

BEREC Response to the Targeted consultation on the revision of the Commission's access recommendations

Fields marked with * are mandatory.

Introduction

As part of the measures fostering widespread high-speed and quality connectivity in the EU, the [European Electronic Communications Code](#) (“the Code”), adopted in late 2018, provides for a revamped and modernized framework for the electronic communications sector and aims at creating a pro-competitive and investment-friendly regulatory environment.

With the aim of fostering consistency in the implementation of the 2009 regulatory framework and stimulating the deployment of NGA networks, which was then at a relatively early stage, the Commission has issued in the early 2010s two recommendations: the recommendation of 20 September 2010 on regulated access to Next Generation Access Networks ([NGA recommendation](#)) and the recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment ([NDCM recommendation](#)). These two recommendations cover different issues related to access regulation, essentially in relation to the determination of the obligations (often referred to as “remedies”) that national regulatory authorities (NRAs) should or should not impose on operators that are identified to have significant market power (SMP) on the broadband markets.

The Commission is considering the revision of both recommendations with a view to provide up-to-date regulatory guidance. Its main goal would be to ensure a consistent application of the access provisions of the Code and help NRAs and market players address the considerable challenges for the years to come in relation to investment in, and deployment of, very high capacity networks (VHCNs).

Such new guidance would complement other sources of guidance on the Code ([Commission SMP guidelines](#) and [Relevant Market Recommendation](#) as well as [guidelines](#) that are being issued by [BEREC](#)), as well as the planned [revision of the Broadband Cost Reduction Directive](#). This consultation is carried out to inform the Commission's work on this new instrument.

Respondents to this consultation, apart from being able to reply to the questions below, will be allowed to upload a document (e.g. position paper) at the end of the questionnaire.

About you

1) Language of my contribution
[Single Choice][Select Box]

2) I am giving my contribution as
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Academic/research institution; Business association; Company/business organization; consumer organisation; EU Citizen; Non-EU-citizen; NGO; Public authority; Trade Union; Other

3) First name
[Free Text]

4) * Surname
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5) * Email (this won't be published)
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6) ↑ * Scope
[Single Choice][Select Box]
International; Local; National; Regional

7) ↑ * Organisation name
[Free Text]

8) ↑ * Organisation size
[Single Choice][Select Box]
Micro (1 to 9 employees); Small (10 to 49 employees); Medium (50 to 249 employees); Large (250 or more)

9) ↑ Transparency register number
Check if your organisation is on the [transparency register](#). It's a voluntary database for organisations seeking to influence EU decision-making.
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10) * Country of origin
Please add your country of origin, or that of your organisation.
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For organisations that are present in other EU Member States than their country of origin, please specify the EU Member States where your organisation is active.
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The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

O Anonymous

Only your type of respondent, country of origin and contribution will be published. All other details (name, organisation name and size, transparency register number) will not be published

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13) * I agree with the [personal data protection provision](#)

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Applicable recommendations currently in force.

The main purpose of the NGA Recommendation is “to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services, in particular in the transition to next generation access networks (NGAs)” (point 1 of the recommendation). It contains guidance as to which remedies can be imposed (for instance access to civil engineering infrastructure, access to the unbundled fibre loop or wholesale bitstream access), and as to which general rules should apply to the pricing of these remedies. In effect, the NGA recommendation is strongly orientated towards the promotion of access-based competition, by promoting in particular price control with a cost-orientation adjusted for investment risk.

The NDCM recommendation mostly pursues the same goals as the NGA recommendation, but with an increased focus on investment in newly deployed NGA networks, based on fibre. The recommendation relies on three main intertwined pillars: (i) ensuring a stricter application of non-discrimination rules; (ii) ensuring predictable and stable regulated wholesale copper access prices; (iii) promoting pricing flexibility and predictability for NGA access products.

General remarks

BEREC welcomes the opportunity to provide input to the revision of the applicable recommendations currently in force. BEREC agrees with updating and streamlining the access recommendations, but wants to emphasize the importance of the recommendations to be aligned with the EECC – not the other way round as the directive is higher in the hierarchy of norms and is therefore the starting point that determines the adjustments of the recommendations. Thus all recommendations must follow the provisions of the EECC, i.e. apply to all relevant markets susceptible to ex-ante regulation (and not only some of them).

Furthermore, where the EECC provides flexibility to NRAs to choose the appropriate (set of) remedies, this flexibility should not be narrowed down by a future access recommendation. In this regard it is essential that a future access recommendation takes the BEREC Guidelines and other BEREC guidance properly into account rather than adding more or even contradicting recommendations. In particular, a future access recommendation should be fully in line with the BEREC Guidelines on VHCN acc. to Art. 82 EECC (BoR (20) 165). More generally, BEREC urges the Commission to refer to existing BEREC guidance documents in a new access recommendation.

Finally, the EECC sets out that NRAs shall take into account the need to promote competition and long-term end-user interests related to the deployment and take-up of next generation networks, and in particular of very high capacity networks. Thus the scope of a future access recommendation comprises the deployment of *new and enhanced networks*, in particular VHCN, but is not limited to the latter (see also response to Q12).

In the following answers BEREC sets out in more detail its views and provides suggestions which parts of the 2010 NGA Recommendation and the 2013 NDCM Recommendation can be transferred to a new access recommendation. BEREC also wants to draw the attention to the fact that a number of provisions of the NDCM are now already included in Art. 70 (EoI) and Art. 74 EECC (ERT), i.e. were “uplifted” and thus the number of recommends in a new access recommendation can be reduced/streamlined, i.e. the new access recommendation does not need to be so detailed as the existing ones (see responses to Q3 and Q10 in particular).

Non-discrimination obligation

The non-discrimination obligation (Article 70 of the Code) is one of the key remedies that can be imposed on undertakings with significant market power (SMP) in order to promote effective competition on a relevant market. One of the measures that can be imposed under Article 70 is the obligation for the SMP undertaking to ensure equivalence of access. Recital 185 of the Code builds upon the NCDM recommendation (see below) by highlighting that equivalence of input (EoI) “is in principle the surest way of achieving effective protection from discrimination” and further contains some indications on when this strict approach is likely to be proportionate.

The NDCM recommendation contains important guidance to NRAs to foster a consistent and effective application of this remedy.

In particular, the recommendation seeks to ensure an effective equivalence of access to the regulated network elements and associated facilities. To that end, the recommendation highlights that the surest way to achieve effective non-discrimination is by the application of EoI, which ensures a level playing field between the SMP operator's downstream businesses, for example its retail arm, and third-party access seekers, and promotes competition. EoI is defined in point 6(g) of the NDCM recommendation as meaning “*the provision of services and information to internal and third-party access seekers on the same terms and conditions, including price and quality of service levels, within the same time scales using the same systems and processes, and with the same degree of reliability and performance [...]*”. The NRAs should therefore assess whether it would be proportionate to impose EoI, by considering in particular whether the compliance costs are outweighed by the expected competition benefits. Where EoI is disproportionate, NRAs should ensure that the SMP operator provides the wholesale inputs to access seekers on an ‘equivalence of output’ (EoO) basis.

The NDCM recommendation also indicates that NRAs should ensure that alternative access seekers can technically replicate the retail offer of the SMP operator on the basis of the regulated wholesale input they receive, and sets a methodology to carry out an economic replicability test to that effect.

Moreover, to monitor the application of non-discrimination obligations and reinforce transparency, the NRAs should require the SMP operators to measure Key Performance Indicators (KPI) in relation to the provision of the wholesale access products, and to define corresponding Service Level Agreements (SLAs) and Service Level Guarantees (SLGs).

This section focuses on the aspects of non-discrimination obligations that are not linked to prices. The application of the economic replicability test is discussed in the next section.

1. What is your experience with the non-discrimination obligation? In your view, to what extent has it been effective?

The 2012 BEREC Common Positions on a level playing field refers to the competition issue of alternative operators being unable to compete effectively which may result in SMP players having an unfair advantage; having an unmatched advantage; discriminating in favour of their own group business (or between its own wholesale customers); and exhibiting obstructive and foot-dragging behaviour.¹ According to BEREC's Common

¹ BP 17-20 in BoR (12) 127 Revised 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 (SMP) in the relevant market (the WLA CP), BP 11-14 in BoR (12) 128 Revised BEREC Common Position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power (SMP) in the relevant market and BP 8-11 in BoR (12) 126 Revised BEREC Common Position on best practices in remedies as a consequence of a SMP position in the relevant markets for wholesale leased lines (the WLL CP).

Positions for wholesale broadband accesses of 2012, NRAs should impose a general obligation of non-discrimination.²

With regard to a level playing field BEREC concluded in its *Report on the assessment of the need to review the BB CPs* (BoR (18) 24) that the BPs could further highlight the availability of a range of remedies (including different degrees of functional separation, EoI, EoO and non-discrimination).

In BEREC's report *Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3*, BoR (16) 219 from 2016 it is reported that all NRAs³ subject to research⁴ had imposed general non-discrimination obligations and provided clarifications on how these should be interpreted, either through specific SMP conditions, guidance or a combination of the two.⁵

The main findings of this report are summarized hereafter. In the WLA market all NRAs except two⁶ have imposed EoI obligations to some degree. This is particularly pronounced for NGA access which usually requires new and different ordering systems while EoO rules are applied where EoI is not cost justified, e.g. in relation to access to copper products. In the WCA market, although all NRAs have imposed some form of equivalence obligation, only two⁷ have imposed EoI (for next generation products) while some NRAs rely on EOI at the upstream / WLA level. In the WHQAFL market (with the exception of

² BP 17 in BoR (12) 127 Revised 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 (SMP) in the relevant market (the WLA CP), BP11 in BoR (12) 128 Revised BEREC Common Position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power (SMP) in the relevant market and BP 8 in BoR (12) 126 Revised BEREC Common Position on best practices in remedies as a consequence of a SMP position in the relevant markets for wholesale leased lines (the WLL CP).

³ The participants were as follows: WLA market – Bulgaria, France, Iceland, Luxembourg, Netherlands, Sweden, Turkey, Czech Republic, Germany, Lithuania, Serbia, Denmark, Italy, Romania, Spain; WCA market – Bulgaria, France, Iceland, Luxembourg, Poland, Sweden, Turkey, Czech Republic, Germany, Lithuania, Denmark, Italy, Romania, Spain; WHQAFL market – Austria, Croatia, Cyprus, France, Iceland, Italy, Latvia, Luxembourg, Turkey, Bulgaria, Czech Republic, Poland, UK, Lithuania, Serbia, Spain, see BOR (16) 219 Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3 Nov. 25.2016 p. 4.

⁴ The NRAs which had finished a review of the markets since data was last collected in December 2015.

⁵ BoR (16) 219, Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3. Nov. 25.2016. p. 6.

⁶ These are Romania (where no operator was found to have SMP) and Bulgaria.

⁷ These are Spain and the Czech Republic.

the UK⁸), NRAs have either imposed EoO or no specific equivalence obligation. The UK has imposed EoI for all wholesale leased lines based on modern (Ethernet / WDM) technologies and for dark fibre.⁹ The specifics depend on whether NRAs consider there is a lack of demand for wholesale products¹⁰ or the basis on which the SMP operator delivers its wholesale products.¹¹

No NRA has imposed functional separation under the market review process but a few has accepted voluntary undertakings of functional separation by the SMP operators.¹²

In conclusion it can be said that NRAs became aware of the need to impose in a number of cases stricter non-discrimination obligations such as EoI¹³ to ensure replicability of the retail offer in terms of QoS etc., while being aware of the implementation/compliance costs (in particular in case of “retrofitting” existing processes) which should not be disproportionate (see also answer to Q3).

2. Have you observed practices that are, in your view, discriminatory despite the imposition of non-discrimination obligations? If so, please explain what were the applicable obligations (in particular whether EoI was imposed or not) and what were the practices. Please also indicate whether there was a formal action undertaken by the NRA (or NCA) and what was the outcome, providing the references of the case(s) if relevant.

Sweden had one case in which the non-discrimination obligation was not applied but in which the practice may be seen as being discriminatory in a wider sense. The SMP operator Telia demanded that operators buying fibre wholesale access(es) from Telia presented a warrant showing that the retiring operator for the access(es) in question were willing to terminate the lease. Otherwise, Telia would not approve the operator switch. Operators

⁸ Since 31 Jan. 2020 the UK is no longer a member state of the EU.

⁹ Since 31 Jan. 2020 the UK is no longer a member state of the EU.

¹⁰ This is e.g. Latvia wholesale leased lines.

¹¹ This is e.g. France where the SMP provider relies on passive access to deliver wholesale leased lines. Duct access is subject to EOI under the WLA market.

¹² These are Iceland, the Czech Republic and Serbia. In Italy AGCOM accepted in 2008 voluntary undertakings proposed by SMP operators on functional separation (related to the newly created separate division *Open Access*) and modified the remedies consequently in the following market reviews. In the UK (which is no longer a member state of the EU since 31 Jan. 2020) the NRAs accepted a voluntary undertaking of functional separation by the SMP operator.

¹³ Which means that there can be no difference between levels of performance with respect to the quality of service, such as the times taken to supply the service and repair faults, provided to competitors and the dominant company. This is based on the practice in both the wholesale market and in the associated retail market.

buying access in Telia's network therefore had to engage a third party i.e. the retiring operator.

If Telia was the new operator for an access it could be argued that it would be easier for them to obtain a warrant, being the net owner who gave the lease in the first place. In some cases, it would also be Telia themselves who were the retiring operator.

The practice was regarded as not being in line with the obligation of assurance of efficient and convenient wholesale switching and lead to the NRA, PTS, issuing an injunction with a fine if the practice did not cease, case 16-7334.

In Ireland, over the last 5 years, the Irish NRA (ComReg) formed the opinion on three occasions where the SMP Operator (Eircom) did not comply with the non-discrimination obligation imposed.

In 2016, ComReg formed the opinion¹⁴ that for the period 8 July 2011 to 9 July 2015, Eircom did not comply with the non-discrimination obligation imposed on it by Sections 9.1 and 9.2 of the Decision Instrument contained in Chapter 8 of Decision D06/11 in respect of Eircom's supply of its (Current Generation) Bitstream product.

In 2016, ComReg formed the opinion¹⁵ that for the period 1 July 2011 to 9 July 2015, Eircom did not comply with the non-discrimination obligation imposed on it by Sections 9.1 and 9.2 of the Decision Instrument contained in Appendix C of D05/10 in respect of Eircom's supply of its (Current Generation) Line Share product.

In 2018, ComReg formed the opinion¹⁶ that Eircom did not comply with its obligations to provide services and information, under the same conditions and of the same quality as the operator provides for its own services or those of its subsidiaries or partners. The non-discrimination obligations under ComReg Decisions D07/61, D12/14, D05/15, D06/11,

¹⁴ Information Note ComReg Document Number 16/99, 17 November 2016, Opinion of non-compliance issued to Eircom Limited for a breach of its non-discrimination obligation in the Wholesale Broadband Access Market.

¹⁵ Information Note ComReg Document Number 16/100, 17 November 2016, Opinion of non-compliance issued to Eircom limited for a breach of its non-discrimination obligation in the Wholesale (physical) Network Infrastructure Access Market.

¹⁶ Information Note: ComReg Document Number 18/27, 6 April 2018, Opinion of non-compliance issued to Eircom Limited for a breach of its non-discrimination obligations regarding address matching.

D05/10 and D03/13¹⁷ require, inter alia, that Eircom provide information to Other Authorised Operators to enable them to offer regulated services on similar terms to its own retail arm, in markets where Eircom has been designated as having significant market power. This information includes information to enable “address matching” of a potential customer premises to Eircom’s local access infrastructure for the purpose of delivering services.

For instance, regarding the access to ducts and poles in Portugal (for the purpose of VHCN rollout by alternative operators) the SMP operator did not publish the respective wholesale reference offers (RCAO and RDAO) fulfilling the EoI obligation in the exact terms that were imposed by ANACOM in the previous wholesale market 3a analysis (in particular regarding the installation of network cables in ducts and drop cables in poles). As a consequence, in 2017 ANACOM had to suspend those versions of the reference offers and initiated an analysis with the purpose of changing the RCAO and RDAO in order to accomplish the EoI obligation (2018 draft decision).

3. Do you have experience with EoI and if so, for which access product(s)? What has been in your view, the impact of this approach on effective competition? Please explain and provide the relevant elements that support your view. Were there significant compliance costs associated with the imposition of EoI (in particular for the access provider), and if so were those costs evaluated and what were those costs?

BEREC agrees that the access to wholesale inputs on an equivalence basis is essential to create a level playing field between the SMP operator and alternative operators. BEREC also agrees that EoI is in principle the surest way to achieve effective protection against non-discrimination. Depending on the circumstances, however, EoO could be more appropriate and proportional in the individual case. Alternative operators have argued that in some cases, their need for wholesale input does not always match the products required by the SMP operators itself. In such a case, different wholesale inputs could be preferable to strict EoI. From the SMP operators’ side, it has been pointed out that EoI might harm production efficiency, as different ways of delivery might be suitable for different customers.

¹⁷ Non-discrimination obligation to the EoI standard for pre-ordering, ordering, provisioning, fault reporting and repair of NGA Virtual Unbundled Access (VUA) and NGA Bitstream.

As noted under question 1, in BEREC's report *Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3*, BoR (16) 219 from 2016 it is reported that several NRAs¹⁸ subject to research¹⁹ had implemented EoI, particularly in relation to NGA products.²⁰

In practice, NRAs need to take into account a number of factors when determining how the obligation of EoI is likely to be implemented in practice as it depends on the wholesale products. BEREC observes that, in practice, the boundary between EoI and EoO at a product level²¹ will not be clear-cut and that EoI is unlikely to be implemented across all of the inputs to wholesale products. For example, (absent structural separation) it is difficult to conceive an incumbent co-locating with itself or interconnecting with itself. Whereas EoI could be more easily achieved in the case of the technical inputs to a product, it may be difficult for access to legacy Operational Support Systems (OSS)/Business Support Systems (BSS) systems to be delivered under an EoI regime. As a result such essential and pervasive inputs to relevant wholesale products may need to be delivered on an EoO basis, preferably underwritten by suitable controls to ensure that they do not disadvantage third party access seekers. Furthermore, proportionality testing on a product-by-product basis is likely to conclude that some inputs to a specific product can reasonably be delivered on an EoI basis, but that other inputs to the product (not so easily susceptible to EoI) are more appropriately delivered on an EoO basis. Further complications may arise where legacy products (e.g. wholesale line rental) are bundled with NGA products.²²

Finally, market developments must also be taken into account when choosing a non-discrimination approach. An increasing number of alternative operators are now deploying fibre alongside the former market incumbents in several countries. From a forward looking

¹⁸ The participants were as follows: WLA market – Bulgaria, France, Iceland, Luxembourg, Netherlands, Sweden, Turkey, Czech Republic, Germany, Lithuania, Serbia, Denmark, Italy, Romania, Spain; WCA market – Bulgaria, France, Iceland, Luxembourg, Poland, Sweden, Turkey, Czech Republic, Germany, Lithuania, Denmark, Romania, Spain; WHQAFL market – Austria, Croatia, Cyprus, France, Iceland, Latvia, Luxembourg, Turkey, Bulgaria, Czech Republic, Poland, UK, Lithuania, Serbia, Spain, see BOR (16) 219 Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3 Nov. 25.2016 p. 4.

¹⁹ The NRAs which had finished a review of the markets since data was last collected in December 2015.

²⁰ BoR (16) 219, Monitoring implementation of the BEREC Common Positions on Wholesale Local Access (WLA), Wholesale Central Access (WCA) and Wholesale High Quality Access at a Fixed Location (WHQAFL) Phase 3. Nov. 25.2016. p. 6.

²¹ It is assumed that a wholesale product is built up from various inputs (such as assets, IT processes etc.)

²² Cf. BEREC Opinion on the draft NDCM Rec., BoR (13) 41.

perspective this could lead to several SMP operators in different sub-national markets being regulated in the same country.²³ In some markets developments are also tending towards fewer vertically integrated operators. EoI might not be a useful non-discrimination tool when it comes to wholesale-only operators and the role of EoI could therefore diminish.

BEREC would also like to point out that the EECC has brought about a change in the regulation of non-discrimination. Whereas Article 10 of the Access Directive foresaw the application of EoO, Article 70 as well as recital (185) of the EECC now explicitly foresee EoI. This is in line with the NDCM Recommendation from 2013, but goes even further as the provision of the Directive applies to all markets. A future access recommendation would thus need to be aligned to the EECC so that it no longer applies to markets 3a and 3b only, but also extends to other markets and in particular market 4. As the EECC prevails over the Recommendation, another alternative would be to streamline/skip this part of the NDCM Recommendation (see also General remarks above).

4. Based on your experience, do you identify regulated wholesale inputs that are not currently subject to EoI in the member state(s) where your organisation is present and for which you consider that this would be appropriate and proportionate? Please explain.

N/A

5. In your view, is EoI generally appropriate and proportionate for access to civil engineering infrastructure when such obligation is imposed on the SMP operator? Please substantiate your response.

The possibility to impose access to the civil engineering of the SMP operator, encompassed in Art. 12 AD and in recom. 13 of the NGA Recommendation of 2010 and now enshrined in the EECC of 2018 also as a “stand-alone” remedy acc. to Art. 72, is used in different ways by European NRAs. The imposition of EoI on access to civil engineering is laid down in Art. 70 EECC and in recom. 13 plus Annex II of the NGA Rec. There seems to be a relatively high consensus on the appropriateness of EoI as the norm for the wholesale access to civil engineering, however the

²³ See for example BoR (18) 24, Assessment of the need to review the BEREC Common Positions on Markets 3a, 3b and 4. Mar. 08.2018, p. 13-14.

proportionality assessment of EoI by NRAs might differ in a given situation. Also, it has to be born in mind that it is up to the NRA to decide on the most appropriate (set of) obligations.

(a) Appropriateness of EoI:

BEREC considers that EoI is generally the appropriate form of non-discrimination obligation for access to civil engineering infrastructure when such obligation is imposed on the SMP operator.

Indeed, EoI is an efficient remedy since it addresses non-equality of access by maximizing incentives on the SMP operator to improve the quality of the products it offers to the third-party operators. Actually, a strict form of non-discrimination imposes to the SMP operator the obligation to implement the same treatments and processes used for its own vertically integrated divisions and to third-party operators. Thus, alternative operators can get access to wholesale physical infrastructures' offers with a quality of service similar or identical to the one observed between the SMP entities.

EoI is also a form of non-discrimination that increases transparency and prevents the SMP operator from any practice that could result in a distortion of competition. Such conditions are essential to give third-party undertakings the confidence that access will be ensured in fair terms, and thus invest in the roll out of new and enhanced networks, in particular VHC networks using wholesale offers of the SMP operator to access its physical infrastructure network elements. Hence, EoI guarantees that consumers / end-users will benefit from the existence of a competitive environment including different operators deploying VHC networks.

The execution of the EoI obligation by the SMP operator consists of implementing, for its own entities and to third-party undertakings, in the context of the access to its physical infrastructures for the deployment of new and enhanced networks, in particular VHC networks:

- **the same wholesale inputs in terms for products and services;**
- **the same operational and technical processes:**

This equivalence includes access to the same prior information, which implies that on the one hand, the SMP downstream divisions should not have access to information concerning third-party undertakings' intentions or planning of deployments, and on the other hand, that the third-party undertakings or the SMP own wholesale division's should be able to use the same level of information as the SMP entities concerning the existing infrastructure, necessary to plan new and enhanced networks, in particular VHC networks' deployments.

Operational and technical processes also include the commands' platforms of products and services, as well as the steps organizing the access and the roll out actions. Thus, the SMP operator

and all other third-party users of its wholesale offers of provision of access to physical infrastructures should use the same command platforms, in a way that does not benefit the SMP operator while bringing additional constraints on third-party undertakings.

- **the same engineering rules:**

Generally, the SMP operator defines engineering rules comprising all the technical prescriptions to be respected by any undertaking deploying new and enhanced networks, in particular VHC networks in the civil engineering infrastructures of the SMP operator.

The requirement of different engineering rules from any operator – including the SMP operator – could lead to the distortion of competition and to discrimination.

Access to the engineering rules of an SMP operator is also important to allow undertakings to effectively utilize the SMP's civil engineering infrastructure.

- **the same internal transfer protocols:**

The internal transfer protocols of the offered products and services have to be the same whether they are provided to an SMP division or to any other alternative undertaking willing to roll out new and enhanced networks, in particular VHC networks in the SMP's physical infrastructures.

In order to ensure this obligation is observed, NRAs should be able to control that the SMP operator implements, for its own entities, the same transfer protocols that are provided to alternative undertakings.

For the deployment of new and enhanced networks, in particular VHC networks, EoI being a strict form of non-discrimination is consistent with the promotion of competition, whether it concerns infrastructures, technologies or innovation. However, the proportionality of EoI needs to be assessed.

(b) **Proportionality of EoI:**

The assessment of proportionality of the EoI obligation requires a cost-benefit analysis of the adaptation of the SMP operator's existing systems and legacy processes in order to ensure they are in compliance with the terms of an EoI obligation. NRAs should compare the costs and time involved of such re-engineering operations, with their expected outcome with respect to the increased competition and innovation in the downstream markets.

If the conclusion of such an analysis is that EoI would imply disproportionate financial costs or costs in terms of implementation time compared to outcomes on market competition, NRAs should impose on the SMP operator an obligation with terms as close as possible to the EoI obligation, but at least guaranteeing EoO.

Furthermore, it appears appropriate to the NRA, while assessing the proportionality of the EoI obligation, to impose this obligation at least for the products and services of wholesale access to physical infrastructures, and for the related facilities, for which there are already existing provisioning and operational support systems that can be mutualized, or for which the SMP operator itself does not have any existing support system.

Thus, the choice of an EoO form of non-discrimination for the products and services of wholesale provision of physical infrastructures' access can be appropriate where an EoI obligation is not proportionate.

The EoO obligation gives the possibility to the SMP operator, to foresee different commands or transfer protocols for alternative undertakings than the ones that the SMP operator uses. Yet, the tools that are meant to be used by alternative undertakings should permit the same performance level that is observed for the SMP divisions. This equivalence should avoid that the differences put the alternative operators using the SMP operator's physical infrastructure at a disadvantage in terms of costs and pace of roll out operations, compared to the protocols the SMP operator follows internally.

The principles described above to impose EoI on civil engineering access are laid down in Annex II of the NGA Rec. which can be transferred to a new access recommendation.

6. Are you aware of obligations applicable in the Member State(s) where your organisation is present to ensure the technical replicability of the retail products offered by the SMP operator? If so, please describe these obligations and indicate whether they have been used in practice. Please also indicate whether such obligations were effective in your view and explain.

PTS has imposed an obligation on Telia as SMP operator on the WLA market to apply a technical replicability test to prove that all retail services provided by Telia can be replicated using the fibre wholesale products offered to alternative operators.

The test has been carried out and did not show any irregularities in Telia's offering of services internally and externally.

CNMC imposed a similar provision. The SMP operator cannot commercialize a new product until the technical replicability is not guaranteed in the wholesale offers. For instance, the introduction of the 600Mbps speed in the Telefónica's retail broadband products, that took place in 2018, was launched only after the NGA wholesale reference offers (NEBA local and NEBA fibra) was effectively available for alternative operators.

In the context of market 3a analysis, the Greek NRA EETT has imposed on the incumbent (OTE) the obligation of technical replicability, according to which, the incumbent is responsible for executing the technical replicability test for all its new retail products. The outcome of the test should guarantee that any incumbent's new retail offer can be reproduced by the alternative operators with incumbent's wholesale inputs. If the outcome of the technical replicability test is negative and the NRA is of the opinion that the incumbent's retail offer would seriously damage completion in the market, the NRA asks the incumbent to delay the launch of the incumbent are replicable from a technical point of view.

A similar obligation has also been imposed in the context of market 4 analysis. Up to this point in time, the incumbent has not introduced any new retail offer that would require the execution of the technical replicability test.

Technical replicability remains relevant as an essential part of ensuring equivalence. BEREC is of the opinion that the Recommendation could remain as it is in this aspect. Technical replicability is not only applicable in an EoI situation, but generally to a non-discrimination obligation. When a strict EoI obligation has been imposed and fully implemented by the SMP operator, the relevance of a separate technical replicability obligation will normally be smaller.

7. Have KPI been used in relation to wholesale regulated products offered by the SMP operator in the Member State(s) where your organisation is present? If so please describe how these KPI have been set and calculated and indicate whether the indicators have been audited by the NRA or by an independent auditor. In your experience has this tool been effective? Please explain.

BEREC will address jointly questions 7 and 8.

The non-discrimination obligation is, undoubtedly, one of the cornerstones of *ex ante* market regulation. In this regard, it is important to remember that non-discrimination is a standalone remedy, which may be breached even in cases where other obligations (such as provision of access,

or respect of the terms and deadlines set in a reference offer) are complied with. Through non-price related discrimination practices, the SMP operator may achieve anticompetitive results whose effect is equivalent to the negative effects stemming from other practices such as denial of access or discriminatory pricing. The preferential treatment of the SMP operator's retail arm, in terms e.g. of quality of the services provided, access to information, or product/service design, may lead to the foreclosure of competitors that rely on the SMP operator's regulated services, due to perceived poor performance by end-users.

Non-price related discrimination is however difficult to monitor. While the legal test applicable to non-discrimination is in general well-understood, and has been enshrined in sectoral telecommunications legislation since the opening up of the markets, applying the test to the specific facts at hand becomes particularly challenging. Delaying tactics, or the provision of lower quality products than those provided to the retail arm, are hardly transparent practices, and may be more easily masked than an outright refusal to provide access, even if the outcome of both practices can be similar.

BEREC expects that the importance of the non-price related discrimination obligation will continue to grow in the coming years, once competition in the markets subject to *ex ante* regulation further consolidates, and consumers continue to pay growing attention to issues that go beyond the mere availability of access and pricing terms and conditions. In this context, different regulatory instruments are necessary to ensure that access to the regulated inputs is equivalent between the retail arm of the SMP operator and alternative operators, and between alternative operators themselves. KPIs, SLAs and SLGs play a key part in this regard, as they are adequate and allow the alternative operators to monitor the fulfilment of their orders and requests against the market average and the NRAs to monitor non-discrimination between alternative operators and the SMP operator's retail arm.

Due to its importance, BEREC believes that a reference to the role that KPIs, SLAs and SLGs play in monitoring effectively compliance with the non-discrimination obligation is still important in the context of the revision of the access recommendations (ref. namely to recitals 23-24 and rec 19-29 of the NDCM Rec). It is in any event advised that references to these instruments builds upon the extensive work undertaken by BEREC in this regard.

On KPIs, the 2012 BEREC Common Positions on best practice in remedies on the market for wholesale (physical) network infrastructure access²⁴, wholesale broadband access²⁵ and wholesale leased lines²⁶ refer to the use of KPIs as an important means to monitor compliance with the non-discrimination obligation. The 2012 BEREC Common Positions also refer to SLAs/SLGs as key

²⁴ BoR (12) 127.

²⁵ BoR (12) 128.

²⁶ BoR (12) 126.

instruments to promote compliance by the SMP operator with the *ex ante* obligations it has assumed.

Between 2014 and 2016, BEREC monitored the implementation of the above-mentioned 2012 Common Positions²⁷. Despite the time elapsed, useful information of the way KPIs, SLAs and SLGs have been used by NRAs can still be found therein. The reports confirm that, in general, NRAs have typically imposed requirements relating to service levels, through the use of KPIs, but also through SLAs and SLGs. Furthermore, in relation to the setting of SLAs, SLGs and KPIs, almost all NRAs oversee the process of setting SLAs, SLGs and KPIs somehow (e.g. by setting them, or by their approval, or by supervision of negotiations).

In the same vein, the BEREC Guidelines on the minimum criteria for a reference offer²⁸ continue to refer to KPI, SLAs/SLGs as core elements of a reference offer.

The Guidelines stress that SLAs should be available for ordering, delivery, service (availability) and maintenance (repair), including specific time scales for the acceptance or refusal of a request for supply and for completion, testing and hand-over or delivery of services and facilities, for provision of support services (such as fault handling and repair). Reference offers should also include the quality standards that each party must meet when performing its contractual obligations, including the specification of KPIs with respect to SLAs, as well as SLGs for ordering, delivery, service (availability) and maintenance (repair)²⁹.

In the Guidelines KPIs, SLAs and SLGs – applied in both equivalence of access concepts (EoO or EoI) – are addressed adequately to remain further on effective tools to enforce and monitor the non-discrimination obligation.

8. Have SLAs/SLG been used in relation to wholesale regulated products offered by the SMP operator in the Member State(s) where your organisation is present? If, so please indicate if you are aware of cases where a breach of SLAs was found, and whether this led to the payment of penalties, and if so, please describe. In your experience has this tool been effective? Please explain.

²⁷ Available at

https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/4788-monitoring-implementation-of-the-berec-c_0.pdf

https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5547-monitoring-implementation-of-the-berec-c_0.pdf

https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/6604-monitoring-implementation-of-the-berec-c_0.pdf

²⁸ BoR (19) 238.

²⁹ The BEREC Guidelines also note that SLGs should specify the amount of compensation payable by one party to another for failure to perform contractual commitments, as well as the conditions for eligibility for compensation.

See answer to Q7 above.

Economic replicability test

The NDCM recommendation provides methodological guidance on the economic replicability test to be used in the context of that recommendation. The economic replicability test ensures that “*the margin between the retail price of the SMP operator and the price of the NGA wholesale input covers the incremental downstream costs and a reasonable percentage of common costs*” (point 64 of the recital of the NDCM recommendation).

Imposing obligations relating to the economic replicability test is one of the conditions of pricing flexibility (see next section), to ensure that the absence of regulated wholesale price does not lead the SMP operators to practices that could undermine competition by excluding competitors from the market.

For that purpose the NDCM recommendation sets principles and parameters that the economic replicability test should follow in order for the NRA to be able to ensure that the margin between wholesale and retail is sufficient. In particular, the NDCM recommendation (annex II) defines the relevant parameters to design the economic replicability test methodology: relevant downstream costs, cost standard, relevant regulated wholesale and retail products and relevant time period to run the test.

9. In your experience, what is the role of the economic replicability test in ensuring effective and non-discriminatory access?

In line with the NDCM Recommendation, the economic replicability test (ERT) has been implemented in some countries as a more flexible alternative to cost-oriented regulated wholesale access prices for NGA products.

CNMC approved its methodology for the ERT in March 2018. This methodology is highly comprehensive and considers issues such as wholesale volume discounts, long-term access agreements, the determination of flagship products, the regulatory treatment of bundles or the consideration of temporary discounts. It also sets clear procedural mechanisms to be applied in case a flagship product does not meet the replicability condition. Together with other regulatory instruments, the ERT has enhanced the incentives to roll out NGA infrastructures (both for the incumbent and the alternative operators) and has at the same time successively promoted the use of the wholesale NGA offers (NEBA local and NEBA fibra) as a means to foster access based competition along infrastructure competition.

Since 2014, ILR allowed the SMP operator to perform an ERT for its NGA wholesale access products if he respects an equivalence of inputs model (non-discrimination remedy) and if he publishes a technical replicability test (transparency remedy). ILR's experience showed that the regulated copper anchor wholesale cap worked on the retail market and that alternative operators are now switching their activities from copper LLU and bitstream services to fiber unbundling. The SMP operator also continued its fiber roll-out while using the pricing flexibility for its wholesale access prices (in both ways, heightening and lowering access prices). The experience gathered by ILR showed that the combination of all the regulatory measures (ERT, EoI, technical replicability test and copper anchor) lead to a well-balanced and predictable regulatory framework for the stakeholders in terms of competition, non-discriminatory access and fiber roll-out.

In BEREC's opinion, in those countries where, according to their national circumstances, flexible NGA prices have been implemented, the ERT is playing a key role to make compatible the development of NGA infrastructures and the use of wholesale NGA offers. In this regard, an accurate, transparent and balanced design of the ERT methodology is fundamental for the achievement of the regulatory objectives of promoting the roll-out of new and enhanced networks and foster competition for the benefit of users.

10. Is the current framework for the economic replicability test providing sufficient guidance on how to design and implement this tool? If not, please explain where you see the need for further guidance to ensure a more efficient and consistent use of the economic replicability test.

The NDCM Recommendation (namely rec. 56 and the corresponding Annex II) sets sufficiently general principles when it comes to the methodology of the ERT calculation. Besides, the BEREC document "*Guidance on the regulatory accounting approach to the economic replicability test*" (BoR (14) 190) complements the content of the NDCM Recommendation and provides NRAs with additional orientations.

It should also be noted that so far only a few NRAs have used ex ante margin squeeze tests as a stand-alone price flexibility tool as it is referred to in the Recommendation (EoI, technical replicability, ERT and copper anchor). This is due to the fact that these margin squeeze/replicability tests are often used complementarily to cost oriented price regulation, and

not as a substitute.³⁰ However, the methodological principles provided by the NDCM Recommendation and the BEREC Guidance have been applied in both, substitutive and complementary margin squeeze/replicability tests and are therefore usable also in the future when the ERT will be used more as a substitute for cost-oriented price regulation³¹.

In general, and based on the experiences NRAs have made, BEREC considers the already existing guidance as sufficient and does not require more guidance from the Commission. Moreover, BEREC wants to point out that the possibility of using the ERT instead of a cost-oriented price obligation is now laid down directly in Art. 74 EECC (while it was not in Art. 13 AD). As was mentioned above (response to Q3) in relation to EoI this stems from the NDCM Recommendation from 2013, but goes even further as the provision of the Directive applies to all markets. A future access recommendation would thus need to be aligned with the EECC so that it no longer applies to markets 3a and 3b only. As the EECC prevails over the Recommendation, another alternative would be to streamline/update this part of the NDCM Recommendation.

Before addressing two procedural points BEREC wants to draw the attention to one inconsistency between the NDCM Rec. and the NGA Rec. Whereas the NDCM Rec. foresees as a (second best) option the use of a “scale adjusted EEO” (Annex II, pt. (i)), the NGA Rec. favours in recital 26 the use of a reasonably efficient competitor test” (REO) which BEREC – as stated in several instances (BoR (13) 41 and BoR (14) 190) – expressed a preference for. BEREC advocates the consideration of both tests (EEO and REO/scale adjusted EEO) on the same level in the new access recommendation, especially taking into account the potential application of the ERT in all markets.

There are two procedural issues that the new Recommendation could explore more.

Firstly, the current NDCM Recommendation includes bundle products in the definition of “new retail offers” and, consequently, holds the idea that bundles can be considered “flagship products”. This issue is key, given the fact that in many EU countries the most important broadband products are being sold as bundles including other electronic communications services (such as mobile services) or pay-TV services (for instance, premium contents³²). BEREC also notes that there are more and more different (non-regulated) products being included in these broadband bundles.

When performing an ERT, NRAs need clear and solid information. Sometimes, information on the non-regulated components included in a bundle are essential to determine whether a broadband

³⁰ See RA Report 2019 (BoR (19) 240).

³¹ Of course the ERT can also in the future be used complementarily to cost oriented price regulation.

³² See “BEREC report on the impact of premium content on ECS markets and the effect of devices on the open use of the Internet” https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8013-berec-report-on-the-impact-of-premium-content-on-ecs-markets-and-the-effect-of-devices-on-the-open-use-of-the-internet

bundle is replicable. Information on non-regulated components are also essential to identify (unfair) cross-subsidies between regulated and non-regulated services or some other anticompetitive practises affecting the regulated service. However, SMP operators are usually reluctant to provide solid information on the non-regulated component of bundles and can argue they are not obliged to do so. Therefore, BEREC would welcome the Commission to provide explicit support for the gathering of information (especially the information related to the costs of the non-regulated components) in these cases, as this is essential to carry out the replicability analysis of broadband bundles. In any case, in this context it has to be ensured that the information required is proportional to what is strictly needed.

Secondly, recommend 56 of the NDCM Recommendation states that *“the procedure that the NRA will follow to conduct an ex-ante economic replicability test, specifying that the NRA can start the procedure on its own initiative or at the request of third parties, at any time but no later than three months after the launch of the relevant retail product, and will conclude it as soon as possible and in any case within four months from starting the procedure“*. BEREC agrees with the Commission that the determination of replicability must be carried out rapidly, but a new access recommendation should also consider that the NRA follow up the evolution of existing flagship products (price modifications, temporary discounts, incorporation of new bundled services, etc.) as the mapping of those is complex and subject to change over time. In case relevant changes are detected, NRAs can update the list of flagship products or revise the result of replicability analysis according to updated information more rapidly. Hence, the limits set out in the abovementioned rec. 56 should be compatible with a follow-up activity.

Conditions under which price control obligations may or may not be appropriate

Article 74 of the Code states that NRAs may impose obligations relating to cost recovery and price control, including obligations for cost orientation of prices and obligations concerning cost-accounting systems *“where a market analysis indicates that a lack of effective competition means that the undertaking concerned may sustain prices at an excessively high level, or may apply a price squeeze, to the detriment of end-users”*. NRAs should determine whether price control obligations would be appropriate, by taking into account the need to promote competition and long-term end-user interests related to the deployment and take-up of next- generation networks, and in particular of very high capacity networks. In particular, Article 74 mentions that *“NRAs shall consider not imposing or maintaining obligations pursuant to this Article, where they establish that a demonstrable retail price constraint is present and that any obligations imposed in accordance with Articles 69 to 73, including, in particular, any economic replicability test imposed in accordance with Article 70, ensures effective and non-discriminatory access.”* This is

in line with the NDCM recommendation which provides additional guidance and whereby NRAs are encouraged not to impose or maintain regulated wholesale access prices on active or passive NGA wholesale inputs (i.e. to allow pricing flexibility), provided that:

- the non-discrimination obligations (see the corresponding section above) imposed on the SMP operator are consistent with EoI – and with the obligations relating to technical replicability when EoI is not yet fully implemented;
- that an economic replicability test as described in the recommendation has been imposed;
- that a demonstrable retail price constraint, either from a regulated legacy product subject to a cost-oriented price control obligation in accordance with the recommended costing methodology (“copper anchor”), or from an alternative network, exist.

11. Do you have experience in the application of the pricing flexibility approach? If so, what was, in your experience, the impact of this approach, in particular with regard to the main objectives pursued by the NDCM recommendation (the promotion of effective competition, enhancing the single market for electronic communications networks and services, and fostering investments in next-generation access (NGA) networks)? Please explain and provide the relevant elements supporting your view.

BEREC notes that a number of NRAs have experience with the pricing flexibility approach. The Irish NRA (ComReg) have recent experience in the application of the “pricing flexibility” approach. The most recent Market Review of 3a/3b and associated Pricing Decisions (D10/18 and D11/18 respectively) were completed in November 2018. The Decisions were based on trying to achieve the appropriate balance between ensuring, on the one hand, that the incumbent can recover costs that are efficiently incurred (including an appropriate return on invested capital) and that prices are not excessive, while, on the other hand, providing appropriate investment signals to the market place — in terms of efficient market entry and sufficient incentives to invest where it is economically feasible to do so.

As part of the Decisions a cost orientation obligation was specified for FTTC VUA and Bitstream. For FTTH VUA and Bitstream, in line with the main objectives of the NDCM recommendation, ComReg took a more flexible approach whereby the incumbent is subject to a Wholesale and Retail Margin Squeeze Test along with a Price Floor.

ComReg decided to continue to allow the SMP Operator pricing flexibility on FTTH-based VUA, subject to the obligation not to cause a margin squeeze. It was noted that, given cost and demand uncertainties, the FTTH price was likely to be very sensitive to the FTTH service take-up rate, such that an incorrect forecast could distort future market developments. If the price is too high, it may deter actual or potential purchasers of FTTH-based VUA from purchasing, and if the price is

too low, the SMP Operator and, indeed, other infrastructure investors may reduce their investments in FTTH.

ComReg considers that this approach has had a positive impact. Roll out of high capacity networks has continued (in Ireland) at pace over the last number of years over a number of different platforms. Multiple operators continue to invest in NGA/VHCN including the incumbent. ComReg considers that competition has been promoted at both retail and wholesale levels.

The CNMC's revision of markets 3a and 3b approved in 2016, adopted a flexible prices approach for the existing wholesale bitstream FTTH service (NEBA fibra) and for a new virtual unbundled local access service (NEBA local, in force since 2018). Hence, it is the SMP operator who sets the prices for both services freely, with the only restriction of meeting the ERT. As it was previously exposed, this approach, together with other regulatory instruments, has resulted a fundamental element for getting the objectives pursued by the NDCM recommendation.

In the last revision of markets 3a and 3b, approved in 2019, AGCOM imposed geographically differentiated remedies on the SMP operator, with lighter obligations in more competitive areas of Italy (excluding the Milan area where no SMP has been detected). AGCOM removed the cost-orientation obligation for bitstream services in market 3b.

AGCOM considered competitive the areas with at least two alternative access networks FTTC or FTTH on top of SMP operator, each of which covers 60% of customers' premises for a total coverage (the two alternative networks together) >75%; other conditions are related to SMP's retail NGA market share ($\leq 40\%$) and SMP's wholesale NGA active services coverage ($< 80\%$).

As BEREC has outlined in more detail in its Opinion on the draft NDCM Recommendation (BoR (13) 41) BEREC agrees with the usefulness of allowing pricing flexibility to promote investment in new technologies, however BEREC wants to repeat that sufficient safeguards must be in place to ensure a quick reaction in case the SMP operator misuses the pricing flexibility for anti-competitive behavior. In general, NRAs must have the powers and the discretion to react swiftly on market developments to avoid unintended consequences. BEREC also wants to point out that pricing flexibility is an important factor for investing in new technologies, but other conditions must be met too to make a business case for the operator/investor, namely the willingness to pay of users (demand side) as well as a general environment conducive to investment, i.e. the general economic conditions and competitive pressure (supply side). Pricing flexibility alone is not enough.

12. Recital 56 of the NDCM recommendation indicates that: *“If the product offered by the SMP operator on the legacy access network is no longer able to exercise a demonstrable retail price constraint on the NGA product (for example in the event of a copper switch-off), it could in principle be replaced by an NGA-based product that is tailored to have the same product features. However, it is not envisaged that such an NGA-based anchor will be required in the immediate future or before 2020.”*

In your experience, is the current copper anchor still able to exercise a demonstrable retail price constraint on the relevant regulated wholesale NGA and VHCN products? Do you consider that there is a need to replace the current copper anchor by referring to a NGA product, and if so, how should it be defined?

BEREC recognises that the question asks for the retail price constraint a current copper anchor might exercise on regulated wholesale NGA and VHCN products, BEREC would also see the need to first clarify in the relation of the terms NGA and VHCN.

Relation of the terms “NGA network” and “VHCN”

The definition of the term “NGA networks” in the NGA recommendation (para. 11) refers to “wired access networks” and therefore, to the access network (and not the entire network which also includes other segments, e.g. backhaul), and to wired access (and not to wireless access). However, not all wired access networks qualify as an NGA network. Examples of NGA networks are FTTN, FTTB and FTTH. Notably, FTTN encompasses FTTC. It also has to be noted that in the NGA recommendation, para. 11, the term “FTTH” is used for both, FTTH and FTTB.

The definition of the term “VHCN” in Art. 2(2) EECC and according to paragraph 18 of the BEREC Guidelines on VHCNs acc. to Art. 82 EECC (BoR (20) 165) refers to an entire network (not only to the access network), and includes both networks providing a fixed-line connection and also networks providing a wireless connection. However, only certain and not all networks providing a fixed-line connection or wireless connection qualify as a VHCN.

Networks providing a fixed-line connection which are based on FTTB or FTTH fulfil criterion 1 of the BEREC Guidelines on VHCNs and, therefore, are considered to be a VHCN. However, networks providing a fixed-line connection with no fibre roll-out at least up to the building are also considered to be a VHCN, if they meet certain performance thresholds according to paragraph 18 of the BEREC GL on VHCN (criterion 3). In conclusion the relation between the term “NGA” and VHCN” is as follows: Networks based on FTTB or FTTH are a “VHCN” and these networks are addressed as FTTH networks in the NGA recommendation, which foresees specific regulations for these types of NGA networks. Networks referred to as FTTN in the NGA

recommendation only qualify as a VHCN if they meet the performance thresholds according to criterion 3, which typically will not be the case. This is shown in Figure 1.

Networks based on	NGA	VHCN (fixed VHCN)
FTTH/B	Yes	Yes
FTTN	Yes	Typically:*) No

*) Only if performance thresholds are met

Figure 1: Networks based on “NGA” considered to be a (fixed) “VHCN”

If the revised access recommendation(s) were to use the term “VHCN” (or “fixed VHCN”) instead of the term “NGA network” then the scope would be limited to (fixed) VHCNs and would no longer include most NGA networks based on FTTN since they do not qualify as a VHCN (see Figure 1 above). In addition, the scope of the revised access recommendation(s) would no longer be limited to access networks but would encompass entire networks (including not only the access network but also other segments, e.g. backhaul). Finally in case the term “VHCNs” (not “fixed VHCNs”) would be used instead of the term “NGA networks”, then the scope would also include networks providing a wireless connection.

As Art. 74 EECC provides for a wide scope by speaking of “*new and enhanced networks*” without further specifying these networks, BEREC is of the opinion that a new access recommendation should follow this line and not specify further the type of new and enhanced networks.

Retail price constraint a current copper anchor might exercise on regulated wholesale NGA and VHCN products

To answer the question whether the “current copper” anchor still sufficiently constraints NGA and VHCN-based products on the wholesale level, it is necessary to assess the competitive constraints stemming from the retail level on the latter.

Consequently, a general answer whether a copper anchor exercises a demonstrable price constraint to a NGA- or VHCN-based retail product is not possible, but rather depends on factors such as the level of investment in new networks which act as a network competitor to the existing copper

network and the price and demand patterns observed in the market defined according to Art. 64 (3) EECC and possibly additional considerations. For example, in cases where a chain of substitution leads to a market definition encompassing legacy copper, a copper anchor might still be sufficient. This may be because (for example) with non-VHCN NGA-networks (e.g. FTTC-Vectoring) and FTTB/H-products similar retail offers are provided based on all of these networks. In cases where copper-based products are already being phased out and largely replaced by FTTC-Vectoring based products, the latter might become the focal product for exercising retail price constraints on VHCN-based products. Where copper is being phased out and replaced by new and enhanced networks, especially FTTH/B, a chain of substitution might be absent. This might lead to situations, where no retail price constraint is observed at all.

The Irish regulator (ComReg) notes that, since FTTC prices were reduced as a consequence of the 2018 Pricing Decision, there is little evidence to suggest that this led to similar reductions in the prices for the entry level FTTH services, indicating that there is a price premium available at the wholesale level for services that deliver higher speeds. However, the 2018 pricing decision only became effective in March 2019, and it is still too early to determine if FTTC prices provide a demonstrable retail pricing constraint on higher speed offerings such as FTTH. There continues to be some uncertainty around the extent that retail customers, in general, are willing to pay for higher speeds and it is also possible that retail customer behaviour will change as the market matures.

Therefore, BEREC do not consider that it is necessary to pre-define a specific anchor product at this stage, but instead such an assessment should continue to be left to the judgement of each NRA.

In defining the NGA product that might replace the copper anchor, NRAs may consider a number of factors, including the following:

- Is there sufficient retail constraint to create downward pressure on retail prices for any NGA product?
- To what extent does the retail constraint impose a constraint at the wholesale level?
- Is there price pressure from other technologies?
- Is there a need for stricter regulation for any NGA product?

Each NRA can then, based on consideration of the above, decide which NGA products should be an anchor.

In conclusion, and as set out above, BEREC is of the view that any specific anchor product should not be defined in advance. Rather, it should be left to the NRA to conduct its own assessment. This assessment should be based on the actual retail-price constraints observed which will usually depend on the available network architectures, actual retail products offered and consumer preferences. Market analysis procedures according to Article 64(3) EECC will usually provide

valuable information to the NRA on the relation of product availability, demand patterns and retail price constraints.

13. Do you consider that the other conditions, as set in the paragraph of the NDCM recommendation for allowing price flexibility (i.e. obligations referring to EoI; technical replicability when EoI is not yet fully implemented ; and economic replicability test), continue to be appropriate for that specific purpose of allowing price flexibility? Should they be updated, and if so how?

Rec. 48 and 49 of the 2013 NDCM Recommendation specify that NRAs should not impose or maintain regulated wholesale access prices on active or passive (or equivalent non-physical or virtual) NGA wholesale inputs in the case when there is sufficient pressure on pricing on retail level and where non-discrimination obligations are imposed which are consistent with: Equivalence of inputs ('EoI'), including a roadmap; Obligations relating to technical replicability, when EoI is not yet fully implemented; and Obligations relating to the economic replicability test acc. to pt. 56.

The 2013 NDCM Recommendation already sets out in point 58 that, depending on the demonstration of effective equivalence of access and on competitive conditions, in particular infrastructure-based competition, there may be other additional scenarios where the imposition of regulated wholesale access prices is not warranted under the regulatory framework.

Recital 50 of the 2013 NDCM Recommendation also recognises that granting pricing flexibility to an operator with SMP could lead to excessive prices and that such flexibility should be accompanied by additional safeguards to prevent such potential abuse including “guaranteed economic replicability of downstream products in conjunction with price regulation of copper wholesale access products.”

Furthermore and as noted at recital 62 of the 2013 NDCM Recommendation “...*The purpose of the economic replicability test is to ensure, in combination with the other competitive safeguards that SMP operators do not abuse this pricing flexibility in order to exclude (potential) competitors from the market...*”.

The Irish NRA (ComReg) noted a failure by the incumbent to implement EOI for specific services together with compliance breaches following its review of internal governance processes. This further confirmed the need for additional price controls in the form of a cost orientation obligation.

As above (response to Q3 and Q10) BEREC would like to draw the attention to the fact that with “uplifting” the relevant provisions of the NDCM Rec. to Art. 74 EECC broadens the scope for price flexibility to all markets.

Overall, BEREC agrees that the conditions for allowing price flexibility as set out in the NDCM Rec. continue to be appropriate and need as such not be updated. A new access recommendation would need to take account of the fact that the scope is broader than in the current NDCM Recommendation which would need to be adjusted accordingly when transferring the relevant recommends (in particular 48/49 as well as 58) and recitals.

In light of the above, BEREC sees a benefit in eventually clarifying some points of the NDCM Rec. relating to the process of monitoring the conditions to ensure compliance by reference to:

- systems and processes;
- the governance and control environment policies and procedures in place for both SMP operators downstream operations and OAOs;
- an explanation as to how appropriate controls and governance are maintained over time.

14. Do you consider that there could be also other circumstances or conditions favoring the non-imposition of price control obligations? If yes, what are these?

The only scenario outside the conditions listed in the NDCM Rec. (see response to previous question) would be a competitive market, i.e. no finding of SMP anymore.

Promoting pro-investment and pro-competition approaches in relation to price control obligations

Where NRAs determine that price control obligations should be imposed on SMP operators, Article 74(1) provides that “ [...] *they shall allow the undertaking a reasonable rate of return on adequate capital employed, taking into account any risks specific to a particular new investment network project.*” This provision also indicates that: “*When national regulatory authorities consider it appropriate to impose price control obligations on access to existing network elements, they shall also take account of the benefits of predictable and stable wholesale prices in ensuring efficient market entry and sufficient incentives for all undertakings to deploy new and enhanced networks.*” Article 74(2) further provides that NRAs “*shall ensure that any cost recovery mechanism or pricing methodology that is mandated serves to promote the deployment of new and*

enhanced networks, efficiency and sustainable competition and maximises sustainable end-user benefits. In this regard, national regulatory authorities may also take account of prices available in comparable competitive markets.”

In practice, different categories of price control obligations have been imposed by NRAs. These are, amongst others: cost orientation, retail minus, benchmarking. For these different categories, different sub-categories can be identified, as explained in the [BEREC report on Regulatory Accounting in Practice](#) 2019. For instance, setting (multi)annual price caps is one of the approaches that NRAs can use when imposing cost orientation obligations.

In line with Article 74(1), where the national regulatory authorities consider price control obligations to be appropriate, they shall allow the undertaking a reasonable rate of return on adequate capital employed, taking into account any risks specific to a particular new investment network project.

The NGA recommendation (annex I, point 6) indicates that investment risk should be rewarded by means of a risk premium and provides guidance on how to set this risk premium.

Moreover, other (complementary or alternative) approaches can be relevant, in certain specific situations, to reward and encourage investment in new networks.

In particular, the Code provides that, in some cases mentioned, the NRA can require that access should be provided on “fair and reasonable” terms: in the context of symmetrical obligations beyond the first concentration or distribution point (Article 61.3 second subparagraph of the Code), or in cases where the SMP operator is a wholesale only operator (Article 80 of the Code). Moreover, a similar type of obligation is foreseen in the Broadband Cost Reduction Directive (hereafter BCRD, Article 3.2, 3.3 and 3.5).

15. In your experience, are the price control obligations applied in the market(s) where your organisation is present appropriate to encourage investment and promote predictability?

Indeed BEREC agrees that predictability is of utmost importance for operators when taking long term investment decisions. BEREC has pointed this out in numerous places (input to the WACC consultation, BEREC parameters Report 2020) and NRAs emphasize the principle of predictability in their price obligation decisions too. This can also be seen in the RA Report 2019 (BoR (19) 240) stating that “The consistent approach to regulatory accounting over the years suggest that NRAs are providing predictable regulatory environments” (p. 7).

The principle of regulatory predictability is overarching (not only in relation to price control obligations) and was already laid down in the Framework Directive (Art. 8.5 (a)).³³ Furthermore

³³ The principle is laid down in Art. 3 (4) (a) and recital 28 EECC. More specifically it is also mentioned in Art 74 (1) EECC.

in accordance with Art. 13 Access Directive NRAs took into account the investment made by the operator and allowed a reasonable rate of return on adequate capital employed, taking into account any risks specific to a particular new investment network project to encourage investments, including in next generation networks. But it should not be forgotten that an investment decision is not only influenced by regulation, but by a multitude of factors mostly outside the control of regulators.

16. In line with Article 74(1), where the national regulatory authorities consider price control obligations to be appropriate, they shall allow the undertaking a reasonable rate of return on adequate capital employed, taking into account any risks specific to a particular new investment network project. In your view, which types of risks (e.g. systematic/non-systematic) should be taken into account and what is the appropriate methodology to determine the project specific risk premium?

The starting point of the calculation of a reasonable rate of return on adequate capital employed should always be that the WACC is part of the cost calculation and covers the remuneration for the risk taken by the operator when investing in infrastructure. As such it must reflect adequately the risks incurred. When calculating the WACC the regulator needs to assess the risks incurred as an efficient investor would do (see also below Q19). In the case of new VHCN infrastructure it is likely that NRAs will often find a higher risk incurred (e.g. due to likely higher demand uncertainties, see next para.) than in the case of legacy infrastructure (especially in countries with no nationwide civil engineering infrastructure available BEREC observes less fibre investment than in countries where civil engineering infrastructure is available everywhere). Therefore, NRA should assess the risks incurred and include *where appropriate* a higher risk premium to reflect any *additional* and *quantifiable* risk incurred by the SMP operator (NGA Rec. Annex I, pt. 3, emphasis added). Thus in case a higher risk [compared to an investment in legacy infrastructure] is incurred, a [VHCN] risk premium is justified. If a [VHCN] risk premium can be justified, the risk difference must be *quantifiable* (measurable) which is still very complex and complicated to estimate. Without the necessary best estimation of the risk difference the NRA may distort investment decisions with all the negative consequences this entails.

Annex I, pt. 6 of the NGA Rec. lists the factors of uncertainty NRAs should inter alia take into account when estimating the investment risk: (i) uncertainty relating to retail and wholesale demand; (ii) uncertainty relating to the costs of deployment, civil engineering works and managerial execution; (iii) uncertainty relating to technological progress; (iv) uncertainty relating to market dynamics and the evolving competitive situation, such as the degree of infrastructure-based and/or cable competition; and (v) macroeconomic uncertainty. This list can be considered to be comprehensive and is still relevant today, so these explanations can be transferred to a new access recommendation. Annex I, pt. 6 also lists risk mitigating factors to be taken into account by NRAs and to be reviewed periodically. These factors too are still relevant and can thus also be transferred to a new access recommendation.

Alternatively, in case the NRA considers it appropriate to not impose or maintain obligations acc. to Art 74 EECC and allows price flexibility (in case an ERT is in place) he leaves it to the SMP operator to find a way to deal with any risks specific to a particular new investment network project.

17. Do you consider that the aspects set out in the NGA recommendation (in particular in Annex I, point 6) on the calculation of risk premia are relevant for reflecting the risk in the case of VHCN deployments? Are there aspects that should be considered in addition, or instead of those?

In BEREC's opinion indeed the principles as set out in Annex I pt. 6 of the NGA Recommendation are in general still valid and can hence be transferred in the way explained in the response to Q16 to a new access recommendation.

Further to the answer to Q16 it can be added that the NGA Rec. foresees as an (alternative) method to diversify (and reduce) the risk of investing in VHCN infrastructure in Annex I, pt. 7 the possibility of an upfront commitment in a long term contract which diversifies the demand risk as it is shared between the SMP operator and long term access seekers. This reduces the uncertainty justifying a lower long term access price to the extent the risk is reduced. Otherwise the level playing field would be distorted.

Annex I, pt. 8 of the NGA Rec. foresees the possibility of volume discounts. However, as BEREC has stated in its Opinion on the Draft NGA recommendation (BoR (10) 25 Rev1_final) volume discounts are rather an instrument to foster penetration ("penetration pricing"), so reducing costs due to the fact that scale is reached sooner and the gains are shared with the access seekers. However, this applies not only to new infrastructure, but generally. Furthermore appropriate safeguards for competition must be in place, in particular the discount should only reflect the cost reduction and the margin must be sufficient for an efficient "third party access seeker" to still enter the market. The level of investment risk is only impacted to a limited extent, if any, by the presence of volume discount schemes to the extent that the investment has already taken place prior to the volumes being purchased.³⁴

See also Q32/Q33.

The synchronization of capital expenditure with revenues from marketing the new and enhanced [in particular VHCN] connections will be dealt with below under Q19.

18. Do you have experience regarding the application of the obligation to apply "fair and reasonable" terms and conditions, under the current regulatory framework and/or under the BCRD? If so, please indicate how it was applied and whether, in your view, this

³⁴ BEREC Opinion on the Draft NGA recommendation (BoR (10) 25 Rev1_final).

obligation has contributed to encourage new deployments and promote competition. Do you identify the need for specific guidance to ensure a consistent application of the notion of “fair and reasonable”, in particular regarding pricing aspects?

The current NGA and NDCM recommendations do not refer to the notion “fair and reasonable”. Therefore, the purpose of question 18 seems to be that the Commission considers to include guidance in the revised access recommendation(s) on the concept of “fair and reasonable” terms and conditions.

As the commission points out, the concept of “fair and reasonable” is already included in the BCRD and its national transpositions. The BCRD in this regard refers to “fair and reasonable terms and conditions, including prices” in Recital 18 and Article 3(2). This points to a holistic concept attached to this term, which may include pricing aspects, but is not limited to the latter. A direct link to a certain pricing methodology or costing standard is not visible. Such a link also doesn’t seem to be appropriate, as the questions what might considered to be “fair and reasonable” will largely depend on the market situation addressed. In the BCRD the notion of “fair and reasonable” is a broad term and with regards to pricing aspects in the context of access to existing infrastructure attached to cost recovery taking into account the impact of the requested access on the business plan of the access provider (Article 3(5) subparagraph 2 BCRD). In this respect, the dispute settlement body (DSB) should also ensure to take “into account national conditions and any tariff structures put in place to provide a fair opportunity for cost recovery taking into account any previous imposition of remedies by a national regulatory authority” (Recital 19 BCRD).

BEREC carried out a report on the transposition and application of the BCRD with a focus on pricing issues in 2019 (“BEREC report on pricing for access to infrastructure and civil works according to the BCRD” from 07 March 2019 (BoR (19) 23). This report provides useful information on the notion “fair and reasonable” in relation to pricing methodologies.

The outcome of the report regarding the access to existing infrastructure can be summarised as follows. The transposition of the BCRD across Member States (MSs) differs as to the level and the detail of specifications on pricing. In 10 MSs no indication beyond the BCRD’s “fair and reasonable pricing” is given in the law while in 14 MSs the law includes further guidance on pricing or foresees publication of rules regarding pricing methodologies. Reference to recovery of cost leads some DSB to explicitly interpret “fair and reasonable” as “cost orientation”, both in general (5 MSs) or within the framework of a case-specific approach (2 MSs). However, other NRAs have specified a more general approach, where reference is made to the impact of pricing on the business model and investments and/or to the opportunity cost of providing access (5 MSs). Some NRAs also place the focus on existing market prices, mainly regulated prices, as a relevant element to be considered (4 MSs) in order to avoid introducing distortions on the market.

The consideration of the impact on the business plan of the access provider typically arises in cases where the infrastructure operator is an ECN operator. This does not necessarily lead to an explicit differentiation within the national legal provisions, however. The rationale for following an explicit approach to differentiate in some MSs is that access of competitors have an impact on the business plan of the ECN operator while it has no impact on the business of non-ECN operators.

The case-by-case approach of dispute resolution was stressed by all MSs as dispute settlement decisions are, by nature, taken case by case. Because they are inherently based on current and factual data of the parties involved, the adopted pricing methodology should always be able to reflect specific characteristics of the case. However, at the time the report was conducted, there were still very few practical cases of such case-specific applications of the BCRD pricing across MSs. Only a few MSs (4) reported actual prices. It has to be noted that some of the prices reported essentially refer to the price determined under asymmetric (SMP) regulation.

It is important to note, that the notion of “fair and reasonable” is not generally linked to a specific pricing mechanism under the BCRD, but as broad concept rather allows the DSB to set prices in a manner that will not distort market outcomes and also allows to take into account the requirement of consistency to pricing obligations linked to other regulations, in particular SMP-regulation. The concept of “fair and reasonable” can thus rather be seen as context-dependent.

In BEREC’s view the same is true with respect to references made to the notion of “fair and reasonable” within the EECC (especially Art. 61 (2), Art. 61 (3), Art. 76, Art. 79, Art. 80). For instance Art. 76 EECC and Art. 80 EECC have a very different regulatory content for which “fair and reasonable terms and conditions” need to be assessed. It also has to be noted that “fair and reasonable” has to be seen in the context of the regulatory objectives which need to be balanced out, e.g. with respect to the objective to “promote competition” (Art. 3(2)(b) and (d) EECC) or to “promote connectivity” (Article 3(2)(a) and (d) EECC) and to “promote efficient investment and innovation” (Article 3(4)(d) EECC). Therefore with regard to the need of further guidance on the concept of “fair and reasonable” terms and conditions in the revised access recommendation(s), the conclusions are as follows. BEREC deems it of utmost importance to regard the notion of “fair and reasonable terms and conditions” as a broad concept, which needs to be applied context-dependent and thus cannot be directly linked to a specific pricing methodology. Because of this, BEREC is of the opinion that there is no need for further specific guidance that would limit the required flexibility for the application of the concept of “fair and reasonable”.

See also below response to Q26.

19. A common approach to price control obligations is to cap prices based on a predetermined risk premium. In your view, are there alternative approaches that can be appropriate, and if so under what circumstances, to allow the expectation of reasonable returns on investments in VHC network deployments, for instance by applying a ‘fair bet’ principle? How should regulation take into account the possible variation of profitability over the lifetime of the project?

The established method of estimating the WACC and in particular the equity risk premium is the CAPM which takes the perspective of an efficient investor. The CAPM is based on the efficient market hypothesis, i.e. that the risk premia as assessed in the financial markets are reflecting all available information and expectations, in other words all risks are objectively factored into the market price (“priced in”). As stated in pt. 17 of the WACC Notice 2019 specific or diversifiable risks should not be taken into account when calculating the cost of capital as in efficient capital markets investors should be able to reduce such risks by holding a diversified investment portfolio. Starting from the efficiency of capital markets as the objective risk assessing method leaves no room for the application of an alternative approach such as the “fair bet” principle as all risks are priced in already.

This is the other side of the coin– the financing of the investment project (looked at in Q16) and both – the project investing and its financing – are “matched” by the efficient investor in the capital market which brings together the real and the financial side of an investment. I.e. in case the risk assessment of a project investor does not match with the expectations of financial investors in capital markets, he will have to reassess the risks and adjust his investment project (business case) accordingly. In other words the assessment of risks specific to a particular new investment network project cannot deviate over time from the risk assessment by financial market investors.

Regarding the question on how to address the ‘uneven’ distribution of expenditures and revenues over the lifetime of the project several theoretical possibilities exist. This relates to synchronizing cash flows rather than the uncertainties listed under Q16. One way of dealing with it is by adjusting the depreciation method and move to an economic depreciation usually considered to be better able to catch the discrepancy between capital expenditure now and revenue flows at a later stage. However this requires a lot of information that might not be available to the regulator, but possibly can be assessed by the operator pointing to the option described in the following paragraph. Discounted cash-flows approaches can also be used, involving a comparison of expenditures and revenues not year by year but over a longer period (as it is for instance the case in France for FttH networks).

Alternatively, the NRA may allow price flexibility (in case an ERT is in place) leaving it to the SMP operator to find a way to deal with any risks specific to a particular new investment network project.

Cost methodology

Where the NRA determines that it is appropriate, proportionate and justified to impose cost orientation regarding legacy (copper) and NGA wholesale access prices, the NDCM recommendation indicates that a bottom-up long-run incremental costs-plus (BU LRIC+) costing methodology should be used for that purpose. NRAs should adopt a BU LRIC+ costing methodology that estimates the current cost that a hypothetical efficient operator would incur to build a modern efficient network (which is described in the NDCM recommendation as an NGA network, which consists wholly or partly of optical elements, and is capable of delivering the Digital Agenda for Europe targets in terms of bandwidth, coverage and take-up).

The recommended methodology aims to provide a clear framework for investment by providing an appropriate “build or buy” signal to alternative operators, and to establish predictable and stable regulated wholesale copper access prices.

Article 74(1) EECC reflects this approach by providing that “*When national regulatory authorities consider it appropriate to impose price control obligations on access to existing network elements, they shall also take account of the benefits of predictable and stable wholesale prices in ensuring efficient market entry and sufficient incentives for all undertakings to deploy new and enhanced networks.*”

20. In your experience, how did the wholesale access prices for the copper network evolve in the market(s) where your organisation is present over the last 5 years? Was the recommended methodology used by the NRA for setting the wholesale access prices for the copper network? If yes, what was in your experience the impact of using that cost methodology, in particular on the evolution of the copper wholesale access prices and on the objective pursued to foster the deployment of NGA networks and migration to these networks?

For an extensive analysis BEREC refers to its latest RA Report 2019 (BoR (19) 240), in particular section 3.5 “Implementation of the Non-discrimination and Costing Methodologies Recommendation”, pp. 33.

21. In your view, is there a need to adjust the cost methodology recommended in the NDCM recommendation in light of the objectives of the Code, in particular the promotion of VHCN deployment and take-up? In particular, do you consider that the

reference to a model based on an NGA network should be kept or updated? Please explain and substantiate your reply.

No, the BU LRIC+ cost modelling of a modern efficient network at current costs as recommended in the NDCM Rec. (recommends. 30 – 47) are still relevant state-of-the-art principles as it provides the appropriate build or buy signals that can promote efficient entry and maintain incentives to invest in new and enhanced networks, in particular VHC networks.

The response to Q21 should be read in conjunction with the response to Question 25.

22. Should the recommended cost methodology be applied irrespective of the technology of the VHC network deployed/ to be deployed (including e.g. FttH, FttB with DOCSIS 3.1 or other technologies providing similar performance)? If so, how should the cost methodology differentiate between the technologies?

Yes, according to the principle of technological neutrality (cf. recital 40 + recommend 37 of the NDCM Rec.) the principles of the cost methodology should be the same for all types of new and enhanced networks irrespective of the technologies, i.e. a modern efficient network needs to be modelled.

So, the recommended cost methodology, i.e. BU LRIC+, should be applied irrespective of the technology of the new and enhanced network deployed/ to be deployed. As long as cost models take into account the costs and asset lives associated with a particular new technology then the appropriate economic signals will be sent and operators with SMP will be adequately compensated. Hence there is no requirement for differentiating between new technologies in cost methodologies. Also, NRAs should not distort investment decisions into different new technologies by applying different cost methodologies.

The response to Q22 should be read in conjunction with the response to Question 25.

Regulation of civil engineering infrastructure (SMP regulation)

The NGA recommendation underlines the importance of effective and non-discriminatory access to civil engineering infrastructure to encourage efficient investment and infrastructure competition. This recommendation indicates in particular that access to existing civil engineering infrastructure of the SMP should be mandated at cost-oriented prices and that NRAs should regulate access prices to civil engineering infrastructure consistently with the methodology used for pricing access to the unbundled local copper loop and taking into account actual lifetimes of the relevant infrastructure and possible deployment economies of the SMP operator (see Annex I.2 of the recommendation). The recommendation also suggests that NRAs should require the SMP operator to provide access to its civil engineering infrastructure under the same conditions to internal and to third-party access

seekers, including regarding access to the relevant information and processes (see in particular Annex II of the recommendation).

The Code emphasises that access to civil engineering assets is crucial for the deployment of VHC network. In particular, Article 72 clarifies that NRAs can impose access to civil infrastructure held by SMP operators, such as ducts and poles, irrespective of whether this infrastructure is part of the regulated market, in order to support greater infrastructure competition. The Code further provides in its Article 73 that where access to civil engineering can be imposed, the NRA should consider whether this access alone “*would be a proportionate means by which to promote competition and the end-user's interest*”, before imposing any other access remedy if appropriate. The obligations that can be imposed in the context of SMP regulation in relation to access to civil engineering infrastructure go further than, and complement, the rules on reasonable access applicable to network operators which control civil engineering infrastructure irrespective of SMP, which is established in the BCRD) – which is currently subject to a review (planned to conclude by end of 2021).

23. Is access to civil engineering infrastructures of the SMP operator regulated in the Member State(s) where your organisation is present? If so, based on your experience, do you consider that it is effective and non-discriminatory? Which circumstances could hinder the use of existing civil engineering infrastructure to deploy VHC networks?

Access to civil engineering infrastructures is not imposed on the SMP operator in every BEREC member country. Issued in June 2019, the BEREC *Report on access to physical infrastructure in the context of market analyses* (BoR (19) 94) points out that among 34 surveyed countries, 26 were regulating access to physical infrastructure “*pursuant to the results to their market analyses*”.

In those 26 countries which regulate access to the SMP operator’s civil engineering infrastructure, the types of regulated physical infrastructure are not the same. While for all aforementioned 26 countries, regulated physical infrastructures include ducts and pipes, 18 also include chambers and manholes, and 12 include poles. The scope of physical infrastructure remedies also vary among these 26 countries. The BEREC report indicates that remedies imposed to the SMP operator related to the access to its physical infrastructure apply in most countries to the local access and backhaul segments, while in 4 Member States the remedies’ scope also include in-building infrastructure.³⁵

Moreover, the segments of ducts that are regulated might differ widely due to national circumstances. By the end of 2019, 15 BEREC members are regulating the ducts until the building

³⁵ BoR (19) 94, *BEREC Report on access to physical infrastructure in the context of market analyses*, 13 June 2019.

entry; in other cases, only the portion up to the concentration point is covered by regulation (with several different definitions of the concentration point, due to different network topologies).³⁶

It is difficult to assess the efficiency of those regulations on an aggregate level given the variety of cases (starting with operational differences, like the ubiquity of duct and pole networks entailing different regulatory approaches). The timeline of the subject, as most of the VHCN deployments are relatively recent, which makes the assessment for some countries precocious because physical deployment takes time (when compared to other wholesale products like activated accesses that would likely show a market impact much faster).

Nevertheless, there are several positive use cases (e.g. in ES, FR, PT), and most of the countries concerned by civil engineering regulation effectively use this possibility in practice. For those operators not using this possibility to deploy VHCN, there are several explanations:

- The characteristics of the SMP operator's ducts do not enable alternative deployments (e.g. ducts that are too small for other users, or already saturated);
- Dark fibre is widely available as a wholesale product and can be seen as a substitute to civil engineering in many cases;
- The SMP operator (if there is one) is not the only provider of adapted civil engineering infrastructure.

Theoretically speaking, when access to the civil engineering infrastructure of the SMP is regulated, it should be both sustainable and adapted to the features of such networks. In particular, a feature of comprehensive VHCN deployment that can be observed in many countries is the involvement of numerous undertakings in the rollouts, which may increase the use of physical infrastructure.

The regulatory framework should thus, when such infrastructure exists, permit an access to civil engineering infrastructure in effective, efficient and non-discriminatory conditions, to all undertakings deploying new and enhanced networks, in particular VHC networks. Hence, the regulatory framework should guarantee access to civil engineering infrastructure in such conditions regardless of the chosen technology and networks' architecture by the undertaking planning to deploy new and enhanced networks, in particular VHCN. In particular, BEREC considers that generally an EoI obligation is appropriate to fulfill such an objective (cf. answer to Q5 on the appropriateness of EoI and its proportionality).

Hence, the lack of complementary obligations ensuring access to physical infrastructure in such conditions can be a first impediment to their use.

³⁶ Data source: Cullen International, <https://www.cullen-international.com/product/documents/CTTEEU20190115>.

- **The state and standard of physical infrastructure can hinder its use to deploy VHCNs:**

There are physical circumstances that hinder the use of existing civil engineering infrastructure elements to deploy new and enhanced networks, in particular VHC networks. Aging, damaged or no longer used infrastructures, as well as infrastructures with no longer available space or capacity can impede the deployment of new and enhanced networks, in particular VHCN. The construction of new civil engineering infrastructure elements is usually very costly (often estimated to account for about 80 percent of total deployment costs), both financially and in terms of time, which represents another impediment to the deployment of new and enhanced networks, in particular VHCN. Undertakings should thus consider and assess other solutions to address such constraining circumstances.

When a duct or a sub-duct is damaged or is currently not in use, it can be rehabilitated in order to be useable for the deployment of new and enhanced networks, in particular VHCN. When a duct or sub-duct is saturated, a solution can be the removal of unused cables (e.g. inactive copper cables) or the bundling of active cables. This solution should permit the liberation of more space, and can be coupled with efficient engineering rules to occupy the available space in ducts.

In the same way, it can be impossible to use existing poles to deploy new and enhanced network, in particular VHCN elements, whether because they are damaged, incorrectly installed, or because their capacity to support physical efforts is no longer sufficient. In this case, reparations, replacements or reinforcements can be foreseen in order to enhance the capacity of hosting new and enhanced network, in particular VHCN elements.

More generally, if new and enhanced networks, in particular VHCNs are meant to replace existing networks, concerned undertakings can consider the assessment of the recall of old networks' elements and their replacement with new and enhanced network, in particular VHCN elements. All the problems described above can be seen already now, so we can say that the use of access to civil engineering infrastructure for deploying new and enhanced networks, in particular VHCN does not create new impediments.

When none of the previous solutions can be implemented, new infrastructures elements may need to be constructed. In this case, concerned undertaking should pay a particular attention to future needs.

- **Implementation of physical infrastructure renovation – regulatory framework:**

Part of the solutions cited above are already being used now. The SMP operator may need to repair or renovate its own civil engineering infrastructure, or may need to release more space or capacity in this infrastructure for its own VHCN rollouts, a corollary of the non-discrimination obligation

is to guarantee the same possibility of any infrastructure user deploying VHCNs, including the SMP operator. This can be fulfilled appropriately if a non-discrimination obligation (primarily EoI) is imposed (cf. answer to Q5).

When the SMP operator has the obligation of granting reasonable access requests to physical infrastructure, the NRA can also impose on the SMP operator an obligation to grant reasonable requests of renovation of infrastructure elements necessary to deploy new and enhanced networks, in particular VHCN.

Therefore, a reasonable request of renovation of regulated civil engineering infrastructure has to be assessed in terms of its technical and financial complexity, proportionality and of its expected outcome for the concerned undertakings.

In order to ensure transparency and non-discrimination and pursuant to the adopted principle of EoI or EoO, the modalities of renovations' requests, processes and appreciation, should be clear and should apply to all undertakings deploying new and enhanced networks, in particular VHCNs, including the SMP operator itself. Otherwise, the SMP operator may have the incentive of prioritizing the available capacities for its own needs, and thus unduly restrict alternative undertakings' access to the existing physical infrastructure.

Finally, it is important to recall that regulation should take into account future needs as well as the efficiency of new investments in constructing new physical infrastructure elements, by providing a framework that foresees both rapid and sustainable solutions. This can be done by pooling parts of networks or their hosting infrastructures, and by providing efficient, non-discriminatory and optimal engineering rules.

- **Necessity of access obligations regarding other network elements as enablers of effective access to civil engineering infrastructure (access obligations to related facilities)**

It is also necessary to bear in mind that for an effective use of the civil engineering access, it might also be necessary to complement access obligations regarding civil engineering infrastructure, with access to associated facilities. Under some circumstances, it can be inappropriate to duplicate some network parts or elements, as for e.g. backhaul networks, or shelters hosting operators' passive and active equipment. This can be due to the fact that a duplication would not only imply important extra-costs, both financial and in terms of time-scale, but also an additional occupation of the civil engineering volume capacity while other occupations appear to be of a higher priority.

Where there already exist network parts or elements that are necessary to the effectiveness of the deployments of new and enhanced networks, in particular VHCN within the civil engineering infrastructure, these elements become associated facilities to the access to civil engineering

infrastructure. If these existing network elements that can be considered as related facilities have enough capacity to address the effectiveness of the future deployments, it may be appropriate to impose access obligations regarding these network elements. For example, existing dark fibre-based backhaul networks, which are essential to connect deployed optical local loops, can offer connection capacities for new and enhanced networks, in particular deployed VHCN and thus their duplication can be avoided. In this use case, network elements (dark fibre) that permit the connection of optical local loops deployed are hence considered as related facilities to the access to physical infrastructure.

In particular, the existing network elements that may be considered as associated facilities, do they belong to the SMP operator (if it was designated) or to any undertaking concerned with the access obligation, may be of an important level of capillarity. Such a situation creates an artificial distortion of the competition between the owners of these network facilities and the third-party operators deploying new and enhanced networks, in particular VHCN. Whereas the former can dispose of the necessary network elements and/or resources that fall into their property, the latter need disproportionate financial inputs to effectively deploy new and enhanced networks, in particular VHC networks and still would not be able to deploy at the same pace, or would face lack of space within the civil engineering infrastructure.

In conclusion, an access obligation to related facilities can address circumstances that may hinder the use of existing civil engineering infrastructures for the deployment of new and enhanced networks, in particular VHC networks. BEREC therefore considers that in order to grant an effective and non-discriminatory access to the civil engineering infrastructure, NRAs may impose an access obligation to related facilities. In such a case, the NRA should assess which of the EoI or the EoO principles is both appropriate and proportionate to ensure the access to related facilities is non-discriminatory (cf. answer to Q5 above on EoI).

24. In your view, do the principles identified in the NGA recommendation (in particular its Annex II) continue to be relevant to promote the deployment of VHC networks?

The core principles for the SMP-based regulation of access to civil engineering infrastructure are laid down in the NGA recommendation and in particular in its Annex II. As a general rule, these principles continue to be relevant for SMP regulation of civil engineering infrastructure in cases of the deployment of new and enhanced networks, in particular VHCN as the change of focus from NGA to new and enhanced network deployment does not affect the laid down principles.

In particular, the principle of equivalence of input is still relevant to promote the deployment of VHC networks. With this principle, it can be ensured that alternative network operators have access to the same information and services the retail arm of the SMP operator also enjoys. Without having access to the same information the SMP operator uses internally and without being able to use access on an equivalent basis, the competitive effect of regulated access to civil engineering

infrastructure regarding the deployment of VHC networks is limited. On the contrary, in several countries (especially those with ubiquitous presence of duct and pole networks owned by the SMP operator) the pursuit to create a level playing field in these aspects improved the possibilities of alternative network operators to deploy new and enhanced networks, in particular VHC networks. This in turn can help these operators to compete effectively with the SMP operator.

In conclusion, BEREC does not see a need to modify the general principles laid down in the NGA recommendation. For more detail on NRAs' experiences with the regulation of civil engineering infrastructure, the principles behind such regulation and its effectiveness, please see the answer to Q23.

For matters regarding pricing and costing principles of SMP-based regulation of civil engineering infrastructure see next question (Q25).

25. In relation to the last question, should civil engineering infrastructure be subject to different regulatory approaches (including cost calculation methods) when the civil engineering infrastructure is not existing, but has been or will be built specifically for new fibre deployment? If so, what would be the appropriate regulatory approach for these cases?

Regarding pricing and costing principles of access to civil engineering infrastructure, the NGA recommendation postulates that NRAs should regulate access based on cost-oriented pricing and consistently with the methodology used for pricing access to the unbundled local copper loop. The general aim of this aspect of the recommendation is to create a genuine level playing field between the SMP operator and alternative network operators. In this context, the NGA recommendation – in conjunction with the more detailed NDCM Recommendation – gives comprehensive guidance on how NRAs should value *existing civil engineering infrastructure* when determining access prices. Reusable, non-replicable legacy civil engineering assets should be valued net of the accumulated depreciation at the time of calculation. Fully depreciated assets that are still in use should not be included in the cost base.

Therefore, both access recommendations foresee a differentiated approach regarding the cost standard for *existing civil engineering infrastructure*. Following this principle is necessary to avoid over-recovery of costs from the perspective of the SMP operator and can therefore level the playing field between SMP operator and alternative network operators. Consequently, this principle is still as relevant today as was the case for the issuance of the NGA and NDCM Recommendations and should thus be transferred to the a new access recommendation.

For *civil engineering infrastructure that has been built or will be built specifically for full fibre network deployment* (i.e. FttH/FttB), potential investment risks that are associated with such deployments by the SMP operator might differ from the risks associated with the maintenance of legacy civil engineering infrastructure or the deployment of such infrastructure for FttC networks. However, information about these associated risks (especially stemming from uncertainty about demand, the willingness to pay, cost of deployment) could be less than perfect, and, as stated in the answer to Q16, must be *quantifiable* (measurable). To prevent disincentivising effects of regulating access to civil engineering infrastructure, associated risks of fibre deployment have to be represented accurately even in case of prevalent uncertainties and imperfect information. As has been discussed in the context of the application of an economic replicability test and the appropriateness of price control obligations (see also Questions 9 through 19), applying cost-oriented pricing mechanisms might, however, exhibit limitations regarding the representation of associated risks. In case NRAs use pricing methodologies for FttH/FttB (unbundled, virtual/active) access products that are not cost-oriented to promote efficient investment and to allow SMP operators a certain degree of price flexibility, regulating access to civil engineering infrastructure on the basis of cost-oriented prices and with its previously described potential problems might limit the flexibility given to SMP operators resulting in an unlevel playing field. *vis-à-vis* competitors.

This potential issue is of particular importance in countries where existing civil engineering infrastructure is far from being ubiquitous and historically has not been built in most areas regarding the terminating segment between the first distribution point and end users. In such cases, the investment the SMP operator has to bear for a fibre network deployment is mainly driven by investment into new civil engineering infrastructure.

Given the above described potential issue of consistency in countries without ubiquitous legacy civil infrastructure networks owned by the respective SMP operator, BEREC proposes that (given the current uncertainties about risks and demand for fibre) for *civil engineering infrastructure that has been built or will be built specifically for full fibre network deployment* a new access recommendation provides sufficient flexibility for NRAs regarding the application of the price control obligation to deal adequately with the potential problems described above. In this way, NRAs will be able to use regulatory approaches and pricing methodologies regarding new and enhanced networks, in particular VHC networks that are consistent across different access products (i.e. for access to civil engineering infrastructure, unbundled access and virtual/active access) ensuring a level playing field. Art. 74 EECC provides this flexibility already and the new access recommendation should not limit it.

26. Based on your experience, under which conditions do you consider that it would be appropriate to rely on obligations under the BCRD rather than on SMP obligations for access to civil infrastructure?

In those countries where it is available, access to physical infrastructure is generally regarded as a key input for the deployment of VHC networks. In this respect, BEREC adopted in 2019 a Report on access to physical infrastructure in the context of market analyses³⁷ as well as a Report on pricing for access to infrastructure and civil works according to the Broadband Cost Reduction Directive (BCRD)³⁸.

The Report on access to physical infrastructure in the context of market analyses highlighted that, in most countries where physical infrastructure obligations had been imposed according to SMP regulation, this had been largely done on the basis of market 3a of the Commission Recommendation on relevant product and service markets, either as an ancillary remedy, or by including physical infrastructure in the relevant market and imposing the respective remedies. As noted in the Report, BEREC believes that this practice is consistent with the EECC, according to which access to civil engineering can be deemed a self-standing remedy, which may be imposed irrespective of whether the assets that are affected by the obligation are part of the relevant market, provided that the obligation is necessary and proportionate to meet the objectives (of Art. 3 EECC).

Within this setting, the decision on whether the BCRD may be sufficient, on its own, to ensure access to the physical infrastructure of the SMP operator, is a matter that NRAs must assess on an individual basis. It is however worth noting that SMP regulation and the BCRD seek to achieve two objectives that are related but nevertheless differ significantly, that is, facilitating and incentivising the roll-out of high-speed electronic communications networks by promoting the joint use of existing physical infrastructure, on the one hand, and safeguarding the conditions of competition in a given market via the imposition of regulatory obligations to the operator that holds SMP, on the other hand. Put in other words, the aim and objectives of the BCRD is not to solve competition problems, even though competition might benefit from its application. SMP regulation is on the other hand premised upon the promotion of effective and sustainable competition. In this context, the case-by-case approach to dispute resolution envisioned by the BCRD may not be sufficient to remedy important competition problems identified under SMP regulation, which rather requires a frequent and more general regulatory intervention.

It is also worth mentioning that the Report on access to physical infrastructure in the context of market analyses refers to a number of additional potential drawbacks stemming from the exclusive

³⁷ BoR (19) 94.

³⁸ BoR (19) 23.

application of the BCRD. The Report refers in particular to the fact that the BCRD may not be as well suited as ex ante regulation to deal with problems linked to the vertical integration of incumbent fixed operators, which are both managers of the physical infrastructure and electronic communications network operators. The lack of prescriptiveness of the BCRD on issues such as the potential approaches with regard to access, or on prices (which may have to be determined on a case-by-case basis, via dispute resolution) are mentioned as additional factors that may be worth considering when deciding whether reliance on the BCRD alone is sufficient to ensure adequate access to the physical infrastructure of the SMP operator.

On the other hand, and depending on the conditions prevailing in each Member State, the BCRD may be sufficient in instances where physical infrastructure (in particular ducts and poles) is not widely available or is not widely used, as well as in instances where other economic agents besides the SMP operator have the means and incentives to grant access to their physical infrastructure, on the basis of economic and technical terms and conditions which are similar to those that may be available from the SMP operator. As noted, this is in any event an issue that will have to be evaluated by NRAs on a case-by-case basis, when undertaking their market reviews.

See also answer to Q18 above.

27. Article 73 provides that where access to civil engineering can be imposed, the NRA should consider whether this access alone “would be a proportionate means by which to promote competition and the end-user's interest”, before imposing any other access remedy if appropriate. Under which conditions could it be appropriate to impose access obligations on civil engineering infrastructures alone, without access obligations regarding other network elements?

Where access to civil engineering infrastructure is imposed to deploy VHCN, the NRA makes an assessment of whether this access alone is a proportionate means by which to promote competition and the end user's interest. To pursue these two objectives, the VHCN deployments should be effective, and thus the assessment should consider whether it is necessary to impose access obligations according to Art. 73 EECC regarding other network elements.

Under specific circumstances, it can be appropriate to impose access obligations on civil engineering infrastructures alone, without access obligations regarding other network elements. However, prerequisite for this is that competition problems, which have been identified on the retail markets, can be addressed sufficiently by the imposition of access to civil engineering assets. In this respect, alternative operators have to be able to effectively compete with the SMP operator based solely on accessible civil engineering infrastructure by the SMP operator (or alternatively

based on their own infrastructure). In such a case, access obligations imposed on the SMP operator for providing other wholesale products are not necessary for retail markets to be competitive. For alternative operators to be able to offer services to any end user in such a case, they are obligated to deploy their own networks within the SMP operator's physical infrastructure in full up until end users.

In this respect, it seems that several parameters regarding the physical infrastructure itself are of importance. First of all, the SMP operator's civil engineering infrastructure has to be of ubiquitous character such that alternative operators can reach any end user by accessing this infrastructure. It thus seems out of the question that the sole imposition of access obligations regarding civil engineering infrastructure would be enough to promote competition and the end-user's interest in case the SMP operator's physical infrastructure network is far from being ubiquitous in a given region or state as alternative operators would still need to invest heavily into network deployment (including physical infrastructure) themselves to be able to reach end users' premises. In these cases, there is a need for further access obligations regarding other network elements and wholesale products.

Furthermore, for NRAs to consider whether access obligations on civil engineering infrastructures alone are sufficient (an assessment which NRAs will in any event have to undertake on a case-by-case basis) such infrastructures need to be able to effectively host multiple independent networks and thus do not only need to exist but need to be actually usable and exhibit sufficient space.

See also the answers to Questions 5 and 23 for detailed remarks about the effectiveness of access and non-discrimination obligations for civil engineering infrastructure for alternative operators to be able to compete with the SMP operator.

Commercial agreements, cooperative arrangements and commitments

The NGA recommendation supports arrangements for co-investment in NGA networks and allows the setting of lower access prices to the unbundled fibre loop in return for up-front commitments on long-term or volume contracts.

The Code supports the development of innovative investment models based on cooperative arrangements between operators. Commitments on co-investment schemes fulfilling the criteria of Article 76 entitle the SMP operator to request deregulation of the new network elements subject to co-investment. However, many commercial agreements/cooperative arrangements, even when they will not be eligible to deregulation under strict conditions set in Article 76, should nonetheless be appropriately taken into account by the NRAs. The same should apply for commitments proposed by SMP operators in relation to future agreements /arrangements under the procedure of Article 79, in particular where such commitments have been made binding.

A wide variety of cooperative arrangements, entailing different levels of risk sharing between the parties, could therefore be relevant in the context of SMP regulation, in particular for the assessment of appropriate remedies.

28. What is your experience regarding commercial agreements and cooperative arrangements, that have led the NRA to revise its market analysis decision? Please describe the specific circumstances that led to the revision of the market analysis decision, and what was the outcome?

The *non-routine* review of a market definition based on new commercial or co-operation agreements has not been carried out to date. Therefore, there is hardly any practical experience with such a procedure.

In the context of *routine* market analyses, commercial agreements on the commitment to purchase certain product volumes (e.g. L2-BSA connections) within a certain period of time and associated price discounts have already been taken into account.

Notwithstanding the above, it should be stressed that particular caution is needed when defining a trigger for reviewing a current market analysis resulting from such commercial agreements.

In this respect, a high threshold should be established, meaning that not every commercial agreement (especially with participation of the SMP undertaking) should trigger a non-routine revision of the market analysis. This is also based on the fact that the actual impact of a commercial agreement / cooperative agreement on the relevant market is typically hard to determine. It is not always possible to foresee clearly and in the short term that a particular agreement is of such significance that it indeed fundamentally changes the market situation previously identified and examined in the market analysis.

A high standard should in particular reflect that an agreement in question is designed for a rather long duration, has a high degree of reliability / binding force (see Code Art. 76(2) and 79) and could have significant structural effects on the relevant market (e.g. because a relevant market player is party to the agreement). Furthermore, a distinction should be made regarding the undertakings participating in such an agreement. If two non-SMP undertakings agree on a significant and long-term cooperation, this may possibly justify a reassessment of the market (e.g. because barriers to market entry may have fallen or competitive pressure has possibly increased in relation to the SMP undertaking). However, if the SMP undertaking itself enters into such an agreement with a competitor, this should only lead to an extraordinary review of the market analysis in specific individual cases. This is because in such cases it can usually be assumed that the SMP undertaking will enter into such an agreement at least in part as a result of regulatory pressure. Therefore, the SMP undertaking must not be given an incentive to prematurely trigger a new market analysis

ultimately aimed at a reduction of regulatory control just by entering into any commercial agreement (which may be terminated at an early stage).

In summary, commercial agreements should in principle trigger a new market analysis if they have a relevant impact on the market. However, high standards should be set for the nature of the agreement in question, which is supposed to trigger such a new analysis. In this way, on the one hand, new commitments/agreements can be taken into account when (re-)assessing the need for regulation of a market, and on the other hand, not every agreement leads to a new market analysis prematurely as this would reduce planning security and regulatory predictability. It should also be taken into account that in member states with several SMP operators it could be unreasonable to re-analyse the entire market if the commercial agreement concerns only one SMP operator. More generally, BEREC would like to emphasize that the development towards multi SMP operator market environments in member states results in an increased administrative burden that should be born in mind. The process needs to be manageable and should not end in “micro-management”.

29. Based on your experience, which commercial agreements and cooperative arrangements would in your view justify a new market review?

Commercial and co-operative agreements have great potential to reduce the economic risks of investments in new and enhanced networks, in particular VHCN and hence to promote in this way the roll-out. However, as stated above, such agreements should not lead to a premature revision of the current market analysis. In view of the aspects described above, this should only be seriously considered if the effect of the individual agreement on the relevant market is regarded to be of a structural nature, i.e. has a significant and long term impact.

30. Based on your experience, which commercial agreements and cooperative arrangements would in your view not justify a new market review, but would justify a reconsideration of the obligations imposed on SMP operators?

As stated above, the standards regarding the content and the long-term nature of a commercial agreement should be set rather high if its conclusion *alone* is supposed to justify a reduction of regulatory control. However, if such an agreement would significantly change the structure/competition situation on the relevant market, this would primarily argue in favour of a possible review of the market analysis.

Therefore, a situation in which not the underlying market analysis but (only) the remedies are modified seems only conceivable if the agreement in question were only of a rather temporary nature (e.g. if its provisions stipulate that the cooperation in question shall only

last for a few months or years, or in any case a period which is still *within* the current regulatory period.)

31. In your view, how and under which circumstances should commitments by the SMP operator on commercial agreements/ arrangements under Article 79 (outside of co-investment scheme meeting the conditions of Article 76(1)), lead the NRA to withdraw or adapt SMP obligations?

The provision in Art. 79 para. 1 lit.a) EECC already assumes that a commitment / agreement of an SMP undertaking can in principle ultimately lead to a reduction of regulatory control even if the commitment/agreement in question does not relate to VHCN networks. For if the conditions set forth in Art. 79 para. 2 are met, the NRA can declare the commitment in question binding, Art. 79 para. 3, and thereafter assess the possible reduction of imposed obligations, Art. 79 para. 3 section 4. For this reason alone, the withdrawal or adaptation of SMP obligations can only be considered if the criteria in Art. 79 para.2 are met. Regarding the substantive requirements of the criteria established in Art. 79 para.2 (in particular the requirement of a fair and reasonable character of the commitment), orientation can be drawn from the draft BEREC GL on co-investment in VHCN-network elements (Art. 76 EECC, BoR (20) 113).

Nevertheless, there is no general answer to the question as to whether and to what extent the SMP obligation should be modified in the case of a commitment that has been declared binding. This is because it will always be necessary to carefully assess each individual case, and it is always important to consider which obligations have already been imposed and what scope there is for adjustment.

32. In your view, is the guidance provided in the NGA recommendation on the criteria to assess long term pricing and volume discounts in the case of FttH (Annex I, point 7 and 8) still relevant? If this is not the case, how, in your view, should they be updated?

Yes, the guidance on long term pricing and volume discounts provided in Annex I, points 7 and 8 of the NGA Rec. is still considered valid and helpful with regard to new and enhanced networks, in particular VHCN which is challenging for all market players. Therefore, the criteria set out in Annex I points 7 and 8 contain valuable and comprehensive guidance with which NRAs can take into account appropriately ways to deal with risks associated with the roll-out of new and enhanced networks.

Precisely because (a.) a comprehensive and appropriate consideration of ways to deal with risks associated with the roll-out of new and enhanced networks for all market players and (b.) their integration into regulatory decisions is already possible based on the guidance already given, there is no need to modify or extend the guidance in question.

33. Could the guidance provided in the NGA recommendation on the criteria to assess long term pricing and volume discounts be also relevant for other types of networks than FttH?

Yes, in principle they apply also to other types of networks as they are criteria of competition law to ensure that the outlined pricing possibilities („pricing flexibility“) do not foreclose the market or restrict (smaller) competitors in an unfair way taking away their ability to compete; thus, the criteria can be transferred to a new access recommendation.

As stated above, since a comprehensive consideration of economic and competitive risks is already effectively possible on the basis of the existing criteria, there is no need for more guidance.

Migration

Under the NGA recommendation, the obligations concerning SMP should be maintained and should not be undone by changes to the network of the SMP operator (such as for instance the decommissioning of parts of the legacy network). Except where agreements on the migration path are concluded between the SMP operator and the operators enjoying access to the SMP operator's network, the SMP operator should warn the other operators at least five years before any decommissioning of points of interconnection takes place.

Article 81 of the Code provides a transparent procedure and conditions, including an appropriate notice period for transition, before the SMP operator can be able to switch off its legacy network. The focus of this article is on providing alternative access products to access seekers in case of decommissioning of copper networks by incumbents. Incentives for such transition may however be also affected by other factors, including the level of regulated prices for copper.

34. What is your experience regarding the migration of users from the legacy network to the NGA or VHCN network? In particular, what are the rules in place in the Member State(s) where your organisation is present regarding the conditions under which the SMP operator may decommission part of its legacy network (including: notice period), and were those rules implemented in practice?

Ten years after the NGA Recommendation, the considerable development of NGA networks in Europe has certainly created the need – as demonstrated by the text of Art. 81 EECC – for NRAs to take specific measures to promote and guide the migration process on these networks by giving adequate incentives for both the incumbent and alternative operators. In some countries, although

the Code has not yet been transposed, SMP operators proposed a plan for the switch-off of legacy network and precise regulatory measures have already been adopted relating to the migration process.

The migration topic has been already developed by BEREC in 2012, in the BEREC Common Positions on best practices in remedies on Markets 3a, 3b and 4 (within the competitive objective “Assurance of efficient migration processes from legacy to NGN/NGA network”), which were published in 2012.³⁹

In such CPs, it is underlined that phasing out of legacy network may relate to: *i*) Network infrastructure impacting on locations/decommissioning/changing of access points; *ii*) Technologies (e.g. ATM); *iii*) Access products; *iv*) Active products such as Customer Premises Equipment CPEs).

The identified Best Practices are the following:

BP29 *NRAs should require that switching procedures equally apply between legacy and NGA wholesale products.*

BP30 *Where an SMP operator intends to phase out its legacy network (e.g. ATM), NRAs should impose specific obligations on the SMP operator in relation to: a framework for migration; a notice period; an obligation for the SMP operator to provide all relevant information on network modification such as decommissioning of MDFs, technology, access points and active equipment.*

BP31 *NRAs should require that existing obligations remain in place until a certain migration path is agreed and finished.*

BP32 *When imposing an obligation on SMP operators relating to a notice period for phasing legacy networks out NRAs should take into account that the choice of the appropriate notice period may depend on the following factors: Notice period is likely to be longer for locations than for access products/technologies as a new access product may be available at the same location; Availability of a full-fledged alternative; Reasonable migration period for a switch of wholesale products. If a legacy access product will be phased out at an access location at which the NGA access product will also be available the reasonable notice period will be shorter than in a scenario where the NGA-access product will be available at a different access location, where competitors do not yet have a physical presence.*

BP33 *NRAs should require that in cases where an active product has been foreseen as an alternative for the legacy access products (either temporarily or as definitive measure) this active product is in operation in adequate advance to the MDF decommissioning as bitstream products are likely to gain in importance in a scenario of MDF decommissioning.*

Such topic has been addressed again more recently, in September 2019, by BEREC in an internal workshop where experiences among NRAs have been shared, with a focus on access networks (*workshop on the migration from legacy infrastructures to fibre-based networks*). In December

³⁹ BoR (12) 127, BoR (12) 128, and BoR (12) 126

2019 a report (BoR (19) 236) was published summarising the country presentations (ES, IT, NO, PT, SE) held and information of a further country (EE).⁴⁰

This BEREC summary report shows that the number of MDFs closed is, in some countries (EE, SE), already significantly high (e.g. EE 70%) and in other countries (IT, NO, PT) still low, but the SMP operator plans to close all (NO, PT) or most of the MDFs (IT).⁴¹ This shows that a few countries have already gained experiences with the closure of MDFs. The notice period typically differs depending on circumstances, as e.g. whether and which type of wholesale access product (e.g. ULL, *bitstream*) based on the legacy copper infrastructure is used by alternative operators and, therefore needs to be replaced, at the respective MDF location. The wholesale access products to which the alternative operators can migrate are e.g. ducts, unbundled fibre, shared fibre, VULA and bitstream depending on the outcome of the market analysis procedure taking into account the national circumstances. Some NRAs have not yet defined the replacement wholesale access products the SMP operator has to offer.

The main regulatory issues that NRAs (much of the NRAs or just some of them) addressed were, *inter alia*:

- ✓ which part(s) of the legacy access infrastructure the SMP operator wants to decommission (e.g. the MDF location);
- ✓ the framework for the migration from copper to fibre-based access networks;
- ✓ the notice period including the factors (e.g. availability of alternatives) that were taken into account when it was set;
- ✓ the information on network modifications (e.g. de-commissioning MDFs) the SMP operator has to provide;
- ✓ how long the existing obligations remain in place;
- ✓ the procedures used by the NRA to establish the rules for the migration; a the stakeholders involved (e.g. alternative operators, associations, consumer organisations) and how they were involved (e.g. workshops, public consultation);
- ✓ the regulatory treatment of migration cost;
- ✓ trial among operators (to test procedures at wholesale and retail level);
- ✓ availability of alternative access products of at least comparable quality.

As the timing of the migration process is a main issue in order to guarantee predictability and, moreover, considering that the speed-up of the migration has a beneficial effect on NGA take-up, pricing incentives on the wholesale services provided by the SMP operator may potentially be considered, under certain circumstances (see answer to Q37).

The existence of specific measures on the migration process from copper to NGA networks are particularly important and can have an impact on the regulatory outcome of market analysis, thus

⁴⁰ https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8902-berec-summary-report-on-the-outcomes-of-the-internal-workshop-on-the-migration-from-legacy-infrastructures-to-fibre-based-networks.

⁴¹ More recently, also in other MSs SMP operators are starting to plan the switch-off of the legacy network; for example, the main incumbent SMP operator of Hungary has announced the swap of the copper network to fiber optic by 2025.

it is highly important to set migration rules clearly in advance. Given the very different situations in each Member State, however, the approach to migration by NRAs may differ and need to be tailored to manage the specific circumstances by leaving NRAs sufficient flexibility (e.g. for setting the appropriate de-commissioning notice period).

35. Which elements should be considered to determine that the quality of the wholesale products offered on the new network is at least comparable to the legacy products?

Before the migration process starts, a wholesale service substitution matrix identifying for each wholesale legacy service the corresponding wholesale fiber-based NGA service would need to be drawn, in order to give transparency and predictability to the market' players.

It is worthy to be noted that some legacy products (such as LLU, Shared Access, analogue leased lines and DSL copper bitstream, etc.) will be not replicable on the new network and will be substituted, following the wholesale matrix, by means of different services, which cannot be directly compared with the original services in terms of specific parameters. Furthermore in case of wholesale products offered on new networks not exactly the same parameters are relevant as in case of legacy networks. To define the wholesale substitution matrix, not only the wholesale services and related parameters should be compared but also the impact at retail level of the migration is relevant.

Having said that, in order to give an answer to the question, it is relevant to say that replacement wholesale access products on the new network depend on national circumstances (e.g. availability of ducts, point-to-point fibre) and examples are ducts and fibre unbundling (in case technically possible and available) as well as VULA⁴² (or L2 bitstream, with a lower level of adoption).

Generally speaking, such replacement wholesale access products provide or enable (e.g. in case of ducts, fibre unbundling) a bandwidth which is at least comparable with the bandwidth of the wholesale access product based on the legacy (copper) infrastructure. In such sense, down and upstream bandwidth speeds⁴³ are the most important aspects from the end-user perspective and also seem to be most relevant with regard to price setting on the retail market. SLG/SLA parameters and KPI like provisioning time, service availability and repair time might considered to be relevant as well. Besides these parameters, the reference offers⁴⁴ should contain some details

⁴² Technical characteristics of Layer 2 Wholesale Access Products imposed on markets 3a and 3b are identified in BEREC Common Position on Layer 2 Wholesale Access Products (BoR (16) 162) and technical characteristics of Layer 2 Wholesale Access Products implemented on market 4 can be found in an overview (see BoR (18) 120).

⁴³ The definition of the term "VHCN" refer to the end-user QoS parameters: downlink data rate, uplink data rate.

⁴⁴ *Guidelines on minimum criteria for a Reference Offer* (BoR (19) 238), specifying the minimum elements to be included in the Reference Offer of wholesale services.

of operational processes, e. g. elements referred to migration from legacy products and infrastructure.

In case of Layer 2 wholesale access products on market 4, which are used for retail business services, relevant QoS parameters apart from the bandwidth are Frame Loss Ratio, Frame Delay and Frame Delay Variation and with regard to SLAs provisioning time, service availability and repair time (see BoR (18) 120)⁴⁵.

Moreover, another important parameter to be considered in the migration process is the locations of Points of Handover (PoHs) of the new services. Of course, the number of MDFs usually significantly exceeds the PoHs of the new network, but, for example, it may be important in some specific circumstances that if in the ‘old’ system regional access was available, then an equivalent regional L2WAP would be offered by the SMP. In a proper migration process access seekers could calculate with similar access products regarding the structure of different access levels, taking into account the additional costs related to the handover of traffic, that should be similar as possible, so as the business case for the access seeker would not change dramatically.

36. Under which conditions should the SMP operator be able to shut down (commercially and technically) its network where the VHCN is rolled out by a different operator?

With regard the definition of the term “VHCN” see answers to question 12.

First, in case a different operator than the SMP operator rolls out a new and enhanced network, this may have an impact on the market power of the SMP operator, which will be taken into account in the next market review by the NRA. If the SMP operator is found to have still SMP – after the conducted market analysis process taking into account all the relevant market conditions –, then in BEREC’s view there is no reason to apply different conditions. If the SMP operator does no longer have SMP, then the obligations imposed earlier no longer apply, which will be reflected accordingly in the relevant market decision.

⁴⁵ It has to be noted that for the definition of the term “VHCN” according to EECC (Art. 2(2), Rec. 13) other QoS parameters than bandwidth are becoming increasingly important. Criteria 3 and 4 of the definition of the term “VHCN” refer to the following end-user QoS parameters: downlink data rate, uplink data rate, IP packet error ratio (Y.1540), IP packet loss ratio (Y.1540), Round-trip IP packet delay (RFC 2681), IP packet delay variation (RFC 3393), and IP service availability (see BEREC Guidelines on VHCNs). This does not mean that, in general, these QoS parameters are necessarily relevant for the question “which elements should be considered to determine the quality of a wholesale product replacing a legacy product”. In fact, the QoS requirements of a replacement product may not need to be as high as the QoS parameters required to qualify as a VHCN.

Secondly, it has to be noted that the level of coverage of the new and enhanced network is an important condition to be satisfied in order to allow SMP operators to dismiss the old *legacy* network; the migration process to reach the shut-down of the legacy network would start only at condition that the new network has reached a sufficiently wide coverage (e.g. in terms of percentage of households or access lines) on the defined (geographic) sub-/markets. To this aim, NRAs could consider the total coverage reached (including both SMP operator and third operators' coverage). Where the new and enhanced network is rolled out also by other than an SMP operator, NRAs should be aware of that and assure that this situation may guarantee the feasibility of the decommissioning plan.

As a general remark, according to Art. 81 EECC, BEREC would like to recall that an undertaking designated as SMP on the legacy network shall notify its NRA in advance and in a timely manner of its plan to decommission parts of this network, including legacy infrastructure necessary to operate a copper network. Moreover, it has to provide its NRA with a decommissioning plan, including **transparent timetable** and conditions.

In light of some specific national circumstances, for instance in a situation where cumulatively i) a network is at least partially shared (i.e. no economic room for parallel deployments), ii) there is a national plan of the legacy SMP operator for shutting down its copper network irrespectively of the owner of the new and enhanced networks, when the conditions for migration are met, and iii) the legacy SMP operator becomes an access seeker on these sharable networks rolled out by an alternative operator which is the owner of the new and enhanced network, risks related to timetables discriminating between different zones may have to be considered. Indeed the legacy SMP operator should not be in a position to use its SMP to distort artificially competition in using this timetable as a strategic tool to gain leverage over its competitor that has deployed the new and enhanced networks in a given zone, for instance in retaining longer its customer base by delaying the phase out of its legacy network with the consequence of slowing down the take-up of the new technology. In this particular case the legacy SMP operator may have a significant competitive advantage in being in a position to adjust the timetable against the owner of the new and enhanced network own roll-out timetable increasing the risk for the competitor as the penetration rate would be lower when the SMP operator buys time by slowing down the migration to keep its customers base longer.

Therefore, in certain circumstances and where above mentioned prerequisites are met, a non-discrimination obligation could thus prove relevant to avoid this timetable to become a strategic tool for the SMP operator.

37. Do you identify regulatory measures, in particular regarding the wholesale access price of the legacy and/or VHC network where regulated, that can encourage all categories of operators and users to migrate swiftly from the legacy to the VHC network?

The term ‘migrate’ in this question can have the following two different meanings:

- (1) The SMP operator has already rolled out fibre and announced the decommissioning of MDFs and now the alternative network operators shall migrate from the copper-based wholesale access products to the replacement wholesale access products.
- (2) The SMP operator and also other operators shall migrate their networks to fibre-based networks. This is a much broader perspective which goes beyond the topic ‘Migration’ according to the NGA recommendation (recommends 39-41).

Although only hard shutdown deadlines will ultimately work to complete the migration process, a soft shutdown process – that is a gradual migration of wholesale and retail customers from the old to the new network – would help to preserve the market from hard discontinuities in economic and technically conditions, guaranteeing more stability. A soft migration would also benefit from the end-user side, as operators - both SMPs and access seekers - will have more time to test the effect on the final customers and adopt the best approach to limit consumer complaints and improve service quality. On the other side, the cost reduction benefits gained by the SMP operator from decommissioning will be realised later, if longer shutdown process is preferred by the stakeholders.

To accelerate the gradual migration while preserving competition is a complex task, which could be achieved among others via wholesale pricing schemes. The incentives, in particular pricing schemes should have a temporary nature, e.g. for the migration period, in order to not represent in the long-term a violation to the general principle of cost orientation and must be non-discriminatory, should be applied for all the operators independently from the scale.

Beside the price incentives, other types of incentives would be possible. During migration period one NRAs set the price of the ‘new’ wholesale access product the same as ‘old’ wholesale access product. In addition, this NRA also implemented that the SMP operator has to cover the one-off wholesale costs of migration and the additional costs for decommissioning co-location (see BoR (19) 236).

As a last resort to enforce compliance to firm deadlines penalties may be charged to the SMP operators if the company modifies the declared (and approved by NRAs) shutdown deadlines.

Geographic differentiation of remedies

Growing infrastructure-based competition can lead to less homogenous competitive conditions. The Code foresees in its Article 64(3) that NRAs shall “*define relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory by taking into account, inter alia, the degree of infrastructure competition in those areas, in accordance with the principles of competition law*”. Recital 172 indicates that: “[...] *even if such differences do not result in the definition of distinct geographic markets, they should be able to justify differentiation in the appropriate remedies imposed in light of the differing intensity of competitive constraints*”.

The SMP guidelines mention that stability of the potential geographical markets’ boundaries is the key for NRAs to assess which of these two options (definition of distinct geographic markets or geographic segmentation of remedies) is more appropriate. The implementation of segmentation of remedies has however given way to divergences between NRAs. Some NRAs have for instance used segmentation of remedies to update their remedies when competitive conditions changed but did not however require a whole new market review. Other NRAs have used segmentation of remedies in order to address static geographical variations of competitive conditions that were not sufficient to justify defining separate geographical markets. For instance, some NRAs have required the SMP operator to grant access in the entire market, but with price control only in certain areas. There were also differences between the criteria used by NRAs to define clusters of areas where different remedies should apply, both in the nature of these criteria and in the thresholds that were associated with them.

38. Do you have experience with the application by an NRA of geographic segmentation of remedies within one market?

Within BEREC, some NRAs have relevant experience on geographical segmentation of remedies, as described in the BEREC Report on the application of the Common Position on geographic aspects of market analysis (BoR (18) 213). However, the majority of NRAs has not yet applied geographic segmentation of remedies. As of May, 2018, eight NRAs applied geographic differentiation of remedies in national markets in the context of market 3a (BIPT, CNMC, OCECPR and DBA), market 3b (AKOS, ARCEP, BIPT, DBA) and Market 4 (ARCEP, ANACOM, BIPT and COMREG⁴⁶).⁴⁷ Other NRAs introduced more recently geographic

⁴⁶ ComReg took a decision on geographical remedies in market 3a/3b in November 2018.

⁴⁷ In the Finnish markets 3a, 3b and 4 there are several operators with SMP. The three biggest operators (Elisa, Telia and DNA) have heavier obligations in the regions where they have SMP compared to small regional operators. In other words geographic differentiation of remedies does exist depending on the size of the company. E.g. where the SMP operators were very small, FICORA concluded that it was not proportionate to impose pricing remedies for small operators’ wholesale local access services (BoR (18) 213, p. 19). However, remedies usually do not differ within a company, unless the SMP operator has bought a smaller operator with different remedies. In that case the remedies can differ before a new market analysis has taken place.

segmentation of remedies; for example, AGCOM imposed geographically differentiated remedies on the SMP operator in markets 3a (if some conditions will be fulfilled on the minimum level of take up of VHCN services and adequate level of competition in the market), 3b and 4 with lighter obligations (no cost orientation) in more competitive areas of Italy (see also answer to Q11).

Geographic segmentation in markets other than 3a, 3b or 4 were rather more exceptional. Also the BEREC Report Regulatory Accounting in Practice 2019 (BoR (19) 240) shows that forms of geographical regulation relate primarily to markets 3b and 4. Comparing 2019-2018 data, it appears that the geographical approach to the ex-ante regulation is getting more important in all markets.

39. How does geographic segmentation of remedies impact the provision of wholesale services?

Geographic segmentation is an increasingly relevant aspect for the market analyses carried out by European NRAs for markets 3a, 3b and 4. On other markets such an approach is not as common and seen rather as an exception. In general, it allows for a more tailored definition of obligations to provide wholesale services, allowing the market to work by itself under a lighter set of obligations, while ensuring competition at the retail level for non-competitive or less competitive areas via additional obligations aimed to ensure availability of wholesale inputs to alternative actors not in a position to self-supply their own wholesale services. In a model situation Geographic segmentation of remedies allows for a fine-grained regulation, leading to a more proportionate set of obligations when having still SMP in the national or subnational markets conditions for competition differ. Having said this when imposing geographically segmented remedies, NRAs need to take care to design them in such a way that unfair cross-subsidization by the SMP operator is excluded.

However the main constraint for the differentiation of remedies are the limits resulting of the market analysis. When the outcome of a market analysis indicates that the market is roughly homogeneous across a country, there can be no reasonable justification for segmentation of remedies. Also a natural link and chain between nationwide retail market and broken into geographical pieces wholesale level, may be disturbed due to geographic segmentation of remedies. BEREC also observes difficulties not only in imposing but also in implementing geographically segmented remedies according to the complexity of the differentiation (e.g. number of areas, criteria, number of wholesale services involved). In Poland for example different competitive conditions were found in 2011 on market 3b (market 5/2007) and accordingly three

different set of remedies were applied on geographic market segments. Due to burden in implementing differentiated regulatory obligations SMP operator chose to rather have one more strict uniform reference offer on the whole market, than two for different market segments. Nevertheless local and case-by-case specificity of geographic segmentation of remedies makes it more difficult to generalise on the impact of such an approach.

40. Which conditions should give rise to a geographic differentiation of remedies within a single geographic market? What would be the appropriate considerations for such differentiation? What kind of criteria would be the most appropriate for the geographic segmentation of remedies?

In its BEREC Report on the application of the Common Position on geographic aspects of market analysis (BoR (18) 213), BEREC noted that the criteria for the geographic segmentation of remedies referred to by NRAs were mostly based on “structural market indicators”, such as the coverage of the alternative networks, the market share of the incumbent operator and the number of “significant” competitors, rather than on “market outcomes”, such as prices (either retail or wholesale) or non-price features of the products. In the Explanatory Memorandum to the draft Relevant Market Recommendation 2020 the Commission states that the geographic differentiation of markets should be determined on the basis of "(a) the number of competing networks, (b) their distribution of market shares, (c) a preliminary analysis of pricing and price differences at regional level, and (d) behavioural patterns." The results are to be checked "against an analysis of demand and supply side substitutability". I.e. both, structural indicators and market outcomes have to be considered in the delineation of geographic markets, and thus the criteria may no longer be separated. Geographic remedies shall, however, be imposed when variations of competitive conditions are "less significant or less stable". Given that the NRA is deemed to use the same criteria for the assessment of geographic segmentation for both the market analysis and the remedies it might be even harder in the future to draw the line clearly.

In any case, reasons for geographic differentiation of remedies should be indicated in the market analysis, showing that conditions of competition are not sufficiently homogeneous, and can be distinguished from other areas in which the prevailing conditions of competition are appreciably different. As addressed in the BEREC common position on geographical aspect of market analysis⁴⁸, where the available evidence suggests that the scope of the relevant market is national (any differences in the conditions of competition between geographical areas are not yet

⁴⁸ BoR (14) 73.

sufficiently stable or sustainable to justify the definition of regional or local markets), market power will have to be assessed within this national market. In case of geographical variations in competitive conditions within this national market, it may be appropriate to vary remedies within that national market, despite the fact that an operator is found to have SMP throughout the entire territory. For potential problems considering a differentiation see answer to Q39.

41. Do you agree that geographical segmentation of remedies could be used by NRAs to take into account rapidly changing competitive conditions, by reviewing remedies – potentially periodically – between two market reviews? In such a case, should the criteria for such a review be included from the start in the market analysis?

A longer term for market review (5 years) in the EECC compared with the previous regulatory framework (3 years) may imply a need to adjust regulation to account for a rapid and substantial change of competitive conditions, due to new deployments, co-investment agreements (not necessarily qualifying under art. 76 EECC), any other type of commercial agreements, commercial strategies, significant migration from an infrastructure to another, technological changes, or entry of new actors. Irrespective of Art. 68 (6) EECC in BEREC's view the possibility of changing remedies without a proper market analysis should be handled carefully to secure predictability and certainty of ex ante regulation. The whole SMP regime is still based on the principle that regulatory obligations are imposed after performing a market analysis and finding of an SMP operator. Reviewing remedies for certain geographical areas or changing geographic areas too often, or without clear criteria, may increase unnecessarily the burden for all actors, including the regulatory authorities. It is up to NRAs to assess the need for such a review bearing in mind the principle of proportionality. There's a question then in what precise circumstances a NRA could modify remedies within the same market analysis cycle without breaching this general rule.

In order to find the adequate equilibrium for all actors, BEREC agrees that the criteria to perform a review of the geographical segmentation of remedies should be included from the start in the market analysis if the NRA foresees the possibility of a relevant variation of competitive conditions for the geographical segmentation applied in the market analysis (acc. to Art. 68 (6) EECC). This would allow also to subject the criteria to public consultation from different actors. E.g. one NRA (AGCOM) foresees annual updates of the list of competitive municipalities, where a differentiated (lighter) access regulation has been imposed in the last market review. In the last market analysis, AGCOM also set another mechanism for the evolution of the regulation through the years. AGCOM stated that in the more competitive municipalities, TIM can set a VULA price

different from the BULRIC price from 2021, if some conditions will be fulfilled (minimum level of take up of VHCN services and adequate level of competition in market 3a).

However some European NRAs which applied geographic segmentation also took into account future developments mainly based on expected developments in market shares/coverage. As it was mentioned in BEREC's report on geographic aspects of market analysis⁴⁹, most NRAs didn't foresee updating of the geographic segmentation on a periodic basis (before the next market review), mainly due to the burden on NRAs and operators and due to regulatory certainty. Some NRAs, however, planned to investigate the geographic segmentation before the next market review or to conduct the next market review earlier, i.e. before the end of the three-year period. This cannot however help us to foresee what may happen in a 5-year cycle rather than a 3-year one. Therefore NRAs should have flexibility as provided by the Code as they are best placed to assess changes in the markets.

Other issues

42. Do you identify other areas related to access regulation that are not mentioned in the previous sections of the questionnaire and which would in your view require EU guidance?

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Final comments BEREC has no more comments.

Further country cases can be found in Annex 1.

Annex 2 contains a list of relevant BEREC documents.

Annex 1 NRA experiences

⁴⁹ BoR (18) 213

Q1

In Sweden a non-discrimination obligation was first imposed on the SMP operator Telia in 2004. It has been deemed necessary to retain in the subsequent decisions of 2010 and 2015. There has not been any complaints regarding Telia's behaviour under the non-discrimination obligation.

In Ireland, a non-discrimination obligation was first imposed on the SMP Operator (Eircom) in 1998⁵⁰. The obligation has been imposed in subsequent decisions.

Q3

The latest Swedish regulatory measure of 2015 requires the SMP operator Telia to offer EoO for WLA services provided over their copper network and, from December 2016, EoI for services provided over their fibre network (not including backhaul, co-location and duct access for which EoO is applicable). The WCA market is deregulated since 2015 and the WHQAFI market was deregulated in 2017.

In Ireland, ComReg first imposed the non-discrimination obligation to the EoI standard in 2013⁵¹, for pre-ordering, ordering, provisioning, fault reporting and repair of NGA Virtual Unbundled Access (VUA) and NGA Bitstream.

In its 2018 WLA/WCA Decision⁵², ComReg imposed a non-discrimination obligation on Eircom to offer and provide pre-ordering, ordering, provisioning, fault reporting and repair of NGA VUA⁵³, NGA WCA (Bitstream), Current Generation WCA and Civil Engineering Infrastructure (CEI)⁵⁴ on an EoI basis.

⁵⁰ Decision: Significant Market Power in the Irish Telecommunications Sector, ComReg Decision Number D4/98, October 1998.

⁵¹ Next Generation Access ('NGA'): Remedies for Next Generation Access Markets, ComReg Decision D03/13, dated 31 January 2013.

⁵² Market Review: Wholesale Local Access (WLA) provided at a Fixed Location, Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products, Response to Consultation and Decision, ComReg Document 18/94 ", dated 19 November 2018.

⁵³ And the Associated Facilities to VUA.

⁵⁴ Including Duct Access, Pole Access and Access to CEI records.

In its 2015 FACO Decision, ComReg imposed a non-discrimination obligation on Eircom to offer ordering and provisioning for Single Billing Wholesale Line Rental (SB-WLR) on an EoI basis, when SB-WLR is ordered using a Combined SB-WLR and NGA Order (i.e. NGA VUA and NGA Bitstream). Furthermore, Eircom had an obligation to provide fault reporting and fault repair for SB-WLR on an EoI basis in all cases where SB-WLR, in conjunction with either NGA Bitstream or NGA VUA is used by an Undertaking to provide services to an End User. This obligation applies irrespective of whether SB-WLR was ordered using a Combined SB-WLR and NGA Order or ordered separately to NGA Bitstream or NGA VUA.

Annex 2 Relevant BEREC Documents

- BEREC report on implementation of NGA recommendation (BoR (11) 43):
https://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/234-bereg-report-on-the-implementation-of-the-nga-recommendation
- BEREC Opinion on the draft NDCM recommendation (BoR (13) 41):
https://bereg.europa.eu/eng/document_register/subject_matter/bereg/opinions/1244-bereg-opinion-on-commission-draft-recommendation-on-non-discrimination-and-costing-methodologies
- BEREC Guidance on ERT (BoR (14) 190):
https://bereg.europa.eu/eng/document_register/subject_matter/bereg/regulatory_best_practices/guidelines/4782-bereg-guidance-on-the-regulatory-accounting-approach-to-the-economic-replicability-test-ie-ex-antesector-specific-margin-squeeze-tests
- BEREC Report on the implementation of the BCRD (BoR (17) 245)
- BEREC Report on pricing for access to infrastructure and civil works acc. to the BCRD (BoR (19) 23)
- BEREC 2012 CP on BB Wholesale access: BoR (12) 126 (Wholesale Leased Lines), BoR (12) 127 (Wholesale Local Access), BoR (12) 128 (Wholesale BB Access)
- BEREC Report Monitoring of the Implementation of the 3 CPs on BB: BoR (14) 171 (Phase 1) and BoR (15) 199 (Phase 2)
- BEREC Report on the Implementation of the 3 CPs on BB: BoR (16) 219 (Phase 3)
- BEREC Report on the assessment of the need to review the 3 BB CPs (BoR (18) 24)
- BEREC CP on L2 Wholesale Access Products (BoR (16) 162)
- BEREC Report on L2 Wholesale Access Products (BoR (18) 120)
- BEREC Report on the application of the CP on geographic aspects of market analysis (BoR (18) 213)
- BEREC Report on Access to physical infrastructure in the context of market analyses (BoR (19) 94)
- BEREC Summary Report on migration (BoR (19) 236)
- BEREC GL on the minimum criteria for the RO (BoR (19) 238)
- BEREC Report on RA in practice 2019 (BoR (19) 240)
- BEREC Draft GL on VHCN acc. to Art. 82 EECC (BoR (20) 47); and final BEREC GL on VHCN acc. to Art. 82 EECC (BoR (20) 165)
- BEREC Draft GL on Co-Investment Criteria acc. to Art. 76 EECC (BoR (20) 113)