Strengthening infrastructure competition by addressing barriers to expansion

Grant Thornton on behalf of the Independent Networks Cooperative Association (INCA)

the independent networks cooperative association

Submission for Ofcom TAR 2026

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Non-confidential

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We have pleasure in enclosing a copy of our report in accordance with your instructions dated 25th July 2024. This document (the **Report**) has been prepared by Grant Thornton UK LLP (**Grant Thornton**) for INCA (the **Addressee**) in connection with the preparation of a paper outlining competition concerns in the telecoms market for input into Ofcom's Telecoms Access Review (TAR) 2026 (the **Purpose**).

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Period of our fieldwork

Our fieldwork was performed in the period between 25th July 2024 and 8th August 2024. We have not performed any fieldwork since 8th August 2024 and our Report may not take into account matters that have arisen since then. If you have any concerns in this regard, please do not hesitate to let us know.

Scope of work and limitations

Our work focused on the areas set out in our engagement letter. The scope of our work has been limited both in terms of the areas of competition which we have assessed and the extent to which we have assessed them. There may be matters, other than those noted in the Report, which might be relevant in the context of the Purpose and which a wider scope assessment might uncover.

Forms of report

For your convenience, the Report may have been made available to you in electronic as well as hard copy format, multiple copies and versions of the Report may therefore exist in different media and in the case of any discrepancy the final signed hard copy should be regarded as definitive.

General

The Report is issued on the understanding that the management of INCA have drawn our attention to all matters, financial or otherwise, of which they are aware which may have an impact on our Report up to the date of signature of this Report. Events and circumstances occurring after the date of our Report will, in due course, render our Report out of date and, accordingly, we will not accept a duty of care nor assume a responsibility for decisions and actions which are based upon such an out of date Report. Additionally, we have no responsibility to update this Report for events and circumstances occurring after this date.

Contacts

If there are any matters upon which you require clarification or further information please contact Schellion Horn on 0207 865 2288.

Yours faithfully

Grant Thornton UK LLP

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1 Executive Summary

Ofcom has launched its Telecoms Access Review 2026 (TAR), which seeks to ensure that the UK's broadband infrastructure is fit for the future and aims to set the right environment to promote competition and investment in gigabit-capable broadband networks, to deliver better services and more choice to consumers. Ofcom expects to publish its main consultation on proposals for changes to regulation early next year.

Ofcom's strategy in the Wholesale Fixed Telecoms Market Review 2021 (WFTMR) was to support investment in fibre networks by BT (via Openreach) and other companies through network-based competition. The Government designed Building Digital UK's (BDUK) Project Gigabit programme to deliver subsidies for the roll-out of fibre to the "hardest to reach" premises in the country that are not commercially viable. Alternative Network Providers (Altnets) have made use of these subsidies to build out in these areas. Ofcom has incentivised a "race to invest" in the rollout of fibre networks for the benefit of UK consumers.

Ofcom may have the view that competition has broadly done its job, although recognising that competitive conditions vary materially between geographic sub-markets. Altnets have entered the market, enabled greater fibre broadband coverage and penetration, in line with governmental objectives. The presence of the Altnets has encouraged Openreach and others to build further and faster than expected at the point of Government intervention.

However, competition in the fibre broadband market is fragile. Whilst barriers to entry appear lowered and operators have successfully built out fibre broadband infrastructure, there are clear competition concerns relating to barriers to expansion. Altnets are struggling to recruit the necessary customer base to reach the minimum efficient scale, and to recover their investment costs which would be consistent with the "fair bet" principle. The "fair bet" principle is a core element of government policy as articulated in the Statement of Strategic Priorities[1] which requires giving investors the opportunity to earn returns equal to the cost of capital in expected terms.

These barriers to expansion are, at least in part, attributed to Openreach's incumbency advantage. Openreach's incumbency advantages include economies of scale and scope afforded through ownership of the legacy copper network; a lower risk profile and lower cost of capital; brand recognition, multiple large anchor tenants and low cost of consumer retention; a highly developed sales and distribution network; the ability to cross-subsidise costs in the short term due to deeper pockets and multiproduct proposition.

BT's greater access to financial resources has been magnified over the past year as new private equity money is increasingly scarce and debt is being injected into the Altnet space. Any new money that is being attracted into the sector comes at such a high cost of capital that it makes satisfaction of the "fair bet" principle an ever more distant proposition for those investors that have taken the government at its word and invested in building fibre.

This incumbency advantage permits Openreach to deploy wholesale discounts and commercial terms that an efficient competitor would not be able to adopt and thus enables Openreach to overbuild competitor networks in commercially unviable areas where it is not rational for an efficient operator (absent incumbency advantages) to do so.

Openreach's incumbency advantage results in significant barriers to expansion for Altnets. This threatens the viability of competition and ultimately the benefits of network competition to consumers. There are three key concerns raised in this paper which contribute to significant barriers to expansion for Altnets, once they have invested in infrastructure and entered the market.

[1] Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services (publishing.service.gov.uk)

1. **Altnets face barriers to expansion arising from the copper retirement process.** Openreach leverages its incumbency advantage to migrate customers from its copper network to its new Fibre to the premises (FTTP) network, further entrenching its incumbent position, and effectively foreclosing the market at a critical "switching window" for Altnets to attract Internet service providers (ISPs) and customers to their networks.
2. **Altnets face barriers to expansion arising from weak ISP incentives to use Altnet access.** As anchor tenants, ISPs play a critical role in the growth of Altnets and their financial viability. Due to the level of concentration of the retail ISP market, it is BT, VMO2 and Sky that are the most prized customers and two of those are tied to their group network. The costs of switching for ISPs are significant. Thus, for Altnets to attract ISPs, they would have to significantly undercut Openreach on price to compensate for the costs of onboarding, inconvenience and perceived risk. This makes it hard for Altnets to attract consumers and expand.
3. **Altnets face barriers to expansion arising from Openreach's wholesale discounts and commercial terms.** Due to its incumbency advantage, Openreach can employ pricing that even an efficient competitor would not be able to adopt. Whilst Openreach's use of discounts might offer short-term benefits to access seekers and consumers through lower prices, it can undermine competition by limiting Altnets ability to expand, and commercial terms used by Openreach can have the impact of entrenching its dominant position.

These barriers to expansion result in a fragile competitive environment, reducing effective competition in the short and the long run. Should Altnets not be able to acquire sufficient customers to reach the minimum efficient scale, then they will not be financially viable, and investors will not be able to earn fair returns which were anticipated at the point of entry and would be expected (absent Openreach incumbency advantages). Further, this would limit the potential for Altnets to place an effective competitive constraint on Openreach, which will reduce the benefits of network-based competition in the long-term.

It is also worth noting that Openreach has leveraged its incumbency advantages to overbuild competitor networks in BDUK subsidy areas, which could be considered an inefficient duplication of costs. This means that public funds were used to remedy a market failure that, with hindsight, may have been smaller than BDUK calculated. However, this ex-post evaluation is outside the scope of this report.

While Ofcom cannot mandate competition, and nor can it back winners or losers, it can recognise the importance of the "fair bet" principle and its application to all market participants. Where distortion of competition is a product of Openreach's incumbency advantage, this is within Ofcom's remit to address. Ofcom is empowered to support a competitive environment through designing and implementing remedies, so that operators have a chance to compete effectively.

Specifically, Ofcom should seek to address barriers to expansion and switching as part of the TAR, so that operators have a chance to compete on a fair basis. Many of the competition concerns identified in this paper could be mitigated by Ofcom, through remedies such as:

- **Increasing transparency –** creating awareness and sharing information to allow customers to make an informed choice.
- **Facilitating switching –** making it cheaper, faster and more efficient for ISPs to switch to alternative operators.
- **Ensuring price support –** creating a level playing field in relation to Openreach wholesale discounts and other commercial terms.

This paper proposes a suite of possible remedies, ranging from interventionist to light touch, that Ofcom should consider as part of the TAR. Many of the remedies proposed are not mutually exclusive and may address one or more of the competition concerns. Whilst Ofcom may not wish to implement the full suite of remedies proposed, it needs to ensure that remedies (or combination of remedies) at least address the three main concerns set out in this paper.

Table 1: Summary of competition concerns and possible remedies

Competition concern	Principles	Suite of potential remedies
Barriers to expansion arising from the copper retirement process.	Copper retirement process should be a competitively neutral process. Altnets able to access customers in locations where the copper network is being retired, and Openreach should not be allowed to directly incentivise customers or ISPs to move onto its fibre network. Customers and ISPs have transparent information on network operators that are present in their geographic area.	• Ballot at the point of retirement of the copper lines (at stop sell), requiring consumers to make an active choice or assigning customers randomly to one of the available fibre networks. • Changes to the stop sell policy. • Distribute net profit from the sale of scrap copper to support switching. • Prohibit any customer or ISP incentive intended to move customers from copper on to Openreach fibre. • Increase transparency to consumers and ISPs of alternatives.
Barriers to expansion arising from ISP incentives to use Altnet access.	Altnets are currently not operating on a level playing field in terms of gaining access to consumers and ISPs, due to Openreach's incumbency advantage on the supply side and barriers to switching on the demand side. There need to be more incentives (or fewer disincentives) for ISPs and consumers to use Altnets, to allow Altnets a fair chance at acquiring consumers. This involves reducing the costs and complexity for ISPs of switching from one network provider to another, on the demand side, and limiting Openreach's behaviour on the supply side. Customers and ISPs have transparent information on which network operators are present in their geographic area and provided with information on which to make an informed decision.	• Make the take-up of Altnets wholesale access an explicit objective of the TAR or setting targets for wholesale take-up. • Mandate the Office of Telecommunications Adjudicator (OTA) to lead an initiative to facilitate standardisation of Altnet wholesale access. • Introduce an incentive scheme for ISPs to reach a percentage of fibre customers through use of Altnets. • Provide a subsidy to the ISPs to reduce the costs of onboarding an Altnet. • Work with industry to design incentives for ISPs to use Altnet networks when and where they are available on reasonable commercial terms and supported by quality processes and systems. • Create awareness of Altnets among ISPs.
Barriers to expansion arising from wholesale discounts and commercial terms.	Altnets are currently not operating on a level playing field in terms of gaining access to consumers and ISPs. There is a need to actively support network competition if it is to be successful. Openreach should not be allowed to offer discounts and commercial terms	• Prevent Openreach from waiving of Early Termination Charges (ETCs) or make ETC waivers available to all customers regardless which network they move to. • Prohibit Other Commercial Terms (OCTs) unless justified.

Competition concern	Principles	Suite of potential remedies
	that further entrench its incumbency advantage.	• Change the burden of proof such that proving Openreach's OCTs are not harmful to competition should rest on Openreach. • Apply stricter rules on Openreach discounts and OCTs. • Broaden the discount restrictions scope to include other costs that can impact the household budget (e.g., connection charges). • Make consultation mandatory when Ofcom is notified of OCTs and extend notification period.

Source: Grant Thornton analysis

The expansion of competitors (or its perceived threat) is an important competitive constraint. Expansion can reduce the ability of incumbent firms to exercise market power and lead to better consumer outcomes (such as lower prices, better quality of services, more innovation, and more choice). Thus, it is important not just to focus on barriers to entry and competition in the short-term, but also to focus on barriers to expansion and embedding sustainable competition so that all operators have a "fair bet", and consumers continue to benefit.

Ofcom needs to embrace the current market as it is and not regulate for what it wants the market to look like at the end of the TAR period. It must enable the survival of (efficient) smaller Altnets in the immediate term, for the natural commercial consolidation to take place, and to embed network competition in the market.

2 Introduction

Ofcom's strategy in the Wholesale Fixed Telecoms Market Review 2021 (WFTMR) was to promote investment in gigabit-capable networks by BT (via Openreach) and other companies to promote network-based competition. Ofcom wanted to encourage BT's competitors to build their own networks, rather than relying on network access from Openreach.

It remains the Government's priority through the Statement of Strategic Priorities to "promote investment and competition in world-class digital networks".[2] Ofcom's cited objectives of the Telecoms Access Review 2026 (TAR) is "incentivising and promoting network competition" in gigabit-capable networks. Ofcom has stated that a key focus for this review will be its approach to promoting network competition, and it wants to see sustainable network competition which will ultimately deliver benefits to consumers.

Building Digital UK's (BDUK) Project Gigabit funding programme was designed to deliver subsidies for the roll-out of gigabit-broadband to the "hardest to reach" premises in the country that will not be reached by private investment (20% of the UK, mostly in rural areas). Alternative Network Providers (Altnets) have made use of these subsidies to build gigabit coverage targets in these areas, where it is not commercially viable to do so. In areas where it is commercially viable, Ofcom has encouraged a "race to invest" to spur wholesale competition and secure the rollout of fibre networks for the benefit of UK consumers.

Openreach has continued to invest in its Fibre to the premises (FTTP) network, reaching 12.8 million premises by the end of 2023 alongside ongoing investments by Altnets in their FTTP networks which reached 12.9 million premises.[3] More premises now have a choice of provider of networks, and as of May 2024, nearly 7 million residential premises had a choice of two or more full fibre networks.[4] The competitive landscape is further underscored by the presence of 256 operators with code powers.[5]

Yet competition in the fibre broadband market is still fragile. Although operators have successfully built fibre broadband infrastructure, they are now struggling to recruit the necessary customer base to reach minimum efficient scale and recover their investment costs. This is due to the existence of barriers to effective competition in the market, which Ofcom needs to address as part of the TAR, if it is to promote network-based competition.

Ofcom has a crucial role in enabling and maintaining a competitive market, through a combination regulatory oversight, market analysis, and interventions aimed at promoting fair competition, investment, and innovation. Through its activities, Ofcom seeks to balance the interests of industry players while driving positive outcomes for consumers and the wider economy.

This paper presents the views on key competition matters for input into Ofcom's Telecoms Access Review 2026. The focus of this paper is on how Ofcom assesses fibre broadband market competition, identifies barriers for alternative network operators, and develops regulatory interventions to address these challenges, thereby embedding sustainable competition so that all operators have a "fair bet" (a core element of government policy as articulated in the Statement of Strategic Priorities), and ensure that consumers continue to benefit from investment in fibre networks.[6]

[2] Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services (publishing.service.gov.uk)
[3] metrics-for-the-independent-network-sector-2024.pdf (inca.coop), p. 7.
[4] Nearly 7 Million UK Premises Can Access 2 or More Full Fibre Networks - ISPreview UK
[5] Register of persons with powers under the Electronic Communications Code - Ofcom
[6] Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services (publishing.service.gov.uk)

3 What is the current state of competition in the broadband provision market?

Ofcom has played a pivotal role in supporting competition to date in the fibre networks market. For example, Ofcom has promoted the concept of physical infrastructure access, allowing competing providers to use the ducts and poles of incumbent network operators, enabling other operators to build their own networks more cost effectively and with a lower environmental impact.[7] Ofcom conducts regular market reviews, which seek to ensure that the UK's broadband infrastructure is fit for the future and aims to set the right environment to promote competition and investment in gigabit-capable broadband, to deliver better services and more choice to consumers.[8]

In its most recent 2024 "State of the Altnets" report, INCA finds the collective Altnet footprint (premises passed) reached 12.9 million premises in 2023, or 35% of all UK premises. This was greater than the estimated number of premises passed by Openreach fibre.[9] The presence of the Altnets in the market has markedly increased the fibre broadband penetration in the UK, in line with governmental objectives.

Entry of Altnets has driven prices down, prompting Openreach to also reduce its prices. For instance, in areas with infrastructure competition, consumers purchasing broadband packages within the 101-200Mbps speed range could save an average of 27% compared to national pricing, equating to more than £200 saved over the duration of their contract.[10] The quality of the service provided has also increased. Evidence of this improvement can be seen in Openreach's investment in faster services and the upgrading of customers to higher-speed packages at no additional cost.[11]

There may be a view that competition has broadly done its job (noting that competitive conditions vary materially in different geographies and sub-markets), as there has been lots of new entry, which has encouraged Openreach and others to build further and faster than expected.

However, competition in this market is fragile. Even though Altnets have entered the market, they could be forced to exit, if they cannot expand by acquiring enough customers to be financially sustainable. This will be inconsistent with the government's "fair bet" principle, as Altnets' investors will not be able to earn fair returns. The principle should be applied equally to all parties who choose to invest in fibre infrastructure, not only BT. Moreover, inability to reach critical mass of customer base will limit their ability to become an effective competitive constraint on Openreach, which may prevent the desired outcomes of infrastructure competition in the long-term. We consider that there are significant barriers to expansion for Altnets, which prevents the functioning of effective competitive market.

Although barriers to entry in the market appear have been reduced, in part due to regulatory interventions such as the Physical Infrastructure Access (PIA), there are clear competition concerns relating to barriers to expansion (i.e., the ability of Altnets to acquire customers and expand once they have built the network infrastructure). Consumer take-up among Altnets is lagging behind the

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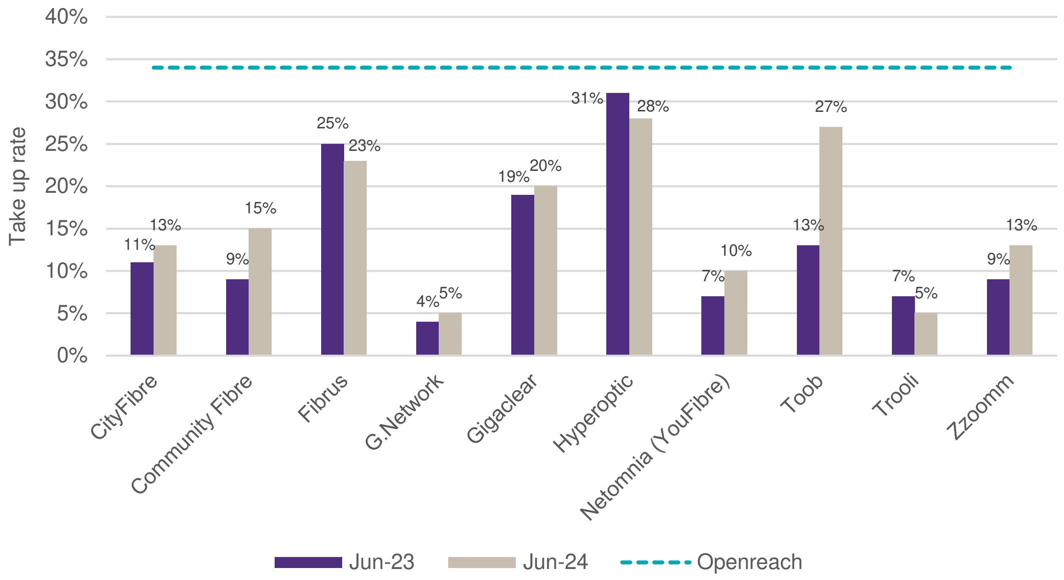
[7] Wholesale Local Access Market Review: Statement – Volume 1 (ofcom.org.uk), p. 6.
[8] Telecoms Access Review 2026 - Ofcom
[9] metrics-for-the-independent-network-sector-2024.pdf (inca.coop)
[10] INCA-Policy-Report-Sept2023.pdf, p. 11.
[11] 2021 WFTMR Volume 2: Market analysis (ofcom.org.uk), p 95.

incumbent, and Altnets are under pressure from rising build costs, high interest rates and investors. Openreach's current penetration rate is around 34%, whereas the average take-up rate for all Altnets is 16% (though this is distorted by high performing niche players[12]).

Figure 1: Take-up of UK fibre network operators



Source: Point Topic

These barriers can largely be attributed to Openreach's incumbency advantage on the supply side and barriers to switching on the demand side. Openreach's incumbency advantages are summarised in the table below.

Table 2: Openreach incumbency advantages

Advantage	Description
Network infrastructure	Openreach has extensive and well-established network infrastructure, making it challenging for new entrants to match its network reach.
Economies of scale	Openreach benefits from economies of scale and scope, enabling it to spread fixed costs over a larger customer base and achieve lower average costs. This cost advantage makes it challenging for new entrants to compete on pricing and profitability.
Brand recognition and customer base	Openreach has strong brand recognition and an established customer base, built over years of operation. This brand equity and customer loyalty make it difficult for new entrants to attract customers and compete effectively in the market. In particular, Openreach has established anchor tenants in the ISP market which is a critical success factor for network operators.
Access to capital and resources	Openreach has access to greater financial resources, enabling it to invest in technology infrastructure, and research and development. This can result in a competitive advantage in terms of the ability to adapt to market changes, and a lower cost of capital.
Vertical integration	Openreach owns both network infrastructure and content/service platforms. This integration can create synergies and lock-in effects, making it challenging for new entrants to compete across the value chain.

[12] For example, Fibrus in Northern Ireland, Hyperoptic in multi-dwelling units and Gigaclear in rural areas.

Advantage	Description
Customer switching costs	Openreach benefits from the presence of high switching costs for customers, such as early termination fees, commercial terms or complex service bundling. These costs can create inertia among existing customers, reducing their willingness to switch to new providers. It also means that Openreach has lower customer acquisition costs (Openreach's cost of retention and conversion to FTTP is lower than the cost to an Altnet of acquiring a consumer).

Source: Grant Thornton analysis

All these factors lower Openreach's unit cost below that of Altnets. It also means that Openreach has cost advantages and the brand strength to enable it to enter markets and overbuild[13] where other rational commercial operators would not (evidence of this is provided in subsequent sections of this paper). This results in asymmetric competition. Where distortion of competition is a product of Openreach's incumbency advantage, this is within Ofcom's remit to address. While Ofcom cannot mandate competition, it is empowered to support a competitive environment through designing and implementing remedies, so that operators have a chance to compete effectively.

The expansion of competitors (or its perceived threat) is an important competitive constraint. Expansion can reduce the ability of incumbent firms to exercise market power and lead to better consumer outcomes. If barriers to expansion remain unaddressed, this could lead to a lessening of competition in the market. There is a concern that the barriers to expansion could result in "fire sales" or distressed sales which will deny investors the opportunity to earn a reasonable return on their investment, which is inconsistent with the "fair bet" principle. Ofcom has repeatedly made public commitments to the "fair bet" principle in the delivery of full fibre[14] but this should apply to all infrastructure providers, not only Openreach. Although consolidation is expected, it should happen through natural commercial market maturity processes, rather than due to abuse of dominance.

If competition falls below a certain level, whilst universal access might remain, customers will lose out on the benefits of competition (such as lower prices, better quality of services, more innovation, and better choice for customers). Thus, it is important not just to focus on barriers to entry and competition in the short-term, but also to focus on barriers to expansion and embedding sustainable competition so that all operators have a "fair bet", and consumers continue to benefit.

[13] Overbuild refers to the deployment of duplicate network infrastructure. This occurs when multiple fibre networks are deployed in the same area and can result in competing service offerings.
[14] See for example, Dame Melanie Dawes' speech to FTTH Council Europe on 3rd December 2020.

4 What does a well-functioning market for broadband provision look like?

A market for broadband provision which functions well is one where products and services are accessible to all segments of the population, and consumers benefit from high quality services at competitive prices. It is also one where investors can receive a fair return on their investments. This goal can most readily be achieved if there is sufficient competition in the market in the long term. Customers should have a choice of ISPs and infrastructure providers and should be able to freely switch to providers which match their unique circumstances. Similarly, ISPs should be able to choose (without major barriers to switching) who provides their infrastructure to be able to better serve their geographic market or any other type of market segmentation.

Ofcom is not responsible for establishing competition in the market. However, Ofcom's role is to promote good outcomes for customers, which can be achieved through the promotion of sustainable competition and investment in fibre networks. It is important for Ofcom to focus on promoting effective competition in the broadband infrastructure provision sector to achieve a well-functioning market for consumers around the UK.

Importance of effective infrastructure competition

The wholesale fixed telecoms market in the UK is highly concentrated, with two large broadband networks: BT owned Openreach, and the 50:50 joint-venture Liberty Global and Telefónica owned Virgin Media O2. There are over 100 Altnets in the UK seeking to challenge the two big players in providing wholesale and retail fibre broadband services.

Network competition is considered a more effective spur for innovation and investment in high quality networks than access-based competition, because network providers have a greater scope for product differentiation and can strive to win ISPs and generate higher margins by offering a better service than their competitors. Competition in deploying and managing fibre networks can lead to a range of service offerings and pricing options for consumers and businesses.

Ofcom has stated that network competition is the best means through which to deliver quality of service, and that competing networks will deliver vastly improved services in terms of speed and reliability. It provides strong incentives for firms to innovate, become more efficient, and reduce costs.

Network competition is important for several reasons:

- **Consumer choi**ce. Competition encourages network operators and ISPs to offer a variety of service options, including different speeds, pricing, and service packages. This gives consumers a greater choice and the ability to select services that best meet their needs.
- **Quality and innovation.** Competition incentivises network operators and ISPs to continually improve the quality and reliability of their services. This can lead to innovations in technology, customer service, and network infrastructure, ultimately benefiting consumers with better and more advanced broadband services.

- **Pricing and affordability.** Competition can drive down prices for broadband services in the long term, making high-speed internet access more affordable for consumers. When multiple providers compete for customers, they often offer competitive pricing and promotions to attract and retain subscribers.
- **Network investment.** Competition can spur investment in network expansion, infrastructure upgrades, and the deployment of new technologies. Network operators and ISPs may be more motivated to invest in improving their fibre networks to gain a competitive advantage and attract more customers.
- **Market efficiency.** Competition can lead to greater efficiency and productivity in the delivery of broadband services. Network operators and ISPs must find ways to operate more efficiently, improve customer service, and enhance their offerings to remain competitive in the market.

Thus, a well-functioning market should be characterised by consumer choice, high quality of service, efficient prices (achieved by switching and supported by the consumer's ability to make transparent comparisons), fair returns to investors, continuous investment and innovation. Maintaining and encouraging competition in the sector is key to allowing Altnets to expand their networks, and attract wholesale and retail customers to those networks, which in turn influences the level of competitive constraint they place on Openreach and their ability to compete sustainably.

However, there are challenges to effective competition in this market, which Ofcom needs to address as part of the TAR. These are:

1. The copper retirement process is being used to "lift and shift" customers from Openreach copper to Openreach fibre networks (through the offering of retail vouchers and waiving early termination charges).
2. Retail ISPs have weak incentives to use Altnets, whilst Openreach leverages its incumbent position and existing relationship with ISPs to further entrench this issue.
3. Wholesale discounts and other commercial terms are being used by Openreach to further disadvantage Altnets by creating barriers to expansion.

5 Competition concerns that Ofcom should focus on in the TAR 2026

There are clear competition concerns in the market which are preventing the establishment of sufficient effective competition. Although barriers to entry are reduced, as evidenced by entry of Altnets into the market, there are significant barriers to expansion which threatens the ability of competitors to recover investment costs and ultimately deliver the benefits of network competition to consumers. There are three key concerns raised in this paper which contribute to significant barriers to expansion for Altnets, once they have invested in infrastructure and entered the market.

1. **Altnets face barriers to expansion arising from the copper retirement process.** Openreach leverages its incumbency advantage to migrate retail customers from its copper network to its new FTTP network, further entrenching its incumbent position, and effectively foreclosing the market at a critical "switching window" for Altnets to attract customers to their networks. Annex 1 provides data on Openreach non-fibre connections over time.
2. **Altnets face barriers to expansion arising from ISP incentives to use Altnet access.** ISPs play a critical role in supporting the operations and growth of Altnets, and in their financial viability. Due to the level of concentration of the retail ISP market, it is BT, VMO2 and Sky that are "kingmakers" and two of those are "tied" to a network already. Sky does not show a serious interest in multi-sourcing. Although some small ISPs have started to just use Altnets, they are a very small part of the market. Annex 1 provides data supporting these points. The costs of switching for ISPs are significant. Thus, for Altnets to attract ISPs, they would have to significantly undercut Openreach on price to compensate for the costs of onboarding, inconvenience and perceived risk. This process also provides Openreach with an opportunity to influence ISPs' willingness or ability to search and switch, which therefore entrench its incumbent position and make it harder for Altnets to attract consumers and expand.
3. **Altnets face barriers to expansion arising from wholesale discounts and commercial terms.** Openreach is able to employ pricing that even an efficient competitor would not be able to adopt. Whilst Openreach's use of discounts might offer short-term benefits to access seekers and consumers through lower prices, it can undermine competition by limiting the ability of Altnets to expand and to recover their investments. Commercial terms used by Openreach can have the impact of entrenching its incumbent position.

The impact of not addressing these three competition concerns is that Altnets would not be able to recruit enough customers to recover the cost of laying down the infrastructure. If Altnets cannot reach minimum efficient scale due to market problems, the "fair bet" principle will not be met, as investors will not have the opportunity to earn returns in excess of the cost of capital. Ofcom has repeatedly made public commitments to the government's "fair bet" principle in the delivery of full fibre[15] but this should apply to all infrastructure providers, not only Openreach.

BT's greater access to financial resources has been magnified over the past year because of the lack of both new private equity money and debt being injected into the Altnet space. Any new money that is going into the sector comes at such a high cost of capital that it makes satisfaction of the "fair bet" principle an ever more distant proposition for those investors that have taken the government at its word and invested in building fibre. Showing investors that they can make sensible returns is important, not

[15] See for example, Dame Melanie Dawes' speech to FTTH Council Europe on 3rd December 2020.

just for the Altnet sector, but also to provide confidence in any future infrastructure project for which the government might wish to see private equity investment at scale.

Ofcom's principal duty is to further the interests of consumers, where appropriate by promoting competition. Preventing the exit of Altnets (due to finance ability issues or reaching minimum efficient scale) is an important part of this, as the market could otherwise exhibit less choice, higher prices, and lower quality for consumers. The goal of near-universal fibre broadband coverage may also not be achieved if Openreach is not under competitive pressure to rollout.

The sections below explore each of the three points in more detail and provides concrete examples of the competition concerns.

Copper retirement process

In the WFTMR, Ofcom decided that the network access requirement, charge control and other supporting obligations on Openreach would transition from access based on copper to access based on fibre to support the business case for full-fibre deployment. This transformation has two major parts:

- Migration of telephone services to IP technology and the withdrawal of traditional analogue telephony. This is known as "PSTN switch-off."
- Full fibre roll-out and subsequent migration of services to full fibre and the withdrawal of copper-based services. This is known as "copper retirement."

The copper retirement process refers to the regulatory procedures and requirements that govern the withdrawal or decommissioning of traditional copper-based telecommunications infrastructure.

There are two key stages in the copper retirement process that are targeted at encouraging the transition from copper to fibre networks. First, Openreach is authorised to stop selling new copper services in exchanges where 75% ultrafast coverage has been achieved. This applies specifically to premises where full fibre is available. After ultrafast coverage is complete and at least two years have elapsed since the implementation of stop sell, the charge control on the anchor copper service (FTTC 40/10 + MPF) will be withdrawn. Instead, the FTTP charge control will apply to all premises where full fibre is available, including Critical National Infrastructure (CNI) premises.

Ofcom has stated that it will need to carefully consider the retirement of Openreach's copper network and subsequent closure of exchanges, and that its regulatory approach under the TAR will consider how to achieve the best outcomes for consumers, both in relation to migrating quickly and smoothly to the better services available on fibre networks, and to ensuring the promotion of competition.

The migration from copper represents the most significant "switching window" for Altnets to attract customers to their networks. The copper retirement process should be competitively neutral. It should be a programme to help move customers off Openreach copper, not a programme to move customers from Openreach copper on to Openreach fibre. It is not just the locking-in of customers into a contract, but also the fact that a customer is unlikely to want the inconvenience of having another fibre network installation once it has moved on to a network. It is therefore an important sales opportunity for Altnets.

INCA is aware that Openreach is currently running a trial (24 June – 1 Sept) in a limited (undisclosed) area which offers a £50 gift card to consumers who follow a promotion and sign-up via a FTTP based broadband package from one of Openreach's many retail ISPs. Whilst Openreach's desire is to migrate customers from its copper network to its new FTTP network as rapidly as possible, the rules for this to happen must be set in a manner so that Openreach cannot simply "lift and shift" customers from copper to fibre and effectively foreclose the market for Altnets.

If retail customers are incentivised directly by Openreach (by-passing the retail ISPs that may use both Openreach and Altnet networks) to move onto the Openreach fibre network, then that materially reduces the opportunity for Altnets. If further such incentives are given while the retail customers are still within their minimum contract period and the move starts a new 24-months minimum contract period, then that causes significant problems in the market and puts at risk the viability of infrastructure competition. Openreach's retail voucher scheme is designed to fall outside the WFTMR competition safeguards on discounts, offers and other commercial terms. Furthermore, an Altnet that has recently onboarded a large ISP was immediately asked to match the voucher offer. This has the effect of further increasing the cost of ISP acquisition and expansion to Altnets.

Thus, such initiatives by Openreach could distort the market by incentivising ISPs to stay with Openreach rather than switching to alternative networks. This could undermine the competitive landscape, especially during critical transition periods from copper to fibre networks. Such strategies effectively foreclose the market as consumers are moved from an existing contract on to a new contract with Openreach, and Altnets do not have the switching window in which to attract new ISPs. Such schemes may indirectly reduce the cost of acquisition for ISPs using Openreach's network and act as a deterrent for ISPs considering alternative networks.

In addition, Openreach's copper retirement process may lead to market distortions, specifically by allowing Openreach to benefit financially from the sale of redundant copper, which could be used to cross-subsidise its fibre network roll-out, putting Altnets at a competitive disadvantage.

ISP incentives to use Altnet access

The UK consumer broadband market is highly concentrated on five big ISPs, four of which purchase wholesale broadband from the incumbent Openreach. The main ISP players in the UK market are BT, Virgin Media O2, Sky, TalkTalk and Vodafone. In Q4 2023, BT had the largest market share for retail fixed line broadband providers with a market share of 36.7%, followed by Sky with 19.9%. Virgin Media O2 ranked as the third largest (19.8%), then TalkTalk (10.7%) and finally Vodafone (4.6%). Among the remaining ISPs, Hyperoptic has the biggest market share at 1.2% in 2023, while KCOM and Community Fibre have a joint market share of 0.5% for 2023.[16]

In the context of fibre network providers, an anchor tenant refers to a large ISP that commits to utilising a significant portion of the network's capacity. Anchor tenants play a critical role in the financial viability of a fibre network by providing a guaranteed source of demand for network services and a stable revenue stream, which can help justify the investment in building out the infrastructure. Having an anchor tenant can also provide credibility and attract other ISPs to the network by creating confidence in the network's reliability and potential for meeting their own connectivity needs. In turn, the presence of an anchor tenant can reduce the perceived risk for the fibre network provider, making it easier to secure financing for network construction and expansion.

Thus, ISPs play a crucial role in supporting the operations and growth of Altnets, and lack of ISP incentives to use Altnets is a key barrier to expansion. ISPs often have an established customer base and a distribution network. They also offer multi-play packages, including mobile services and premium TV, which Altnets cannot replicate. Partnering with ISPs allows Altnets to reach a broader audience and gain access to potential subscribers. However, Altnets face challenges in breaking into this significant route to market, due to Openreach's incumbency advantage on the supply side and barriers to switching on the demand side.

Openreach's incumbency advantage and the presence of all but one of the largest ISPs on its network as anchor tenants for its FTTP deployment means that its cost of retention and conversion to FTTP is materially lower than the cost to an Altnet of acquiring a consumer. Openreach's established market status helps to secure long-term contracts with ISPs, therefore there is a high reputational barrier for Altnets to overcome. This is compounded by Openreach's loyalty efforts, and potentially a lack of familiarity or trust of Altnets.

The building of fibre networks requires substantial up-front capital investment[17] and investors will only realise a return in the longer-term. Ofcom's WFTMR stated that roll out of competing networks is likely to take several years to complete. This analysis was supported by CityFibre who noted in the report that building a comprehensive network in an average city is likely to take at least 3 years.[18] This means that, often, by the time Altnets build their network and customer base, BT Openreach may have already leveraged its incumbency position to expand its FTTP footprint, hindering Altnets ability to expand in areas where they do not have first-mover advantage.

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[16] Broadband market share in the UK (choose.co.uk)
[17] INCA-Policy-Report-Sept2023.pdf
[18] 2021 WFTMR Volume 2: Market analysis (ofcom.org.uk)

Further, it is observed that Openreach is overbuilding Altnet networks, even where it would not normally be economically rational to do so. Approximately 30,500 premises in BDUK postcodes now have an FTTP service provided by both Openreach and an Altnet, and Openreach has rolled out FTTP in almost 10% of postcodes in the BDUK subsidy areas (of which BT has won none).[19] Overbuilding in rural areas results in an oversupply of broadband infrastructure relative to the number of potential subscribers. For most network operators, overbuilding a competitor results in operators being unable to recoup their investment, stranded assets and inefficient service provision. However, Openreach as the incumbent has cost advantages, anchor tenants and the brand strength to enable it to enter markets and overbuild where other rational commercial operators would not.

In relation to BDUK projects, in the WFTMR Ofcom stated that "*were Openreach to subsequently decide to overbuild in an uncommercial area where a competitor had successfully bid, this could be anti-competitive. The Openreach Monitoring Unit plays an active role in deterring such behaviour*."[20] Openreach announced its intention to overbuild Wildanet's build on the Isles of Scilly two months after the Project Gigabit contract award. Similarly, in November 2020. Fibrus was awarded a BDUK contract to connect 75,000 unserved premises in Northern Ireland. This, as part of Project Stratum, was extended to 81,000 premises with additional government funding. Despite these premises being considered uneconomic to build to, Openreach built to nearly 30% of the Project Stratum footprint within three years of Fibrus starting its build. Another such example of this is in the village of Sutton in Cambridgeshire, where Openreach moved in before Connect were ready. Overbuilding (and even anticipated or potential over build|) by Openreach in these areas can create barriers to competition, as the presence of multiple networks in the same rural area limits the ability of Altnets to achieve economies of scale and provide cost-effective, high-quality services to consumers. This could lead to a lack of competitive pricing and reduced incentives for innovation and service improvements in the long-run and is inconsistent with the "fair bet" principle and the aims of Project Gigabit.

Another key barrier to expansion for Altnets is the costs for ISPs of switching from one network provider to another. Introducing a new wholesale access provider involves significant costs and resource for the ISP. Larger ISPs have significant costs to integrate with Altnets and INCA members have indicated requested contributions of at least £500,000 to these ISPs to facilitate onboarding. INCA members also report other potential blockers and perceived challenges to working with Altnets, including a lengthy process, with larger ISPs taking many months or even years to fully integrate with an Altnet. Integration can require a whole project team to work between the Altnet and the ISP. Systems integration is also a major blocker to recruitment onto their networks, as ISPs have a limited budget to develop their Information and Communication Technology (ICT) systems to support switching. Large ISPs note that Altnets would need to offer unique services (such as faster speeds, symmetry, cheaper prices or unique coverage) for ISPs to make it worth having to manage additional commercial and operational contracts.

High switching costs and inconvenience for the consumer (with little added benefit as they will already be on fibre), mean that migration of end customers is likely to be more difficult once they are connected to an FTTP network, highlighting the importance of the copper retirement switching window to avoid further entrenching Openreach's position.

Some Altnets have decided to only offer wholesale services to ISPs, but the market reality is one of inertia, where customers are concerned about switching suppliers, and sometimes "trapped" by their existing service contracts. There is a consensus that the larger ISPs need around 500,000 premises ready for service in order to be interested in working with an Altnet.

Vertical integration has often been important, highlighting the importance of the role of an anchor tenant. Some Altnets must create new retail brands to attract as many customers to their networks as possible, to reach a certain scale before even the smaller established ISPs are willing to use their network, and because early revenues from operating at the retail level can support the Altnet's business case.

Almost all Altnets have their own retail brands and offer services directly to consumers, with only a handful operating as wholesale-only providers. Conversely, some ISPs have invested in broadband infrastructure. Pulse Fibre recently announced the launch of its own wholesale platform available to all

[19] INCA analysis, based on a Freedom of Information (FoI) request in relation to postcodes for the BDUK lots. We do not know if Openreach have overbuilt specific UPRNs/premises in BDUK areas with FTTP; only which postcodes they have built in that are in the postcodes provided in response to the FoI request.
[20] 2021 WFTMR Volume 3: Non-pricing remedies (ofcom.org.uk), p 25.

retail ISPs.[21] Competition at the wholesale level is expected to grow once Virgin Media opens its national broadband network, which could make it harder for Altnets, especially if some of the larger ISPs choose VM02 over smaller alternatives. This highlights the challenges for Altnets in expanding their customer base, which is a requirement if they are to reach minimum efficient scale and engage sustainably in the market. Lastly, Openreach's introduction of the Equinox 1 and Equinox 2 pricing offers could be argued as another incumbency advantage being used to disincentivise ISPs from switching to Altnets. Under Equinox 2, ISPs have an additional discount on rental and connection charges if they stop making new sales of legacy broadband products.[22] The Equinox compliance framework for ISPs using both Openreach and Altnets is very complex and a deterrent to using Altnets in its own right. This contributes to Openreach maintaining its incumbent position in the market.

Without incentives for ISPs to switch to Altnets, Altnets may not be financially sustainable and may eventually exit the market or become financially distressed and be acquired below actual value. This increases uncertainty for investors, making it challenging for Altnets to access funding in the long-term, and this does not support the "fair bet" principle or the objective of sustainable infrastructure competition in the market.

ISPs working with Altnets can create healthy competition in the fibre broadband market, offering consumers a wider range of choices and driving innovation in service offerings, pricing, and customer experience. This competition can lead to improved quality of service and greater investment in network infrastructure.

Ultimately, if ISPs do not use Altnets, then infrastructure competition may fail as Altnets will fail to reach sufficient scale to be viable. A significant contributor to this will be Openreach's pricing and other loyalty-inducing offers to ISPs, as well as the considerable marketing strength and multi-service offerings of the large ISPs. It is therefore critical that Altnets have a level playing field on which to compete for ISPs and that barriers to switching are reduced. It is necessary for the policy and regulatory framework to build in as much facilitation of Altnet wholesale access adoption as possible.

Wholesale discounts and other commercial terms

In the WFTMR, Ofcom decided that Openreach should be prohibited from offering geographic discounts on its superfast broadband wholesale services, including full fibre, and it must give at least 90 days' notice of the introduction of certain commercial terms where the price or the other contractual conditions are conditional on the volume and/or range of services purchased.[23]

- In relation to geographic discounts, Openreach is prohibited from offering geographic discounts on rental charges for all Virtual Unbundled Local Access (VULA) products (including FTTP) in Wholesale Local Access (WLA) Area 2 and WLA Area 3 markets, as well as Ethernet and Wavelength Division Multiplex (WDM) services in Local Loop (LL) Access Area 2, subject to Ofcom granting an exemption.[24]
- In relation to commercial terms, Openreach is required to notify Ofcom of commercial terms where the price or other contractual conditions depend on the volume and/or range of services purchased. This notification must be given 90 days in advance to allow Ofcom to assess whether these terms might deter new network builds.[25] Instead of prohibiting specific types of commercial arrangements upfront, Ofcom provide guidance on acceptable and unacceptable terms. The 90-day notification period was intended to allow Ofcom time to investigate, and if appropriate prevent, such commercial terms before they come into force.[26]

Ofcom identified several types of commercial terms that could be problematic, primarily those which could undermine investor confidence in new network builds and impact rollout plans, or terms that create barriers for ISPs to use alternative networks.

[21] Altnet ISP Pulse Fibre Goes Wholesale on UK FTTP Broadband Network - ISPreview UK
[22] Statement: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk)
[23] 2021 WFTMR Volume 1: Overview, summary and introduction (ofcom.org.uk), p.3.
[24] 2021 WFTMR: Annexes 1-26 (ofcom.org.uk), p.120.
[25] 2021 WFTMR: Annexes 1-26 (ofcom.org.uk), p.120.
[26] 2021 WFTMR Volume 3: Non-pricing remedies (ofcom.org.uk)

- Arrangements which penalise ISPs for switching volumes to new networks.[27] This includes exclusivity discounts (discounts conditional on the ISP purchasing all or most of its requirements from Openreach), retroactive rebates (rebates applied to all units purchased over a reference period once a certain threshold is reached), geographic price dependencies (discounts in one area contingent on purchases from Openreach in another area), and cross-product discounts (discounts on unregulated services contingent on purchasing a certain volume or mix of regulated services).
- Arrangements that give preferential treatment targeted at larger ISPs, depriving alternative networks of necessary volumes to become viable.
- Arrangements encouraging migration to FTTP in a way that deters ISPs from switching to alternative networks.
- Terms which may have a “signalling effect” such as those that may not currently impose restrictions on the use of alternative networks but could do so in the future, thus constraining the growth of Altnets.[28]

However, the lack of clarity of the rules applicable to the Other Commercial Terms (OCTs) restrictions makes it difficult for Openreach’s competitors to navigate the compliance landscape. Openreach can exploit this ambiguity to its advantage. The burden of proof for OCTs is on Openreach’s competitors, but they do not have access to the relevant data, making it challenging to contest these terms effectively.

In addition, Ofcom only applies restrictions on rental charges, arguing that connection charges get competed away and are not important.[29] This means that, while Openreach is limited in its ability to reduce rental prices to stifle competition, it can still influence market dynamics through its connection charges (e.g., using targeted connection discounts to deter entry), which could lead to unfair competitive practices if not monitored. Openreach is already discounting connection charges across a significant part of its footprint and in the short term, alternative networks will need to compete on this.

Not applying restrictions to connection charges is problematic. Discounts to Openreach’s connection charges could deter access seekers from switching to alternative networks and undermine network investment. Firstly, connection charges represent a substantial upfront cost, and are an important component of the cashflow for an Altnet, affecting their ability to expand their network and acquire customers. Secondly, access seekers will consider many factors when choosing an access provider, of which connection charges are one. Connection charges deter access seekers from switching to alternative networks and undermine network investment, as these charges represent an additional financial burden that would be factored into household budget decisions. Ofcom not applying restrictions to connection charge discounts leaves BT with an opportunity to hinder Altnets from competing for both retail and wholesale customers, thus stifling competition and innovation in the market. The restrictions of geographic discounts were introduced as it was identified that Openreach has an incentive to use geographically targeted price reductions to undermine the rollout of alternative networks. By lowering prices in competitive areas, Openreach can reduce competitors' returns and deter new network builds, thereby maintaining higher market share and facing reduced competition in the long term. Targeting discounts in specific areas where alternative networks are being built could curtail competitors' investment plans and reduce the cost to Openreach of doing so compared to national discounts. Therefore, to prevent Openreach from using targeted discounts to undermine competition and ensure fair pricing strategies, geographic pricing was prohibited.

Similarly, while volume discounts and other commercial terms might offer short-term benefits to access seekers and consumers through lower prices, it was recognised that they could undermine competition and investment in fibre networks. Such terms, which might induce loyalty, deter access seekers from switching to new alternative networks, and undermine new network build, are contrary to long-term consumer interests.

The Openreach trial referenced above (offering a £50 gift card to consumers who follow a promotion and sign up to FTTP from one of Openreach’s retail ISPs) is one such example of a discount or commercial term which does not support competition and deters ISPs from switching to Altnets.

[27] 2021 WFTMR Volume 3: Non-pricing remedies (ofcom.org.uk), pp197-198.
[28] 2021 WFTMR Volume 3: Non-pricing remedies (ofcom.org.uk), pp197-198.
[29] 2021 WFTMR Volume 3: Non-pricing remedies (ofcom.org.uk), pp181-183.

Another such example is the waiving of Early Termination Charges (ETCs). This waiving only applies to Openreach's copper customers shifting to Openreach's fibre services. It does not apply to situations where Openreach copper customers switch to fibre services provided by Altnets. ETCs can create a “lock-in” effect where consumers are discouraged from switching to alternative service providers even if they are dissatisfied with the quality or pricing of the current service. They can also act as a barrier to switching as substantial fees prevent customers from seeking better offers by creating financial incentives to stay with the Openreach-based ISP, and provide an unfair advantage to the incumbent, leading to reduced market competition.

Further, Ofcom's conduct during the Equinox 1 and 2 investigations revealed the regulator’s lack of concern about potential anti-competitive behaviour. On 1 July 2021, Openreach notified new pricing arrangements for its FTTP services (Equinox 1), which Ofcom reviewed and decided not to take action against at that time.[30] Similarly, on 14 December 2022, Openreach notified Ofcom of Equinox 2, and after a thorough assessment, Ofcom decided not to prevent its introduction.[31] Ofcom changed its interpretation of its own test between Equinox 1 and Equinox 2. For Equinox 1, the criterion was that no prices were below the Reasonably Efficient Operator (REO) costs. For Equinox 2, the test was that the average cost across all prices was not below REO costs.[32] This shift in regulatory interpretation has led to concerns about transparency and predictability in Ofcom's decision-making process. Despite these decisions, concerns remain regarding the impact of the Equinox offers. Openreach’s Equinox 2 offer gives lower prices to retail providers if they agree to use mainly Openreach’s full-fibre products for new orders instead of its legacy copper products. Some absolute price levels resulting from Equinox 2 are below the costs of an efficient market entrant, as calculated in the Ofcom Fibre Costing Model (FCM) and create additional barriers to the use of Altnet services by ISPs. Such drip-pricing strategies can cause harm to the competitive process and market structure. Regulatory authorities and consumer advocacy groups are increasingly seeking to address and discourage the use of drip pricing. Complexity of compliance with Equinox offers acts as loyalty-inducing factors in itself. For example, the Equinox 2 offer provides substantial discounts on rental and connection charges, conditional on meeting specific order mix targets (OMTs), which can be complex to manage.[33] This deters ISPs from using alternative networks due to the significant effort required to navigate and comply with the terms.

The offer also includes two new products, FTTP 1200/120 and FTTP 1800/120, and different indexation rules apply compared to the Equinox 1 offer.[34] Additionally, the varied connection discounts, based on regions and customer types, further complicate compliance.[35] In Area 2, additional discounts are introduced for ISPs moving from an Openreach legacy product to an Openreach FTTP 80/20 or faster product.[36] This inherent complexity in managing and qualifying for these discounts can naturally discourage ISPs from considering alternative network providers, thereby fostering loyalty to Openreach.

[30] Statement: Openreach proposed FTTP offer starting 1 October 2021 (ofcom.org.uk)
[31] Ofcom's decision on Openreach’s ‘Equinox 2’ pricing offer - Ofcom
[32] Statement: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk), p. 55.
[33] Annexes: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk), p. 5.
[34] Annexes: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk), p. 6.
[35] Annexes: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk), p. 7.
[36] Annexes: Openreach proposed FTTP offer starting 1 April 2023 (Equinox 2) (ofcom.org.uk), p. 7.

6 Potential remedies that Ofcom should consider to avoid future consumer harm

Many of the competition concerns identified in this report are a product of Openreach's incumbency advantage, which result in barriers to switching at both retail and wholesale levels, and barriers to expansion for Openreach's competitors which is inconsistent with the government's "fair bet" principle. Competitors are unable to reach sufficient scale to be an effective competitive constraint to the incumbent, and this limits the extent to which infrastructure competition can deliver on desired outcomes for consumers.

While Ofcom cannot mandate competition, it is empowered to support a competitive environment in the wholesale fibre broadband market. As part of the TAR, Ofcom should consider designing and implementing remedies to reduce the barriers to expansion and switching, so that operators have a chance to compete effectively.

Many of the competition concerns identified in this paper could be mitigated by Ofcom, through remedies such as:

- **Increasing transparency –** creating awareness and sharing information to allow customers to make an informed choice.
- **Facilitating switching –** making it cheaper, faster and more efficient for ISPs to switch to alternative operators.
- **Ensuring price support –** creating a level playing field in relation to Openreach wholesale discounts and other commercial terms.

Ofcom needs to embrace the current market as it is and not regulate for what it wants the market to look like at the end of the TAR period. The large number of active Altnets in the market is a function of Ofcom's own strategy to creating a "race to invest". It must now enable the survival of (efficient) smaller Altnets in the immediate term, for the natural commercial consolidation to take place, and to embed network competition in the market.

Table 3 summarises the competition issues and the principles which should guide Ofcom in considering remedies. The remainder of this paper proposes a suite of possible interventions, ranging from interventionist to light touch. Many of the remedies proposed are not mutually exclusive and may address one or more of the competition concerns. Equally, it may be appropriate to employ certain remedies in conjunction with others, to maximise their potential impact.

Table 3: Summary of competition concerns and possible remedies

Competition concern	Principles	Suite of potential remedies
Barriers to expansion arising from the copper	Copper retirement process should be a competitively neutral process. Altnets should be able to have an opportunity to access customers in	• Ballot at the point of retirement of the copper lines (at stop sell), requiring consumers to make an active choice or assigning

Competition concern	Principles	Suite of potential remedies
retirement process.	locations where the copper network is being retired, and Openreach should not be allowed to directly incentivise customers or ISPs to move onto its fibre network. Customers and ISPs should have transparent information on which network operators are present in their geographic area and provided with information on which to make an informed decision.	customers randomly to one of the available fibre networks. • Changes to the stop sell policy. • Distribute net profit from the sale of scrap copper to support switching. • Prohibit any customer or ISP incentive intended to move customers from copper on to Openreach fibre. • Increase transparency to consumers and ISPs of alternatives.
Barriers to expansion arising from ISP incentives to use Altnet access.	Altnets are currently not operating on a level playing field in terms of gaining access to consumers and ISPs, due to Openreach's incumbency advantage on the supply side and barriers to switching on the demand side. There need to be more incentives (or fewer disincentives) for ISPs and consumers to use Altnets, to allow Altnets a fair chance at acquiring consumers. This involves reducing the costs and complexity for ISPs of switching from one network provider to another, on the demand side, and limiting Openreach's behaviour on the supply side. Customers and ISPs should have transparent information on which network operators are present in their geographic area and provided with information on which to make an informed decision.	• Make the take-up of Altnets wholesale access an explicit objective of the TAR or setting targets for wholesale take-up. • Mandate the Office of Telecommunications Adjudicator (OTA) to lead an initiative to facilitate standardisation of Altnet wholesale access. • Introduce an incentive scheme for ISPs to reach a percentage of fibre customers through use of Altnets. • Provide a subsidy to the ISPs to reduce the costs of onboarding an Altnet. • Work with industry to design incentives for ISPs to use Altnet networks when and where they are available on reasonable commercial terms and supported by quality processes and systems. • Create awareness of Altnets among ISPs.
Barriers to expansion arising from wholesale discounts and commercial terms.	Altnets are currently not operating on a level playing field in terms of gaining access to consumers and ISPs. There is a need to actively support network competition if it is to be successful. Openreach should not be allowed to offer discounts and commercial terms that further entrench its incumbency advantage.	• Prevent Openreach from waiving of ETCs or make ETC waivers available to all customers regardless which network they move to. • Prohibit OCTs unless justified. • Change the burden of proof such that proving Openreach's OCTs are not harmful to competition should rest on Openreach. • Apply stricter rules on Openreach discounts and OCTs. • Broaden the discount restrictions scope to include other costs that

Competition concern	Principles	Suite of potential remedies
		can impact the household budget (e.g., connection charges). • Make consultation mandatory when Ofcom is notified of OCTs and extend notification period.

Source: Grant Thornton analysis

Copper retirement process – potential remedies

The copper retirement process should be a competitively neutral process. It is the most significant "switching window" for Altnets to attract customers to their networks. As the process is already underway, Ofcom needs to act promptly to support Altnets in being able to provide a sustainable competitive constraint to Openreach. Ofcom could support competition by ensuring Altnets have a level playing field on which to compete for retail customers to move onto Altnet fibre networks. Potential remedies range from highly interventionist to more light-touch. These could include, for example:

- **Implementing a ballot into the copper retirement process, ensuring customers have an active choice with full information**. There is ample precedent of authorities implementing more interventionist policies to support active choice. For example, following the liberalisation of the long-distance calls market in the USA, the Federal Communication Commission (FCC) directed local telephone companies to send ballots giving customers at least 50 days to select a long-distance company.[37] The FCC had reason to believe that consumers would not have benefited fully from competition, but instead "sleepwalking" onto the regional monopolies' long-distance services. The FCC's action was necessary as initially most local telephone companies assigned their customers to the incumbent AT&T, and so those customers were not able to make a choice. AT&T's competitors complained that this gave AT&T an unfair advantage. A similar ballot, which either requires consumers to make an active choice on the available providers at the point of copper retirement, or randomly assigns them to an available provider, would be one way to ensure the competitive neutrality of the copper retirement process.
- **Making changes to the stop sell policy**. The "stop sell" policy is designed to encourage the transition from copper to fibre. Openreach is authorised to stop selling new copper services in exchanges where it has achieved 75% ultrafast coverage, specifically for premises where full fibre is available. A requirement could be included such that Openreach is authorised to stop selling new copper services in exchanges where there is also reasonable Altnet fibre coverage. Changes to the policy would increase customer choice and decrease Altnets' barriers to expansion.
- **Prohibiting any customer or ISP incentive intended to move customers from copper on to Openreach fibre.** For the copper retirement process to be competitively neutral, it should not be used to "lift and shift" customers from Openreach copper to Openreach fibre networks. Prohibiting practices that incentivise retail customers from moving from Openreach copper onto Openreach fibre increases the opportunity for Altnets to expand their customer base. We expand on related ways of how Ofcom could do this in section "Wholesale discounts and other commercial terms – potential remedies" (e.g., through preventing Openreach from waiving of ETCs or making ETC waivers available to all).
- **Increasing transparency to retail customers of alternatives.** A low-cost and light touch remedy principle is increasing the information available to customers affected by copper retirement. More transparency of the options of ISPs that retail customers have would improve the barriers to switching in the retail market, which has implications on the functioning of the wholesale market particularly in geographic areas where Altnets operate alongside Openreach. Openreach, as the incumbent, could be mandated to operate a marketing campaign

[37] FCC Acts to Offer Choice on Distance Calls - Los Angeles Times (latimes.com)

encouraging customers to choose amongst one of available providers – including information of available offers and description of the quality of services.

- **Distributing net profit from the sale of scrap copper to support switching**. Openreach can sell the scrap copper after the retirement of the network, which represents a further financial and competitive advantage, simply due to it being the owner of the existing copper network (which was originally built with public money).[38] To reduce this incumbency advantage, Ofcom should consider a mechanism which redistributes the net profits from the copper sale from Openreach to an industry fund, for uses intended to reduce barriers to expansion and support a level-playing field for Altnets.

ISP incentives to use Altnet access – potential remedies

Altnets are currently not operating on a level playing field in terms of gaining access to consumers and ISPs, due to Openreach's incumbency advantage on the supply side and barriers to switching on the demand side. Potential remedies could target competition issues on both the demand and the supply side. To reduce the barriers to switching, there needs to be more incentives (or fewer disincentives) for ISPs and consumers to use Altnets, to allow them a fair chance at acquiring consumers. Targeted remedies could include:

- **Making the take-up of Altnets wholesale access an explicit objective of the TAR and setting targets for wholesale take-up.** In setting its objectives of the TAR, Ofcom could consider embedding sustainable network competition which will ultimately deliver benefits to consumers, which necessarily entails reducing barriers to expansion. It could also set targets for wholesale take-up, with a view to creating an effective competitive constraint to the incumbent.
- **Reducing the costs for ISPs of switching from one network provider to another.** One way to increase switching incentives would be to reduce the monetary cost of onboarding an Altnet. It is currently costly for ISPs to switch network providers. One option to achieve this would be through the provision of a subsidy to ISPs to compensate them for some or all the costs associated with onboarding an Altnet. Another option is that ISPs would receive financial incentives, contingent on reaching a certain percentage of fibre customers through Altnet networks.
- **Reducing complexity for ISPs of switching by tasking OTA with enabling Altnet processes.** Aside from costs, there are other potential blockers and perceived challenges to working with Altnets. For example, it is technically difficult for ISPs to switch network providers. Ofcom could work with Altnets, Openreach and the ISPs to reduce the technical complexity of the switching process and other barriers. Ofcom's involvement is necessary here, as Openreach does not have an incentive to cooperate with the Altnets. One way of achieving this could be through tasking the OTA with enabling Altnet processes or standards The OTA can bring relevant parties together to find mediated resolutions of implementation issues.
- **Working with industry to design incentives for ISPs to use Altnet networks.** There may be a suite of interventions or incentives to reduce barriers to expansion. Ideally, such incentives should be designed alongside the ISPs themselves and Ofcom so that these are targeted, efficient and cost effective. Incentives should only be applied when and where Altnet services are available on reasonable commercial terms and supported by quality processes and systems.
- **Creating awareness of Altnets among ISPs.** Customers and ISPs should have transparent information on which network operators are present in their geographic area and provided with information on which to make an informed decision. A remedy around providing more

[38] Initially developed and expanded by the General Post Office (GPO), a government-run organisation responsible for postal and telecommunications services. The GPO built and operated the network using public funds, and it was a publicly owned utility for much of its history. The GPO's investment in the copper network was part of a broader effort to provide universal access to telephone services across the UK. In 1984, the British Telecommunications Act led to the separation of telecommunications services from the postal system, resulting in the creation of British Telecommunications (BT) as a separate entity. BT continued to operate and expand the existing copper network, leveraging the infrastructure that had been developed with public funding.

information around wholesale service provision in geographic areas where more than one network operates could be a simple and cost-effective measure.

Wholesale discounts and other commercial terms – potential remedies

Openreach is a well-established incumbent, with incentives to set commercial terms which further entrench its dominant position in the long term (even if these may be disadvantageous in the short-term). This is particularly harmful if wholesale discounts, and other commercial terms prevent competitors from being able to compete on a level playing field and acquire customers. There is a need to actively support network competition if it is to be successful. Ofcom should not allow Openreach to offer discounts and commercial terms that further entrench its incumbency advantage. Targeted remedies could include:

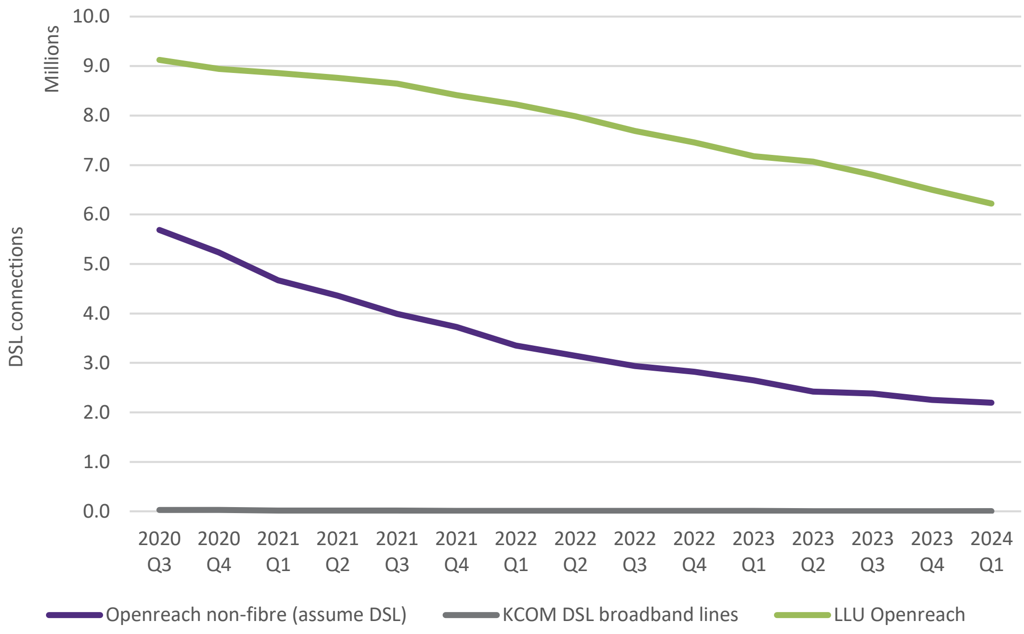
- **Preventing Openreach from waiving ETCs or mandate that ETC waivers should be available universally (regardless of which fibre network a customer moves to).** This amounts to a ban on all terms which can have a distortionary effect on competition, ensuring a level playing field for Altnets in terms of customer acquisition.
- **Prohibiting OCTs unless justified, shifting the burden of proof to Openreach.** Currently, the burden of proof for OCTs is on Openreach's competitors. However, there is an information asymmetry, making it challenging to contest these terms effectively. Openreach does not have an incentive to provide the required information, further complicating the process. This process is also costly for Altnets. To level the playing field, Ofcom could require Openreach to justify the need for OCTs. Ofcom could also change the burden of proof such that Openreach must prove that the OCTs are not harmful to competition.
- **Prohibiting Openreach from employing wholesale discounts and special offers.** Openreach's retail voucher scheme and waiving of ETCs are examples of practices which leverage its incumbency advantage and are a barrier to expansion for Altnets. Ofcom should not be permissive of such schemes as they inhibit the desired outcomes of sustainable infrastructure competition. Ofcom could ban terms which can have a distortionary effect on competition, ensuring a level playing field for Altnets in terms of customer acquisition.
- **Making consultation mandatory when Ofcom is notified of OCTs and extend the notification period**. The notification period could be extended and Openreach compelled to share certain information with Ofcom and Altnets. This would allow Altnets more time and resources to prepare a representation to Ofcom, although this approach increases the burden on Altnets.
- **Applying stricter rules on Openreach discounts and OCTs**. Ofcom should consider a framework which is robust but also flexible and principles-based, to avoid gaming by Openreach in the way it has been able to do with its retail vouchers scheme. This could include Ofcom deciding to prevent Openreach from introducing new pricing offers, or setting a higher bar for assessment in terms of the potential barriers to using Altnets it creates. It could also include broadening the discount restrictions scope to include other costs that can impact the household budget and act as a financial deterrent to switching (e.g., connection charges).

A Annex 1: Wholesale and retail ISP market analysis

Copper

Figure 2 shows the number of DSL connections by network operator using copper services from Q3 2020 to Q1 2024. Openreach non-fibre connections has decreased significantly, from 5.7 million in Q3 2020 to 2.2 million in Q1 2024. LLU Openreach connections saw a reduction from 9.1 million to 6.2 million, and KCOM DSL broadband lines also declined, from 26,900 to 3,800 over the same period. The data highlights the overall reduction in copper services.

Figure 2: Evolution of DSL Connections by operator (copper services) – consumer and business markets

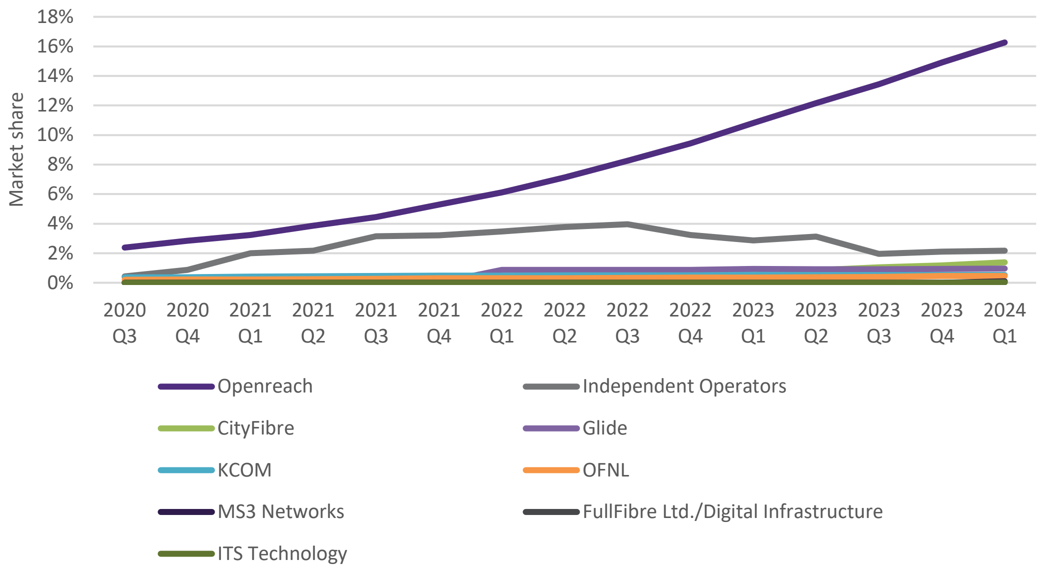


Source: Grant Thornton analysis on Point Topic data

Wholesale

As shown in Figure 3, Openreach has consistently held the highest market share among FTTP providers. Between Q3 2020 and Q1 2024, its market share increased from 2% to 16%. In contrast, independent operators' market share declined from 4% in Q2 2022, to 2% in Q4 2023.

Figure 3: Evolution of market share of FTTP providers over time



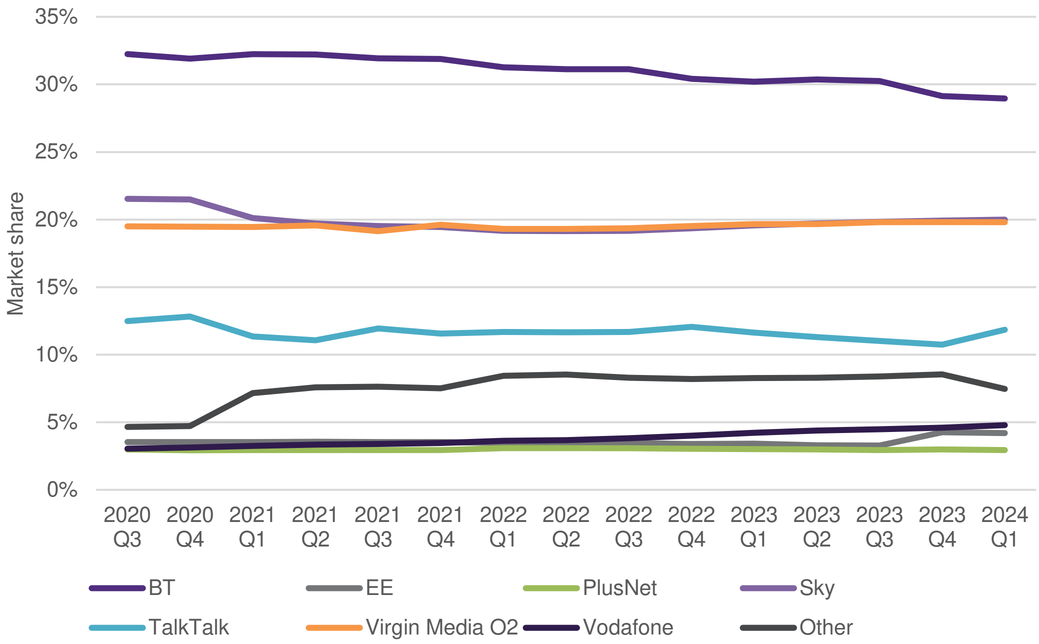
Note: Market share is calculated by dividing each operator's FTTP connections by the total broadband line connections (including both consumer and business markets).

Source: Grant Thornton analysis on Point Topic data

Retail ISPs

Figure 4 shows the market share trends of major retail ISPs from Q3 2020 to Q1 2024. Overall, the market shares of major ISPs, including BT, Sky, Virgin Media O2, and TalkTalk, remain broadly constant throughout the period. BT commands the highest market share, followed by Sky, VM02, and TalkTalk. EE, PlusNet, and Vodafone also show small, consistent market shares. The "Other" category includes various smaller ISPs. The four largest retail ISPs represented 81% of the market by subscribers in 2024, demonstrating the importance for Altnets of breaking into the larger ISPs (the smaller ones collectively do not hold a significant market share). It further shows that BT, VMO2 and Sky are the “kingmakers” and two of those are “tied” to a network already.

Figure 4: Market share of retail ISP subscribers by operator (2020 – 2024)



Note: "Other" refers to all ISPs excluding the seven mentioned (BT, EE, PlusNet, Sky, TalkTalk, Virgin Media O2, Vodafone). The specific ISPs included in "Other" are: KCOM, Broadband for Rural North (B4RN), brsk, Community Fibre, Fibre Heroes, Fibrus, G.Network, Gigaclear, Glide, Grain, Hyperoptic, IDNet, Manx Telecom, Quickline, Toob, Trooli, Truespeed, Wessex Internet, Wight Fibre, Zen, Zzoomm, YouFibre, smaller players/others FTTx (predominantly FTTP/B totals), smaller cable operators, satellite and FWA operators, Giganet, and Shell Energy. Market share is calculated as the number of retail ISP subscribers divided by the total number of retail consumer and business subscribers.

Source: Grant Thornton analysis on Point Topic data

Table 4 links large ISPs to their wholesale network, illustrating that most of the retail ISP market utilises Openreach's network. VM02 uses its own network, and the remaining ISPs utilise a combination of Openreach and other networks.

Table 4: Large ISPs and fibre network usage

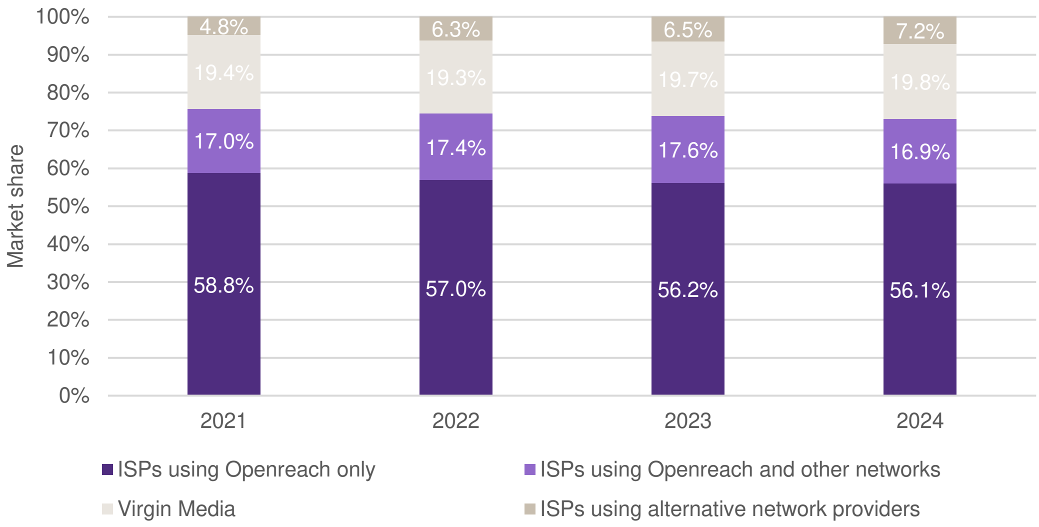
Retail ISP	Network usage
BT	Openreach
Sky	Openreach, OFNL[39]
Virgin Media O2	Virgin Media O2, OFNL[40]
TalkTalk	Openreach/CityFibre/Freedom Fibre
Vodafone	Openreach/CityFibre
EE	Openreach
PlusNet	Openreach

Source: Grant Thornton analysis on Point Topic data

Figure 5 displays the proportion of the subscriber market reached through ISP's use of wholesale networks, from 2021 to 2024. This highlights that although some large ISPs have started to use Altnets, they are a very small part of the market, and they are generally used in conjunction with Openreach.

[39] Since 2019, primarily for housing developments where OFNL is the only network.
[40] Since 2021, primarily for housing developments where OFNL is the only network.

Figure 5: ISPs utilisation of Openreach and Altnet networks (2021 – 2024)



Note: Market share is calculated as the number of retail and business ISP subscribers divided by the total number of retail consumer and business subscribers.

Source: Grant Thornton analysis on Point Topic data

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