the pricing restriction, but where other customers of Openreach can switch providers to protect their market positions.
- 1.37 We firmly believe that, where investment has been undertaken by BT, Openreach should have the flexibility to price its fibre services competitively. Alternative providers should expect that they will have to compete with Openreach's fibre service. This will help ensure that entry is efficient, and that pricing is competitive; both of which are important to ensure that customers enjoy the benefits of infrastructure competition.

Fibre deployment in more remote areas will require public funds and a mechanism for supporting commercial deployment which does not result in unacceptable price differentials between geographies

- 1.38 We support Ofcom's objective to achieve widespread availability of fibre across the UK, ensuring that people and businesses across the UK can get access to the new networks.
- 1.39 To achieve this, Ofcom is considering options to support fibre deployment in parts of the country where build costs are higher. We agree with Ofcom that a model which tries

to support deployment in the most remote and dispersed areas through price increases for other customers is unlikely to be acceptable. Public funding will be needed to make fibre deployment viable in these areas (which Openreach estimates to be at least 10% of premises).

- 1.40 For the remainder of the area which Ofcom has defined, on a preliminary basis, to be 'non-competitive' there is likely to be a degree of contestability. The area already has some competitive infrastructure and duct and pole access will undoubtedly increase the viability of competitive fibre build.
- 1.41 We think there is merit, therefore, in exploring what can be achieved by applying the remedies proposed for the potentially competitive areas more widely. These remedies are intended to support commercial deployment, and with price ceilings for copper and FTTP-based services set at the right level, there could be fibre build by BT and others in this area, without the need for a bespoke funding model for BT. We think this offers advantages over Ofcom's 'RAB-like' cost recovery model, which would be complex to administer.
- 1.42 RABs are usually used where there is no (or very little) risk of demand not materialising or being competed away. Fixed telecoms markets are different. Even with Ofcom's model for spreading costs beyond fibre users (which could *reduce* investment risk), BT would still bear the risk of weak demand for fibre or lower revenues than anticipated due to competition.
- 1.43 If Ofcom nevertheless continues with this model, it will need to address these risks explicitly and be clearer on what can be mitigated by regulation and what cannot. To ensure sufficient volume certainty, for example, Ofcom would need to define an area which it was confident would be uncontested. Consistent with this, it would need to remove (or limit) the possibility of cherry picking that was only made possible due to the availability of regulated dark fibre (see below). Ongoing adjustments might also be needed to support cost recovery. Overall, a deployment by BT under this arrangement would need to deliver returns similar to those available elsewhere in the UK.
- 1.44 Lastly, we doubt that a model which initially lowered prices by re-basing to the level deemed necessary to deliver copper cost recovery, and then lifted prices to allow recovery of fibre investment costs would be tolerated by customers, plus it would truncate the opportunity to recover fibre build costs from users of copper services which might place an unsustainable cost-recovery burden on fibre users.

Regulated dark fibre is inconsistent with Ofcom's fibre deployment objectives and the claimed benefits are unsubstantiated

- 1.45 Regulated dark fibre is widely acknowledged to undermine network competition. For this reason, the Government has urged Ofcom to consider dark fibre in a way that would not undermine the case for operators to invest in their own networks using duct and pole access.
- 1.46 Ofcom proposes to require BT to supply dark fibre in non-competitive areas to address unspecified competition concerns in the supply of leased lines (a market which Ofcom has not analysed or defined). Ofcom envisages that, over time, dark fibre will be the

primary focus of its regulation.

- 1.47 We firmly do not think that a case has been made for such a regulatory policy. In fact, there is a high risk that Ofcom's dark fibre proposals will undermine its objective of widespread fibre investment, both where infrastructure competition exists, or could emerge, as well as in the areas where fibre build is likely to be commercial for one operator.
- 1.48 In both cases the reason is simple: regulated dark fibre at cost creates material uncertainty over volume and revenue due to mostly inefficient arbitrage opportunities. Arbitrage occurs when buyers can reduce their cost of providing a service by exploiting price differentials (between geographies or services) rather than driving efficiencies or innovation to the benefit of end customers. This is widely agreed to be a poor outcome where it makes investment more difficult.
- 1.49 Given Ofcom's policy of supporting competitive fibre deployment, there is therefore a strong case for erring on the side of caution and allowing network competition to play out (facilitated by duct and pole access) before imposing a remedy which would undermine this competition and which is likely to make deployment even by a single operator less viable (and therefore more reliant on other forms of regulatory and public funding support).
- 1.50 This has the advantage of giving competitive deployment (and the benefits this delivers) the widest opportunity – which, itself, could still deliver dark fibre albeit on a commercial basis thereby supporting, rather than undermining, investment.

2 Remedies must reflect, and adapt to, market dynamics which are fundamentally changing

- 2.1 Ofcom's strategy focuses on promoting competitive investment in fibre networks in as many areas as possible.² It expects competitive network investment in the majority of the country, facilitated by regulation to give alternative operators access to Openreach's duct and pole infrastructure, as well as regulated wholesale prices set at a level to accommodate these operator's build costs.³
- 2.2 This strategy is, in principle, consistent with Government's statement of strategic priorities, which notes that 'regulatory forbearance, where appropriate, should be considered by Ofcom in developing its regulatory approach to incentivise the roll out of full fibre networks.'⁴
- 2.3 It is also consistent with the model adopted in European countries which opted for access to physical infrastructure earlier and have seen more fibre deployment than the UK, namely, Spain, Portugal and France. In these countries, the absence of access regulation (downstream of physical infrastructure) has helped drive incentives to deploy fibre. Ethernet markets have been regulated lightly if at all (and largely without dark fibre being imposed).⁵
- 2.4 However, the starting point for the remedy package proposed by Ofcom is a finding that BT will hold significant market power up until 2026 in the physical infrastructure market nationwide, as well as the wholesale markets downstream of physical infrastructure nationwide. The proposals consulted on imply no effectively competitive geographic areas or market segments, but some variation in remedies to reflect where competition might (or has) emerged.
- 2.5 This section describes competition in the markets downstream of physical infrastructure. The market is moving to ultrafast services where existing and prospective competition (facilitated by access to Openreach's ducts and poles) are already shaping pricing and investment outcomes and will increasingly do so. Competition is even greater in the higher value Ethernet market (as Ofcom itself recognises) and will ramp up still further in areas of high demand if unrestricted duct and pole access becomes available this summer.
- 2.6 Wholesale customers (such as Sky) are wielding their buyer power by using tenders to establish the most competitive network supply terms available in local areas (based on existing and planned build). The benefits of competition can then be locked in over a

² This contrasts with Ofcom's historic approach which required Openreach to offer wholesale products in order to promote retail competition based on the 'expectation that BT would continue to face limited network competition in markets where it had SMP, over the future period covered by our reviews.' Ofcom, March 2019. [Promoting Competition and Investment in Fibre Networks - Approach to Remedies](#) ["Approach to Remedies"], para 1.9.

³ Competitive investment is encouraged by ensuring 'access to the same benefits BT has to re-use existing duct and pole infrastructure on equivalent terms' as well as signalling wholesale regulation 'within the achievable cost range of a "Reasonably Efficient Operator" (REO)'. Approach to Remedies, paras 1.4 and 2.15.

⁴ DCMS, [Statement of Strategic Priorities](#), February 2019, para 22.

⁵ WIK Consult, February 2019. [Prospective competition and de-regulation: an analysis of European approaches to regulating fibre](#).

period through contractual terms. In high value Ethernet markets such tenders have been commonplace for some time and will become more intense with unrestricted access to Openreach's duct and poles.⁶ In addition, competition in retail markets from services supported by wireless technologies are also expected to increase in the five years from 2021.

- 2.7 Ofcom must consider these service specific market dynamics in its market assessment including its assessment of SMP.⁷ Specifically, for the reasons we set out below we think that the market positions of Openreach and its rivals are much more balanced today (and even more so on a forward-looking basis) than Ofcom currently assumes.

Market dynamics in the ultrafast mass market today indicate that Openreach does not have enduring market power

- 2.8 Competitive pressure downstream of physical infrastructure is already in evidence across all wholesale access markets.⁸ There is an existing, large ultrafast operator in Virgin Media. Changes in the duct and pole access regime will support additional competitive fibre deployment delivering high-quality connectivity at good value for consumers.⁹ Customers will have greater choice (and be able to exert greater buyer power). These dynamics point to competitive constraints within the timeframe of the market review which must be taken into account as part of Ofcom's competition assessment. These are described further below.

Today, in the potentially competitive area, Openreach is not the largest provider of ultrafast connections

- 2.9 Even if superfast and ultrafast connections downstream of physical infrastructure are found to be part of the same economic market, Ofcom should capture the constraints on Openreach as a (primarily) superfast operator needing to invest to keep pace with established and smaller ultrafast rivals.¹⁰
- 2.10 Virgin Media is the leading provider of ultrafast services with the lowest cost of upgrade to gigabit capable speeds (i.e. speeds of 1Gb/s and above).¹¹ DOCSIS3.0 technology allows Virgin Media to offer download speeds of up to 350Mbps on its hybrid-fibre-coaxial network. Beyond that, it expects to deploy DOCSIS3.1 technology in future to

⁶ See [BT Group's response to Ofcom's 2018 BCMR Consultation](#), 18 January 2019.

⁷ Ofcom must explore the drivers of competition from the bottom up by undertaking an analysis of the downstream retail markets (see European Commission Recommendation on relevant product and services markets- 9 October 2014 (C 2014, 7174), para 7).

⁸ Our response to Ofcom's Consultation on geographic markets ["Geographic Markets Consultation"] also argues that Ofcom must assess product and geographic markets downstream of physical infrastructure access in order to deregulate where markets are contestable.

⁹ Ofcom, May 2019. [Promoting competition and investment in fibre networks: review of the physical infrastructure and business connectivity markets](#) ["PIMR and BCMR Draft Statement, 2019"] - Vol. 1, paras 1.7 and 1.8.

¹⁰ We use the Ofcom definition whereby ultrafast connections are connections providing speeds in excess of 300Mb/s. See [Ofcom Connected Nations Report 2018](#), p.3

¹¹ Virgin Media, due to DOCSIS technology, has the ability to provide upgraded speeds much more quickly and cheaply than Openreach (or altnets). The European SMP Guidelines note the need to consider, amongst other factors, technological and commercial advantages <https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines>

support customer downloads speeds of 1Gbps and beyond.¹²

- 2.11 The cable footprint passes 14.4m homes in the UK (as of December 2018) and is expected to pass 4m additional premises once Project Lightning is completed.¹³ Ofcom reports that Virgin Media supplied 4.9 million fixed exchange lines to residential and small business customers at the end of 2018 and Virgin Media has recently reported that over 70% of its broadband customers (i.e. around 3.9m) are already receiving speeds in excess of 100Mb/s following network upgrades in recent years.¹⁴ This compares to broadly [x] for Openreach.
- 2.12 The cost of deploying DOCSIS is likely to be a fraction of the cost of deploying FTTP. Virgin Media has indicated the only incremental cost of upgrades relates to new DOCSIS3.1 modems (Liberty Global has already started its upgrade to DOCSIS3.1 in Germany, where it supplies over 1.3m homes with 1Gbps broadband).¹⁵ Hence Virgin Media is likely to set prices and quality levels which its retail competitors will need to compete with. It can also expand quickly and in a targeted fashion (including targeting individual customers at the retail level).
- 2.13 Virgin Media might also consider wholesaling network access services in light of competitive pressure (as recently reported).¹⁶ This means Openreach may face a direct competitive constraint at the wholesale level from Virgin Media.
- 2.14 By contrast, Openreach has started deploying ultrafast at pace relatively recently. As of May 2019, Openreach has passed 1.2m premises with FTTP,¹⁷ representing less than 10% of Virgin Media's ultrafast deployment. Whilst Openreach has an ambition to pass 15m premises with FTTP by the mid-2020s (under the right investment conditions), its coverage would remain materially smaller than Virgin Media's ultrafast footprint. Openreach is, therefore, not the leading provider of ultrafast broadband services, and will remain smaller than Virgin Media during the next regulatory period.

Openreach also faces competition from smaller (but growing) FTTP operators with proven business model and strategies

- 2.15 In addition to the competitive pressure in the ultrafast market from Virgin Media, there are other network rivals investing in fibre-rich networks. These have financial backing and can achieve build costs very similar to Openreach by using duct and pole access and targeting densely populated areas. They also derive full value from any customer gained through investment whereas established operators only gain value from upgrades (for customers they would otherwise retain).

¹² Virgin Media, 2018. [Consolidated Financial Statements December 31](#), pl-10.

¹³ Virgin Media, 2018. [Consolidated Financial Statements December 31](#), pl-4.

¹⁴ Liberty Global, 06 May 2019. [Q1 2019 Fixed Income Release](#), pg. 2.

¹⁵ Liberty Global, 27 February 2019. [Q4 2018 Fixed Income Release](#), p10. This release predates the takeover of Liberty's assets in Germany by Vodafone.

¹⁶ ISPreview, April 8, 2019. [Virgin Media Ponders Opening Up UK Network to Rival ISPs](#). TelecomTV, [Virgin Media wholesale rumour: the sign of a rattled cableco?](#), April 9, 2019.

¹⁷ Techradar, April 9, 2019. [Openreach connects 1.2m properties to FTTP](#).

2.16 Although currently small, these operators have proven business models and strategies.

- Cityfibre is now well underway in its plans for fibre rollout to 5m homes and businesses by 2025, across 50 cities.¹⁸ The first phase of its project aims to reach 1m premises by 2021.¹⁹
- Hyperoptic, which targets its FTTP rollout at multiple-dwelling units, has plans to roll out to 2m premises by 2021 and 5m by 2024.²⁰
- Some new FTTP operators are targeting their rollout at rural areas, with Gigaclear aiming to reach 350,000 premises by 2021.²¹ Moreover, new operators continue to enter the market, with Zzoomm recently announcing intentions to rollout FTTP to 1m premises in towns and suburbs by 2024.²²

2.17 These operators are able to reduce their build costs significantly by taking access to Openreach's ducts and poles. In the PIMR, Ofcom explains that access to Openreach's infrastructure removes advantages that Openreach has in the construction of, and innovation in, telecoms infrastructure and the provision of downstream telecoms services.²³

Wholesale customer perceive actual and potential network supply options and are using this leverage to secure competitive terms of supply

2.18 Wholesale customers have seen the opportunities created by this infrastructure competition. They can choose which network (or network expansion) they commit their demand to, in return for the most competitive terms of supply.

2.19 These tenders are likely to be fiercely contested as they provide operators with an opportunity to support investment with committed demand. They also create competitive conditions which are more akin to bidding markets (i.e. where the benefits of competitive market testing are locked in over the period of a commercial contract).²⁴ Government recognises the potential for such commercial deals and '*expects Ofcom to play a role in facilitating such arrangements where appropriate.*'²⁵

2.20 Customers have already flexed their muscle. Last year, [X], Openreach offered all its wholesale customers price discounts if they grow their fibre broadband customer base on Openreach's superfast or ultrafast network by an agreed proportion over a 3 or 5-

¹⁸ CityFibre, [Full speed ahead for fibre homes](#) [accessed 06 June 2019]

¹⁹ CityFibre, [One million homes now identified in CityFibre's full fibre roll-out as Bournemouth and Northampton join the programme](#) [accessed 06 June 2019]

²⁰ ISPreview, 9 May 2019. [Hyperoptic Grow Leadership Team for UK FTTP Broadband Rollout.](#)

²¹ ISPreview, 25 August 2018. [Gigaclear CEO Mike Surrey on Building Full Fibre Beyond England.](#)

²² ISPreview, 26 April 2019. [New UK Full Fibre Broadband ISP Zzoomm Begins Network Testing.](#)

²³ The advantages which are removed relate to cost, coverage, and speed of provision and innovation. Ofcom, November 2018. [Physical Infrastructure Market Review Consultation](#) [PIMR 2018] para 1.13. Ofcom also makes clear how access to physical infrastructure can address market power in the provision of downstream telecoms services as it sees the SMP findings in the business connectivity markets as flowing '*directly from BT's control of the only ubiquitous telecoms network, and the advantage that provides in terms of being closer to customer sites*'. PIMR 2018 para 3.96.

²⁴ Our response to Ofcom's Geographic Markets Consultation also describes (at paras 2.23 to 2.3) the dynamics of competition which arises from contestability couple with strong wholesale buyers.

²⁵ DCMS, Statement of Strategic Priorities for telecommunications, the management of radio spectrum and postal services, Consultation, 15 February 2019, para 22.

year period.²⁶ This means that wholesale superfast prices are potentially lower than the cap set by regulation for wholesale customers who can meet the relevant volume requirements.

- 2.21 And there is further evidence of market testing aimed at securing the most competitive wholesale supply terms for fibre service specifically. In March this year it was reported that Sky contacted several fibre providers to explore network access options with a view to market testing in specific local areas.²⁷

The competitive threat posed by fixed wireless operators is also growing

- 2.22 The threat of entry by fixed wireless access (FWA) operators provides a further competitive constraint. A FWA operator with a basic capability can deploy quickly and cost effectively (without the need for an engineer visit) by providing a customer with the self-install equipment needed for the plug-and-play service (e.g. a wireless router).
- 2.23 Competition from 5G mobile services more generally has been identified by various industry analysts.²⁸ 5G mobile products offering data speeds greater than 300Mbps, (with large or unlimited data allowances) will likely substitute for fibre-based broadband products to some extent, particularly for those wishing to avoid a broadband contract attached to a fixed address, or where data usage links more to mobile devices than to premises.
- 2.24 Even if 5G mobile and FWA are not viable substitutes for fixed fibre everywhere, an indirect competitive constraint would be likely to apply nationally given uncertainty about the locations where this may be so, and the attendant risk of retail consumers churning to 5G mobile.

Ofcom should not pre-judge outcomes as the market moves to ultrafast and should ensure that its methodology for assessing competition appropriately captures service-specific dynamics

- 2.25 The above developments put competitive pressure on Openreach which is not consistent with Ofcom's preliminary finding of ubiquitous market power – i.e. in the physical infrastructure markets and downstream wholesale markets. To address this, Ofcom's competition analysis should appropriately capture demand and supply-side dynamics which are specific to services.
- 2.26 A key factor, on the demand side, is that the strength of constraints from demand side switching between superfast and ultrafast services is likely to be asymmetric. Legacy services are competitively constrained by ultrafast services because customers will tend to substitute superfast services for enhanced ultrafast services in response to a change in relative prices. In the reverse, while currently legacy services constrain ultrafast

²⁶ ISPreview, [ISP Sky Broadband UK to Sell Openreach G.fast and FTTP Broadband](#), September 10, 2018. Details of the Openreach volume commitment special offer is available on the [Openreach website](#).

²⁷ ISPreview, [Sky Broadband UK Seek Full Fibre ISP Alliance with Openreach Rivals](#), March 15, 2019

²⁸ For example, a report by Enders states "There is a limited number of households for whom mobile is a potential full substitute for fixed broadband without a specialist fixed-replacement product, but that number is likely to increase as the price of very large/unlimited mobile bundles comes down, as we envisage with the advent of 5G" Enders Analysis, April 2019. [5G to change the face of UK mobile](#).

pricing (as offers on ultrafast need to entice consumers to migrate upward) this constraint is likely to weaken over time because as more and more customers migrate to ultrafast, those left on legacy will tend to be more price inelastic. The retail ARPU premium we observe today for speeds above the 40/10 anchor product is consistent with this.²⁹ A marginal increase in the price of legacy products is likely to be much less sustainable (if at all) without causing switching to higher speeds than the other way around as over time (as demand increases) consumers are expected to need higher speeds (and be willing to pay a premium over slower speeds). Having said this, any premium for ultrafast services will be competitively constrained given the presence of Virgin Media and the emergence of new competitors and technologies. More generally, there is considerable uncertainty surrounding these premiums which is one of the reasons why fibre investments are risky.

- 2.27 On the supply-side, significant investment is required, and is underway, to enable Openreach to compete effectively. In undertaking this investment, Openreach has no material incumbency advantages. Unlike investments in FTTC (including G.Fast), FTTP requires an entirely new network to be built by Openreach and does not rely on Openreach's existing assets³⁰ (other than ducts and poles where costs have been levelled).
- 2.28 Over time, Openreach's superfast position will wind down, to be replaced by ultrafast services offered by Openreach and by others. Therefore, ownership and control of existing legacy assets is – in the timeframe of the next market review period and as competition based on duct and pole access plays out - insufficient to provide Openreach with the ability or incentives to act independently of its competitors or customers. Raising prices in any areas where Virgin Media is present and/or where fibre network build is viable would risk it losing customers to Virgin Media or alternative network providers (or FWA providers) with higher bandwidth capabilities.
- 2.29 Market outcomes will depend on how competitive dynamics play out including tendering competition for the market with the potential to lock in prices and terms that are good for consumers. We do not agree, in this context, that competition will only be effective where two or more multi-service fixed networks are present. Competition between two networks with the realistic prospect of entry may be sufficient to drive competitive outcomes, particularly where customers are able to lock in benefits through contractual terms. We also do not think Ofcom should presume the outcome in areas which end up with two gigabit networks: in some areas Openreach may be one of the two; in others areas it may not.
- 2.30 Ofcom's methodology for assessing markets must capture these important dynamics and its remedies must reflect this. We are concerned that Ofcom's approach to measuring competition based on the supply of any/all forms of network access services will over-state Openreach's market position by not reflecting competitive dynamics

²⁹ [X]. This is in line with the typical technology dissemination curve observed for FTTC we provide in Annex 3. It is also consistent with the Commission's 2003 finding on Wanadoo that "[a]lthough some form of substitutability exists [between low-speed and high-speed internet access], its operation is extremely asymmetrical, given the value attached by users to the intrinsic features of high-speed Internet access", i.e. consumers would less often switch back to a narrowband service when the price of the high-speed internet was raised, whereas when the high-speed internet access price was lowered, France Telecom would see a large increase in new customers. European Commission, COMP/38.233, 16 July 2003.

³⁰ Backhaul – where not already competitively supplied - is available on regulated terms to all Openreach's wholesale customers.

specific to services provided over networks.

Competition in business markets is likely to be even more effective, in particular in metropolitan areas

- 2.31 In our response to Ofcom's business connectivity market review, we presented evidence of the greater pressure we face in business markets in particular in the high network reach 'HNR' metro areas and more widely in very high bandwidth 'VHB' markets.³¹ We noted in particular that competitive conditions are influenced by customer size and value, purchasing behaviour, site/demand clustering, and migration patterns. These features (and other evidence on the functioning of the market), point to (at least): (i) a lower bandwidth market (at 1G and below) which will be increasingly cannibalised by ultrafast broadband; and (ii) a competitive VHB segment above 1G.³²
- 2.32 Taking unrestricted duct and pole access into account, we found that the competitive constraints on Openreach would be significantly stronger. In fact duct and pole access would allow telecoms providers to address demand 10 times further away from their existing networks than if they built their own physical infrastructure (which is likely to make more sites contestable).³³
- 2.33 Competitive pressure in business markets has continued to increase since our response to the Business Connectivity Market Review 'BCMR 2018' Consultation. Key development include the following:
- competitive deployments by CityFibre in Swindon and Cambridge;³⁴
 - the acquisition of Zayo by Digital Colony Partners, (which also owns Opencell who are developing small cell infrastructure for the UK MNOs) increasing the possibility of Zayo targeting MNOs for some of their backhaul requirements;³⁵
 - MNOs using long-term commercial agreement to drive fierce competition, for example, the arrangements entered into by Three and O2 to use a combination of SSE's existing fibre ring, Openreach exchanges and Thames Water's sewage infrastructure;³⁶
- 2.34 Annex 1 provides win-loss analysis of contract tenders (across multiple sites) conducted by BT Enterprise which illustrates the competitiveness of business markets in the context of tenders. The examples illustrate that customers often use a mix of own and third-party infrastructure. This analysis predates the introduction of unrestricted access

³¹ BT Group's Response to Ofcom's Consultations on the Physical Infrastructure and the Business Connectivity Market Reviews published on 2 November 2018, 18 January 2019 ('BT BCMR and PIMR Response')

³² There may be additional distinctions for example between MNO backhaul and other business access within the business access market as set out in the Openreach response to the 2018 BCMR Consultation.

³³ AlixPartners, 25 January 2019, The competitive impact of duct and pole access, report prepared for BT

³⁴ ISP Review, 10 May 2019, [Cityfibre targeting 1,100 businesses in Swindon with full fibre services using a dark fibre network](#) and ISP Review, 1 May 2019 ("The figure of 1,100 reflects the number of businesses in the town that are currently deemed to be within 200 metres of the operator's new 6.5km long Dark Fibre network"), [Cityfibre operating a 44km metro dark fibre network in Cambridge](#).

³⁵ ISPReview, 9 May 2019. [Digital Colony Gobble Fibre Optic Network Giant Zayo in £11bn Deal](#).

³⁶ The initial contract appears to cover 177 exchanges, but reports suggest that Three may extend this to about 440 exchanges eventually. Light Reading, [Three's Broadband 'Toy' Gets Set for 5G Push](#).

to Openreach ducts and poles ('DPA'), which we expect to intensify this type of competition.³⁷

³⁷ [REDACTED]

3 Progress has been made but investors still need a longer-term signal of Ofcom's policy position more closely aligned to their timeframes

- 3.1 BT understands and supports Ofcom's goal to secure investment in fibre networks (by BT and others). Our investment in fibre is well underway (through Openreach) and we have recently announced an acceleration of Openreach's near-term build plans as well as an ambition to pass 15 million FTTP premises by the mid-2020s, with the right conditions.
- 3.2 Ofcom's regulatory strategy is shifting from a model which focussed on promoting competition in retail markets to one which promotes competitive investment by BT and alternative network builders as widely as possible. The Consultation addresses how regulation can support a smooth transition to competitively supplied fibre networks.³⁸
- 3.3 For this to be a successful strategy, investors (whether it be BT, Virgin Media or altnets) will need a reasonable prospect of their investment generating value over the investment timeframe (which will span decades). Significant progress has been made, in particular, the proposed move to a five-year review period and the clear policy of flat prices in real terms. These provide a regulatory timeframe better aligned to investment timeframes, and a pricing environment that will support investment (by BT and others) and migration.
- 3.4 But investment timeframes are significantly longer still. Therefore the principles which will endure beyond 2026 should be made clear now, particularly the continuing need for regulation which supports competitive investment, including through appropriately set regulated prices for legacy services. The terms of the fair bet should also be clearly specified in advance, and to the benefit of all investors (BT and altnets alike).
- 3.5 There should also be no presumption that BT will make additional profits due to stable legacy prices. Rather, the policy is in line with the principle of cost-oriented pricing as volumes move away from Openreach's legacy products over time, and the economic life of the underlying assets reduces – both of which will increase unit costs. The support proposed by Ofcom to achieve a smooth transition from Openreach's copper to its fibre network is also valuable, although commercial risk remains as actions will also need to be taken by Openreach's customers.
- 3.6 But even with supportive regulation, significant uncertainty remains. It is our firm view that fibre remains a substantially higher risk investment than was FTTC, given remaining take-up risk as well as construction risk and the risk of challenges from new technologies such as fixed wireless (especially given the length of the expected payback period).
- 3.7 Where there is investment risk, investing firms need to benefit from sufficient upside potential to offset the demonstrable downside risks. Regulation must keep this upside in play (as in a normal competitive market where risks have been taken). This is the principle of the 'fair bet' and Ofcom should confirm now that it will be honoured (if BT

³⁸ The Consultation also addresses how regulation can reduce investment risk to encourage fibre deployment by BT in areas where competition is not expected. We address this in section 5.

remains regulated in the future) as was the case for BT's FTTC investment. In fact, Ofcom should indicate today a level of upside returns (over the lifetime of the investment) which BT would have the opportunity to earn. This would go a long way to bolster investor confidence, helping to support investment by BT and others.

Our investment in fibre is well underway (through Openreach) and we have recently announced an acceleration of Openreach's build

3.8 BT is already investing to improve our customer propositions and to stay ahead of our competitors. Expansion of Openreach's ultrafast broadband fibre network means that over 3.2m premises have been passed to date (c.2.0m premises passed with G.fast and c.1.2m with FTTP).³⁹ Regarding FTTP specifically, BT has announced that:

- Openreach passed an average of c.14,000 homes and businesses with FTTP every week in 2018/19 under its 'Fibre First' programme, and during Q4 accelerated its build rate to c.20,000 premises passed per week.
- Openreach continues to deliver FTTP at the lower end of its £300 - £400 per premises passed cost range and believes that it can pass a significant proportion of UK premises within this range of costs.
- Openreach is currently progressing FTTP build in 26 locations. In April, Openreach announced a further 12 locations to benefit from FTTP availability in the next 12 months, bringing the total to 38.

3.9 We announced in April that Openreach would be increasing and accelerating its FTTP investment to now deliver 4 million FTTP premises passed by March 2021, up from 3 million FTTP premises passed. We also expressed an ambition for Openreach to pass 15 million FTTP premises by the mid-2020's, up from 10 million FTTP premises, if the conditions are right – especially regarding regulatory and Government's policy enablers.

A longer period of stability in the price of existing services is needed to provide the right environment for investment

3.10 BT is supportive of a change to the frequency of market reviews to every five years. We (and others) are making investments in long-lived assets. Reviews every three years (with the possibility of prices being re-set) would create a disconnect between the time horizon considered by investors on the one hand, and that considered by the regulator, on the other.⁴⁰ We believe that 5 years strikes the right balance between giving longer certainty and avoiding allocating risk over an unreasonably long period given the pace of change.

3.11 But many of the commercial issues we face will play out over multiple market reviews (even for five rather than three-year review periods). The clarity needed by investors

³⁹ Data in this paragraph from [BT Group plc Results](#) for the full year to 31 March 2019, 9 May 2019

⁴⁰ BT recognises that in setting price controls in regulated sectors, five years is the standard duration. For RIIO-1 (2013-2021), Ofgem adopted an eight-year approach, but intends in RIIO-2 to return to a five-year review period, principally due to the risk of forecasting errors on cost allowances and output targets over the longer period. [RIIO-2 Framework Decision](#).

extends over commensurately longer timescales. This is particularly the case for new fibre networks where deployment timescales are long and commercial returns will be assessed over significantly longer periods than five years. As the DCMS noted, '[l]ong pay-back periods are made more risky by the possibility of regulatory change'.⁴¹ The risk of a change in regulatory policy is enough on its own to discourage investment, or otherwise to require a higher expected rate of return.

- 3.12 Clearly Ofcom cannot fetter its discretion, but it is perfectly possible to be explicit about a set of regulatory policy principles that Ofcom expects to endure over multiple control periods. This approach has been taken by other sector regulators (e.g. Ofwat and Ofgem) and has been important in enabling the planning and delivery of long-term investment over time.
- 3.13 Ofcom proposes that charges for existing broadband and other access services move forward on inflation-adjusted terms (alongside continued pricing flexibility for higher-bandwidth wholesale local access services). BT is supportive of this policy as an important part of the regulatory environment required for fibre investments. We agree that this policy will create the right incentives for wholesale customers to build networks (or support build by others) rather than buying wholesale services from Openreach⁴² and that the business cases of rival network investors will depend critically on how Openreach is regulated.⁴³
- 3.14 Ofcom proposes this pricing policy for the five-year review period (from 2021 to 2026). But regulatory predictability is needed for a longer period. By 2026, for example, we may still be in the middle of the investment phase for fibre roll-out. Whilst Ofcom may feel unable to commit to a level of pricing for the later 2020s, it should clarify its policy position for this future period. Ofcom could, for example, signal the need for a policy which drives migration and supports rivals beyond the next five years. Investors could then plan on the basis of a clear set of enduring principles beyond the next market review period.

There is no basis to believe that legacy prices indexed at CPI will over-recover costs

- 3.15 Ofcom's statement that its proposed approach to legacy pricing '*sets prices somewhat above BT's costs*'⁴⁴ needs some clarification. Ofcom has not, so far, ever been faced with the situation where Openreach's copper volumes reduced significantly over a control period. Fibre investment at pace by BT and others will drive this reduction. As copper volumes fall, unit costs would be expected to increase as economies of scale (which have in the past been factored into price levels) are lost. It is not correct, therefore, to imply that Ofcom's policy will oblige consumers to forego lower prices while BT earns

⁴¹ DCMS, 2018. [Future of Telecoms Infrastructure Review](#), para 27.

⁴² Ofcom states '*Our proposed regulation around access to key wholesale services is intended to promote competition by ensuring that access seekers have appropriate incentives to build new networks themselves and/or enter into commercial arrangements with alternative network builders, as opposed to overly relying on buying cost-based wholesale services from BT.*' Approach to Remedies, para 1.10.

⁴³ Ofcom states '*We consider this is appropriate because entrants, who are likely to face higher costs than BT, need to be able to compete with Openreach's wholesale services.*' Approach to Remedies, para 2.20 a).

⁴⁴ Approach to Remedies, para 2.20 a).

higher margins on the legacy network.

- 3.16 Further, Ofcom increased the accounting life for copper dropwires to 18 years in 2005⁴⁵, and the charge for copper access services is based on depreciation calculated over this period. With a transition from copper to fibre, many copper lines will not reach the end of this assumed full economic life. Depreciation set using the existing methodology is, therefore, too low as it does not anticipate a network upgrade and migration allowing decommissioning of the copper asset.
- 3.17 It has also been a principle of economic regulation to date that BT is afforded the opportunity to recover its efficiently-incurred costs for legacy services which regulation has required BT to provide and its shareholders to fund. An unavoidable implication of network transformation is that prices cannot continue on their previous trajectory if this implicit regulatory contract is to be honoured. With shorter asset lives, depreciation will be higher and cost recovery needs to be faster.
- 3.18 Ofcom's regulation of prices for certain FTTC services in 2018 is based on the premise that Openreach would have the opportunity to recover the costs of these assets in future periods (from 2021 onwards), earning overall project returns commensurate with the risks taken at the project outset. Consistency of regulation requires that an opportunity to recover these costs is preserved if the assets in question are retired more quickly than assumed in 2018 due to Ofcom's strategy of promoting competitive investment in fibre by BT and others.
- 3.19 It has been argued by some commentators that investment incentives would be stronger if legacy prices were lower. This is because the 'margin forgone' (or opportunity cost) for Openreach when upgrading customers would be smaller if the price of copper-based services were held down. We do not agree with such an analysis of incentives. Lower legacy prices would mean there would be less incentive for customers to migrate to fibre services,⁴⁶ and the lower (and slower) levels of customer migration would be a powerful negative drag on the investment case. By taking a static view, the 'margin forgone' argument omits more powerful dynamic forces at play.
- 3.20 Nor would such an approach align with Ofcom's strategy to encourage new fibre networks to be deployed, which relies on access takers having incentives to build themselves or support build by Openreach's rivals. There would be little prospect of a shift in incentives to support build and risk sharing, if access takers could rely on cheap regulated access to Openreach's legacy platform.

Ofcom's supportive approach to switchover is helpful, but obligations on legacy services need to be removed sooner

- 3.21 We welcome Ofcom's recognition that regulation must support the smooth transition from Openreach's legacy network to its fibre network.⁴⁷ In particular, we are pleased

⁴⁵ Ofcom, [Valuing copper access Final Statement](#), 2005, para 1.11.

⁴⁶ Migration could otherwise be encouraged by keeping the margin between legacy and full fibre services unchanged by lowering the price of fibre services, but this would have obvious consequential damage to the full fibre business case.

⁴⁷ Approach to Remedies, para 5.5.

that Ofcom recognises that, ‘as Openreach deploys its fibre network it will need to retire its copper-network to avoid the dual costs of running parallel networks’.⁴⁸ This efficiency gain helps BT to make the case for fibre investment but is also needed so that Openreach can compete effectively with fibre operators who do not bear legacy costs which have arisen due to historic regulatory obligations placed on BT.

3.22 Ofcom's proposals will serve to mitigate downside risks associated with timely migration to some extent but by no means 'de-risk' the FTTP investment case given commercial dependencies, in particular, actions that will need to be taken by Openreach’s customers.

3.23 Ofcom suggests a three-phase approach to regulation for switchover (in areas currently served with FTTC), as summarised in the following Figure.

Phase 1	Phase 2 (“overlap”)	Phase 3
Fibre deployment phase	Fibre deployment completed (100% coverage) at the start of this (at least two year) period	Copper retirement commences
Regulation of current services continues but certain legacy obligations withdrawn	Regulation of current services continues as in Phase 1 but Openreach not required to provide new copper connections	Remove price regulation of copper-based services
Openreach required to provide new copper connections	Regulation of full fibre 40/10 anchor introduced with ‘moderately higher’ charge control	Price regulation of FTTP 40/10 bandwidth only with ‘moderately higher’ charge control
No price regulation of full fibre	“Parallel running” of networks and regulation for at “least 2 years”	

3.24 Given the objective of avoiding unnecessary costs, we welcome Ofcom’s:

- (i) proposal to make a modification of the access obligation, so it does not apply to the development of new access services where they would be based on legacy assets from 2021 onwards;⁴⁹
- (ii) recognition that there could be circumstances where repair and maintenance of the legacy network results in significant investment, and that replacing the copper connection with a fibre connection would be preferable;⁵⁰
- (iii) proposal to relax the requirement for Openreach to provide new copper connections in Phase 2 (including no longer being required to migrate a customer back to a copper service from an FTTP service);⁵¹ and
- (iv) recognition that regulation of legacy services will have an impact on the incentives for customers to migrate from copper to fibre.

⁴⁸ Approach to Remedies, para 5.4.

⁴⁹ Approach to Remedies, para 5.24.

⁵⁰ Approach to Remedies, para 5.27.

⁵¹ Approach to Remedies, para 5.15.

- 3.25 We are also pleased that Ofcom recognises the challenges in migrating vulnerable customers and that additional protections and assurances could be required to support their migration.⁵² In this regard we agree with Openreach’s proposals to work with industry and Ofcom to develop a ‘consumer charter’ setting out general principles for how migrations are handled and how customers and, more importantly, vulnerable customers are treated in the migration process.⁵³
- 3.26 However, we consider that a smooth transition is more likely with greater flexibility for Openreach to manage that transition well ahead of coverage reaching 100% in an exchange area. We agree with Openreach that a threshold materially above 75% is likely to be unreasonable.⁵⁴ Coverage depends not only on Openreach but on landlords and local authorities, as well as other third parties. Ofcom itself recognises the challenges in obtaining access to land and buildings when it notes that all reasonable efforts need to be made to connect customers before copper services are withdrawn.⁵⁵ Requiring 100% coverage would delay and reduce cost savings from retiring the copper network, worsening Openreach’s investment case, and delaying access to ultrafast speeds to end customers.

A moderate price premium for the FTTP anchor product is reasonable

- 3.27 BT accepts that there is a balance to be struck between providing incentives for investment to the long-term benefit of customers (and the wider economy) and providing protection for consumers from higher prices in the shorter term (if market power is found). Ofcom proposes that such a balance can be achieved by obliging Openreach to offer a 40/10 Mb/s ‘anchor’ product on the new fibre network albeit at a modest premium over the rental of its corresponding copper-based service.⁵⁶
- 3.28 A premium is justified for several reasons. The service will be better quality in terms of reliability, latency, packet loss rate and jitter. These are important dimensions of quality for many applications. But careful quantification of this premium is needed as the level of the fibre anchor price will condition likely revenues across the whole of the portfolio (impacting likely future cash flows from the investment – for both altnets and Openreach). It may also be the case that once the FTTP base is stable any premium could be partially absorbed by retailers where they can make cost savings due to the greater reliability of the fibre service. That said, the opportunity to sustain even a moderate premium will be constrained by competition from other platforms and from

⁵² Approach to Remedies, para 5.30 to 5.32.

⁵³ Openreach, March 2019. Openreach industry Consultation on: an exchange-based approach to upgrading the UK’s digital infrastructure with GEA-FTTP, F7 to F9

⁵⁴ Openreach, June 2019. Openreach response to Ofcom’s Approach to Remedies Consultation.

⁵⁵ Approach to Remedies, para 5.32.

⁵⁶ Ofcom signalled in July 2018 that ‘we may consider the need to allow a small pricing premium for a full-fibre based anchor product, to reflect its higher quality and consequential higher value’ and in its latest Consultation Ofcom confirms its view that a ‘moderately higher charge’ for the 40/10 Mb/s product on the fibre network is appropriate. Approach to Remedies, para 1.26 and 5.20. To benchmark such an amount, it is relevant to consider household monthly spend on fixed services in 2018 was around £35 (and £60 including spend on pay-tv) – and the incremental benefit full fibre would provide in the context of the services this enables. For household monthly spend see Ofcom Communications Market Report Published 2 August 2018 - expenditure estimates excludes VAT.

increasingly competitive wireless solutions.

Ofcom must specify the terms of the ‘fair bet’ in advance

3.29 Investment in new networks inevitably involves downside risks that reflect all the reasons that a commercial plan may not be achieved in practice. Such risks are particularly prevalent when the investment in question involves high sunk costs and timescales for cost recovery are long.⁵⁷ Both of these conditions apply to fibre networks.

3.30 Despite, therefore, Ofcom’s regulatory approach being more supportive to investment, there are still significant commercial investment risks inherent in fibre deployment. Amongst other things, we are uncertain about the following:

- whether Openreach will achieve the assumed average fibre deployment costs, both in terms of build cost per home passed and connection costs per premise (i.e. execution risk);
- whether the costs of maintaining and operating the legacy network can be effectively controlled whilst large scale migration occurs (without which diseconomies of scale threaten to arise);
- whether Openreach can achieve the assumed level of operating cost savings which a fibre network is expected to enable (something which is, itself, dependent on the rate of migration to the new network);
- whether customer take-up reaches assumed levels, especially when this is threatened by rival suppliers (and where Ofcom proposes to restrict Openreach’s ability to defend volumes) and, in the medium to longer term, from access being provided by new high capacity wireless networks; and
- whether ARPU will be in line with projections, which depends on the demand for the higher speed variants of a service which will be priced at a premium to the anchor 40/10 Mb/s service.⁵⁸

3.31 Furthermore, large upfront capital spending commitments mean that shortfalls in volumes will have a magnified impact on profits, as costs will be largely committed. Relatively small levels of volume uncertainty therefore translate into a material level of investment risk.⁵⁹

3.32 To be clear, BT does recognise that Ofcom’s proposals will serve to *mitigate* downside risks to some extent – for example in the relief granted from certain regulatory obligations to facilitate switchover, and in providing price stability on legacy services. However, this is very much a mitigation of the risk rather than ‘de-risking’ the investment case. A successful transition also depends on actions to be taken by

⁵⁷ Should the investment fail to recover its cost over the timeframe assumed at the outset (which will be in excess of 20 years for full fibre), for example because another technology such as wireless may progress in this time so that it can deliver what consumers want more cheaply, then the fibre assets in the ground may become obsolete (stranded).

⁵⁸ BT notes that Ofcom recognise some of the risks listed above in their section on proposed remedies in non-competitive areas. Ofcom mention demand risk (which translates to ARPU risk through two channels; the long-term nature of payback; and the need for BT to rely on Ofcom maintaining regulatory commitments across multiple review periods. These risks apply just as much in potentially competitive areas as non-competitive areas. Approach to Remedies, para 3.13.

⁵⁹ Whilst utilities such as water and power distribution also have high levels of fixed costs, their demand is much more certain. It is the combination of high fixed costs and uncertain levels of demand which magnifies downside volume risk.

Openreach's customers, which represents commercial not regulatory risks. Equally, we continue to bear the risk that sufficient numbers of customers (once switched over) subscribe to the higher value high bandwidth services.

- 3.33 We also agree that risks may evolve over time – Openreach is already learning about the extent of execution risks, and demand for higher margin services should become more apparent as deployment progresses. However, considerable residual risk will remain, and this is risk which has a cost to investors which it is appropriate for Ofcom to recognise if it decides further down the line to impose further price regulation on fibre services.
- 3.34 In July 2018, Ofcom recognised that it was legitimate that Openreach had the opportunity to make returns above its cost of capital on a successful investment to compensate it for the chance that a risky investment may fail (the 'fair bet' principle).⁶⁰ Ofcom referred to the approach it took in the Wholesale Local Access market review where the opportunity to earn an estimated project lifetime return on Openreach's superfast investment of around 15% (with regulation) was deemed sufficient to honour the fair bet because it would compensate BT adequately for the upfront risks. Ofcom indicated in July 2018 that this principle remained appropriate and that it would apply the fair bet principle to fibre investment in a consistent way.
- 3.35 It is by no means certain that Ofcom will need to regulate Openreach's fibre deployment in the future. Ofcom's policy will encourage infrastructure competition which would be expected to constrain market pricing and make regulation unnecessary. Openreach is fully exposed to a downside scenario in which it invests but competitors are successful in competing away volumes at attractive prices. But if this does not happen (or not to the extent that Ofcom finds competition to be effective), then BT needs clarity that Ofcom will take the upfront risks described above into account before intervening to remove upside in the future.
- 3.36 Ofcom's confirmation of their intentions in their July 2018 strategy document is welcome. However, further guidance is needed on the application of this principle to the specific case of fibre investment in order that there is a shared understanding of the specific terms of the fair bet from the outset.
- 3.37 BT would welcome confirmation that Ofcom does not envisage regulating higher speed fibre variants (i.e. beyond 40/10 Mb/s) for a period of at least two 5-year review periods (i.e. until 2031). There is merit in this to allow *'BT to determine the premium it earns for fibre services and provide some flexibility to adjust prices over time to encourage migration to the new services and recover investment costs.'*⁶¹ Equally, should regulation be needed it can be designed more accurately once certain risks have crystallised in the initial period allowing project lifetime returns to be more accurately estimated.
- 3.38 We also see merit in reaching a common understanding with Ofcom of investment risks that BT faces today (subject to appropriate scrutiny of our assessment by Ofcom). This would allow Ofcom to indicate today a level of upside returns (over the lifetime of the

⁶⁰ Regulatory certainty to support investment in full-fibre broadband: [Ofcom's approach to future Regulation](#), July 2018

⁶¹ Approach to Remedies, Table 3. Ofcom makes the point in relation to the regulatory model it proposes for the non-competitive area but the same reasoning applies to the potentially competitive area.

investment) which BT would have the opportunity to earn. This would go a long way to bolster investor confidence, helping to support investment by BT and others.

- 3.39 Ofcom reached such a view as part of its analysis of the fair bet in the context of our FTTC investment. Ofcom should do the same analysis for our fibre investment, but upfront rather than ex post. This would avoid a situation, if regulation *is* considered in the future, where ex ante risks many years earlier would need to be estimated, but with the benefit of hindsight which will make an objective assessment difficult.
- 3.40 To be clear, this additional clarity on the fair bet would benefit not only BT and Openreach but also alternative network providers, whose own investment plans may be negatively affected by the expectation of future regulation of Openreach.

4 Ofcom's proposals to restrict Openreach commercial flexibility are not justified

- 4.1 In a more competitive environment (as described in section 2), it cannot be assumed that Openreach will hold (enduring) market power in what Ofcom has termed the 'potentially competitive area' as a whole (or a sub-set of areas and or services thereof).
- 4.2 Openreach's ability to respond fairly to competition is important to BT as the sole investor in Openreach. BT is investing to retain its competitiveness (which is put at risk if it doesn't invest). If it can't retain competitiveness even with the investment, the investment is less attractive.
- 4.3 Even where an SMP finding remains at the start of the 2021 review period, BT and Openreach need to be free to meet competition fairly given the broad assessment of the potentially competitive area, the long-time frame of the market review and the trend toward greater infrastructure competition unleashed by access to Openreach physical infrastructure.
- 4.4 This matters to UK consumers and businesses because restricting BT and Openreach's ability to compete fairly is likely to imply higher prices for its wholesale customers (and by implication retail customers) in certain areas and potentially less investment (again ultimately to the detriment to consumers).
- 4.5 We expect Ofcom to consult fully on the market analysis and market power findings (downstream of physical infrastructure) in order to substantiate the competition concern that its geographic pricing restriction proposals are intended to address.
- 4.6 In advance of seeing this full assessment, this section sets out our high-level observations that:
 - There is no case for extending existing restrictions on geographic pricing to additional product groups.
 - There also appears to be no case for blanket EOI obligations; instead, these obligations could prevent Openreach from meeting the needs of all its customers.
 - Should Ofcom proceed with the proposed pricing restrictions it will need to demonstrate that the benefits of any of its proposed measures are likely to outweigh the costs.
 - Any ex ante restrictions imposed must reflect the trend toward greater competition expected in the longer timeframe of the market review period.
 - We expect BT's downstream businesses to use Openreach's passive inputs on a level playing field with other wholesale customers of Openreach.

There is no case for extending existing restrictions on geographic pricing to additional product groups

- 4.7 We recognise the early stage of the Consultation, but are nonetheless surprised that

Ofcom is proposing a blanket prohibition of geographically targeted pricing⁶² in potentially competitive areas, across all regulated services in broadband and business markets.

4.8 Ofcom’s theory of harm is that Openreach may target new entrants with price reductions to weaken their business cases.⁶³ Ofcom’s reasoning follows its position in the Wholesale Local Access Market Review WLA 2018 Statement, except that:

- Fibre pricing is added⁶⁴ where it was explicitly excluded in the WLA 2018 Statement on the basis that BT could not quickly change prices for FTTP services as it would itself need time to deploy an FTTP network;⁶⁵
- Ethernet is included where it was explicitly rejected by Ofcom in BCMR 2016 Statement.⁶⁶ In the 2019 BCMR draft Statement Ofcom continued to view such a restriction as unnecessary due to competitive conditions⁶⁷ and variation in the costs of provision which might lead Openreach to ‘*set different prices in different geographic markets*’⁶⁸. Ofcom also notes that Openreach’s ability to price discriminate across geographic markets is constrained by the charge controls for the areas where Openreach has SMP, which restrict its ability to recoup lost profits from lowering prices in a competitive area by increasing prices in the non-competitive areas.⁶⁹

4.9 In addition, in the 2019 draft BCMR Statement Ofcom notes that the fair and reasonable pricing obligation provides additional protection enabling it to ‘*intervene more quickly where charges are not reasonable than if we relied solely on ex post competition law*’.⁷⁰ Ofcom also notes that the obligation to provide a reference offer provides transparency

⁶² Ofcom’s proposed blanket EOI obligations as discussed in a separate sub-section below.

⁶³ Ofcom does not support this theory of harm with any evidence.

⁶⁴ Ofcom also proposes to add the geographic pricing restriction for MPF where it was previously excluded (again no specific reasons are given) without a specific rationale.

⁶⁵ Ofcom, 2018. *Wholesale Local Access Market Review Statement Vol. I* [“WLA 2018 Statement”], para 11.66. “We consider that extending the policy to GEA-FTTP services would do little to help new network investment by competitors. This is because BT could not quickly change prices for FTTP services as it would itself need to deploy an FTTP network and, in any case, given BT’s current limited plans for FTTP it is likely that any overlap with competitor FTTP would be relatively small. In contrast, it could rapidly change prices for existing services and for new services such as G.fast, which are quicker to deploy than FTTP”.

⁶⁶ Ofcom recognised it was necessary to allow for variation in pricing to allow Openreach “some freedom to charge in a way that reflects more accurately the costs incurred and to respond to the local characteristics of competition that exist in these markets could be efficient. Moreover, given the level of cost differences that may exist and the extent of competition in some areas, BT’s ability to compete could be limited if it were required to maintain nationally uniform prices. Hence, geographically differentiated prices may reflect BT responding legitimately to cost differences in the face of competition” (BCMR 2016 Statement – Vol. I, 2016, para 8.93). At the time, Ofcom also concluded that geographic discounts may or may not be unduly discriminatory “depending on the circumstances” and preferred therefore to consider an alleged breach of the general undue discrimination obligation “on a case by case basis” (BCMR 2016 – Vol. 1, para 8.93). Ofcom also ruled out a predation test (as suggested by CityFibre) in relation to geographic discounts because “Competition Law provides a well-established framework for addressing any allegations of anti-competitive predatory pricing and no case has been made for an additional test.” BCMR 2016 – Vol. 1, para 8.97).

⁶⁷ [PIMR and BCMR Draft Statement, 2019 - Vol. 3](#), para 5.44.

⁶⁸ [PIMR and BCMR Draft Statement, 2019 – Vol. 2](#), para 13.53.

⁶⁹ Ofcom notes that “[t]he charge control will apply to all geographic areas in the UK where ... BT [has] SMP, and our approach restricts Openreach’s ability and incentives to use geographic discounts for anti-competitive reasons.” PIMR and BCMR Draft Statement, 2019 - Vol. II, para 5.44.

⁷⁰ PIMR and BCMR Draft Statement, 2019 - Vol. II, para 11.18. In this context Ofcom confirms that “Our general position is that we would interpret this fair and reasonable pricing obligation to mean that BT should not set prices that result in a price squeeze under ex post competition law. We would therefore adopt an approach to the evaluation of costs and margins consistent with the margin squeeze test.”

for the ‘*monitoring of anti-competitive behaviour*’⁷¹ as does the requirement of ‘*notification of changes to charges, terms and conditions*’⁷².

- 4.10 The geographic pricing restriction in WLA 2018 Statement was only considered appropriate by Ofcom in limited circumstances (in relation to FTTC and G.Fast only), on a temporary basis and with a consent process (which recognises, by its very nature, that geographic pricing might be pro-competitive). In that context, Ofcom specifically stated that ‘*in the long term we agree with Openreach that geographic pricing may become more common*’ and adding that therefore ‘*[we] do not envisage that a provision in this form is likely to be necessary in the longer term*’.⁷³
- 4.11 The basis on which Ofcom proposes to expand the set of commercial restrictions to other products from 2021 onwards is not specified in the Consultation; nor is the basis for any continuation of the existing restrictions. We have very real concerns that the proposals are not necessary and proportionate to achieve Ofcom’s objectives.⁷⁴
- 4.12 Having proposed to regulate access to Openreach physical infrastructure nationwide, and considering competition downstream thereby to be potentially viable in broadly two-thirds of the country, Ofcom must consider whether and the extent to which any additional remedies may be necessary, proportionate and targeted to address a specific competition or consumer harm (and generally lawful).⁷⁵
- 4.13 Cost, customer value and competitive pressures are likely to vary to a material extent between different geographies (including within the potentially competitive area); as well as between different services.⁷⁶ So legitimate business strategies for reflecting these objective differences in order to fairly compete are to be expected.

Openreach’s ability and incentives to price anti-competitively in FTTP and Ethernet markets in the potentially competitive area are likely to be limited

- 4.14 Openreach’s ability and incentives to price anti-competitively across the area where altnet competition is viable are likely to be very limited. Specifically:
- To have an incentive to act in the way suggested by Ofcom, Openreach needs to be able to recoup profits which are sacrificed by lowering prices. Recoupment could have a geographic or a time dimension. Regarding the geographic dimension, pricing below cost in one area (to maintain its competitiveness) and pricing higher elsewhere (to recoup) will either incentivise customers to move to Virgin Media in

⁷¹ PIMR and BCMR Draft Statement, 2019, para 11.83.

⁷² PIMR and BCMR Draft Statement, 2019, para 11.105.

⁷³ WLA 2018 Statement, para 11.33.

⁷⁴ BT refers to the submissions of BT and Openreach in response to Ofcom’s previous Consultation of 1 December 2017 “Wholesale Market Access Review: Promoting network competition in superfast and ultrafast broadband”. In those submissions BT and Openreach set out in detail concerns about the legality of a broad restriction on geographic pricing. Given how Ofcom now seeks to significantly broaden the scope of that remedy, and how the relevant markets are increasingly competitive, the concerns and analysis in those papers are now amplified.

⁷⁵ Should Ofcom be concerned that Openreach could meet competition unfairly given the heterogeneity of competitive conditions in too broadly defined an area then a preferred solution would be to ensure product and geographic markets are defined so as to reflect differences in competition by service and by area more accurately and on a forward looking basis; rather than imposing blanket restrictions on Openreach. See also our response to Ofcom’s Geographic Markets Consultation (where we also noted that we reserved our right to adapt our response depending on the approach Ofcom were to adopt in its remedies Consultation). BT’s response to Ofcom’s Geographic Markets Consultation, dated 26 February 2019.

⁷⁶ Competition is higher for higher value services in particular in business connectivity markets.

those areas or invite entry by others (see section 2 above). Both will tend to make Openreach less attractive to its wholesale customers, thus reducing its ability to compete. Considering the time dimension, the concern seems to be that Openreach may price at excessively low levels today in the expectation of recouping lost profits in future. But Openreach's ultrafast position cannot be prejudged, in particular in face of Ofcom's pro-competitive regulation of duct and pole access and stable legacy pricing. Even if BT invests to grow Openreach's ultrafast capability, and even if Openreach engages in a process of switchover, wholesale customers might still prefer rivals and are already using tenders to test the market and select a network supplier which is increasing competitive pressures. Ofcom has not shown that there would be payoffs to Openreach from weaker competition (or at least sufficient gains to outweigh the lost profits from lower prices).

- Similarly, for Ethernet, Openreach cannot increase prices elsewhere without becoming uncompetitive with Virgin Media (which also has a large business presence) or making DPA-based entry more attractive.⁷⁷ Contrary to mass market FTTP, entry in business markets is likely to occur more quickly in new areas (including but not limited to the metropolitan areas identified in the 2019 BCMR draft Statement) given the higher value of this market.⁷⁸

Measures preventing Openreach from reflecting differences in cost and value in its fibre pricing are likely to prevent it from meeting the needs of all its customers

- 4.15 Wholesale customers know that the costs of building telecoms networks differ by geography, and they are tendering with a view to concluding long-term contracts (be it volume discounts or co-investment agreements) to help lock in the benefits of competition for the market today for the longer term. Providers, for their part, are highly incentivised to bid competitively as these tenders offer an opportunity to underpin investments with committed volumes.
- 4.16 In order for Openreach to meet the needs of its wholesale customers it needs to be free to tailor and shape its offers flexibly (as set out in section 2 above). Otherwise it may be inhibited in its ability to compete fairly for their business.
- 4.17 Blanket restrictions preventing Openreach from differentiating its price by geography could also harm BT's downstream business units if they are supplied by Openreach at (locally) uncompetitive wholesale prices. They may, for example, be unable to match local reductions in retail prices (by Virgin Media or altnets) resulting in business being lost to rivals. Or they may seek to match retail prices but face the risk of allegations of margin squeeze.
- 4.18 Indeed EU countries where FTTP competition has emerged have seen more rather than less flexible commercial arrangements (that are reflective of individual customer needs, including value, and are often bilaterally negotiated). In recognition that these arrangements have been beneficial to FTTP investment, changes have been made to the European Regulatory Framework and these are expected to be implemented in the UK prior to 2021. The EU Electronic Communications Code ('the Code') foresees risk sharing deals (including some forms of long-term volume discounts) between

⁷⁷ In addition, at the end of the current charge control period Openreach's portfolio will have been regulated down to cost limiting the scope for further price reductions (unmatched by the ability to recoup elsewhere).

⁷⁸ See section 2 and the results of a BT Enterprise win/loss analysis in Annex 1.

incumbents and their wholesale customers to support ultrafast, which, once bilaterally negotiated can be put to the regulator for approval.⁷⁹

- 4.19 Ofcom’s proposals on geographic pricing (and blanket EOI) may inhibit pro-competitive and pro-investment commercial arrangements which would deliver benefits to customers.

The proposed measures could prevent Openreach from meeting competition from established competitors

- 4.20 If Virgin Media were to offer wholesale access or reduce its retail prices to meet (localized) competition from alters, a general prohibition on geographic discounts could prevent Openreach from meeting competition from a larger provider of ultrafast speeds than itself.

- 4.21 As noted in section 2, Virgin Media is currently the largest ultrafast provider and its existing customer base (with a larger share of ultrafast customers) is at greater risk of migrating to altnets. Hence – depending on how competition evolves in the period up to 2026 - it may face strong incentives to compete on price, including (potentially) in a geographically targeted manner. It is also likely to have the ability to do so as it is less costly for Virgin Media to upgrade its existing footprint to gigabit speeds (as it is already offering ultrafast) than it is for Openreach (or nascent altnet FTTP providers).

- 4.22 In the business (Ethernet) market Openreach faces competition from well-established local competitors in metropolitan areas (and other areas) in addition to Virgin Media. As noted in section 2, competitive pressure is likely to strengthen further if the usage restriction on Openreach ducts and poles is removed later this summer.

- 4.23 This means restrictions on Openreach’s ability to tailor its pricing by geography depending on cost and value are likely to prevent it from meeting existing competition fairly and on the merits; in turn negatively impacting the ability of BTs downstream business units to compete (using Openreach inputs) (where they have no market power). In addition, it is worth noting separately that restrictions on Openreach’s ability to compete in Ethernet markets also increase the risks associated with BTs investments in FTTP for the same reasons that hold for altnets (common costs between both types of deployment are shared).

Ofcom has not demonstrated that ex post competition law is insufficient to meet its objectives

- 4.24 BT maintains that competition law is a much better tool for considering geographic pricing practices as it enables a consideration of both pro- and anti-competitive impacts of a proposal or practice within its factual context and based on case law which has

⁷⁹ “Reviews of obligations imposed on undertakings designated as having significant market power during the timeframe of a market analysis should allow national regulatory authorities to take into account the impact on competitive conditions of new developments, for instance of newly concluded voluntary agreements between undertakings, such as access and co-investment agreements, thus providing **the flexibility** which is **particularly necessary** in the context of longer regulatory cycles.” [emphasis added] Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, 17.12.2018, Preamble paragraphs 181, 198 ff

been well-developed over a long period of time.

4.25 Against that background, before imposing ex ante obligations, Ofcom must:

- identify a specific competition concern;⁸⁰ and
- assess whether it should exercise competition powers first.⁸¹

4.26 Ofcom does not address, in the Consultation, whether competition law alone is likely to be sufficient to address the broad concerns it has identified.⁸² Competition law is underpinned by principles which are well understood and which provide transparency to BT's competitors. These principles are designed to strike the right balance between protecting the process of competition and individual competitors for the ultimate benefit of consumers. Potential complainants are sophisticated organisations, which will receive advance notice of any geographic pricing practice,⁸³ and therefore have the opportunity to review or challenge in advance of implementation. The severe consequences of a breach would act as a very real deterrent for BT.

The EOI obligation is likely to prevent Openreach from meeting the needs of its customers

4.27 Where Ofcom finds market power it proposes non-discrimination and Equivalence of Inputs ('EOI') obligations (for both wholesale local access and leased lines services) to prevent discrimination by BT in favour of its downstream divisions in a way which would harm competition and rival telecoms providers.⁸⁴

4.28 Given existing and emerging competitive pressures (as described in section 2), the need for an EOI obligation (which Ofcom describes as a 'complete prohibition of discrimination with no discretion') should be reconsidered for a number of reasons:

- BT does not have the incentive to favour its downstream arm where it faces competitive pressures from network rivals as this would make it less competitive prompting external wholesale customers to switch to rivals;⁸⁵
- the Commitments already require Openreach to treat its downstream customers equally;⁸⁶

⁸⁰ Before imposing an ex ante regulatory remedy, Ofcom must identify a specific competition concern; and in doing so define the relevant product and geographic markets properly and consider whether the three criteria test is met. It must consider whether high and non-transitory barriers to entry continue to exist (over and above the physical infrastructure remedy also proposed), whether the market structure does not tend toward effective competition in the time frame of the market review; as well as whether competition law alone is insufficient to adequately address the identified market failure(s)

⁸¹ Framework Directive, Recital 27.

⁸² We refer to the submissions of BT and Openreach in response to Ofcom's previous Consultation of 1 December 2017 (see above).

⁸³ Requirement under SMP conditions to provide advance notice of price changes.

⁸⁴ Approach to Remedies, para 2.33 (d).

⁸⁵ Should Openreach decide to offer terms more favourable to BT Consumer or BT Enterprise compared to its other wholesale customers the latter would be more likely to switch to Virgin Media or altnets. In turn, this would result in lower volumes for Openreach across which to recover the largely fixed and sunk costs of its FTTP investment.

⁸⁶ [BT and Openreach Commitments](#), paragraph 9.8 (b).

- the no undue discrimination obligation already provides sufficient protection from unfair differential treatment; and
- the obligation could be interpreted as limiting Openreach's ability to meet the needs of specific customers or customer segments in the context of market testing and commercial access agreements which are already common in business markets and becoming more prevalent in broadband markets.⁸⁷

4.29 If Ofcom decides to retain an EOI obligation, it should – at least - explain how it would assess EOI and no undue discrimination in the context of tenders and commercial access arrangements more generally. It would not be appropriate or proportionate for this obligation to inhibit Openreach from responding competitively and innovatively to meet its customer's particular requirements where they have options to use other network providers to meet these requirements.

Should Ofcom proceed with the proposed pricing restrictions it will need to demonstrate that the benefits of any of its proposed measures are likely to outweigh the costs

4.30 Should Ofcom proceed with the proposed pricing restrictions, it will have to demonstrate that the benefits are likely to outweigh the costs (including any unintended consequences from inhibiting fair competition on the merits). We doubt that a reasonable case could be made for such measures in the current (and expected) regulatory and market context relevant for the next review period.

4.31 Ofcom expresses concern 'that Openreach might react to entry by deploying pricing measures aimed at weakening competitors' business cases for the deployment of new networks including geographic discounts, creating a risk that competitors cut back on their investment plans.'⁸⁸ It also notes that '[e]nsuring ... investment/potential investment in fibre by BT's competitors will put competitive pressure on BT to invest in fibre itself.'⁸⁹ Ultimately Ofcom would also like to see 'at least three providers in as many areas as possible'⁹⁰, noting in this context 'where there is scope for competitive entry this will deliver better outcomes for consumers than ongoing regulation of a monopoly provider, including stronger competition at the retail level.'⁹¹

4.32 The incremental benefits of Ofcom's proposals to restrict Openreach's commercial flexibility in the potentially competitive areas (over and above its other proposals for promoting infrastructure competition are likely to be limited. Ofcom's proposals for unrestricted access to BTs physical infrastructure and its proposal to keep regulated wholesale charges flat in real terms are likely to increase the scope for competitive investment.

4.33 However, Ofcom's proposal to use ex ante regulation to limit Openreach's commercial

⁸⁷ See [Openreach response to the 2018 BCMR Consultation](#), paras 140 to 147. and Openreach response to the Ofcom Approach to Remedies consultation, para 75.

⁸⁸ Approach to Remedies, para 2.34.

⁸⁹ Approach to Remedies, para 2.20.

⁹⁰ Approach to Remedies, para 2.38.

⁹¹ Ibid para 2.20

flexibility to compete (i.e. the proposed geographic pricing prohibitions, or EOI), are unlikely to materially impact any player's minimum efficient scale in the long-run⁹² and so would not increase the scope for competition between at least three providers in any given area.

- 4.34 More generally, Ofcom must set the claimed benefit from a more certain investment environment against the risk that disproportionate measures could prevent Openreach from competing on the merits, reducing the value of BTs investment and reducing wholesale customers' ability to lock-in value through their tenders, with the attendant loss of consumer benefit/increase in cost.
- 4.35 More specifically, fair responses to competition could be thwarted, leading to higher prices, disincentivising investment by BT (as a result of expectations that regulation could unfairly limit its ability to monetise its investment in fibre); and fostering inefficient entry that may turn out to be unsustainable in the long run – imposing costs on consumers (who ultimately pay for these services).

Any ex ante restrictions imposed must reflect the trend toward greater competition expected in the longer timeframe of the market review period

- 4.36 Five year reviews create a higher risk of regulatory 'lag' – i.e. the delay between the point at which regulation becomes unnecessary (or ought to be lightened) in light of evolving market conditions within the five year review period, and the opportunity for the regulator to revisit that regulation.
- 4.37 In its July strategy document, Ofcom recognised the need for regulation to reflect evolving competitive constraints. It stated '*[a]nother key element of designing regulation to encourage network deployment is how quickly we remove regulation as competing networks are announced and deployed. We could follow an approach which includes proactive deregulation in various forms, for example, removal of restrictions on Openreach's ability to discount prices or requirement to provide specific forms of access. However, if we were to take this approach we would need to be confident that such proactive deregulation would not harm competitors' investment in new networks. We would also consider the lead time required for network build and the scope for consumer harm in the intervening period.*'⁹³
- 4.38 Ofcom does not address this issue in the Consultation although it does say (in its Approach to Geographic Markets Consultation) – and we agree – that the designation of the potentially competitive area should '*err on the side of assuming that there are reasonable prospects for network rollout*' where there is uncertainty. We also think that Ofcom's assessment of the prospect for network rollout should take appropriate

⁹² One may argue that any reduction in Openreach price could reduce the number of providers viable in an area (merely by making entry harder). However, measures with the objective of facilitating sub-scale entry until the entrant has gained minimum efficient scale would by definition need to be transitory. At the point minimum efficient scale is reached an altnet would need to be able to compete with the price points set by rivals, otherwise there is a risk of inefficient entry with a permanent cost to consumers.

⁹³ Ofcom July 2019, Regulatory certainty to support investment in full-fibre broadband: Ofcom's approach to future regulation, para 4.22

account of the likely impact of duct and pole access on a forward-looking basis.⁹⁴

4.39 We also think that Ofcom must give stakeholders the opportunity to apply for full deregulation should competition become effective in an area during the market review period in order to avoid disproportionate regulation (inhibiting efficient pricing signals and imposing unnecessary costs on providers and ultimately consumers).

4.40 In addition, given the length of the market review period careful design would be needed to ensure that any remedies which constrain Openreach's ability to compete are proportionate and appropriately time limited. At a minimum, any such remedies should

- be based on concrete concerns (for example the targeting of nascent competitors in local areas in a specific market downstream of physical infrastructure);
- be the least intrusive remedy necessary to meet Ofcom's policy objectives, where alternatives that would increase transparency exist – for example a notification requirement (for changes to charges, terms and conditions) or guidance on what Ofcom would consider to be inappropriate geographic pricing;
- ensure they do not prevent Openreach from legitimately responding to scale rivals such as Virgin Media; and
- provide for sunset clauses to ensure that where rivals are no longer nascent, the remedies are removed and avoid exposing Openreach (and BT as a shareholder) to asymmetric downside risk.⁹⁵

4.41 Openreach might also be able to obtain consent for pricing practices in certain circumstances (although this would need to be designed carefully to provide appropriate flexibility in competitive market conditions).

We expect BTs downstream businesses can use Openreach passive inputs on a level playing field with its other wholesale customers

4.42 More infrastructure competition (driven by unrestricted DPA) has implications for how the Commitments evolve over time. They stand as a remedy to a competition concern – namely discrimination – and, like functional separation, are intended for circumstances where *'there is little or no prospect of effective and sustainable infrastructure-based competition within a reasonable timeframe.'*⁹⁶

4.43 Where effective infrastructure competition has emerged, because of the existence of actual or potential competitors, the rationale for the Commitments would no longer

⁹⁴ Ofcom recognises the impact of duct and pole access on 'costs and the pace of build' (para 3.46, footnote 33) and proposes to take this into account 'as operators develop their plans to use [physical infrastructure access] PIA.' This is unclear and insufficient. Ofcom should explicitly take into account physical infrastructure access as part of its assessment of viability, not just where operators indicate in their plans it will be used. This is even more important in the context of a longer market review period within which Ofcom envisages DPA based infrastructure competition to play out.

⁹⁵ More formally, such sunset clauses will need to consider whether the risks to nascent (yet efficient) altnets such measures might aim to protect have materially reduced due to market developments; and whether the costs of restricting Openreach's ability to compete with established players still outweigh those benefits.

⁹⁶ The legal provisions are set out in ss. 89A and 89B CA03 which reflect the requirements of Article 13a AD.

hold. As this is a dynamic process which evolves over time, the Commitments must, in turn, be seen as a dynamic arrangement which evolves over time.⁹⁷

- 4.44 Where SMP remains, given the more competitive environment facilitated by access to Openreach's physical infrastructure, we expect our downstream businesses (i.e. BT Consumer and BT Enterprise) to have the same commercial flexibility as rival wholesale customers of Openreach in respect of their network supply options (in line with the Commitments).
- 4.45 In this context our downstream businesses will use DPA and dark fibre (should it be mandated) to deploy networks as necessary to maintain competitiveness. In line with the Commitments, they are permitted to make such deployments provided they do not 'materially substitute' Openreach products supplied in markets in which Ofcom has found SMP.⁹⁸ In these circumstances, we also expect Ofcom to exempt network deployments by BT's downstream business units from SMP regulation (when using own build or Openreach's duct and pole access). This is consistent with positions that Ofcom has publicly taken previously.⁹⁹ Applying SMP obligations would not be necessary or proportionate where Openreach already has these obligations; and where the 'material substitution' provision ensures that these remain effective.¹⁰⁰

⁹⁷ The Commitments already reflect the need for change where SMP is no longer found by Ofcom, Paragraph 3.6 states '*In the event that Ofcom concludes, pursuant to a market review, that BT no longer has SMP in a particular market, then except in the event that BT determines at its sole discretion that it is impractical to do so, such products within that market (which were formerly SMP Products but which have become non-SMP Products) shall be provided by, and the related assets shall be managed by a division of BT other than the Openreach Division. BT plc shall notify Ofcom of its reasons in circumstances where it has decided to retain provision of such non-SMP Products within the Openreach Division.*'

⁹⁸ [BT and Openreach Commitments](#), paragraph 9.8 (b);

⁹⁹ Ofcom has previously acknowledged that where BT Downstream uses an upstream passive input (i.e. dark fibre), BT downstream businesses should have the flexibility to compete on a level playing field with other Openreach wholesale customers. In particular, in Ofcom's 9 July 2015 clarifications and corrections document to the 2016 BCMR it stated: '*we do not propose to impose SMP conditions ex ante on products which BT divisions, downstream of Openreach, might provide by using the dark fibre products which Openreach would provide in complying with our proposed Dark Fibre Access remedy, as long as BT fulfils otherwise the SMP conditions we propose in relation to active services. If Openreach were to fulfil all BT's obligations in relation to active services, and BT's downstream divisions were to provide additional active services by consuming regulated dark fibre from Openreach, we consider that our proposal to require BT to provide dark fibre on the basis of Equivalence of Inputs (EOI) should give sufficient assurance that CPs could compete in the provision of these downstream active services on a level playing field.*' https://www.ofcom.org.uk/data/assets/pdf_file/0019/57043/clarifications_and_corrections.pdf

¹⁰⁰ We also ask Ofcom to clarify that it would not apply SMP remedies to any investments by downstream BT business units in wireless broadband (that could substitute for fixed broadband) on the basis that (a) competition in wireless is subject to Ofcom's competition assessments as part of its regulatory regime for spectrum; and (b) and to the extent that fibre backhaul is required to deliver the final wireless drop to people's homes, businesses or while they are on the move, regulation of Openreach SMP products will be sufficient to level the playing field between BT's downstream and other wholesale customers of Openreach.

5 A coherent package of remedies is needed to support ultrafast investment in the ‘non-competitive’ parts of the country

- 5.1 We support Ofcom’s objective to achieve widespread availability of fibre across the UK, even in the most remote areas, ensuring that people and businesses across the UK can get access to the new networks.
- 5.2 To achieve this, Ofcom is considering options to support fibre deployment in parts of the country where costs of deployment are higher. We agree with Ofcom that a model which tries to support deployment in the most remote and dispersed areas through price increases for other customers is unlikely to be acceptable. Public funding will be needed to make fibre deployment viable in these areas (which Openreach estimates to be at least 10% of premises).
- 5.3 For the remainder of the area which Ofcom has defined, on a preliminary basis, to be ‘non-competitive’ there is likely to be a degree of contestability. The area already has some competitive infrastructure and duct and pole access will undoubtedly increase the viability of competitive fibre build.
- 5.4 We think there is merit, therefore, in exploring what can be achieved by applying the remedies proposed for the potentially competitive areas more widely. These remedies are intended to support commercial deployment, and with price ceilings for copper and FTTP-based services set at the right level, there could be fibre build by BT and others in this area, without the need for a bespoke funding model for BT. We think this offers advantages over Ofcom’s ‘RAB-like’ cost recovery model, which would be complex to administer.
- 5.5 RABs are usually used where there is no (or very little) risk of demand not materialising or being competed away. Fixed telecoms markets are different. Even with Ofcom’s model for spreading costs (which could *reduce* investment risk), BT would still bear the risk of weak demand for fibre or lower revenues than anticipated due to competition. The race to deploy in the competitive areas first creates a further risk that Openreach may be compromised in that race by a parallel build in non-competitive areas (where resource constraints bite).
- 5.6 If Ofcom nevertheless continues with this model, it will need to address these risks explicitly and be clearer on what can be mitigated by regulation and what cannot. To ensure sufficient volume certainty, for example, Ofcom would need to define an area which it was confident would be uncontested. Consistent with this, it would need to remove (or limit) the possibility of cherry picking that was only made possible due to the availability of regulated dark fibre (see below).
- 5.7 Ongoing adjustments might also be needed to support cost recovery. In fact, a clear mechanism for underpinning an agreed return would be needed which bound Ofcom beyond five-year market review periods, and which acted as a kind of commitment device (like a RAB).
- 5.8 Lastly, we doubt that a model which initially lowered prices by re-basing to the level

deemed necessary to deliver copper-cost recovery, and then lifted prices to allow recovery of fibre investment costs would be tolerated by customers. It would also truncate the opportunity to recover fibre build costs from users of copper services thereby increasing the costs to be recovered from fibre users, which might not be sustainable.

Public funding will be needed to support fibre deployment to the highest cost, most remote areas

5.9 We think that an upfront commitment of public funds will be needed to support fibre deployment to the highest cost (non-commercial) premises. More remote and dispersed premises will be expensive to connect.

5.10 We agree with Ofcom that it would not be fair for consumers elsewhere to pay a relatively large price increase to fund build in very remote areas. Ofcom states '*[s]etting the charge control to allow BT to cover the last few percent would take a relatively large price increase from other consumers to fund it, while benefitting relatively few people. This is where public funding traditionally comes into play to reduce the number of people who are excluded.*'¹⁰¹

5.11 Ambitious public policy objectives for near universal fibre deployment will, therefore, need to be supported by explicit external funding mechanisms. In light of the range of existing and planned schemes and their different timeframes (and different objectives), we note that the coordination required between Government and Ofcom to avoid overlap will be considerable.

The remedies proposed for the potentially competitive areas could be applied more widely

5.12 For the remainder of the area which Ofcom has defined, on a preliminary basis, to be 'non-competitive' commercial deployment is likely to be viable and there could be competitive tension to be the single fibre operator in this area.

5.13 We note that this area already has some competitive infrastructure and duct and pole access will undoubtedly increase the viability of competitive fibre build. Specifically:

- Virgin Media's network is present but is not recognised where it does not reach 65% of premises in the relevant postcode area (the threshold used by Ofcom – on a preliminary basis – to count network presence).¹⁰²
- Competitive leased line infrastructure is also present but is ignored because Ofcom is unclear whether it will develop into multi-service networks in the longer term.¹⁰³ But Ofcom's own analysis (for the business connectivity market review) identifies many postcode areas (within the non-competitive area) where alternative fibre covers the majority of business premises, and in some cases there is infrastructure

¹⁰¹ Approach to Remedies, 2019, para 3.21.

¹⁰² Openreach estimates, for example, that 8-10% of premises in the 'non-competitive' areas have ultrafast services available from Virgin Media.

¹⁰³ Approach to Remedies, para 3.30.

from two rival providers.¹⁰⁴ We also expect that high value sites in the non-competitive area will have attracted alternative network deployment.¹⁰⁵

- Duct and pole access (provided on regulatory terms without restrictions) will change the assessment of present, planned and viable competitive investment which determines market boundaries (including in business markets).¹⁰⁶ CityFibre explicitly states that this remedy will reduce the number of premises in a cluster that it would deem viable for a deployment (from 20,000 to 10,000).¹⁰⁷

5.14 Given the prospects for commercial deployment, we think there is merit in exploring whether fibre build might be encouraged by applying the remedies proposed for the potentially competitive areas (which are intended to support commercial deployment) more widely. With price ceilings for copper and FTTP-based services set at the right level, there could be fibre build by BT and others in this area, without the need for a bespoke funding model for BT.

5.15 As Openreach points out, there is merit in achieving a better understanding of build costs in non-competitive areas and, therefore, prices that might be needed for deployment to be commercially viable. We note – and support – Openreach’s suggestion of achieving this through trials. We think this offers advantages over Ofcom’s ‘RAB-like’ cost recovery model, for the reasons set out below.

A RAB-like model in telecoms is likely to be complex

5.16 The RAB is a key feature of infrastructure regulation in the UK and elsewhere. Ofcom says that it is ‘considering a version of the “regulatory asset base” (RAB) approach, a widely-used model in other regulated sectors.’¹⁰⁸

5.17 A RAB is typically used as a commitment device. It signals to investors that their investment will not be treated unfairly (for example by retrospective asset ‘taking’ or prospective asset ‘stranding’). RABs are typically used for monopoly infrastructure (i.e. where there is no, or very little, competition with production from other assets), where the main risk to asset integrity is regulatory (or political).¹⁰⁹

5.18 RABs work best as a commitment device, reducing risk, where there is a high degree of

¹⁰⁴ Over 200 postcode sectors in the non-competitive area have sufficient business network coverage such that over 65% of the businesses in that area are within 50m of an alternative fibre infrastructure. There are even sectors that are covered by 2 or more business fibre networks.

¹⁰⁵ Ofcom’s methodology does not ‘count’ alternative infrastructure serving high value sites where it does not reach 65% of businesses. Ofcom’s estimated service shares for active very high bandwidth services in areas designated as ‘BT Only’ is between 61% and 70%, indicating that alternative infrastructure is present in these areas. PIMR and BCMR Draft Statement, 2019, [Annex 14](#), Table A14.2.

¹⁰⁶ [BT Group response to Ofcom](#), BCMR consultation, 2018, and AlixPartners, 25 January 2019, [The competitive impact of duct and pole access](#), report prepared for British Telecom

¹⁰⁷ ‘For the deployment of multi-service networks, CityFibre would in the past have looked for a cluster of mixed premises of around 20,000, in order to consider it commercially viable for investment. However, this threshold has fallen substantially since the introduction of duct and pole access (DPA), which significantly reduces the cost of entry into a geographic market, reducing the sunk cost of civil engineering. DPA means that operators can now economically enter a market of around 10,000 properties. Most operators would, however, not consider cluster of premises significantly smaller than 10,000 and CityFibre therefore recommends that Ofcom uses 10,000 as a reasonable minimum size of an area that can be subject to different regulatory interventions’, Para 3.1.5 CityFibre’s response to Ofcom’s Geographic Markets Consultation.

¹⁰⁸ Approach to Remedies, para 3.6.

¹⁰⁹ For an overview see, for example, Jon Stern, The regulatory asset base and regulatory commitment, [Oxera Agenda February 2014](#)

certainty around the current and future revenue base that can be used for cost recovery. This allows the costs of investment in infrastructure (which are typically large and lumpy) to be smoothed over time making it more affordable. Anything that undermines the certainty of that revenue base, such as competition or demand more generally, reduces the benefit of the RAB as a commitment device (and reduces the ability to smooth out costs) because recovery in the future becomes much less certain.

- 5.19 In the UK, the RAB has proved to be relatively successful in achieving a low cost of capital for privately financed infrastructure investment, due to the consistency and transparency of the regulatory framework which provides the commitment. There is a track record – particularly where RABs are rolled-forward at periodic reviews – of consistency and predictability which has allowed RABs to act as an effective commitment device (even where the commitment lacks legal force).

There are challenges in translating the standard RAB model to the world of fixed telecoms because the revenue base is not certain, even in non-competitive areas

- 5.20 Ofcom recognises (albeit very briefly) the challenge in designing a mechanism for cost recovery in fixed telecoms, and the likelihood that risks will be left with BT. It states '*[w]hilst a RAB approach could provide more certainty of cost recovery for BT's fibre investments in non-competitive areas, it will not eliminate investment risk, with the balance of risk between BT and consumers being determined by the detailed design of the RAB charge control.*'¹¹⁰
- 5.21 The allocation of risk between BT, consumers and (given a likely need for public funding) taxpayers, is the key issue in designing a 'RAB-like' cost recovery model. If risks remain with BT with the result that investment outcomes are more skewed towards the downside, then investment in fibre is unlikely to be attractive.
- 5.22 Ofcom proposes one mechanism for reducing cost recovery risk – allowing BT to spread a proportion of its fibre deployment costs across local access copper services for the period up until these services are switched off, and customers' switchover to the fibre platform. But this falls a long way short of matching the commitment typically associated with a RAB where efficient investment costs which are added to the RAB (following testing by the regulator) can earn at least the WACC (provided outputs and efficiency targets are met).
- 5.23 In the standard model, a regulated company must demonstrate to the satisfaction of the regulator that an investment is the right one (often after customer engagement) and that the costs will be efficiently incurred. But once agreed, there is little risk of demand not turning up, or competition taking volumes away. The main risk, in fact, is a change of heart by the regulator (or politicians) once investment has occurred – hence the importance of the RAB as a commitment device (coupled with the independence of the regulator).
- 5.24 An investment in fibre deployment by BT might be agreed with Ofcom. There might be the same degree of scrutiny (as in other sectors) that it is the right investment and that the costs will be efficiently incurred. But, even with the mechanism for spreading costs proposed by Ofcom, BT would bear risks relating to demand and competition that are

¹¹⁰ Approach to Remedies, para 3.16.

not typical for a RAB model:

- (i) Network competitors may pick-off the lowest cost deployment areas within the non-competitive area, raising the average cost of a BT deployment in the remaining areas.
- (ii) Fibre demand (for higher speed variants) is uncertain and may be weak.
- (iii) Volumes may move to competing technologies such as mobile and fixed wireless access.
- (iv) There may be an opportunity cost of investing in non-competitive areas where Openreach's ability to address competitive pressures elsewhere is compromised.
- (v) Dark fibre regulation could artificially create competitive constraints on Openreach's ability to recover fixed and common costs across a portfolio of broadband and business services.

5.25 The above risks (which distinguish a RAB in fixed telecoms from other regulated infrastructure sectors) may be capable of allocation through the design of the RAB to give investors a reasonable ex ante expectation of a normal return. But there are also limits to what can be achieved through regulatory levers. For example, a price which is 'allowed' from a regulatory perspective (to achieve cost recovery) may not be sustainable in the face of fixed wireless competition, leaving the asset stranding risk with BT. There are also limits to the social and political acceptability of any allocation of risks, including, the extent to which prices could differ significantly between competitive and non-competitive areas.

5.26 If Ofcom continues with this model, it will need to address these risks explicitly and be clearer on what can be mitigated by regulation and what cannot. We explore in the sections below the possible components of a regulatory package in light of these issues.

To ensure sufficient volume certainty, Ofcom would need to define an area which it was confident would be uncontested.

5.27 We highlight above the difficulty of designing a regulatory mechanism to support fibre deployment where the current and future revenue base is uncertain. This uncertainty arises (in part) because competition will be viable in the area defined as non-competitive (on an illustrative basis) by Ofcom (as indicated above).

5.28 Ofcom could address this by adopting a methodology which errs towards defining areas as potentially competitive where there is uncertainty and which gives appropriate weight to competition from leased line networks. A forward-looking assessment of the likely impact of duct and pole access is also needed. Ofcom should explicitly take into account physical infrastructure access as part of its assessment of viability, not just where operators indicate in their plans it will be used.

5.29 The aim should be to define a potentially competitive area where the need for re-designations due to unanticipated network competition does not arise, and where BT

would have, therefore, a high degree of volume certainty in the non-competitive areas.

Interactions with dark fibre regulation should be acknowledged and managed to support incentives to invest

- 5.30 Dark fibre regulation could artificially create competitive constraints on Openreach's ability to recover fixed and common costs across a portfolio of broadband and business services. Ofcom is proposing cost-based access to Openreach's dark fibre to '*promote competition for enterprise customers.*'¹¹¹ There are clear tensions in combining a 'RAB-like' model (which assumes little or no competition) with regulation designed to increase competition in business services.
- 5.31 Ofcom has not considered how its approach to business regulation might affect BT's incentives to invest in a multi-service fibre deployment. Specifically, how regulated dark fibre might prevent BT from recovering its common costs efficiently between broadband and business services (depending on the precise dark fibre price proposed – see Section 6). Consistent with its 'holistic' approach, Ofcom should recognise the convergence between local access and business segments and commit to a regulatory package which would support the deployment of a multi-service network by BT. Cherry picking which is only possible because of Ofcom's intervention to mandate dark fibre could be limited by not mandating dark fibre.

Commitments by Ofcom to make ongoing adjustments to support cost recovery would also encourage investment by reducing risk

- 5.32 There are also options for mitigating risks through the design of the RAB as a long-term cost recovery mechanism. A clear mechanism for underpinning an agreed return would be needed which bound Ofcom beyond five-year market review periods, and which acted as a kind of commitment device. By way of example, the following would help to encourage investment by reducing risk:
- *Adjustments to re-scope the RAB in the event of incremental competitive fibre build.* Incremental competitive build into the area scoped for build by Openreach (as part of the RAB) may still occur even with a more tightly defined non-competitive area. A mechanism for making in-period adjustments to the RAB might therefore be needed if Openreach is left building in higher cost parts of the non-competitive area.
 - *Ofcom signalling its willingness to use regulatory levers to support fibre revenues throughout the lifetime of the project* if, for example demand turned out to be weaker than expected.¹¹² It might, for example, signal its willingness to consider changes to the regulation of the fibre anchor product, or a degree of rebalancing between the costs to be recovered from legacy as opposed to fibre users.
 - *Managing the risk of un-recovered cost in the longer term by allowing cost recovery*

¹¹¹ Approach to Remedies, page 4.

¹¹² Ofcom suggests allocating a portion of the RAB directly to fibre services in non-competitive areas based on a forecast of how much of the investment BT could recover directly from fibre customers with speeds above the proposed 40/10 Mb/s fibre anchor. Although Openreach would have price flexibility to encourage migration to the new services and recover investment costs, demand for speeds above the anchor may be weak, suppressing price and pushing cost recovery further into the future (i.e. to the period where both regulatory and technology risk would tend to be higher).

to be front-loaded.¹¹³ This might help to address the risk of volume losses in the mid-term due to competition from mobile and fixed wireless technologies. But this would need to be balanced with setting prices at a level that would attract sufficient demand and that would not result in material differences in price levels between the ‘non-competitive’ area and the potentially competitive parts of the country.

- 5.33 We also note the proposal to base charge controls on BT’s costs with no HON uplift, and for these to be the prevailing regulated price in the absence of a RAB framework for incentivising investment. We are concerned that a RAB-mark up applied to these prices could result in fluctuating prices and that, if the period between mark-up of copper charges and switchover is truncated, then a significant proportion of investment costs will remain to be recovered from fibre users which may not be sustainable.
- 5.34 In addition, removing the HON adjustment in areas where commercial build is viable is likely to delay fibre build in that area, because the lower price of legacy services would disincentivise (and delay) migration by customers to fibre. To the extent that the price reduction may not be fully passed on to retail customers it would simply serve to increase the margins of Openreach wholesale customers (instead of being re-invested in fibre networks).

¹¹³ In New Zealand, where a RAB will be used to allow Chorus to recover its fibre deployment costs from 2020, explicit consideration is being given to this and other regulatory levers to address the risk of asset stranding, *‘Possible approaches to compensate for the risk of economic stranding include adding a margin to the rate of return, particularly to the extent stranding risk is systematic in nature, or where ex ante compensation through the allowed rate of return is considered appropriate. Reducing asset lives or using a front-loaded depreciation profile may also be relevant.’* Para 6.50, https://comcom.govt.nz/__data/assets/pdf_file/0014/105170/New-regulatory-framework-for-fibre-Invitation-to-comment-on-our-proposed-approach-9-November-2018.pdf

6 Regulated dark fibre is inconsistent with Ofcom's fibre deployment objectives and the claimed benefits are unsubstantiated

- 6.1 Regulated dark fibre is widely acknowledged to undermine network competition. In the Future Telecoms Infrastructure Review, the Government urged Ofcom to consider dark fibre in a way that would not undermine the case for operators to invest in their own networks using duct and pole access.¹¹⁴ Government reiterated this position in its draft Statement of Strategic Priorities.¹¹⁵
- 6.2 In areas that are considered potentially competitive, Ofcom has pivoted its regulatory model towards incentivising infrastructure-based competition rather than competition which relies on accessing Openreach's network. In this context, Ofcom explains its decision not to impose dark fibre in potentially competitive areas as follows:
- 'We do not propose to introduce dark fibre in potentially competitive areas because our approach is to encourage competition in rival networks upstream of dark fibre. Introducing dark fibre is not consistent with that approach.'*¹¹⁶
- 6.3 Thus, Government and Ofcom both acknowledge the inconsistency between regulated dark fibre and a policy to promote competitive investment in full fibre.
- 6.4 Ofcom proposes to require BT to supply dark fibre in non-competitive areas to address unspecified competition concerns in the supply of leased lines (a market which Ofcom has not analysed or defined). Ofcom envisages that, over time, dark fibre will be the primary focus of its regulation.
- 6.5 We firmly do not think that a case has been made for such a regulatory policy. In fact, there is a high risk that Ofcom's dark fibre proposals will undermine its objective of widespread fibre investment, both where infrastructure competition exists, or could emerge, as well as in the areas where fibre build is likely to be commercial for one operator.
- 6.6 In both cases the reason is simple: regulated dark fibre at cost creates material uncertainty over volume and revenue as a result of mostly inefficient arbitrage opportunities. Arbitrage occurs when buyers can reduce their cost of providing a service by exploiting price differentials (between geographies or services) rather than driving efficiencies or innovation to the benefit of end customers. This is widely agreed to be a poor outcome where it makes investment more difficult.
- 6.7 Given Ofcom's policy of supporting competitive fibre deployment there is, therefore, a strong case for erring on the side of caution and allowing network competition to play

¹¹⁴ DCMS, Future of Telecoms Infrastructure Review, 2018, pg. 6.

¹¹⁵ DCMS, February 2019. Statement of Strategic Priorities for telecommunications, the management of radio spectrum and postal services. *'Where access to Openreach's ducts and poles network is not available or effective, there should be other options to support competitive network deployment, for example dark fibre access. In the FTIR, the Government encouraged Ofcom to consider regulatory options in these circumstances, in a way that does not undermine the case for operators to invest in their own networks using duct and pole access.'*

¹¹⁶ Approach to remedies, para 2.26.

out (facilitated by duct and pole access) before imposing a remedy which would undermine this competition and which is likely to make deployment by a single operator less viable (and therefore more reliant on other forms of regulatory and public funding support).

- 6.8 For areas where Ofcom considers investment in fibre to be commercially viable but only by one operator, the same reasoning applies: there are likely to be significant adverse effects on the operator's incentives to deploy fibre where it loses the flexibility to monetise a fibre investment across broadband and business users. To put this another way, the regulatory and public funding options under consideration would need to take more of the strain if arbitrage reduces the scope for cost recovery across business services. Thereby it disincentivises investment - by any operator.

We agree that dark fibre is not an appropriate remedy in prospectively competitive areas

- 6.9 In the 2018 BCMR Consultation, Ofcom makes very clear that dark fibre could deter competitive investment by network rivals and that this would be inconsistent with its strategy to promote network-based competition.¹¹⁷ Ofcom states *'the more attractive it is to buy dark fibre, the less likely operators are to roll out their own network'*.¹¹⁸ Ofcom proposed a dark fibre remedy only at routes from BT only exchanges – i.e. where it considered material rival investment to be very unlikely.

- 6.10 Responses to the 2018 BCMR Consultation confirm the damage that mandating dark fibre would do to competitive investment:

- CityFibre states 'the introduction of DF (particularly with the proposed pricing methodology) would sterilise the market for infrastructure competition on a permanent basis.'¹¹⁹
- Virgin Media state '[t]he risk to introducing dark fibre in an area that may become competitive (or move towards competition) is clear. Ofcom proposes to price dark fibre on an at cost basis. In simple terms, this removes any incentive for a provider to build rather than buy, and Openreach's position as the monopoly provider in that market will be entrenched.'¹²⁰

- 6.11 We agree with Ofcom, CityFibre and Virgin Media and refer to our submissions to the Government's Fixed Telecoms Infrastructure Review ('BT FTIR Response'), and our

¹¹⁷ The proposed introduction of duct and pole access (without restrictions) is central to this strategy as it levels the playing field between Openreach and network rivals. Ofcom explains in its PIMR consultation how its proposed access remedy removes advantages that Openreach has in the construction of, and innovation in, telecoms infrastructure and the provision of downstream telecoms services. PIMR consultation 2018, para 1.13.

¹¹⁸ BCMR consultation, 2018, para 12.76 and 12.77.

¹¹⁹ CityFibre response to BCMR consultation, 2018, para 7.1.10.

¹²⁰ Virgin Media response to BCMR consultation, 2018, pg. 16.

response to Ofcom's 2018 BCMR consultation.¹²¹

- 6.12 While duct and pole access incentivises investment in alternative fibre infrastructure, dark fibre at cost erodes the viability of such build. If network competition is allowed to play out, dark fibre is likely to be made available commercially but at commercially negotiated prices which facilitate investment rather than putting it at risk.
- 6.13 This may occur as part of long-term deals (as, for example, between SSE and its MNO customers – see Section 2). Such long term deals allow the buyer to obtain more price certainty over a number of years (potentially irrespective of the bandwidth they purchase) while the infrastructure investor obtains a guaranteed longer term income stream. In such situations, prices tend to be negotiated bilaterally and/or as part of tender processes.

Regulated dark fibre in the 'non competitive' areas as defined today could deter competitive investment investment contrary to Ofcom and Government's policy

- 6.14 Ofcom expects regulated dark fibre to deliver greater retail competition in the supply of business services in areas where customers are not expected to have a choice between rival infrastructure and will, therefore, remain reliant on access to Openreach's product.¹²²
- 6.15 This is unsubstantiated. In fact, Ofcom has provisionally identified non-competitive areas without specific regard to leased line networks and, therefore, has no basis for determining the choices available to business customers in this area from 2021 to 2016.¹²³
- 6.16 In fact customers do have a choice of leased line infrastructure within the area currently defined by Ofcom as non-competitive and more is expected should Ofcom mandate unrestricted duct and pole access (a new remedy in business markets) this summer. Ofcom cannot ignore this existing competition nor the impact of duct and pole access.
- 6.17 As noted in the section above, Ofcom's own analysis of the business connectivity market for the recent business connectivity review indicates that there is existing competitive leased line infrastructure in the non-competitive area. Specifically, some 200 postcode areas have one rival infrastructure within 50 metres of (at least 65%) of business premises. In addition, there is also existing Virgin Media infrastructure in this area – albeit infrastructure not meeting the 65% threshold proposed by Ofcom.
- 6.18 Further, Ofcom has yet to specify how it will take account of duct and pole access as part of its assessment of competition. Over the 5-year period from 2021, it will

¹²¹ [BT Response to DCMS Future Telecoms Infrastructure Review: Call for Evidence](#), January 2018; [BT Response to Ofcom's consultations on the Physical Infrastructure and the Business Connectivity Market Reviews published on 2 November 2018](#), 18 January 2019; [Openreach's response to Ofcom's Consultation: Business Connectivity Market Review – Volume 1](#), 18 January 2019

¹²² We would add that this could indeed be any one other alternative fibre provider in future. Ofcom nevertheless asserts that '[i]n non-competitive areas retail competition in leased lines will continue to rely on access to Openreach products'.

¹²³ This is despite Ofcom saying in its Geographic Markets Consultation that 'in line with [its] strategic aim of promoting investment in network rollout, [it] want[s] to set a threshold (or thresholds) that err on the side of assuming that there are reasonable prospects of network rollout so that marginal cases are more likely to be considered in Category 2 [i.e. the potentially competitive areas]' Geographic Markets Consultation, 2019, para 2.26

significantly influence the viability of competitive fibre deployment including networks which focus on the provision of business services.

- 6.19 Given Ofcom's strategy of promoting competitive investment it must allow duct and pole access to become established before considering whether an additional remedy is necessary and proportionate. At the very least, it must not mandate regulated dark fibre where competitive investment (including by leased line only networks) is present or viable.

Ofcom has not made the case for imposing dark fibre at cost in a more narrowly defined area where fibre build by a single network is commercially viable

- 6.20 Ofcom's claimed benefits of dark fibre are unproven. Nor have they been weighed against the risks that dark fibre poses to commercial fibre investment by a single operator (as envisaged for a portion of the non-competitive area)

Lack of clear benefits of dark fibre

- 6.21 Ofcom does not explain (nor quantify) the benefits which it claims dark fibre offers over leased line services in non-competitive areas. It simply repeats the generic benefits it flagged in the 2018 BCMR Consultation and asserts that *'there is significant potential leased lines demand (based on the number of large business and mobile backhaul sites).'*¹²⁴
- 6.22 To the extent such 'benefits' exist they are likely to be due to inefficient arbitrage (i.e. improving the margins of wholesale customers of Openreach) while putting at risk the policy benefits Ofcom is looking to achieve by increasing incentives for commercial fibre build in higher cost areas.
- 6.23 The BT Group response to the BCMR Consultation 2018 explained why the benefits of dark fibre claimed by Ofcom are unlikely to be substantial (or even exist at all in some cases). To recap:
- *Enabling telecoms providers to choose their own electronic equipment, to deliver services that better suit their own network requirements and their customers' needs.* Operators are likely to install equipment with equivalent functionality to the Openreach equipment suggesting no significant innovation or service differentiation over the equipment and features already provided by Openreach. Ofcom accepts (in the 2019 BCMR draft Statement) that equipment innovation is unlikely but continues to see scope for service differentiation, but it remains unclear why substitution of Openreach equipment is needed to achieve this differentiation.
 - *Allowing telecoms providers to make their own decisions on bandwidth upgrades based on the underlying costs of upgrades.* Ofcom believes there to be significant leased line demand based on the large number of large businesses and mobile sites

¹²⁴ Approach to Remedies, para 3.34.

in the 'non-competitive area' they define.¹²⁵ Ofcom provides no evidence that these sites are likely to require bandwidth upgrades nor that any upgrading is currently being delayed (or is not occurring) under current supply arrangements..

- *Eliminating inefficient active equipment duplication.* Even if some savings are available, Ofcom will need to consider whether these are material and outweigh the costs to Openreach wholesale customers of investing in systems and processes to enable services to be provided and managed over dark fibre. Ofcom will also need to address the complexities resulting from Openreach wholesale customers replacing Openreach equipment (including the potential impact on operational performance).
- *Potentially delivering improvements more quickly than they can currently.* Ofcom does not explain what improvements it is referring to.

6.24 We continue to doubt, therefore, that dark fibre would offer material benefits in terms of investment and innovation in downstream markets as envisaged by Ofcom and note that Ofcom provides no new evidence to support its claims.

Reduced incentive and capability for Openreach to invest as a result of under-recovered costs if inefficient arbitrage opportunities are exploited

6.25 Openreach indicates in its response that the main effect of introducing dark fibre in non-competitive areas will be to allow arbitrage due to aggregation opportunities. Dark fibre can substitute for single or multiple Ethernet circuits as well as substituting for multiple active services.

6.26 The AlixPartners report for Openreach concludes that regulation of dark fibre access could create an opportunity to undercut Openreach pricing by avoiding contributions to Openreach's fixed and common costs which are spread across its active services, rather than delivering material efficiency gains (dynamic or static). Regulated dark fibre can, therefore, pose significant cost recovery risk for Openreach.

6.27 The availability of dark fibre at regulated prices enables (possibly in combination with duct and pole access) arbitrage opportunities across multiple services.¹²⁶ Specifically, rivals may be able to undercut Openreach's business and broadband active services by avoiding contributing to Openreach's fixed and common costs which are recovered across these services (and which Openreach cannot avoid).

6.28 It is unclear how this sits with Ofcom's desire for BT to deploy fibre in the non-competitive areas. The risk of arbitrage would tend to make any such deployment by BT less viable and, therefore, increase the need for support (through a regulatory mechanism or public funding). Ofcom should assess the potential adverse effects on

¹²⁵ Ofcom cannot rely on its BCMR data to substantiate this claim. That analysis looked at all sites of larger businesses and treated all these sites without distinction, even though the majority will not be of sufficient size to warrant a point to point access service, and dark fibre is likely to be applicable to only a small proportion of this small proportion. Further, this small proportion of sites where dark fibre might be applicable will be biased towards urban areas and not the rural areas that are non-competitive.

¹²⁶ Ofcom talks about 'synergies with fibre deployments in potentially competitive areas' and the need for an unrestricted remedy because dark fibre uses are difficult to predict. Approach to Remedies, para 3.35 and footnote 32. We take this to mean that Ofcom envisages dark fibre being used (potentially with duct and pole access) to facilitate competitive fibre deployment in some higher value parts of the (notionally) non-competitive area.

BT's investment incentives and weigh these (as well as the potential need for additional support for BT's deployment) against the claimed benefits of dark fibre. This raises questions of distributional fairness as well as efficiency considerations.

- 6.29 Pricing dark fibre to avoid these adverse effects is likely to be complex. Ofcom does not address this issue (or the above issues) in its proposals. Specifically, it does not engage with the question of how a dark fibre price might be set to ensure the same contribution to common costs for a single dark fibre circuit, as would be made by the multiple Ethernet circuits (or multiple services) that are substituted.
- 6.30 Should Ofcom proceed with this proposal, we expect that it will assess Openreach's ability to recover its efficiently incurred costs, as well as the wider consistency of the proposal with Ofcom's objectives of incentivising investment in fibre.