Towerhouse LLP

The Copper Wedge

AN IMPLEMENTATION PLAN

A REPORT FOR VODAFONE BY TOWERHOUSE LLP

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1. Introduction and executive summary

1.1 It is widely recognised by Ofcom and by UK governments, that accelerating the pace of investment to move from copper to optic fibre networks for fixed broadband is an urgent and important policy objective.

1.2 The Copper Wedge Proposal (defined below) addresses a specific problem that the industry may not move from copper to fibre-based networks as quickly as is optimal for consumers and the overall economy. The '**Copper Wedge Proposal**' is that there be a gap between the price charged to access seekers (e.g. Vodafone) for services delivered over the copper network and the price received by the infrastructure owner (the incumbent access network operator – in the UK, Openreach). For example, the access provider might receive a price at or near short-run incremental cost (**SRIC**) while the access seeker pays a price at or near forward-looking long-run incremental cost (**FL-LRIC**). The resulting funds (the **Wedge Funds**) could form a 'fibre enablement fund' which could be deployed in various ways to promote FTTP rollout.

1.3 The Copper Wedge is a valid and legal policy option open to Ofcom. The Copper Wedge Proposal could be implemented in ways that are compatible with the European Electronic Communications Code (**EECC**).[1]

1.4 The Copper Wedge Proposal would increase incentives on Openreach and its customers to deploy fibre more quickly in areas where Ofcom has identified that FTTP deployment is economically efficient and viable based on private investment, while creating a 'fibre enablement fund' for use to support further FTTP deployment. This is squarely within Ofcom's policy objectives, its statutory duties and the objectives of the EU regulatory regime.[2] The Copper Wedge Proposal could be adopted in any market in which a legacy copper network is to be upgraded to fibre to support superfast broadband services.

1.5 The Copper Wedge Proposal is, in key respects, similar to Ofcom's current proposal for areas of the UK where Ofcom considers that non-BT fibre networks will not be built to any material extent[3] and Ofcom does '*not consider that there is a possibility of network build*'.[4] These are deemed to be 'non-competitive areas'. Ofcom's proposal would allow BT's fibre investments in non-competitive areas to be partly funded through higher charges for copper-based

[1] Our Initial Report noted, however, that it was not possible to give a definitive view on the question of compatibility in advance of scrutinising a regulator's detailed proposal. In the Annex to this Report, we explain why the Copper Wedge Proposal remains equally open to Ofcom under the EECC as under the CRF. In this document, unless the context dictates otherwise, we refer to the 'EECC' to refer to the EU regime, including its predecessor, the CRF.

[2] For example, section 3(4) of the Communications Act 2003 (UK) requires Ofcom to have regard, in the performance of its duties, to the 'desirability of encouraging investment and innovation in relevant markets' and, in particular, 'the desirability of encouraging the availability and use of high speed data transfer services throughout the United Kingdom'. Similarly, as part of Ofcom's Strategic Review of Digital Communications, Ofcom has mooted as one of its key proposals 'to make a strategic shift to encourage the large-scale deployment of new ultrafast networks … as an alternative to the copper-based technologies currently planned by BT' (Ofcom, 'Progress Update: Supporting Investment in Ultrafast Broadband Networks, July 2016).

[3] https://www.ofcom.org.uk/__data/assets/pdf_file/0018/142533/consultation-promoting-competition-investment-approach-remedies.pdf para 1.11.

[4] https://www.ofcom.org.uk/__data/assets/pdf_file/0018/142533/consultation-promoting-competition-investment-approach-remedies.pdf at paragraph 3.1. We assume this means no possibility of network build by *any player*, including BT, in the absence of a different approach to price regulation.

services. Under Ofcom's currently proposed model, part of the cost of BT deploying fibre (i.e. the amount of a 'subsidy') would be recovered by BT through it being entitled to charge more than it otherwise would for copper based services in the same area.

1.6 The Copper Wedge Proposal, in contrast, implies prices in *different* areas. Under the Copper Wedge Proposal, there will be higher charges for users of copper-based services in prospectively competitive areas. This would both incentivise rollout in those prospectively competitive areas *and* create a 'fibre enablement fund' to be used to facilitate further fibre rollout.

1.7 Towerhouse LLP has been asked to:

(a) Set out a clear implementation plan and options – including specific ways in which the 'fibre enablement fund' could be deployed; and

(b) Provide precedents from other regulated sectors that illustrate how the key elements of the overall Copper Wedge Proposal could work.

2. Implementing the Copper Wedge Proposal

2.1 The most plausible and robust option to impose the scheme via regulation is to impose SMP obligations on the access provider (BT/Openreach).[5] The SMP obligations imposed on the access provider would have two components:

(a) First, to charge access seekers a relatively high cost-based price set at P_P (i.e. at FL-LRIC);

(b) Secondly, to identify a relatively low cost-based price set at P_R (i.e. at SRIC); and

(c) Thirdly, to take an amount equal to $P_P - P_R$ (the **Wedge**) and treat it differently to other access revenue and in a way directed by Ofcom – either paying it on to a third-party or ring-fencing it in some way so that the effective price received by the access provider is P_R.

2.2 This option would effectively incorporate in the SMP conditions (or in directions made by Ofcom under a scheme set out in the SMP conditions) rules about how the Wedge Funds may be used. This option would, therefore, require the access provider to collect the Wedge Funds itself. This is likely to be the most simple and effective implementation option. Ofcom would draw from its expertise and the existing established practice in setting charge controls (i.e. to identify FL-LRIC and SRIC). Ofcom would combine this with the well-established practice within Ofcom, and by other regulators, in administering funding mechanisms for investment and innovation.

2.3 We now explain in more detail how this implementation option could work and the steps that Ofcom would need to take to implement this proposal.

Engagement with the European Commission and BEREC regarding how the proposal is implemented

2.4 The Copper Wedge Proposal could be implemented either as a traditional charge control or, with the approval of the European Commission, as an exceptional measure.[6]

2.5 Ofcom will need to reach an initial decision as to which approach to take. In our view, the Copper Wedge Proposal amounts to a novel approach to charge controls. It is unclear the extent to which the EECC charge control provisions extend to directing an SMP operator as to how it may use funds collected for services. Proceeding as an 'extraordinary measure' is an alternative to treating the Copper Wedge Proposal as a conventional charge control.

2.6 Under the EECC, the European Commission would be empowered to 'veto' both a traditional charge control (after the fact) and an extraordinary measure (which requires permission before implementing). Therefore, in either case, there is a need to secure the 'buy-in' of the EC to this type of approach. We would therefore suggest that Ofcom engage with the European Commission and BEREC at an early stage to identify (i) its level of support for the

[5] This section summarises the findings of our Initial Report, which sets out our legal analysis in more detail. In the Initial Report we also considered a voluntary scheme as a plausible option.

[6] See EECC art 68(1); Communications Act 2003 s 89. The Communications Act provides a broad right for Ofcom to impose other SMP conditions (not otherwise permitted by the Communications Act) if the Commission has approved the imposition of those conditions.

proposal; and (ii) its views as to whether to approach the proposal as a conventional charge control or an extraordinary SMP condition. In our view, it is likely that this type of engagement would in any event be necessary under Ofcom's Access Review Proposal's for its pricing regime proposed for the non-competitive areas, given that it also comprises a new form of price control – i.e. one which imposes a cross-subsidy.

Determine the relevant geographic area: where could the Copper Wedge operate?

2.7 The Copper Wedge would operate in geographic areas which Ofcom has determined as prospectively competitive. It will operate in those areas by requiring Openreach to charge a high measure of costs (e.g. LRIC) to incentivise rival market entry and to ring-fence everything except a low measure of costs (e.g. SRIC). Copper is a legacy technology and Ofcom encourages a switch-off of the copper network. By ensuring that Openreach is not able to enjoy returns for copper services Openreach beyond its short-run incremental costs, Ofcom will have increased incentives on Openreach (beyond that of just responding to rival build) to switch from copper to fibre.

How could the Wedge Funds be used?

2.8 The distribution of the Wedge Funds (i.e. the way the 'fibre enablement fund' will be deployed) will need to be:

(a) Compatible with the overall policy objectives of the EECC; and

(b) Sufficiently grounded in the nature of the problems identified in the market review such that the scheme can be set out within an SMP condition.

2.9 In addition, they will need to be compatible with the specific new EECC provisions regarding encouragement of next generation networks (in particular, the rules regarding use of universal service obligations for this purpose) and state aid requirements. In our view, without conducting a full legal analysis and setting out the full requirements to comply with each regime, this will (at least) also require that the Wedge Funds are allocated in a way that is competitively and technology neutral; minimises market distortion; and promotes efficiency and competition.

2.10 There are a range of ways in which the 'fibre enablement fund' might be deployed to meet these requirements. This might include, for example, requiring Openreach to update its pre-2017 wayleaves so that they can be used by the industry; or on a public education campaign to highlight the benefits of moving to full-fibre services.

2.11 Another obvious example of how the fund might be used is to directly support FTTP rollout in non-competitive areas. To do so in a way that met the criteria above, Ofcom would need to do the following:

(a) Determine how the Wedge Funds are to be delivered. Ofcom could direct BT to deliver the Wedge Funds to winning participants in a competitive allocation process, which would aim to achieve the most widespread possible FTTP coverage in the non-competitive area. But this is not the only solution. For example, BT could be obliged instead, by SMP conditions, to purchase wholesale services from the winning bidder(s)

at a predetermined price, in order to ensure the winning bidder has sufficient demand certainty to build FTTP in the non-competitive area (i.e. acting as a 'buyer of last resort'); or BT could only be allowed to recover costs of certain copper services at LRIC if it has run a competitive process to 'outsource' the upgrade of those areas to fibre.[7] If these options were chosen, BT's wholesale customers would therefore have access to FTTP services via Openreach, and without the need to be onboarded with a new supplier.

(b) **Determine the minimum criteria which proposals to use the Wedge Funds must meet.** In order to be technology-neutral, we envisage that Ofcom should describe *outcomes* rather than strict technical requirements – even if the only practical and achievable way to achieve the relevant outcome is with a specific technology such as FTTP. In the same way as required under the universal service regime, Ofcom should determine the target outcomes based on criteria consistent with the overall regime, such as based on social inclusion and functionality/adequacy of Internet access. Ofcom would also be entitled to set out criteria to ensure that those who propose to receive Wedge Funds are capable of implementing their proposals (e.g. by assessing their track record, plausibility of their business plan, and financial and technical capabilities – either as 'threshold criteria' for eligibility in an auction process, or as part of an overall assessment in a procurement/beauty parade process).

(c) **Determine the appropriate allocation method.** The most appropriate and efficient manner of doing so would be an auction or (if broader criteria are taken into account) a procurement process, e.g. in the form envisaged by the universal service scheme, in order to ensure greatest possible efficiency/value for money and competitive neutrality. The 'auction' design could, for example, either seek to determine:

(1) which supplier will be able to deliver the *best outcome* for a specific amount of subsidy. For example, Ofcom would run an auction process for the whole subsidy amount or multiple auctions for different parts of the total subsidy. The 'bidder' which commits to covering the greatest number of premises for the amount of the subsidy (for example) would win the auction; or

(2) which supplier will deliver a specific outcome for the *least* amount of subsidy. In this case, Ofcom would define the specific outcome it wished to achieve (e.g. '100,000 premises covered in the non-competitive area') and the bidders would compete on commitments to do so for the least amount of subsidy.

A procurement process would be run in a similar way, but with the outcome/subsidy amount representing a single criterion, and the other criteria to be taken into account (and how they will be measured and their respective weightings) defined clearly beforehand. As noted in paragraph (b) above, this could be performed by Ofcom itself

[7] In other words, the SMP conditions would allow BT to collect funds at LRIC rather than SRIC. However, this allowance would *only* apply if Openreach has run a procurement process to spend a minimum amount on upgrading copper to fibre. This is similar to price controls in other sectors where 'allowances' are provided only if the regulated company has actually gone ahead with its promised investments.

or required to be performed by BT as a condition of it being allowed to recover the costs of copper services at LRIC.

(d) **Determine the appropriate mechanism to ensure the winning participants deliver on their commitments**. The Wedge Funds will be delivered to the winning participants. It will be important to ensure those winners can be held to their commitments. Where Ofcom runs the procurement / auction process itself, this will typically be through contractual arrangements between Ofcom and the recipient.

2.12 All of these steps appear to be practical to implement. Where Ofcom runs the process itself, it would need to ensure that the rules of the allocation process were clearly set out in advance in order to provide an objective, fair, transparent, efficient and competitive process. For example, Ofcom may not wish to define specifically which parts of the non-competitive area should be served first (in order to enable suppliers to themselves identify which areas can be served most quickly and efficiently). However, Ofcom could wish to:

(a) Set out rules to ensure that efficiency is maintained in the long term, rather than just over the term of the specific agreement. For example, Ofcom might wish to ensure that suppliers develop 'blanket coverage' of an area (rather than a cheaper 'Swiss cheese' rollout, which will ultimately be more expensive if/when infill is required later); and/or

(b) Ensure that there are multiple 'auctions' in each price control period, in order to ensure that it is viable to award contracts to smaller (non-BT) suppliers rather than engage in a process which merely perpetuates the existing market structure in non-competitive areas. This would appear most achievable if Ofcom runs separate, subsequent 'auctions' to deliver the *best outcome* for specific portions of the overall Copper Wedge Funds (where this is feasible).

2.13 As we explain in section 4, Ofcom, other economic regulators in the UK, and overseas electronic communications regulators have all successfully undertaking similar exercises in the past. There are also other sources that might be drawn on (for example, the principles that have been set for State aid regime-compliant funding of broadband networks) that may be relevant. In any event, direct funding for FTTP of this type is only one example of how the 'fibre enablement fund' might be used to support greater FTTP deployment.

Form of the SMP conditions, allocation rules and agreement

2.14 After reaching at least provisional decisions about all of these matters, Ofcom would need to prepare drafts of documents including:

(a) The SMP conditions themselves – including:

(1) How the prospectively competitive area will be defined;

(2) The price control at LRIC for copper services;

(3) That BT must ring-fence the difference between LRIC and SRIC; and

(4) That BT must handover that difference (or relevant parts) in a manner directed by Ofcom, which reflects the outcome of the auction/allocation rules below;

(b) The way that the fibre allocation funds are to be used. In the event Ofcom elected to directly subsidise FTTP rollout, this would require Ofcom to prepare auction / allocation rules for the funds – including:

(1) Any threshold eligibility criteria for participation by suppliers;

(2) The specific rules for how 'bids' will be assessed (including all criteria, their measurement and weighting);

(3) The timing and form of the 'auction' or 'allocation process';

(4) How the competition will be structured; and

(5) The rules for participation – which should include a requirement to enter into an agreement with Ofcom (either at the start of the process or upon winning) regarding participation, commitments to deliver on winning proposals;

(c) Any agreement required regarding use of the fibre enablement fund. This could include, if Ofcom chooses to directly subsidise FTTP rollout, any agreement between Ofcom and the winning bidders regarding delivery of the funds and obligations to fulfil the commitments in winning bids; and

(d) The draft direction by which Ofcom would announce how BT must spend, or to whom BT must deliver, the fibre enablement funds.

2.15 The specific documents that would need to be prepared, and their content, will depend on how Ofcom decides to implement the Copper Wedge Proposal. For example, if Ofcom wishes to require that BT conduct an auction/procurement process as a condition of allowing it to recover its costs at LRIC, then Ofcom will need to prepare appropriate SMP conditions,[8] but BT could be responsible for all other parts of the process.

2.16 Best practice indicates that these documents should (and in some cases *must*) be consulted on well ahead of any allocation process. However, at this stage, the focus should be on the full drafting of the SMP conditions and a more general overall structure for the complete regime. This would enable Ofcom to begin consultations with the European Commission and BEREC. (It may be that any consent given by the Commission and BEREC would be subject to review of the full set of rules for the regime, in which case this would need to be factored in.)

[8] For example, Ofcom would want to ensure the procurement process is run objectively so that Openreach does not have an unfair advantage; that there is appropriate regulatory oversight; and that Ofcom has powers to intervene if necessary.

3. Precedents from previous Ofcom activities, other sectors and overseas communications markets

3.1 In this section, we demonstrate that there is significant precedent in other regulated sectors in the UK, and in the electronic communications sectors of other countries, for:

(a) increasing the 'access price' for access seekers, in order to set up funding mechanisms to incentivise investment, or making the recovery of costs conditional on investment; and

(b) administering mechanisms to deliver this funding efficiently to suppliers who can deliver innovation and investment which otherwise would not occur.

3.2 This evidence makes it clear that the Copper Wedge Proposal would be practicable to implement. It would reflect the current best practice in regulated industries which[9] have a social and economic need for greater investment than can be delivered through the market alone.

Increases to access prices and/or conditional allowances for investment and innovation

3.3 It is common practice in UK economic regulation to require customers to pay for innovation and investment, via contributions to 'funds' or 'mechanisms' that are ring-fenced solely for certain purposes.

3.4 Each of the examples set out below has the same fundamental characteristics as the Copper Wedge Proposal, insofar as they involve either:

(a) access seekers pay a higher charge; the operator is only allowed to receive and freely use a lower amount, and the 'excess amount' is 'ring-fenced' – in most cases by contributing to a specific fund for innovation or investment purposes or specifically to allow the access providers to recover costs for projects the that provider has committed to undertake; and/or

(b) a charge control where the ability for the regulated entity to recover certain costs is conditional on delivery of defined outcomes, e.g. making specified investments.

Other UK regulators

3.5 A regulatory method that allows the cost of investments and innovations to be added to regulated access prices is common across most UK economically regulated sectors, as

[9] We note that some of these precedents operate under legislative structures specifically designed to facilitate the arrangements. Even in those cases, they still represent valuable policy precedents and (while Ofcom / DCMS may indeed wish to consider whether new legislation would be appropriate) we note that many regulators have shown flexibility under existing legislative frameworks.

reflected in both 'regulated asset base' models, and the prevalence of specific investment funds typically administered by regulators.

3.6 **Energy:** Imposing higher access prices in the short-term to incentivise innovation and investment is a key element of the RIIO regulatory regime in the UK energy markets.[10] The RIIO framework was introduced by the UK energy regulator, Ofgem, specifically to address the '*unprecedented challenge of securing significant investment to maintain a reliable and secure network*'. The RIIO framework provides a range of innovation stimulus packages, which fund the development and rollout of innovation projects. For example, the Low Carbon Networks (LCN) fund provides up to £500m in support of projects ensuring security of supply whilst lowering carbon emissions.[11] Customer funding (i.e. access prices paid by energy suppliers for access to distribution networks) makes up approximately 90% of the fund, with electricity distribution companies typically funding the remaining 10 per cent of expected costs.[12] Collected funds were distributed into two tiers: (i) a Network Innovation Allowance for each licensee; and (ii) a fund for which electricity distribution companies had to compete against each other, with funding decisions made by an expert panel.

3.7 **Aviation**: The UK's civil aviation regulator, the CAA mandates the process of Constructive Engagement (**CE**) between Heathrow Airport and its client airlines, in advance of each price control period. Whilst the airlines are wholesale customers rather than rival bidders, the process attempts to create agreement amongst them as to the projects that Heathrow will undertake and therefore how much money Heathrow is allowed to raise. The CE process requires airport operators to discuss its business plan with the airlines prior to the CAA reaching a decision on setting a price control. The purpose of discussion is to identify and narrow differences between operators and airlines. Where agreement cannot be reached, both are able to provide informed views into the CAA's subsequent price setting process. The charge control then includes a categorisation of projects, such that Heathrow is only entitled to recover costs for projects if they actually proceed as planned (with some limited scope to recover higher costs where this is justified for particular projects). In the 2012 CAA Mandate for CE at Heathrow, the CAA said it would use the final output of the CE process as a key input for its 2013 review activity: '*subject to the CAA's consideration of the extent to which results from the CE reflected the interests of passengers, the CAA would be minded to adopt agreed outcomes and to incorporate such into its own proposals for Q6 price controls*'.13 This process is an existing example of a UK economic regulator making the level of a charge control dependent on outputs, including large-scale investments, which are agreed by the industry using that facility (access seekers) and ultimately accepted by the regulator.

3.8 **Rail:** Innovation funds in the rail sector have been funded from Network Rail's (regulated) capital asset base. By way of example, the Department for Transport has previously ring-fenced £140m to fund innovation, the development of potential enhancement schemes and Network Rail's work to develop the link between HS2 and the existing network.[14] In addition,

[10] For more information, see for example https://www.ofgem.gov.uk/network-regulation-riio-model
[11] For more information, see: https://www.ofgem.gov.uk/electricity/distribution-networks/network-innovation/low-carbon-networks-fund
[12] https://www.ofgem.gov.uk/sites/default/files/docs/2015/04/lcnf_gov_doc_v7_-_final_clean_0.pdf (1.4)
[13] file:///C:/Users/Rowe/Downloads/HeathrowCEMandate.pdf
[14] https://orr.gov.uk/__data/assets/pdf_file/0011/452/pr13-final-determination.pdf

the ORR implemented a matched-funding financial incentive whereby it would make provision in the settlement for each additional pound which Network Rail spends on R&D or innovation (up to £50m).[15] Most recently, the ORR have established a 'performance innovation fund' worth £40m. This will be open to bids from across the industry in order to support innovative projects aimed at driving improvements in performance that would otherwise fail to obtain funding due to coordination/free-rider problems, or because the benefits are uncertain or distant.[16]

Communications sectors in other countries

3.9 Universal Service Funds (**USFs**) are an example of contribution mechanisms from communications providers (and their end-users, as providers typically recover their contributions through customer bills), which can be used to fund rollout in areas that otherwise would not likely see such investment. This funding concept has been adopted all over the world, and is far from a novel concept. There are USFs established across Africa, Asia and the Pacific, the Americas and Europe.[17]

3.10 The presence of the EU universal service funding mechanisms provides an example of this concept, at the heart of the existing regulatory regime. This illustrates that there is nothing inherently inappropriate about the design principle of the Copper Wedge Proposal. But the EU USO/USF provisions as enacted in legislation could not themselves be used to deliver the Copper Wedge (at least not alone), since USO/USF provisions are focused exclusively on the imposition of obligations to provide a retail service.[18]

Administration of delivery mechanisms

3.11 It is also common practice in UK regulated sectors for 'ring-fenced' funds, or conditional allowances, to be allocated via competitive mechanisms. This section sets out examples where regulators have undertaken competitive auctions, tenders or other procurement processes themselves as well as situations where authorities have supervised such processes. These processes will be most relevant if Ofcom chooses to use the fibre enablement fund to directly support FTTP rollout.

Previous Ofcom experience

3.12 Ofcom is familiar with running complex procurement or capital allocation projects. Ofcom has already effectively administered its own competitive processes – for example, in the allocation of spectrum licences via auctions – and also to administer the spending of funds for specific purposes (for example, in relation to grants to fund equipment as part of spectrum re-allocation or re-organisation). Ofcom has to date decided against running auctions or procurement processes to determine who ought to be a universal service provider but it has accepted that this could be a reasonable path to take.

[15] https://orr.gov.uk/__data/assets/pdf_file/0011/452/pr13-final-determination.pdf
[16] https://orr.gov.uk/__data/assets/pdf_file/0019/39304/pr18-final-determination-overview-and-decisions.pdf
[17] https://www.itu.int/en/ITU-D/Digital-Inclusion/Documents/USF_final-en.pdf
[18] [Ref – the ECJ decision in the TNUK case, regarding Ofcom's USCs focused on wholesale pricing of the OSIS database]

3.13 Even if this were not the case, Ofcom also has extensive experience in establishing special-purpose arms-length entities to administer such arrangements (for example, in establishing the administration of the digital switch-over).

3.14 There is therefore no suggestion that Ofcom does not have the organisational capability or scope to manage the kind of funds administration implied in delivering the Copper Wedge Proposal.

Other UK regulators

3.15 As illustrated above, regulators in other UK regulated sectors often conduct (usually smaller-scale) competitive processes to award funds. Examples include Ofgem's administration of the competition for low-carbon network innovation funding; and the ORR's performance innovation fund competition.

3.16 However, there are also good examples of regulatory oversight of such projects without regulators conducting those projects themselves:

(a) The regulatory regime for the Thames Tideway Tunnel illustrates regulators' capabilities to manage and/or direct complex procurement projects to ensure efficiency when a major new infrastructure requirement is identified. The regulatory regime required Thames Water (as the incumbent operator) to set up a procurement process for the construction of the Thames Tideway Tunnel (TTT). A third party (Balzalgette Tunnel Ltd) was selected through this process to undertake construction. To support this process, Ofwat provided up-front certainty about the way in which Thames Water would be allowed to recover the costs of the project from its own customers.

(b) Ofgem worked with Government to establish the UK's Capacity Market, which is administered by an arms-length body that manages the process of conduct capacity market auctions and ensuring that suppliers are aware of their funding obligations.

Communications sectors in other countries

3.17 In other countries, publicly-run auctions and procurement processes have been considered highly successful. Auctions to allocate spectrum licences and designate universal service providers are both common. But there are also some powerful examples which relate specifically to incentivising the rollout of fibre services. For example:

(a) In New Zealand, the government ran public procurement processes for companies to be designated as 'Local Fibre Companies' and to rollout fibre in various areas of the country. Crown Fibre Holdings was established to manage this investment and to offer local wholesale open access concessions by tender to whomever could build fibre infrastructure that would meet the goals of the UFB strategy and satisfy the evaluation criteria. An Invitation to Participate (ITP) was released in October 2009 by the NZ Ministry of Economic Development. [19] More detailed tender evaluation criteria provided by the NZ Ministry of Economic Development illustrates that fibre companies

[19] https://treasury.govt.nz/sites/default/files/2018-02/b11-2081210.pdf

were to bid for the lowest amount needed from the government in order to encourage a successful bid. [20] Additionally, proposals were also to be judged on how likely they were to increase competition in relevant markets. A related aside is that the timing of the structural separation of the incumbent telecommunication operator in NZ also assisted in opening the market for regional and municipal players to participate in the bid for fibre deployment. [21]

(b) Portugal provides an example of competition for rural broadband subsidies in the form of State Aid. With Portugal Telecom holding a monopoly position, the Portuguese government launched public competitions for subsidies for the construction and operation of next generation networks in certain regions.[22] Contests were hosted, with the winners permitted to apply for subsidies. Whilst the rules of the contest were technologically neutral, only FTTH-based proposals were put forward due to the requirement that consumers must be able to obtain specific download speeds.

(c) Switzerland uses a competitive tender process for its universal service licence in telecommunications. ComCom, Switzerland's telecommunication market regulator, has in the past issued public calls for tenders to determine which company will provide the basic telecommunication service throughout Switzerland. [23] BEREC has previously recorded that 8 BEREC countries with designated USPs used the public tender process (either directly or following a public consultation with call for interest where more than one expression of interest were received).[24] Designation as telecommunications universal service provider through competitive bidding, tender processes and auctions remains common worldwide. For example: Tunisia, Sudan, Saudi Arabia, Zimbabwe, South Africa, India, Pakistan, Thailand, Bulgaria, Czech Republic and Jamaica have all previously designated providers in one of these ways.[25]

Conclusion

3.18 Accordingly, we see no insurmountable practical difficulties with implementing the Copper Wedge Proposal. There is experience within Ofcom, across UK economic regulators, and internationally with similar regulatory solutions that involve:

(a) increasing the 'access price' for access seekers, in order to set up funding mechanisms to incentivise investment, or making the recovery of costs conditional; and

administering mechanisms to deliver this funding efficiently to suppliers who can deliver innovation and investment which otherwise would not occur.

[20] https://www.crowninfrastructure.govt.nz/media/4824/invitation-to-participate.pdf pg 69
[21] http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/CISP%282015%291/FINAL&docLanguage=En
[22] 'Report on Universal Service – reflections for the future' BEREC, June 2010
[23] https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-7654.html
[24] Report on Universal Service – reflections for the future' BEREC, June 2010
[25] https://www.itu.int/en/ITU-D/Digital-Inclusion/Documents/USF_final-en.pdf

Annex: Compatibility of the Copper Wedge Proposal with the CRF and EECC

Summary of Initial Report

A1.1 In 2016, we provided Vodafone with a report (the **Initial Report**) summarising our view that the Copper Wedge Proposal could be implemented consistently with the CRF. Our Initial Report canvassed two ways of imposing the proposal via SMP conditions.[26] This Annex deals with the question of whether the new EECC makes any difference to whether the Copper Wedge Proposal can be implemented. It does not.

A1.2 First, a form of the Copper Wedge Proposal might be proposed as a remedy under the provisions that enable a conventional 'price control' to be set under the CRF. There is no obvious barrier to Ofcom setting a regulated price using SRIC, provided that Ofcom considers that doing so will promote efficiency, sustainable competition, efficient investment and innovation and gives the maximum benefit to end-users.[27] However, using the conventional price control provisions to require ring-fencing of the Wedge Funds, and their use only for specific purposes, would involve breaking new ground, and so there is a degree of uncertainty.[28] Any proposal would be the subject of consultation with the European Commission and BEREC members (that is, other national regulatory authorities (**NRAs**)).

A1.3 Secondly, a form of the Copper Wedge Proposal could be implemented as an 'exceptional measure' under Access Directive art 8(3) and Communications Act 2003 (UK) s 89. This entails a different process and would require express approval of the European Commission (rather than mere consultation). Ofcom would need to work closely with the Commission to ensure that there is a shared view of how the proposal will contribute to broadband network deployment. Article 8(3) is a distinct basis on which a remedy can be considered under the CRF and therefore the specific constraints associated with price controls are not applicable. This should allow Ofcom much greater flexibility to design a regime to incentivise fibre rollout.

A1.4 We therefore see no basis for treating a Copper Wedge Proposal as *inherently* incompatible with the access regime under the CRF or UK law.[29] However, in any specific implementation, a

[26] Our Initial Report also considered voluntary options, which we do not set out further here.

[27] Access Directive, Article 5(1). Importantly, BEREC also notes that the '*pricing of NGA-access products … is consistent with the pricing of legacy access products (copper), to set efficient incentives to invest.*' BEREC Common Position on Best Practice in Remedies on the Market for Wholesale (Physical) Network Infrastructure Access (Including Shared or Fully Unbundled Access) at a Fixed Location Imposed as a Consequence of a Position of Significant Market Power in the Relevant Market (BoR (12) 127).

[28] As examples of the issues: (a) the intention of this scheme is to promote future investment, not (just) to allow cost recovery of investments which have already been made; (b) the price control would not be targeted at the situations in article 13(1) – i.e. the risk of excessive pricing or a price squeeze; and (c) to the extent that there are rules about what happens to the Wedge funding, this option will involve SMP conditions that may go well beyond the scope of previously-set or current price controls, by seeking to regulate what an SMP operator can do with funds it is allowed to collect.

[29] As a matter of domestic law, a Copper Wedge Proposal might also be secured as a remedy imposed in a market investigation by the CMA (or agreed on a voluntary basis in the form of undertakings in lieu of such a reference). This would mean that the Copper Wedge Proposal was established under competition law, not sector regulation. This is out of scope and we have not explored that option further, although it is likely to be relevant to the consideration of these issues by Ofcom (although not the European Commission).

key issue will be to ensure incompatibility with other aspects of European law, e.g. state aid issues and the universal service regime.

Approach under the EECC

A1.5 Since the Initial Report, the European Union has adopted the EECC, which consolidates and recasts the CRF. This section focuses solely on relevant changes to the EECC which could impact the findings of the Initial Report. In summary, in our view, the EECC:

(a) affirms our view that the Copper Wedge Proposal could be compatible with the EU regulatory regime;

(b) points to a greater need for engagement with the European Commission and BEREC before the proposal is taken forward; and

(c) emphasises the need to ensure any Copper Wedge Proposal is as least market-distorting as possible, for example by setting technology-neutral conditions for use of the Wedge Funds and enabling any alternate supplier to make use of Wedge Funds rather than solely BT/Openreach.

A1.6 We reflect these implications in our implementation plan in section 3 of this report.

General objectives regarding rollout of new networks

A1.7 We firstly note that the regime's overarching objectives sit well with the objectives of the Copper Wedge Proposal in terms of prioritising rollout of next-generation networks:[30]

(a) The EECC adds a new primary objective (in addition to promotion of competition, the internal market and end-user interests) – namely, a 'connectivity objective' which aims for 'widespread access to and take-up of very high capacity networks'.[31] For Ofcom, the connectivity objective 'translates, on the one hand, into aiming for the highest capacity networks and services economically sustainable in a given area, and, on the other, into pursuing territorial cohesion, in the sense of convergence in capacity available in different areas'. The Copper Wedge Proposal is squarely targeted at this objective.[32]

(b) The EECC clarifies that the requirement for technology neutrality 'does not preclude the taking of proportionate steps to promote certain specific services where justified in order to attain the objectives of the regulatory framework'.[33]

(c) The ECCC emphasises that 'It is necessary to give appropriate incentives for investment in new very high capacity networks'. In particular, NRAs are allowed to invite

[30] We also note that the EECC gives NRAs an ability to facilitate migration from copper to next-generation networks by establishing a migration process. However, this appears predicated on the network owners having already 'demonstrated the intent and readiness to switch to upgraded networks' – so it does not appear by itself to be a mechanism to incentivise investment. Recital 209.
[31] Recital 23 and art 3(2)(a) and 3(2)(d).
[32] We also note that recital 26 emphasises that competition and efficient investment are to be encouraged 'in tandem' and that recital 27 emphasises that competition can be fostered through appropriate investment.
[33] Recital 25.

undertakings to declare their intentions to deploy very high capacity networks in specific areas in order to create more transparency about where providers intend to rollout new networks.[34]

How rollout new networks is to be achieved

A1.8 The EECC suggests a number of specific avenues should be pursued to promote fibre rollout. The EECC notes that the 'market has a leading role to play' in delivering next-generation networks. Where the market does not deliver, the EECC points to some specific 'public policy tools', including:

(a) recourse to financial instruments such as those available under the European Fund for Strategic Investments and Connecting Europe Facility;

(b) the use of public funding from the European structural and investment funds; and

(c) attaching coverage obligations to rights of use for radio spectrum to support the deployment of broadband networks in less densely populated areas; and

(d) public investment in accordance with Union State aid rules.[35]

A1.9 These are presented as 'more cost-effective and less market-distortive than universal service obligations'. This is perhaps a reference to the fact that universal service obligations may tend to embed and strengthen the dominance of a supplier with market power. In this sense, while the Copper Wedge Proposal is not specifically referred to in the list of public policy tools available to promote deployment of next-generation networks, it could well address this same problem in a way which is also cost-effective and as least market-distortive as possible. This would require that ensured funds were used effectively and were available to alternate suppliers (where they could show that they would use the funds more efficiently) and would appear consistent with the concerns set out in the EECC.

A1.10 The EECC does contemplate universal service obligations being used to fund fibre rollout, but notes that this should occur only when *'it is shown that neither the market nor public intervention mechanisms are likely to provide end-users in certain areas with a connection capable of delivering adequate broadband internet access service'.* In these cases, *providers can be designated in particular areas to deliver universal services, provided that (i) funding is not constrained to particular technical means and (ii) there are no constraints on which undertakings provide part or all of universal service obligations.'*[36]

A1.11 This is potentially important, insofar as it highlights a need to ensure that the Copper Wedge Proposal is implemented in a way that:

(a) Is technology neutral – i.e. funding should be allowed for any rollout that meets the required criteria determined by Ofcom; and

[34] Recital 28 and recital 63.
[35] Recital 229.
[36] Recital 230.

(b) Is as least market-distorting as possible – i.e. any supplier should in principle be eligible to make use of Wedge Funds, and Wedge Funds should be directed at areas where FTTP rollout would not otherwise be viable based on private investment alone.

SMP conditions and charge controls

A1.12 The EECC now directly connects SMP conditions to broadband rollout:

A1.13 *'There is a need for ex ante obligations in certain circumstances in order to ensure the development of a competitive market, the conditions of which favour the deployment and take-up of very high capacity networks and services'*.[37]

A1.14 However, the EECC:

(a) continues to see price controls as relevant to risks of excessive pricing or price squeezes only;[38] and

(b) emphasises that the primary method of incentivising high speed broadband rollout is intended to be the use of pricing flexibility within charge controls (e.g. anchor pricing) and regulatory forbearance on imposing charge controls[39] – it does not specifically contemplate cross-subsidising fibre rollout from the prices of copper based services.

A1.15 Furthermore, the EECC now allows BEREC and the European Commission scope to veto the imposition of standard SMP conditions including charge controls (unlike the current position where only exceptional measures are subject to veto).[40] This would make it even more important that, regardless of whether the proposal was progressed as a standard price control or as an exceptional measure, there was support at an EU level for the proposal.

[37] Recital 161.
[38] Recital 192; art 74(1).
[39] Recital 193. Art 74(1) similarly provides that NRAs should consider the need to promote deployment of new networks 'in determining whether price control obligations would be appropriate'.
[40] Art 32(6); art 33.