Body of European Regulators for Electronic Communications
BEREC

**BoR (13) 41**

# Commission draft Recommendation on non-discrimination and costing methodologies

*BEREC Opinion*

**26 March 2013**

# Contents

# Commission draft Recommendation on non-discrimination and costing methodologies

## Executive summary (Part 1)

1. BEREC welcomes the opportunity to respond to the Commission's draft Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (the draft Recommendation). It hereby submits its Opinion as requested by the Commission on 5 December 2012 in accordance with Article 19 of the Framework Directive and the BEREC Regulation.[1]

2. BEREC notes the Commission's desire to encourage the deployment of next generation access (NGA) broadband networks across Europe. BEREC agrees with this aim and intends to ensure that regulatory action supports this important objective. BEREC and the Commission agree that the implementation of this Recommendation be followed very closely in a dedicated network between the Commission and BEREC, so that the practical impacts of the Recommendation, notably the impact on investment and competition, can be monitored and any unanticipated consequences managed in a timely and cooperative manner.

3. The Commission's Digital Agenda for Europe (DAE) sets out ambitious roll-out and take up targets; to reach these, European operators - SMP and alternative operators as well as cable and other infrastructure operators - will need to undertake significant investments. BEREC shares the Commission's belief that the achievement of these targets requires a stable regulatory framework that promotes investment, preserves and promotes competition, and continues to contribute to the development of the internal market, and that national regulatory authorities (NRAs) have a critical role to play in this respect.

4. In particular, BEREC shares the Commission's determination to both promote competition and to enhance the broadband investment environment across Europe. Experience shows us that in the telecoms sector competition and investment tend to reinforce each other – a significant proportion of the current NGA investment by incumbents in many EU markets is a response to competition from cable operators, and other new entrants, in those markets. Retail competition can also (indirectly) drive infrastructure investment, especially when it results in the development of new end-user services. We agree with the Commission that it is crucial that the promotion of new investment in NGA is not pursued at the expense of the competitive gains made over the last decade.

5. BEREC has been working with the Commission in pursuit of these shared objectives. This co-operation began 18 months ago with BEREC's responses to the Commission's two questionnaires on non-discrimination[2] and NGA costing methodologies[3]. Most recently, at an Extraordinary Plenary meeting in Brussels on 15 November 2012[4], BEREC and the Commission reiterated their commitment to ensuring a transparent, predictable, and stable regulatory environment in support of the roll-out of NGA networks.

6. The comments and proposals in this opinion are aimed at ensuring that the eventual final Recommendation is as effective a regulatory intervention as possible, enabling increased

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[1] Commission seeks BEREC opinion on draft Recommendation on consistent non-discrimination obligations and costing methodologies

[2] BEREC Response to Commission's questionnaire on non-discrimination

[3] BEREC Response to Commission's questionnaire on NGA costing methodologies

[4] Press release of the Extraordinary Plenary meeting on 15 November 2012

investment, a healthy competitive environment and accelerated progress towards the Commission's ambitious DAE roll-out targets.

7. Finally, BEREC notes that this opinion on the draft Recommendation is consistent with its revised Common Positions (CPs), on issues of overlap.

## BEREC shares the Commission's objectives

8. While significant investments in NGA networks are already being made in several Member States (MSs)[5], meeting the Commission's ambitious DAE targets will require a concerted effort by NRAs across Europe. As well as sharing the over-arching objective to encourage NGA investment across Europe, BEREC also shares the Commission's related intermediate objectives as set out in the draft Recommendation in principle and further clarified by the Commission during discussions over recent weeks:

- Providing for **pricing flexibility** for NGA services, if effective non-discrimination and sufficient competitive constraints are ensured;
- Ensuring **predictable and stable** regulated wholesale copper access prices which are also consistent with the principle of cost-orientation; and
- Ensuring **a level playing field** between SMP and alternative operators through the implementation of effective and proportionate non-discrimination obligations which facilitate down-stream competition.

9. BEREC regards these as critical building blocks for European regulation. The objectives set out in Article 8 of the Framework Directive which NRAs must take into account in performing their functions. NRAs will therefore need to retain their flexibility to apply their judgment, and rely on their expertise and experience of the particularities of their national markets, when deciding how best to apply the available regulatory tools in the pursuit of these objectives.

## The central pillars of the draft Recommendation

### *NRAs need to ensure equivalence*

10. The draft Recommendation states that effective non-discrimination is best achieved by the application of Equivalence of Inputs (EOI). It then goes on to say that "... NRAs should examine whether it would be proportionate to provide relevant wholesale inputs on an EOI basis...". Where EOI is found to be disproportionate, NRAs are recommended to provide wholesale inputs "... at least on an Equivalence of Outputs (EOO) basis".

11. BEREC agrees with the Commission that effective non-discrimination rules are essential to creating a level playing field between the SMP operators' downstream businesses and third-party access seekers, thereby promoting competition – indeed, this stance is endorsed by BEREC's revised Common Positions (the revised CPs) adopted in December 2012[6]. BEREC recognises the potential effectiveness of EOI as a non-discrimination remedy and that it is in principle the surest way to achieve effective protection for non-discrimination. BEREC would welcome confirmation in the final Recommendation that NRAs should assess the proportionality of different non-discrimination obligations (i.e.

[5] Significant investments in NGA networks are already being made across Europe (see **Annex 2**). Belgium, Denmark, Luxembourg, Malta, Netherlands and Switzerland have already achieved 80% coverage, while Germany, France and the UK are in the top five countries globally with the highest number of fixed broadband subscriptions (Figure 1, **Annex 3**), and Switzerland, the Netherlands and Denmark have the highest broadband penetration (Figure 3, **Annex 3**).

[6] Revised BEREC CPs

EOI or EOO), on a product-by-product basis, when determining the most appropriate approach.

12. On this basis, BEREC invites the Commission to clarify in the final text of the Recommendation that the proportionality test must inform the determination of the most appropriate form of non-discrimination. Both equivalence standards are consistent with Article 10 of the Access Directive, and either may be appropriate in effectively ensuring non-discrimination, depending on the market circumstances and what other regulatory obligations are imposed on SMP operators.

13. Furthermore the outcome of the proportionality test should not be deemed or presumed (indeed, this would be legally problematic as assessment of the relevant facts is inherent to the legal concept of proportionality). For example, a voluntary offer to implement EOI is not on its own sufficient to determine an NRA's decision with regard to the design of the final remedies to be imposed on SMP operators. This will ensure that NRAs assess the choice based on the evidence and in the context of all other regulatory obligations to be imposed on SMP operators. It also enables NRAs to define the precise scope of EOI in a manner which would best promote effective downstream competition.

### *NRAs to follow key principles when implementing their costing methods*

14. The draft Recommendation provides guidance on the costing methods that NRAs should adopt when modelling the costs of wholesale NGA and copper access products. For example, it would require NRAs to adopt a bottom up long run incremental cost plus (BU LRIC+) costing methodology. It would also require NRAs to value re-usable civil engineering assets (such as duct) at their indexed net book value. Finally, it recommends NRAs develop a BU LRIC+ costing methodology based on an FTTC network to calculate the costs of wholesale copper access services.

15. The Commission has made clear in discussions with BEREC that its primary objectives in relation to costing are to ensure predictable and stable copper access prices, which can also serve as an anchor for NGA retail prices. To this end, the Commission is proposing greater consistency in the costing methodologies applied by individual NRAs, and expects stable (rental) copper prices to be in the region of €8-10/month.

16. BEREC supports the Commission's aim of achieving stable copper prices in line with the principle of cost-orientation. This will help encourage efficient investment in NGA and to provide a competitive safeguard to third-party access seekers and as such is a crucial element of the proposed approach. BEREC also shares the Commission's view that copper networks will eventually be replaced by fibre (NGA) networks. However, BEREC notes that, particularly in the context of NGA roll-out, consistency over time and over the value chain within a Member State is as important for investment and market entry decisions as achieving price convergence across Member States.

17. BEREC and the Commission agree that modelling approaches must be capable of adequately capturing the variety and complexity of situations across Europe. We need to avoid price instability, or a model which is unsuitable for the network architecture in place. On this basis, BEREC invites the Commission not to prescribe a specific costing methodology, but to identify the key principles that any costing model should fulfil such as:

- be future proof (i.e. based on the modern efficient network and appropriately reflecting current network constraints);
- reflect the need for stable and predictable copper prices over time in order to provide a clear framework for investment (attention should be given to the existing valuation of assets, especially civil engineering assets, in order not to create any unnecessary discontinuities in valuations or prices for copper network services);

- be capable of generating cost-oriented copper prices which serve as an anchor for NGA services (and which are consistent with the prices that would be calculated for NGA-based services); and
- deal appropriately and consistently with the impact of declining volumes caused by the transition from copper to NGA.

18. Following discussions between BEREC and the Commission on the published text of the draft Recommendation, BEREC would welcome the Commission's explicit clarification in the final Recommendation that the €8-10/month price range is not mandatory and that prices outside this range are acceptable if they can be objectively justified. BEREC invites the Commission to reflect this clarification explicitly in the text of the final Recommendation. BEREC also invites the Commission to clarify in the text of the final Recommendation that NRAs would be able to adopt technologically neutral alternatives (to the proposed FTTC approach) to adjust the modelled costs in order to determine the copper access prices. Finally, to the extent that the methodology adopted at the national level has demonstrably achieved the goals of the Recommendation, BEREC expects that NRAs can retain appropriate flexibility.

### *Competitive constraints for the non-imposition of cost orientation*

19. The draft Recommendation provides guidance on the conditions which need to be satisfied before NRAs can lift (or decide not to impose) cost orientation obligations on new NGA services. In brief, the draft Recommendation states that NRAs should decide to not impose, or to remove price control obligations (including cost orientation obligations), on NGA wholesale inputs only when these inputs are subject to EOI[7] and significant competitive constraints.[8,9]

20. BEREC agrees with the Commission that (wholesale) pricing flexibility has an important role to play in investment in new technology, as it enables operators to trial different pricing arrangements in the early (uncertain) period of such investments. In this context, BEREC agrees with the Commission that NRAs should consider lifting (or not imposing) cost orientation obligations when NGA wholesale access prices are sufficiently constrained (i.e. when price-related competition problems are considered to be sufficiently addressed). BEREC invites the Commission to make this explicit in the text of the final Recommendation.

21. BEREC also understands that the Commission is keen to reinforce the fact that the case for such pricing flexibility is particularly compelling when, in addition to the competitive constraints described above, SMP operators have also implemented EOI effectively. BEREC recognises the strength of this argument, but notes that these cost orientation and non-discrimination affect the market in different ways and therefore are not necessarily substitutable. On this basis BEREC and the Commission are keen to avoid unintended consequences which might arise were the linkage between EOI and cost orientation obligations to be viewed as being automatic or specified in a way which prevents any other possible combinations of non-discrimination and cost orientation measures.

22. BEREC welcomes the Commission's clarification during discussions that the conditions listed in the draft Recommendation under which NRAs should consider lifting cost-orientation obligations describe only one of several possible scenarios and that, subject to proportionality considerations, other outcomes are also possible.

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[7] Obligations of EOI, technical and economic replicability.
[8] Emanating from either legacy access network products subject to cost orientated price controls or retail services over at least one alternative infrastructure that is not controlled by the SMP operators.
[9] In the draft Recommendation, these competitive constraints are not currently listed for Market 5.

23. For example, an NRA which concludes that EOO is the proportionate non-discrimination obligation should also, at the same time, be allowed to lift/not impose cost-orientation obligations on new NGA services which are sufficiently (price) constrained. Conversely, an NRA which imposes non-discrimination obligations (whether EOI or EOO) might also find insufficient competitive constraints, and decide to retain (or impose) cost orientation obligations. BEREC invites the Commission to reflect this understanding in the text of the final Recommendation.

24. BEREC and the Commission are also entirely aligned in their desire to prevent behaviour by SMP operators who, in order to secure price flexibility, promise but ultimately fail to deliver an effective and timely EOI framework. Such an outcome would undermine the Commission's objective of ensuring a level playing field for alternative operators in the market and enhancing investment in NGA networks. BEREC therefore invites the Commission to strengthen the text of the final Recommendation to make clear that NRAs have the power to determine the exact scope of the EOI obligation from the outset (in addition to the inclusion of a robust roadmap as a remedy in their final measures, which ensures that SMP operators' commitments to comply with their EOI obligations are credible), and are subsequently able to enforce it.

25. At the same time, the power to enforce an EOI obligation ex-post could confer a first mover advantage on SMP operators (because of how long it takes to secure EOI), ultimately to the detriment of competition in the market. In order to mitigate this risk, BEREC invites the Commission to make clear in the final Recommendation that, in circumstances where an NRA *has already imposed* an obligation of cost orientation on NGA products, it has discretion over the timing of the lifting of that obligation in order to ensure that there is no harm to competition arising from the disruption of existing access agreements (for example, the lifting of cost-orientation could be conditional on the passing of a milestone clearly specified by the NRA). Conversely, where an NRA *has not imposed a cost orientation obligation* and the SMP operator fails to meet a pre-specified EOI milestone, the NRA should be entitled to consider reintroducing cost-orientation (i.e. without the need for a further market analysis) or indeed to impose penalties (a potentially effective alternative to the threat of the immediate re-introduction of cost orientation, e.g. if the NRA considers that the latter could cause instability in the market).

## *Economic replicability*

26. Competitive constraints may not always be sufficient to prevent the use of anti-competitive strategies by SMP operators, such as engaging in a margin squeeze (setting inappropriate price differentials between their wholesale and retail (NGA) products. BEREC agrees with the Commission that it might be appropriate to address such concerns through the application of an ex-ante economic replicability test aimed, first and foremost, at preventing abusive pricing behaviour by ensuring that alternative operators can replicate the most relevant NGA offers of the SMP operator.

27. BEREC invites the Commission to clarify in the final text of the Recommendation that the scope of the ex-ante economic replicability test to be applied in these circumstances is without prejudice to the margin squeeze tests that NRAs already implement, and that this Recommendation would therefore not limit NRAs' ability to continue to conduct such tests..

28. BEREC and the Commission have specifically discussed the standard to be applied in such tests and agree that an economic replicability test based on an Equally Efficient Operator (EEO) standard has the considerable merit of providing investing SMP operators with predictability (which is best achieved by taking into account their own downstream costs). At the same time, there may be justifiable reasons for departing from a strict EEO standard, for reasons of dynamic efficiency and for the promotion of competition. BEREC would therefore welcome explicit clarification in the final Recommendation that NRAs can

make adjustments to the EEO standard in certain market circumstances to ensure that economic replicability is a realistic prospect and therefore that, while EEO may be the starting point for assessment, there may also be circumstances in which an REO standard is appropriate in relation to economic replicability.

29. Looking in particular at the relevant cost standard that should be considered in the application of the economic replicability test, and bearing in mind the need to balance the objectives of promoting investment and protecting/promoting competition, BEREC notes that it is important to consider a long run perspective when considering avoidability of the costs of infrastructure assets. Even then, it may not be appropriate to focus solely on avoidable costs, given the potential for there to be significant sunk and common costs in the fixed telecoms sector. Costs which are sunk for the incumbent will need to be recoverable by entrants if there is to be a realistic prospect of entry. Thus BEREC would suggest that the term “avoidable cost” could be replaced with “relevant forward looking costs” and enables NRAs to employ a higher cost standard, such as LRIC or LRIC+, where appropriate, as a proxy for the full set of detailed tests.

## Interplay between the draft Recommendation and the NGA Recommendation

30. BEREC understands that the draft Recommendation aims to provide further guidance on the regulatory principles originally set out in the NGA Recommendation, in particular the conditions under which cost orientation of wholesale access prices should or should not be applied. BEREC therefore concludes that the final Recommendation (in the relevant areas of overlap) will take precedence over the NGA Recommendation.

31. However, NRAs will still be legally required to take utmost account of both the NGA Recommendation and the final Recommendation. On this basis, and with a view to avoiding legal uncertainty (and mitigating the risk of gaming/appeals from both SMP and alternative operators alike who might prefer the guidance as set out in one or the other Recommendation), BEREC invites the Commission to state clearly where the final Recommendation prevails over the NGA Recommendation.

## Concluding remarks and next steps

32. BEREC is committed to the objectives of the Regulatory Framework, namely the promotion of efficient investment in NGA networks and competition, including through ensuring regulatory predictability. The remarks made in this summary, and further elaborated upon in Part 2, reflect this commitment, as well as the practical experience of BEREC members regulating their respective markets.

33. In the meantime, BEREC would like to offer its expertise and continued support to the Commission in the preparation of the next draft of this Recommendation. BEREC looks forward to receiving the full Impact Assessment, including the case made for legal basis, necessity, proportionality and costs. We remain at the Commission’s disposal and look forward to continuing this fruitful dialogue.

34. BEREC sets out its detailed analysis of the above mentioned key aspects of the draft Recommendation in the technical analysis (Part 2) attached to this opinion.

# BEREC's technical analysis (Part 2)

## Application of a non-discrimination obligation

### *Ensuring equivalence of access*

35. In this section of the draft Recommendation, the Commission states that NRAs should ensure the imposition of Equivalence of Input and/or Output (EOI/EOO), discusses the importance of a technical replicability test and the role that Key Performance Indicators (KPIs) play in the monitoring of the non-discrimination obligation. Below BEREC summarises its views on the main recommendations and supports these with specific drafting suggestions as shown in **Annex 1**.

**Recommends 7 and 9**

36. **Recommend 7** states that "... effective non-discrimination is best achieved by the application of Equivalence of Input (EOI)" and requires NRAs who are considering the imposition of a non-discrimination obligation to "... examine whether it would be proportionate to require SMP operators to provide relevant wholesale inputs on an EOI basis". Recommend 9 states that where EOI is disproportionate, NRAs should ensure "... at least Equivalence of Output (EOO)".

37. BEREC agrees with the Commission that provision of wholesale inputs on an equivalence basis is critical in ensuring a level playing field between the SMP and alternative operators. This is a principle BEREC itself reflected in its revised Common Positions (CPs)[10]:

> "*BPX NRAs should impose an obligation on SMP operators requiring equivalence, and justify the exact form of it, in light of the competition problems they have identified.*
>
> > *BPXa NRAs are best placed to determine the exact application of the form of equivalence on a product-by-product basis...*"

38. BEREC agrees with the Commission that application of effective non-discrimination obligations is essential to creating a level playing field between SMP operators' downstream businesses and third-party access seekers, thereby promoting competition. BEREC also recognises the potential effectiveness of EOI as a non-discrimination remedy and that it is in principle the surest way to achieve effective protection for non-discrimination. At the same time, both equivalence standards are consistent with Article 10 of the Access Directive, and either may be appropriate in effectively ensuring non-discrimination, depending on the market circumstances and what other regulatory obligations are imposed on SMP operators. It is important to ensure that the language in the final version of Recommend 7 does not imply that effective non-discrimination is only achieved through the application of EOI as the draft Recommendation itself recognises, there will be instances where EOO would be proportionate (and therefore effective) in ensuring non-discrimination. To recognise this point, BEREC suggests a slight amendment to the first sentence of Recommend 7 (see **Annex 1**).

39. On this basis, BEREC is of the view that NRAs should assess (and objectively justify), on a product-by-product basis, whether the application of EOI or EOO is most appropriate and proportionate in accordance with Article 8 (5) of the Framework Directive and Article 8 (4) of the Access Directive. This approach is also consistent with Article 10 of the Access

[10] Revised BEREC CPs
For example, see BP19 and BP19a of the WLA CP.

Directive which only refers to the principle of equivalence (and which, in BEREC's view, could only justify the imposition of EOO as a minimum).

40. 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. BEREC observes that, in practice, the boundary between EOI and EOO at a product level[11] 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.

41. Moreover, NRAs need to consider how the implementation of the EOI obligation may overlap with the implementation of other regulatory obligations. BEREC notes that the imposition of the appropriate non-discrimination obligation (and more specifically the implementation of EOI) is only one of the key regulatory tools used to ensure effective downstream competition. In some cases, under an access obligation, alternative operators may require SMP operators to develop wholesale products which better fit their needs and which, by definition, could have different technical characteristics from the wholesale inputs self-supplied by SMP operators to their downstream businesses (for example, alternative operators may prefer their traffic to be aggregated at a different network level, such as at the Ethernet level rather than at IP level). In such cases, a strict application of EOI should not prevent alternative operators from requesting the development of wholesale inputs which better suit their needs.

42. Another important consideration that NRAs need to take into account when assessing the proportionality of an EOI obligation is whether it would be consistent with the objectives of promoting infrastructure-based competition and supporting efficient investment and innovation.[12] An EOI obligation could in some cases be inconsistent with these objectives. These considerations are even more relevant in the presence of newly emerging markets (Recital 27 Framework Directive), to which the Recommendation will be applicable.

43. Finally, NRAs also need to consider the practical steps required in ensuring the obligation of EOI is also applied to the price of relevant wholesale inputs. BEREC notes that such an internal transfer pricing system may lead to the reporting of internal prices which are not related to the costs of provision and which are also difficult to monitor (especially in the absence of the cost orientation obligation on wholesale NGA services). BEREC considers that, in such instances, a better alternative may be for the equivalence on economic conditions to be dealt through the economic replicability test, without prejudice to other stricter systems used by the NRAs.

44. On the basis of the above considerations which NRAs need to take into account, BEREC would welcome confirmation in the final Recommendation that NRAs should assess

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

[12] Article 8.5(c) and (d) of the Framework Directive.

the proportionality of different non-discrimination obligations (i.e. EOI or EOO), on a product-by-product basis, when determining the most appropriate approach.

45. In order to assist the Commission in the preparation of its next draft, BEREC proposes some drafting changes to Recommends 7 and 9 (see **Annex 1**). In BEREC's view its proposed drafting amendments are consistent with the Directives, which require remedies to be designed in the least intrusive manner,[13] and the draft Recommendation itself (which acknowledges that effective non-discrimination obligations could consist of EOO, technical and economic replicability, together with defined Key Performance Indicators (KPIs), Service Level Agreements (SLAs) and Service Level Guarantees (SLGs) to ensure timely provision and fault repair).

**Recommend 8**

46. **Recommend 8** gives a number of examples where the application of EOI could be deemed or presumed to be proportionate (or disproportionate).

47. It states that EOI could be disproportionate "... in particular where the compliance costs (e.g. through the re-design of existing systems) outweigh potential competition benefits". It then states that "... providing legacy copper-based wholesale inputs on an Equivalence of Input basis is more likely to be disproportionate due to the higher costs to ensure compliance. Conversely, providing wholesale inputs consisting wholly or partly of optical elements on an Equivalence of Input basis is more likely to be proportionate given the low incremental costs to design new systems that comply with Equivalence of Input."

48. BEREC agrees with the Commission that EOI may not always be the most proportionate approach, a principle BEREC itself recognised in its revised CPs[14]:

> "*BP Xa NRAs are best placed to determine the exact application of the form of equivalence on a product-by-product basis. For example, a strict application of EOI is most likely to be justified in those cases where the incremental design and implementation costs of imposing it are very low (because equivalence can be built into the design of new processes) and for certain key legacy services (where the benefits are very high compared to the material costs of retro-fitting EOI into existing business processes). In other cases, EOO would still be a sufficient and proportionate approach to ensure non-discrimination (e.g. when the wholesale product already shares most of the infrastructure and services with the product used by the downstream arm of the SMP operator)*."

49. Generally speaking BEREC is of the view that the outcome of the proportionality test should not be deemed or presumed (indeed, this would be legally problematic as assessment of the relevant facts is inherent to the legal concept of proportionality). In the paragraphs below, BEREC elaborates in more detail on the individual factors that NRAs need to take into account when undertaking a proportionality test.

50. Based on the experience of its members, BEREC notes that it is not always a foregone conclusion that operators need to re-design their established IT systems when providing new NGA services or that, when it takes place, such re-design may be at low (incremental) cost.

51. NRAs have observed that NGA (in particular those deployments based on FTTC) has in some cases been introduced using many of the legacy systems which had been used in

[13] Article 8.5(f) of the Framework Directive and Article 8.4 Access Directive.
[14] Revised BEREC CPs
For example, see BP 19 and BP 19a of the WLA CP.

the provision of legacy copper products. Therefore, the introduction of NGA does not necessarily imply that systems (particularly OSS) used to support copper will have to be replaced. In any case, the introduction of new technologies for NGA is, of itself and absent any commitment to EOI, more likely to require system and process changes at an *operational* level (such as inventory, activation and workforce management) rather than at an *order processing* level[15] (such as CRM[16], fault reporting, appointments and order tracking).

52. Furthermore, BEREC observes that costs associated with the implementation of EOI are not limited to those driven by system development and process re-engineering. They would also include substantial costs associated with data separation requirements and with data migration from old to new systems; as well as additional outlay for enhanced governance and control structures (e.g. *Organo di Vigilanza* in Italy or the *Equality of Access Board* in the UK) and employee re-education (e.g. design and implementation of appropriate Codes of Practice for employees in relevant areas of the incumbent's business).

53. Additionally, due to economies of scale, implementation of EOI in small jurisdictions might be less proportionate because of higher per subscriber implementation costs.

54. As both BEREC and the Commission agree that NRAs are best placed to weigh the potential costs and benefits associated with implementing EOI, BEREC considers that the final Recommendation should be technologically neutral and not specify a-priori the outcome of a proportionality test by providing examples of products which may or may not be subject to EOI[17] (see **Annex 1**). As stated in BEREC's CP on WLA,[18] EOI could also be proportionate for legacy copper-based access products (BP 19a WLA) if the benefits outweigh the costs. This may be the case in those MSs where FTTC is the network topology which is being deployed necessitating alternative operators to gain equivalent access to the last (copper) mile. There may also be cases where both copper and fibre wholesale inputs share the same systems of SMP operators and therefore EOI could be implemented simultaneously for copper and fibre based wholesale inputs at relatively low additional costs.

55. **Recommend 8** also states that "The imposition of Equivalence of Input may in particular be deemed proportionate when it results in the non-imposition of price control obligations based on cost orientation on NGA networks as recommended in Recommends 49 and 50."

56. BEREC discusses its views in relation to the non-imposition of the cost orientation obligation, as a result of the imposition of EOI, in detail in paragraphs 149 to 157 and is therefore not repeating these arguments in this section. More importantly, and as noted above, the outcome of a proportionality test cannot legally be deemed and on this basis BEREC invites the Commission to remove this sentence from the final Recommendation (see **Annex 1**).

57. Finally, **Recommend 8** states that "When assessing proportionality, the imposition of Equivalence of Input can be deemed to be proportionate where an SMP operator informs an NRA on a voluntary basis that it intends to provide wholesale inputs to access seekers on an Equivalence of Input basis, as long as such voluntary offer meets the conditions set out in this Recommendation."

[15] However, it is at the order processing level that much of the discriminatory effects have been observed.
[16] Customer Relationship Management.
[17] The draft Recommendation states that EOI is likely to be disproportionate in the case of legacy copper access products and proportionate when providing wholesale inputs consisting wholly or partly of optical elements.
[18] BEREC's revised CP on WLA

58. As noted above, the outcome of the proportionality test cannot legally be deemed or presumed. In particular, a voluntary offer to implement EOI is not on its own sufficient to determine an NRA's decision with regard to the design of the final remedies to be imposed on SMP operators. NRAs need to assess the choice of the most appropriate non-discrimination remedies based on the evidence and in the context of all other regulatory obligations to be imposed on SMP operators. For example, NRAs need to first determine whether the imposition of the non-discrimination obligation is proportionate and then determine the most appropriate (and least intrusive) form of it that is required. BEREC considers that, as with the analysis required to support voluntary separation under Article 13b of the Access Directive, NRAs need to also assess the effect of the intended regulatory measure (of EOI) on all other existing obligations imposed on the SMP operator. Ultimately, if an obligation of EOI is to be imposed, NRAs need to also define the precise scope of EOI in a manner which would best promote effective downstream competition (and not defined too loosely or imprecisely).

59. On the basis that the outcome of a proportionality test cannot legally be deemed, BEREC invites the Commission to remove this sentence from the text of the final Recommendation. Furthermore, given the above additional considerations, BEREC would invite the Commission to explicitly allow NRAs the possibility to assess the imposition of EOI in the context of all other obligations imposed on the SMP operator (even if an incumbent purports to voluntarily offer it) and to determine its scope (see **Annex 1**).

**Recommend 10**

60. **Recommend 10** states that EOI should be applied to all wholesale inputs the SMP operator provides to its down-stream arm unless it can be shown that (having consulted third party access seekers) there is no reasonable demand.

61. BEREC shares the Commission's aim that, if proportionate, EOI should be targeted to key wholesale inputs. At the same time BEREC notes that NRAs would need to take into account demand considerations in (at least) two prior stages in the regulatory process: first, when they assess the proportionality of imposing an access obligation on the relevant wholesale inputs and second, when they assess the proportionality of whether these should be provided on an EOI or EOO basis. BEREC therefore believes that demand considerations are implicit in the proportionality assessment that NRAs would need to conduct as part of Recommend 7.

62. BEREC also points to a possible inconsistency in the formulation of Recommend 10 which requires "where proportionate" EOI to be only applied to those wholesale inputs "...unless there is no reasonable demand...". In effect Recommend 10 requires a proportionality test to determine which wholesale inputs should be subject to EOI, while at the same time suggesting absence of "reasonable demand" as the only condition not to apply an EOI obligation on a particular wholesale input.

63. BEREC also notes that, in general, it is very difficult to determine the level of "reasonable demand" for new products and services: this is partly due to the difficulty in forecasting demand with any reliable degree of accuracy and secondly, due to the fact demand for products can fluctuate over time (and sometimes materially). It is also the case that the views of third party access seekers are one of the most critical inputs that NRAs use when determining the level of demand for new (NGA) services. However, as far as possible, it is advisable for NRAs to check the reliability of such demand forecasts against other independent sources of information (for example, broker reports) in order to avoid the risk of being captured by the views of select stakeholders (which may have the incentive to over-estimate their future requirements for wholesale inputs).

64. In recognition of the above points, and specifically the fact that demand considerations are implicit in the proportionality assessment that NRAs need to undertake, BEREC invites the Commission to remove Recommend 10 from the final Recommendation (see **Annex 1**).

**Recommend 11**

65. **Recommend 11** requires NRAs to ensure that "...access seekers can use the relevant systems and processes in the same way as the SMP operators' own downstream businesses, with the same degree of reliability and performance."

66. BEREC is unclear whether Recommend 11 relates to the imposition of EOI and/or EOO obligations and would welcome clarification by the Commission in the final Recommendation. In addition, to the extent that Recommend 11 gives further guidance on how an EOI and/or EOO obligation is to be implemented in practice, BEREC proposes that this be included in the relevant definition of EOI and/or EOO in the section on Definitions (see **Annex 1**).

**Recommends 12 and 13**

67. **Recommends 12** and **13** state that a decision to impose EOI is without prejudice to the potential imposition of an obligation for functional separation (FS) and to the analysis of conditions for competition in areas covered by joint deployment of FTTH (as stated in Recommend 28 of the NGA Recommendation).

68. BEREC agrees with the Commission that FS is a remedy of last resort, consistent with BEREC's own revised CPs.[19] Since FS is considered a measure of last resort, especially in cases where "there is little or no prospect of infrastructure competition",[20] it is important for the Commission to clarify in the final Recommendation that implementation of an EOI obligation should not lead, de facto, to FS where the Commission itself has a role to play.

69. BEREC would welcome clarification in the final Recommendation as to what the Commission's intended objectives are in relation to **Recommend 13**. Recital 28 of the NGA Recommendation refers to instances where deployment of NGA networks takes the form of co-investments, which may justify the finding of a separate geographic market and which, depending on the extent of infrastructure competition, may (or may not) be subject to a finding of SMP. BEREC's understanding is that, if a finding of SMP were to be made in these circumstances, then NRAs would need to take the final Recommendation into "utmost account" when designing the relevant remedies. This would then mean that, when differences in the competitive conditions are found in the areas covered by the joint deployment of FTTH networks which is referred in Recommend 28 of the NGA Recommendation, NRAs should assess whether it is justified to identify a specific operator(s) with SMP and, if so, design the ex-ante remedies in the most appropriate and proportionate manner in accordance with the market failures identified in those areas. In this case, this could also lead to a differentiation in the non-discrimination obligation imposed to different areas.

**Recommend 14**

70. **Recommend 14** states that volume discounts and long-term access pricing arrangements can be compatible with both an EOI or EOO approach, as long as the terms

[19] Revised BEREC CPs
The BEREC CPs state that "*BPX NRAs should consider imposing functional separation as a remedy of last resort and only when all relevant regulatory obligations have failed to create a level playing field.*"
[20] Directive 2009/140/EC, (61).

provided by SMP operators to their own downstream operators do not exceed the highest volume discount/long term pricing arrangement that has been granted to third party access seekers.

71. In BEREC's view discounts are linked to the obligation of non-discrimination (rather than the specific form of equivalence being implemented). On this basis BEREC notes that, consistent with its revised CPs[21], discounts should only be provided by SMP operators as long as they are non-discriminatory in nature.

72. BEREC acknowledges that discount schemes may be important at this stage of the deployment of NGA, where take up by consumers is still low. On this basis, the Commission itself explicitly recommended allowing volume and term discounts in the NGA context, while at the same time clarifying that such discounting would only be permitted on the basis of specific conditions being satisfied (such as volume discounts reducing the risk of the investors, which would encourage price differentiation without violating cost-based pricing, and allowing sufficient margin between wholesale and retail prices to allow market entry by efficient competitors). BEREC also notes that, in order to ensure fair and effective competition, it is important to avoid smaller third party access seekers being discriminated against through substantial discounts awarded to larger operators in the market.

73. BEREC also observes that Recommend 14, as currently worded, is open to gaming by an SMP operator who could grant the highest volume discounts to the smallest third party access seeker and its own downstream business, while at the same time disadvantaging it's all other (and biggest) competitors (unless, under a non-discrimination obligation, the SMP operator is required to offer the same discount terms to all other operators).

74. Taking into account the practical challenges inherent in designing discounts schemes, BEREC proposes that the final Recommendation stresses the need for discounts to be non-discriminatory in nature and avoids being prescriptive as to their exact structure. This will, in turn, allow NRAs to intervene when necessary and to take into account the views of all operators in relation to the specific discount schemes being proposed by SMP operators, while at the same time not discouraging innovative discounts schemes by being too prescriptive about how they should be structured. The final Recommendation should also refer to the NGA Recommendation where there is a more detailed discussion of discount schemes (see **Annex 1**).

### *Ensuring technical replicability of the SMP operator's new retail offers as a minimum*

**Recommends 15 and 16**

75. **Recommends 15** and **16** require NRAs to ensure technical replicability of an SMP operator's new retail offers in instances where EOI is not (or not yet fully) implemented (and therefore cannot ensure technical replicability in itself).

76. BEREC agrees with the Commission that technical replicability is key to avoiding unjustified first mover advantage in the provision of new NGA services. In fact, BEREC itself reflected this in its revised CPs[22]:

> "*BPX NRAs should put in place a regime which ensures the (technical and economic) replicability of the new downstream services introduced by SMP players*."

[21] Revised BEREC CPs
[22] Revised BEREC CPs
For example, see BP21 of the WLA CP.

**Recommends 17 and 18**

77. **Recommends 17** and **18** require NRAs to ensure that every access seeker has access to the same technical and commercial information regarding wholesale inputs and also set out some additional factors to take into account when assessing technical replicability.

78. BEREC agrees with the Commission that in order to ensure a level playing field all access seekers should have access to the same technical and commercial information regarding wholesale inputs (subject to relevant confidentiality considerations). This is a position BEREC itself reflected in its revised CPs[23]:

> *"BPX In cases where SMP operators need to provide a new wholesale product, NRAs should impose an obligation on SMP operators regarding the timely availability of relevant information according to lead times (i.e. notice periods) defined on a case-by-case basis. The relevant information should include information on prices, terms and conditions and technical characteristics of the new wholesale product."*

79. BEREC would find it helpful if the Commission clarifies in the final Recommendation that such information is to be provided according to lead times defined on a case-by-case basis by each NRA and as set out in their final decisions regarding the outcomes of their market analyses (see **Annex 1**).

**Recommends 19, 20 and 22**

80. **Recommends 19, 20** and **22** set out a process for monitoring the SMP operator's compliance with the obligation of technical replicability. The draft Recommendation first sets out that SMP operators should be required to conduct such a test before the launch of their new retail offer, while at the same time providing the results of the test and all other necessary information to NRAs (**Recommend 19**). As an alternative, **Recommend 20** sets out a scenario in which NRAs themselves conduct the test and lists the information they will need (such as notification of the new retail offers relying on a relevant regulated wholesale input). Finally, **Recommend 22** states that in cases where NRAs are not able to provide a formal decision on technical replicability before the envisaged launch of a new retail offer, SMP operators should be allowed to go ahead with the launch.

81. BEREC points out that there are two important issues to consider: first, in relation to the obligation of ensuring technical replicability and second, in relation to the enforcement of that obligation.

82. In relation to the obligation of technical replicability, BEREC agrees with the Commission that SMP operators should have the onus to ensure the technical replicability of new retail offers before their launch (and at all times afterwards).

83. In relation to the enforcement of this obligation, to the extent that the test needs to be undertaken before the launch of the SMP operators' new retail offers, alternative operators would not be in a position to assess whether technical replicability has been ensured. In this instance, the provision of information relating to new/existing wholesale inputs under **Recommend 17** becomes critical, as access seekers can use this information to check the characteristics of the retail products that they *may* be able to replicate. However they would lack the absolute certainty that they would be able to replicate the SMP operators' new retail offers (and therefore a replicability test before the launch of the SMP operator's new retail

[23] Revised BEREC CPs
For example, see BP22 of the WLA CP.

products can carry some risk of an ex-post dispute where NRAs may be called upon to settle the issue).

84. BEREC welcomes the apparent position that NRAs should be able to determine whether (and to what extent) they are best placed to undertake the technical replicability test(s) themselves (**Recommend 20**). In practice, when NRAs conduct a technical replicability test before the launch of a new retail product, they check that such a retail product (according to the preliminary commercial and technical information SMP operators have made publicly available) is replicable under the terms and conditions included in the Reference Offers (which are also made available to alternative operators ahead of launch). If additional details which would be regarded as being critical to the provision of the relevant wholesale inputs become apparent following the launch of the new retail services, NRAs have the option to act (under the general obligation of non-discrimination) and to remedy the situation.

85. Furthermore, and on the basis of the above, BEREC would like to also note that:

- Technical replicability should be seen as a “process”, not an “event” and one that needs to be ensured “over time” and “all of the time”;
- Complete technical replicability is best achieved by ensuring a collaborative process between all market players (SMP and third party access seekers), with or without the direct involvement of NRAs. In particular, it is important that third party access seekers are able to express their views as to whether they can replicate the SMP operators’ new retail products with the wholesale inputs already available to them, although this is usually only possible after the launch of the retail offers; and
- The transparency of technical characteristics is key in order to ensure market players are able to assess technical replicability and their opportunity for product differentiation.

86. On the basis of the above consideration, BEREC invites the Commission to reflect in the text of the final Recommendation the issues regarding confidentiality and other practicalities with regards to conducting a technical replicability test prior to the launch of products reliant upon regulated wholesale inputs. Finally, the use of financial penalties would also provide added incentive for the SMP operators not to breach their obligation to ensure technical replicability. BEREC has made some drafting suggestions to make these points clearer in the draft Recommendation (see **Annex 1**).

### Recommends 21 and 23

87. **Recommends 21** and **23** state the actions to be taken should technical replicability not be ensured. More specifically:

- NRAs should require SMP operators to amend the wholesale inputs in a way which ensures technical replicability (**Recommend 21**); and
- In case of significant harm to competition, NRAs should use their powers under Article 10 of the Authorisation Directive to require SMP operators to cease the provision of the relevant retail offer (**Recommend 23**).

88. BEREC agrees with the Commission on the requirements of Recommend 21, which is also a position BEREC reflected in its revised CPs:[24]

[24] Revised BEREC CPs.

*"BPX In cases where (technical and/or economic) replicability cannot be achieved by using the available wholesale products, SMP operators should be required either to amend the existing wholesale product or to make a new wholesale product available."*

89. BEREC welcomes the inclusion of Recommend 23 which recognises that, when obligations of access and non-discrimination are imposed on SMP operators' infrastructure and services in an upstream wholesale market, NRAs have the power to also stop conduct which could cause significant harm to competition in the related downstream (wholesale and retail) markets. This power is currently included in Article 10 of the Authorisation Directive.

90. However, BEREC also stresses the need for NRAs to use these additional powers only in exceptional circumstances by taking into account the potential benefits to consumers in the short-term (where consumers will be able to use new retail services earlier) and the potential harm to competition in the mid-term, determined on a case-by-case basis. Subject to NRA powers, the use of other instruments, such as periodic sanctions or the configuration of resale wholesale products as an interim measure, can also have good incentive properties in ensuring SMP operators comply with the obligation to ensure technical replicability.

91. Finally, BEREC understands that **Recommends 21** and **23** would apply equally when the failure of technical replicability has been determined before and after the launch of the SMP operators' new retail products. BEREC has made some drafting suggestions which reflect the above considerations (see **Annex 1**).

## Compliance Monitoring of non-Discrimination obligations

### *Key Performance Indicators*

**Recommends 24 and 25**

92. **Recommends 24** and **25** require NRAs to impose on SMP operators the use of KPIs in order to monitor compliance with the non-discrimination obligation and list the key elements where such KPIs would be necessary.

93. BEREC agrees with the Commission that KPIs are an essential tool to monitor compliance with the non-discrimination obligation, a point which BEREC also reflected in its revised CPs:[25]

*"BPX NRAs should impose a generic requirement on SMP operators to provide Key Performance Indicators (KPIs) as a means to monitor compliance with a non-discrimination obligation and ensure that SMP operators fulfil their SLAs (unless there is evidence that this is unnecessary or would not be cost effective).*

*BPXa KPIs should cover all necessary specific service areas. Service areas where KPIs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair)."*

94. BEREC would invite the Commission to include a requirement for NRAs to assess the proportionality of imposing KPIs[26]. The imposition of KPIs may be unjustifiably burdensome in the case of small SMP operators. In some cases, the implementation of KPIs can also be a long process which could last up to several years and which would require the collaboration of all interested parties (the NRA, the SMP and alternative operators (see

[25] Revised BEREC CPs
For example, see BP34 and BP 34a of the WLA CP.
[26] BEREC also assumes that the list of KPIs proposed in the draft Recommendation is without prejudice to any additional KPIs which NRAs may decide to impose (such as a KPI on OSS/BSS systems which, as discussed in paragraph 40, are unlikely to be delivered under an EOI regime).

**Annex 1**)). In addition, BEREC invites the Commission to confirm in the final Recommendation the legal basis NRAs should apply when they have decided to impose KPIs.

95. BEREC would also invite the Commission to clarify what a KPI on migration is intended to measure. There are different types of migration processes, each with their own challenges. As BEREC noted in its consultation[27], migrations can take place between the wholesale products of different operators and/or the different wholesale products of the same (SMP) operator. Operators can migrate customers between different technologies, as the old networks are replaced by newer and more efficient ones. Migrations can also be single (where lines are moved individually) or bulk in nature.

96. Given the different types of migration that can take place, BEREC asks the Commission to first clarify the type of migration process to be captured by a KPI measurement. Furthermore, in BEREC's view bulk migration processes can be one-off in nature and therefore do not naturally lend themselves to being measured via KPIs. In particular,[28] one-time bulk migration processes can be governed by specific agreements (including specific timings) between the SMP and alternative operators based on available operational capacity. BEREC would therefore ask the Commission to consider removing bulk migrations from the list of KPIs on the basis that the result of KPI measurements in these instances may be skewed and may not necessarily be indicative of a problem.

**Recommends 26, 27, 28 and 29**

97. These Recommends require:

- KPIs to allow for comparison *"...of services provided internally to the downstream business of the SMP operator and those provided externally to third party access seekers*" (**Recommend 26**);
- KPIs to be agreed "*...between SMP operators and third party access seekers under the supervision of NRAs..."* (**Recommend 27**);
- In imposing KPIs *"...NRAs to take into account already existing performance measurements...*" (**Recommend 28**); and
- KPIs to be *"...published in a manner which ensures early discovery of potential discriminatory behaviour...NRAs should publish on their web-site...*" (**Recommend 29**).

98. BEREC shares the Commission's aims as reflected in **Recommends 26**, **27** and **29** which are also consistent with BEREC's own CPs:[29]

> *"BPXb The results of monitoring KPIs should be made available to all operators in the market. To determine whether they could have been discriminated against, alternative operators would need to be able to compare the levels of service they have received to those provided by the SMP operators a) to their downstream businesses and b) the industry average.*
>
> *BPXc NRAs should take oversight for the process of setting KPIs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour."*

[27] See BoR12(10).
[28] See BoR(12)81.
[29] Revised BEREC CPs
For example, see BP 34b and BP 34c of the WLA CP.

99. In relation to **Recommend 26**, BEREC notes that in order to determine whether they could have been discriminated against, alternative operators would need to be able to compare the levels of service they have received to those provided by SMP operators a) to their downstream business and b) the industry average. In this way, each third party access seeker would have access to three sets of data showing the service levels received by itself, the SMP operator's down-stream arm and the industry average (where only the latter two would be in the public domain due to the confidentiality of operator specific data). BEREC would welcome the Commission's clarification in the final Recommendation that, due to relevant confidentiality issues, only data relating to the industry average[30] of KPI measurements should be made available to all operators in the market and has made some drafting suggestions to this effect (see **Annex 1**).

100. In relation to **Recommend 27**, BEREC notes that there is a balance to be struck between ensuring the continued relevance of specific KPI measurements (which may point towards their regular update) and their consistency over time which would allow operators to make the necessary historical comparisons (which would not be possible if KPIs are updated too frequently). BEREC would find it helpful if the Commission recognised this challenge in the Recitals to the final Recommendation. Furthermore, BEREC would welcome clarification in the final Recommendation that NRAs should be able to decide which KPIs should be imposed – this clarification will help avoid endless negotiations and also ensure NRAs can directly intervene when such negotiations fail.

101. BEREC notes that the use of existing performance measures (referred to in **Recommend 28**) may be sometimes open to gaming. Consistency between (possibly) inaccurate measures will not guarantee the outcomes sought by the draft Recommendation. BEREC therefore suggest that KPIs should only take into account existing internal performance measures if SMP operators can vouch for their reliability and has made some drafting suggestions to this effect (see **Annex 1**).

102. Finally, BEREC agrees with the Commission that (according to **Recommend 29**) the availability of the results of KPI measurements can also help with the verification of such information.[31] At the same time, it is important for the Commission to recognise that individual operator data (as reflected in KPI measurements) would be considered confidential and therefore not fit for publication. BEREC notes that such confidentiality concerns can be dealt with by making a reference to the availability of the "results of monitoring KPIs" and has made some drafting suggestions to this effect (see **Annex 1**).

**Recommend 30**

103. **Recommend 30** requires KPIs to be regularly audited and the costs to be apportioned to various electronic communication providers. It also states that "*NRAs should intervene in order to enforce compliance...*".

104. BEREC shares the Commission's objectives that, as a key tool in monitoring the SMP operators' compliance with the non-discrimination obligation, it is important for the results of KPI measurements to be robust. At the same time, independent verification and auditing of KPIs in a systematic way may, in some instances, be considered disproportionate compared to the costs of doing so. For example, the high cost of an audit may prohibit those NRAs that are not financed by the telecommunication sector to either find appropriate resources to conduct the audit themselves or commission an independent auditor to do so. In addition, the apportionment of the audit costs to various electronic communications providers would be difficult to implement and burdensome, particularly for small operators. Formal verification of KPIs (calculated by SMP operators) by a third party may not be always necessary if KPIs are

[30] Excluding the SMP operators' downstream businesses.
[31] See BoR12(10).

made available to all operators in the market as alternative operators will be aware of the service levels they have received and therefore would, at a high level, be able to determine whether the reported KPI data looks reasonable or not.[32]

105. Taking into account these additional considerations, BEREC would invite the Commission to recognise in the final Recommendation alternatives to the formal audit of KPIs (especially when the costs of doing so may be disproportionate compared to the benefits) and has made some drafting suggestions to this effect (see **Annex 1**). BEREC would also welcome clarification of the legal basis on which NRAs can request the audit costs to be apportioned to all electronic communications providers.

106. BEREC notes that, as currently drafted, **Recommend 30** may create the impression that an audit will indicate whether SMP operators have complied with their non-discrimination obligation. In BEREC's view an audit would bring value to the process as it would help certify that *a)* the methodology to calculate KPIs has been applied correctly by SMP operators and *b)* the correct input data has been used in these calculations.

107. Moreover, BEREC notes that differences in the measured levels of KPIs are not an automatic proof of discrimination.[33] Where the results measured by KPIs indicate potential differences in the levels of service provided to different operators there may be legitimate reasons for this (for example, extreme weather conditions could have impacted different parts of a country in different ways). KPIs can therefore be useful in determining potential discriminatory behaviour, however should not be used as conclusive evidence of it and further investigation by NRAs would be required. On this basis, BEREC would welcome confirmation in the final Recommendation that NRAs are best placed to conclude whether SMP operators have been compliant with their non-discrimination obligation (as may be indicated by the results of KPIs) and has made a drafting suggestion to this effect (see **Annex 1**).

108. Finally, BEREC also notes that the use of dissuasive financial penalties on a periodic basis may not always be possible under national law and therefore welcomes the reference to alternatives in order to enforce an SMP operator's compliance with the non-discrimination obligation.

## *Service Level Agreements and Service Level Guarantees*

### Recommends 31, 32 and 33

109. **Recommends 31** and **32** require SMP operators to implement Service Level Agreements (SLAs), alongside KPIs and to provide Service Level Guarantees (SLGs) in case of breach of SLAs. Recommend 33 states that "Payment of financial penalties should, in principle, be automatic".

110. BEREC agrees with the Commission that SLAs and SLGs (along with KPIs) can be useful in reducing the incentives for discriminatory behaviour[34] and it is a position that BEREC reflected in its revised CPs.[35] For example, a regime which allows all operators to subscribe to the same SLAs may ensure all operators subscribe to the same terms and conditions (should they choose to). Proactive payment of SLGs (for failures on the part of the SMP player) can also act as a deterrent against discriminatory behaviour. Moreover, it is also desirable for KPIs to be designed in a way which is consistent with the relevant SLAs by measuring the SMP player's performance in service areas which are of importance to

[32] See BoR12(10).
[33] See BoR(12)10.
[34] See BoR(12)10.
[35] Revised BEREC CPs

alternative operators. The use of SLAs without KPIs makes it harder to monitor non-discrimination. KPIs which are not related in some way to SLAs appear of limited value since they would be measuring something which is apparently not considered to be important. KPIs do not only monitor compliance with relevant SLAs, but they also show differences in the treatment of operators (alternative operators, as well as the downstream arm of the SMP player) which could be an indication of discrimination.

111. BEREC has two minor comments in relation to **Recommend 33**. Firstly, it would be helpful to clarify in the final Recommendation that the payment of financial penalties relates to payment of SLGs. Secondly, it would be helpful to refer to SLG payments as being proactive in nature, rather than automatic (a requirement which might be disproportionate). As reflected in BEREC's CPs, the outcome that NRAs would like to ensure is that SLG payments are made without undue delay and therefore are proactive in nature (that is, with a pre-established process for the payment and billing of the SLGs among operators and without the need for alternative operators to request the intervention of any third party i.e. NRAs or courts). BEREC has made some drafting suggestions to this effect (see **Annex 1**).

## Costing methodology

### *The Recommended Methodology*

112. The draft Recommendation provides guidance on the costing methods that NRAs should adopt when modelling the costs of wholesale NGA and copper access products. For example, it would require NRAs to adopt a bottom up long run incremental cost plus (BU LRIC+) costing methodology. It would also require NRAs to value re-usable civil engineering assets (such as duct) at their indexed net book value. Finally, it recommends NRAs develop a BU LRIC+ costing methodology based on an FTTC network to calculate the costs of wholesale copper access services.

113. BEREC agrees with the Commission that NGA roll-out is best encouraged by providing regulatory predictability to operators and investors by choosing a costing methodology that reflects the undistorted make-or-buy signal. However, it is important that the Recommends regarding the appropriate costing methodology are clear. If not properly motivated the change in costing methodologies would create legal uncertainty, which could result in lengthy proceedings before national courts. Ultimately such an uncertainty would reduce regulatory predictability which would undermine the investment environment for NGA and be at odds with the Commission's primary objective of encouraging NGA investment with which BEREC fully agrees. BEREC therefore welcomes the clarifications provided by the Commission recently on some points.

114. The draft Recommendation is trying to accommodate simultaneously a number of objectives, which could conflict with each other (i.e. the Commission's (intermediate) objectives of convergence of costing methodologies and convergence of prices across the EU and copper price stability) and at that point a choice may need to be made. Therefore BEREC welcomes the Commission's clarification that NRAs can retain appropriate flexibility to the extent that the methodology adopted at the national level has demonstrably achieved the goals of the Recommendation. In order to achieve such goals, BEREC invites the Commission to list the requirements that the appropriate costing model should fulfil (see paragraph 137 below) and to leave NRAs to implement the costing methodology most appropriate to fulfil such requirements.

115. BEREC agrees with the Commission that regulatory consistency across MSs is important, but is also of the view that this is better achieved by following a set of common principles and best practices rather than prescribing a single modelling approach. Generally speaking modelling approaches must be able to reflect the variety of market situations across Europe. For an overview of a consistent choice of costing methodologies BEREC

would like to draw the Commission's attention to BEREC's response to the Commission's Questionnaire on costing methodologies[36]. Moreover, BEREC is of the view that particularly in the context of NGA roll-out, consistency over time, and along the value chain, within a country is as important for entry and investment decisions as achieving price convergence across MSs[37]. BEREC agrees with the Commission that copper networks will eventually be replaced by fibre (NGA) networks. As different network architectures may be chosen in different MSs it is important that the model is suitable to reflect the network architecture in place, i.e. it is technologically neutral.

116. BEREC and the Commission agree that modelling approaches must be capable of adequately capturing the variety and complexity of situations across Europe, but BEREC does not understand the rationale behind a number of Recommends in the costing methodology section and would invite the Commission to provide more explanations as to why it considers them to be appropriate. At the same time, not having had the chance to verify the Commission's own assumptions and calculations[38], BEREC thinks that the Commission may be underestimating the effects of the recommended costing methodology on national markets, as calculations from some NRAs based on the recommended methodology (according to BEREC's understanding) indicate different outcomes compared to the numbers expected by the Commission. BEREC therefore invites the Commission not to prescribe a specific costing methodology, but to identify general requirements for costing methodologies which would be better suited to address the uncertainty of demand during the migration from copper to fibre networks. BEREC is also of the view that the choice of the appropriate costing methodology by the NRA depends on the prioritisation of the regulatory objectives and the prevailing market conditions[39]. Furthermore, BEREC suggests that the incentive properties for investment in NGA stemming from the recommended asset valuation methods need to be properly assessed in a thorough cost analysis instead of engaging in a "*reverse engineering*" exercise.

117. BEREC would like to point out that the costing section is dealing with detailed technical issues relating to cost modelling. BEREC therefore suggests to replace **"*should*"** with **"*may*"** where referring to technical details in order to allow NRAs the ability to settle the technical details in the most appropriate manner. BEREC has abstained from providing thorough amendments to the text of the costing section. BEREC would like to offer its assistance to redraft the whole costing section. BEREC has discussed the main issues below with reference to the specific paragraphs of the draft Recommendation and provides its views for improvement.

**Recommend 34**

118. **Recommend 34** states that "NRAs *should* adopt a BU LRIC+ costing methodology".

119. BEREC understands that **Recommend 34** applies to both the calculation of the costs of pure NGA based wholesale access services (as dealt with in **Recommends 35** and **36**), as well as the calculation of the costs of wholesale access services based entirely on copper by readjusting the costs calculated for an FTTC network considered to be the MEA of a copper network (as recommended by **Recommend 42**).

**Recommends 35 and 36**

120. **Recommend 35** states that "NRAs *should* adopt a BU LRIC+ costing methodology that estimates the current cost that a hypothetically efficient operator would incur when

[36] BEREC (11)65, section IV.
[37] BEREC (11)65, p. 3/4.
[38] BEREC was neither able to check the Commission's own assumptions leading to the target range of € 8-10/month nor its Impact Assessment.
[39] BEREC Response, BoR (11) 65, p. 6.

building a modern efficient NGA network" irrespective of whether any NGA network is present in the relevant geographic market subject to cost-oriented access pricing.

121. **Recommend 36** defines the efficient NGA network, modelled according to **Recommend 35**, as a network capable of delivering the DAE targets and consisting wholly or partly of optical elements, i.e. a fibre access network.

122. BEREC understands that **Recommends 35** and **36** apply to the calculation of the costs of pure NGA based wholesale access services, regardless of whether they are subject to cost-orientation or not. However, and according to **Recommends 49** and **50** of the draft Recommendation, BEREC understands that the Commission would not expect NRAs to subject these services to cost-oriented price regulation in accordance with the Commission's primary objective of ensuring pricing flexibility for NGA services. In light of this, BEREC would like to understand the purpose of these two Recommends. It seems the draft Recommendation itself is asking NRAs to prepare a regulatory costing model to calculate the cost-oriented price of wholesale NGA services even in that situation. BEREC invites the Commission to clarify that this is not the actual intention and to explain the purpose of **Recommends 35** and **36**.

123. BEREC further understands that **Recommend 36** leaves the choice of the modelled network architecture/technology (e.g. FTTH, FTTC etc.) to the NRA, for it to be able to reflect the actual roll-out strategy chosen by the (regulated) operator. BEREC invites the Commission to clarify that NRAs are not expected to model an "ideal" NGA network, irrespective of the actual network being rolled-out and which would be capable of delivering the DAE targets. BEREC takes it that, according **to Recommend 36**, an NGA network is defined as an access network consisting wholly or partly of optical elements capable of delivering the DAE targets. BEREC invites the Commission to clarify that several infrastructures (e.g. cable, wireless) contribute to the fulfilment of the DAE targets in a country. This is all the more important given that, according to Article 8 paragraph 5 of the Framework Directive, NRAs need to promote infrastructure competition where appropriate. If the contributions of other infrastructures to the DAE targets are not taken into account the investment needs for NGA may be grossly over-estimated, in particular in countries with strong cable presence. Given the fact that the current take-up of NGA services is limited in most MSs, this could send distorted investment signals.

124. BEREC also notes that **Recommend 36**, as currently drafted, seems to suggest that prices need to be set as if the DAE targets were reached (even when this may not be the case in practice). In the unfortunate event that the targets were not achieved, this may imply that consumers may end-up paying for a service that they would not be receiving. BEREC therefore invites the Commission to clarify in the Recommendation that NGA roll-out is referring to the actual roll-out ongoing in MSs rather than the DAE targets.

**Recommends 37 to 41**

125. **Recommends 37** to **41** deal with the asset valuation and the RAB. **Recommend 37** states that "NRAs *should* include existing civil engineering infrastructure assets capable of hosting an NGA network [i.e. reusable] as well as civil engineering assets that will have to be newly constructed to host an NGA network", i.e. both should be included in the RAB, but using different asset valuation methods.

126. **Recommend 38** states that "NRAs *should* value all assets constituting the RAB […] at full replacement costs, except for reusable legacy civil engineering assets. Recommend 39 specifies that "NRAs *should* value reusable legacy civil engineering assets […] on the basis of the indexation method", i.e. at the book value net of accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the RPI. "NRAs *should* not include reusable legacy civil engineering assets that are fully depreciated but still in use".

**Recommend 40** states that "NRAs *should* lock-in the RAB corresponding to the reusable legacy civil engineering assets and then roll in forward from one regulatory period to the next."

127. **Recommend 41** deals with the lifetime of the civil engineering assets, which "NRAs *should* set […] at a level which corresponds to the actual length of utilising the civil engineering network and the corresponding demand profile, which is normally not less than 40 years in the case of ducts".

128. In BEREC's view the recommended costing approach is a mixture of different asset valuation and annualisation methods which do not necessarily fit together. There is therefore a risk that they could not be defendable before national courts. Basing the cost modelling of reusable legacy civil engineering assets on the net book values of the SMP operator's assets would also appear to be in contradiction with the BU approach recommended in **Recommend 34** (as using data based on the SMP operator's accounts seems more like a top-down approach). For example, BEREC notes that the Commission itself recommended to AGCOM (case IT/2010/1133) that it should exercise great care when introducing accounting data from the SMP operator in a BU-LRIC model. In fact, the use of accounting data, such as book values, from the SMP operator in a BU model may run the risk of introducing uncertainty in the cost calculation and may therefore lead to discrepancies among MSs. With regard to **Recommend 39**, BEREC would like the Commission to explain how this Recommend is compatible with its comment in the same letter to AGCOM that *"Just taking the existing assets at their historic costs, however, even if adjusted for inflation, could provide the wrong investment signals for both access-providers and access-seekers."* It seems this is exactly what **Recommend 39** is now asking NRAs to do and BEREC would like to ensure that such differences in guidance from the Commission do not lead to further uncertainty in the future. Moreover, it appears that references to statutory and regulatory accounts are confused in the draft Recommendation. BEREC invites the Commission to clarify whether NRAs are expected to use the regulatory, rather than the statutory, accounts and adjust the wording accordingly as this would solve a number of the issues addressed above.

129. BEREC also questions the use of benchmarking to determine the net book value of assets, considering that in each MS the infrastructure was built at different times and in different ways. Benchmarking would not take into account the differences in topological, geographical and demographical circumstances. For example, a significant share of costs of telecommunication networks relates to labour costs (capitalized in the civil engineering costs) which can vary materially from country to country. This may require a time consuming and resource intensive comparison/adjustment process to properly reflect these differences in labour costs in the benchmark data. The benchmarking exercise is further complicated by the need to establish a reference not on average civil engineering costs, but only for reusable ones. Taking this into account, BEREC would not recommend benchmarking as an alternative costing methodology for civil engineering assets (especially reusable ones).

130. The draft Recommendation seems to assume that using the same costing methodology will yield similar results in all MSs. However national differences among countries could have a significant impact on the costs and therefore on cost-oriented LLU prices. In fact, there are cost differences that derive from differences in structural parameters such as topology, geography, population density and dispersion etc. In addition, depending on the investment history, the reusable legacy civil engineering costs as well as the share of the legacy civil engineering infrastructure that can be reused for NGA may also differ significantly among countries. These differences are likely to increase, rather than decrease, the price differences between MSs. Initial calculations from some NRAs show that, by applying the recommended costing (asset valuation) methodology based on BEREC's understanding of it, prices would not necessarily converge, but rather diverge reflecting the

existence of real cost differences. This also implies that there is a risk that prices may fall out of the proposed price band (see below paragraphs 139 to 140).

131. BEREC's view is that a consistent approach to asset valuation (whether re-usable or not) is not a precondition to ensure future investment in sunk assets. To the extent that the Commission's objective is to incentivise investments in sunk assets, BEREC recommends that the Commission takes into account original investors' expectations when they had invested in legacy copper assets.

**Recommend 42**

132. **Recommend 42** prescribes that the NGA network to be used for the calculation of the costs of wholesale access copper services should be an FTTC network. **Recommend 42** states that "NRAs *should* adjust the cost calculated for the NGA network to reflect the less performant features of a copper network. For this purpose NRAs *should* consider an FTTC network as the modern efficient NGA network", i.e. the MEA. "NRAs *should* estimate the cost difference between an access product based on FTTC and an access product based entirely on copper by making the relevant adjustments in the FTTC engineering model, e.g. replacing the optical elements with efficiently priced copper elements, where appropriate."

133. BEREC has a number of reservations regarding **Recommend 42**. Prescribing an FTTC network as the MEA for a copper network is neither future proof nor technologically neutral and may lead to NRAs using a model which does not reflect the NGA network being actually rolled out in their countries. A number of NRAs do not consider FTTC as the NGA technology that an efficient operator would choose to deploy today; which would be more likely to be an FTTH network. In addition, it seems an FTTC model may not be representative of what is actually being rolled-out (e.g. FTTH networks in Sweden, Finland, Lithuania, France). Furthermore, BEREC notes that an FTTC network may not be viable at all in some countries[40], and therefore a model based on such a network topology may not be defendable in national courts. In any case the NRAs need to also respect the principle of technological neutrality and ensure that they do not influence the choices of the operators. BEREC therefore invites the Commission to clarify in the text of the final Recommendation that NRAs would be able to adopt technologically neutral alternatives (to the proposed FTTC approach). .

134. Modelling the costs of an efficient NGA network which does not bear any similarity to the actual networks being built appears questionable, especially given that such networks are still being built. NRAs have to be mindful of the roll-out strategies and the technologies used in their respective countries when modelling the costs, as input parameters are likely to vary considerably and this needs to be taken into account when calculating the costs to be reflected in the LLU prices.

135. Furthermore, in **Recommend 42** the Commission states that in order to estimate the cost of wholesale access based entirely on copper (copper LLU), an FTTC model should be first developed, which should then be adjusted by replacing the optical elements of the FTTC network with efficiently priced copper elements, where appropriate. BEREC thinks that such an adjustment would not lead to a decrease in access costs, as the current price of copper elements are higher than the price of optical elements and, in addition, the associated deployment costs are not very dissimilar. Thus, the Commission's suggestion that higher bandwidth (FTTC) also means higher costs for deployment is not necessarily true. Such a process to calculate the copper access costs seems to be rather complex. Instead of

[40] For example the SMP operator in Lithuania claims that the poor quality (uneven diameter) of Soviet-time copper lines makes any VDSL deployment unfeasible (only very short distances can be served), therefore using FTTC as a reference technology might result in even higher copper access costs than ones of FTTH. This argument might also be true for other post-soviet countries.

”*reverse engineering*” the copper network costs from an FTTC architecture, BEREC thinks it would be much more appropriate (and accurate) to calculate these costs directly using a copper model. This approach is also consistent with the objective of dealing with declining copper demand, which NRAs can also handle through, for example, the use of appropriate depreciation methods (see below).

136. BEREC thinks that an FTTC model is not the only way to “neutralize” the effect of increasing unit costs due to the effect of declining volumes (by migrating all lines to the FTTC model). In BEREC’s view this can be done in the same way with any FTTx network where the share of lines, “hypothetically” running on fibre is the same in all cases. In fact, a number of NRAs have already successfully implemented (and therefore use) FTTx models. Also, it appears that the Commission has not taken into account the issue of allocating civil engineering costs on both copper and fibre when both cables lie in the same duct potentially meaning the costs may not rise as copper volumes fall if those costs are partially recovered from fibre lines (cost sharing effect).

137. In order to be technological neutral and to deal with the issues raised above BEREC invites the Commission to list the requirements that the appropriate costing model should fulfil: a) be future proof (i.e. based on the modern efficient network and appropriately reflecting current network constraints); b) reflect the need for stable and predictable copper prices over time in order to provide a clear framework for investment (attention should be given to the existing valuation of assets, especially civil engineering assets, in order not to create any unjustifiable discontinuities in valuations or prices for copper network services); c) be capable of generating cost-oriented copper prices which serve as an anchor for NGA services (and which are consistent with the prices that would be calculated for NGA-based services); and d) deal appropriately and consistently with the impact declining volumes caused by the transition from copper to NGA. The Commission should then leave NRAs to implement the costing methodology most appropriate to fulfil such requirements and reflect the transition to fibre in their copper models. Also, it should be pointed out that NRAs can deal with the problem of declining volumes by e.g. using appropriate depreciation methods (e.g. economic depreciation profiles or asset lifetime adjustments). BEREC has made some wording suggestions in **Annex 1**.

138. If infrastructure competition is successful, BEREC is of the view that migration will not only take place between the SMP operators’ copper and fibre networks, but consumers will also be migrating to cable networks and other operators’ fibre or mobile networks. Therefore there may be a net loss of lines which would have to be appropriately modelled and prices may ultimately not remain stable (unless compensated by cost reductions in other elements). More generally, cost-oriented prices should be allowed to reflect changes in the costs of provision due to changes in parameters naturally occurring in times of migration (and development) from copper to fibre and to other NGA networks. Therefore BEREC believes the intermediate objective of price stability for regulated copper prices needs to be consistent with the principle of cost-orientation in order to ensure that the make-or-buy signal is not distorted. Equally BEREC thinks that cost-oriented prices should be allowed to reflect cost differences between different MSs and therefore do not have to necessarily converge (even when applying the same costing methodology, see above). Therefore BEREC would welcome the Commission’s explicit clarification in the final Recommendation that the €8-10/month price range is not mandatory and that prices outside this range are acceptable if they can be objectively justified. BEREC invites the Commission to reflect this clarification explicitly in the text of the final Recommendation.

### *Timetable of Implementation of the Costing Methodology*

139. In BEREC’s view there is an inherent contradiction between on the one hand, requiring NRAs to impose the use of a specific BU-LRIC+/FTTC model to calculate copper prices and, on the other hand prescribing the outcome of such an exercise where prices are

expected to fall within a band € 8 – 10/month. BEREC considers that this approach is incompatible with the principles of best regulatory cost accounting/modelling practices which require NRAs to set prices according to professional economic analysis. There is a real risk that specifying a price band might influence the results of the costing model – it is also open to gaming by SMP operators who may prefer to charge a price which is in the target band. This approach may also lead some NRAs having to disregard the results of their cost analysis where their own models give results which fall outside the target price band. BEREC also notes that, in some MSs the price band referred to in the draft Recommendation might be in conflict with the economic replicability test which is already in place and therefore may result in margin squeeze.

140. BEREC therefore welcomes the clarification of the Commission that NRAs can follow the results of their costing models and thus retain appropriate flexibility to use the most suitable costing methodology (to the extent that the methodology adopted at the national level has demonstrably achieved the goals of the Recommendation). This implies that NRAs can continue using their current costing methodology when it fulfils the requirements set out in paragraph 137 above. This is especially the case where changing the costing methodology would produce a major change in access tariffs (undermining both regulatory continuity and predictability). Indeed, BEREC estimates that in some cases, a change of methodology risks bringing access tariffs currently within the band out of the band (in some cases, way above or below it). Thus, in order to avoid such disruptions, BEREC would see the intermediate objective of convergence of costing methodologies as being a long term objective which should reflect the best practices developed and tested by NRAs over time. It is also important that this long term objective should not undermine the objectives of ensuring regulatory continuity and providing predictability within national markets.

**Recommends 43 and 44**

141. **Recommend 43** states that "NRAs *should* have regard to the principle of regulatory transparency and predictability and the need to ensure stability when setting access prices". Recommend 44 states that "NRAs *should* ensure that the recommended methodology is implemented no later than 31 December 2016". It continues by stating that the "Commission expects the LLU copper monthly rental access price to fall within a band of € 8 – 10 expressed in 2012 prices.

142. BEREC agrees with the principles of transparency and predictability, but considers that the recommended costing methodology risks not achieving these aims.

143. BEREC invites the Commission to explain its expectation that the LLU prices will fall in the € 8 – 10 per month band, and how the recommended price band will promote the objective of NGA roll-out and will be sufficient to guarantee cost recovery at all. BEREC would also like to understand how constraining prices within a specific band would promote competition within a national market, as its only goal seems to be to create uniform prices at a European level.

144. BEREC thinks that the draft Recommendation may not lead to consistency between the copper and fibre costing methodology given that the Commission recommends using a BU-LRIC+ model for fibre services, but if copper prices are in the right range, it also recommends not changing the currently used methodology in order to stabilize copper prices during the transition phase. With such an approach, it is likely that the costing methodologies will not be consistent between copper and fibre services. This inconsistency may lead to distortions in the allocation of costs, giving the wrong investment signals and is in contradiction with BP51 and BP52 of BEREC's revised CPs[41] .

[41] BoR (12) 127.

145. The transition from copper to fibre will have to be reflected in the price evolution dynamically. BEREC therefore invites the Commission to recognise that NRAs should be able to update the approach to the recommended methodology. To the extent that this is based on a new NGA network, NRAs should be able to update both the methodology and the data (e.g. parameters such as WACC, volumes etc.) used should they consider that this is necessary, for example to ensure more robust and accurate forecasts of underlying costs.

146. BEREC understands that the Commission has an ambition to harmonise costing methodologies, because it believes this will converge LLU copper prices across the EU to the target range. However, as described at length above, BEREC estimates that the EU wide application of the recommended costing methodology will not guarantee that prices will converge to the target range and could in practice lead to prices which fall outside the target. This would undermine the Commission's objective of stable and predictable prices as well as convergence. Due to structural and other differences (such as topology, geography, population density/dispersion as well as the level of urbanisation, urban and architectural planning, building structures, purchasing power parity, wages[42] etc.), costs are likely to vary considerably to such an extent that even with the use of a single model prices are unlikely to converge in a narrow band. These national differences could objectively justify a price different from (i.e. outside of) the recommended range. National circumstances, if taken properly into account, can be expected to result in a larger variation in prices. In conclusion BEREC sees a risk that a change in costing methodology to reach the target band creates uncertainty thus reducing regulatory predictability which ultimately may also send a negative signal to the investors. It may thus lead to the opposite effect of what the draft Recommendation intends to achieve, i.e. disincentivising instead of encouraging NGA investment.

**Recommends 45 - 48**

147. BEREC reads the draft Recommendation to mean that if NRAs apply the new methodology and it results in a price outside the range of €8 – 10 per month, then they have complied with the methodology. Also, considering that the convergence of costing methodologies is a long term goal, the transition period for the implementation of the costing methodology should be aligned accordingly.

## Non-imposition of cost orientation on NGA networks

148. In this section of the draft Recommendation the Commission lists the conditions under which non-imposition of the cost orientation obligation on new wholesale NGA services would be possible. Below BEREC summarises its views on the main recommendations, supported by specific drafting suggestions as shown in **Annex 1**.

**Recommends 49, 50 and 52**

149. The draft Recommendation (**Recommend 50**) states that NRAs "should decide" not to impose or maintain price control obligations (including obligations for cost orientation) on NGA wholesale inputs when these are already subject to:

- Obligations of EOI , technical and economic replicability; and

[42] E.g. the total hourly cost in Bulgaria is 2.90 €/hour whereas in the UK it is 95 €/hour and in Switzerland it is 129.09 €/hour. Cf. Cullen International Cross Country Table 6 "Duct sharing – Prices", Dec. 2012.

- Additional significant competitive constraints emanating from either legacy access network products subject to cost orientated price controls or retail services over at least one alternative infrastructure that is not controlled by the SMP operator.[43]

150. BEREC shares the Commission's determination to both:

- enhance the broadband investment environment across Europe (by outlining the conditions under which the obligation of cost orientation could be lifted to allow for flexibility in the pricing of NGA services); and
- promote competition (by outlining the conditions for ensuring the effective application of the non-discrimination obligations).

151. In fact, in the telecoms sector competition and investment tend to reinforce each other (for example, a significant proportion of the current NGA investment by the telecom incumbents in many EU markets is a reaction to the role played by cable operators, and other new entrants, in those markets). Therefore, as the draft Recommendation itself recognises, as well as promoting new investments in NGA, it is also important not to lose sight of the competitive gains made over the last decade.

152. BEREC also agrees with the Commission that during a period of investment in new technology (NGA), (wholesale) ***pricing flexibility*** has an important role to play as it enables operators to trial different pricing arrangements in the early (uncertain) period of such investments.

153. BEREC agrees with the Commission that when considering whether to lift (or not impose) the cost-orientation obligation NRAs need to take into account (amongst other things) whether NGA wholesale access prices are ***sufficiently constrained*** (i.e. when price-related competition problems are considered to be sufficiently addressed). Such constraints could stem either from the ability of third party access seekers to purchase legacy (wholesale copper) access products from the SMP operator on regulated terms or the presence of retail services offered by (at least) one alternative infrastructure not controlled by the SMP operator (such as cable, mobile or alternative fibre networks). These competitive safeguards are relevant for NGA services which fall into either Markets 4 and 5. BEREC also notes that NRAs need to take into account such competitive constraints in their market analysis and ensure consistency between their decision regarding the application of the cost orientation obligation and the overall conclusions of their market review. BEREC invites the Commission to make these points more explicit in the text of the final Recommendation.

154. Although not directly related to the non-imposition of a cost orientation obligation, the presence of an appropriate ***ex-ante economic replicability*** test can also have an important role to play in this respect. BEREC recognises that the competitive constraints discussed above may not always be sufficient to prevent some anti-competitive strategies, such as the setting of inappropriate price differentials between SMP operators' wholesale and retail (NGA) products. Concerns relating to economic replicability can either be addressed ex-ante or ex-post (through competition law). The former approach may be particularly relevant when NRAs want to promote the development of a competitive market which is not undermined by SMP operators who could adopt a particular approach to the economic replicability test (see detailed discussions on this point in paragraphs 163 to 173 below).

155. BEREC also understands that the Commission is keen to reinforce the fact that the case for such pricing flexibility is particularly compelling when, in addition to the competitive constraints described above, SMP operators have also ***implemented EOI effectively***. BEREC recognises the strength of this argument, but notes that cost orientation and non-discrimination affect the market in different ways and therefore are not necessarily

[43] Recommend 49 does not refer to these additional competitive safeguards.

substitutable. The obligations of cost orientation and the specific form of equivalence chosen to ensure non-discrimination have different, and complementary, aims. Non-discrimination is imposed to promote a level playing field between SMP and alternative operators in the market, while cost orientation is applied to ensure that the price of wholesale inputs relates to the underlying costs of provision. This means NRAs need to take into account different considerations when deciding whether (and how) to apply each of these remedies separately in order to deal with the specific competition issues they face.

156. On this basis BEREC and the Commission are keen to avoid unintended consequences which might arise were the linkage between EOI and cost orientation obligations to be viewed as being automatic or specified in a way which prevents any other possible combinations of non-discrimination and cost orientation measures.

157. In this respect, BEREC welcomes the Commission's clarification during discussions that the conditions listed in the draft Recommendation under which NRAs should consider lifting cost-orientation obligations describe only one of several possible scenarios and that, subject to proportionality considerations, other outcomes are also possible. For example, in cases where inter-platform competition (e.g. strong cable and/or mobile operators) is prevailing, strengthening the non-discrimination measures in the manner suggested would tighten intra-modal competition further (even though inter-modal competition is the actual competitive force). Therefore, BEREC invites the Commission to make explicit in the final text of the Recommendation that NRAs are not prevented from lifting cost-orientation when an effective non-discrimination remedy is in place even if it is not EOI. For example, an NRA which concludes that EOO is the proportionate non-discrimination obligation should also, at the same time, be allowed to lift/not impose cost-orientation obligations on new NGA services which are sufficiently (price) constrained. Conversely, an NRA which imposes non-discrimination obligations (whether EOI or EOO) might also find insufficient competitive constraints, and decide to retain (or impose) cost orientation obligations. BEREC invites the Commission to reflect this understanding in the text of the final Recommendation.

158. BEREC welcomes the Commission's efforts to clarify the power of NRAs as outlined in **Recommend 52** and has some additional observations aimed at making this Recommend as effective as possible.

159. BEREC and the Commission are entirely aligned in their desire to prevent behaviour by SMP operators who, in order to secure price flexibility, promise but ultimately fail to deliver an effective and timely EOI framework. Such an outcome would undermine the Commission's objective of ensuring a level playing field for alternative operators in the market and enhancing investment in NGA networks. BEREC therefore invites the Commission to strengthen the text of the final Recommendation to make clear that NRAs have the power to determine the exact scope of the EOI obligation from the outset (in addition to the inclusion of a robust roadmap as a remedy in their final measures, which ensures that SMP operators' commitments to comply with their EOI obligations are credible), and are subsequently able to enforce it (see paragraph 58 above for BEREC's detailed views).

160. At the same time, the power to primarily enforce an EOI obligation ex-post could confer a first mover advantage on SMP operators (because of how long it takes to secure EOI), ultimately to the detriment of competition in the market. In order to mitigate this risk, BEREC invites the Commission to strengthen **Recommend 52** by making clear in the final Recommendation that in circumstances where an NRA *has already imposed* an obligation of cost orientation on NGA products, it has discretion over the timing of the lifting of that obligation in order to ensure that there is no harm to competition arising from the disruption of existing access agreements (for example, the lifting of cost-orientation could be conditional on the passing of a milestone clearly specified by the NRA). Conversely, where an NRA *has not imposed a cost orientation obligation* and the SMP operator fails to meet a pre-specified

EOI milestone, the NRA should be entitled to consider reintroducing cost-orientation (i.e. without the need for a further market analysis) or indeed to impose penalties (a potentially effective alternative to the threat of the immediate re-introduction of cost orientation, e.g. if the NRA considers that the latter could cause instability in the market). BEREC has made drafting proposals to this effect in **Annex 1**. Finally, BEREC would welcome explicit reference to NRAs' ability to consider, if appropriate, any additional warranties in the context of EOI implementation, aimed at ensuring that the mechanism for incentivizing NGA investment is working effectively (e.g. compliance of the SMP operator with its commitment on NGA deployment, QoS targets for NGA, etc.)

161. **Recommend 52** also states that when imposing an EOI obligation, NRAs should also include in that measure a roadmap (which includes the details and timing of implementation of EOI) which *should be signed by an authorised company officer of the SMP operator*. In BEREC's view the requirement for a signature is not necessary as NRA decisions, notified according to Articles 6 and 7 of the Framework Directive, are mandatory and enforceable. Therefore, BEREC invites the Commission to remove the requirement for such a signature from the final Recommendation (see **Annex 1**).

162. Finally, BEREC would like the Commission to clarify in the text of the final Recommendation that the proposals in this section relate to the cost orientation obligation and do not refer to price control obligations in general. This is necessary to ensure the enforceability of economic replicability as required by Recommend 53c of the draft Recommendation.

**Recommend 53**

163. **Recommend 53** states that an NRA shall be deemed to have imposed the economic replicability obligation if its final measure includes a) the details of the ex-ante economic replicability it will apply; b) the procedure according to which it will conduct an ex-ante economic replicability test and c) the remedy it will adopt when the test is not passed. More details are provided for in Annex II of the draft Recommendation including the EEO as the standard. However, BEREC has some reservations on the replicability test (i.e. Recommend 53) as well as regarding Annex II which are noted below.

164. BEREC notes that the economic replicability test is not compatible with the ones currently applied by a number of NRAs and notes the importance of protecting competition, particularly when cost orientation is lifted. BEREC therefore invites the Commission to clarify in the final text of the Recommendation that the scope of the ex-ante economic replicability test to be applied in these circumstances is without prejudice to the margin squeeze tests that NRAs already implement, and that this Recommendation would therefore not limit NRAs' ability to continue to conduct such tests. Furthermore, BEREC suggests that this approach would be in line with the best regulatory practices outlined in its revised CPs[44].

165. In order to promote market entry in different markets, and at different levels of the value chain, economic replicability tests are required for all relevant wholesale products. In order to have consistent prices along the value chain, one should also consider the relationship between different access products. Furthermore, in a regulated market the SMP-operator would likely have no incentive to provide access products at competitive prices. Therefore, if a certain access product is not subject to a price cap the SMP operator will still lack the incentive to set competitive prices, because a margin squeeze test does not constrain the level of wholesale prices, merely the margin. Without any remedy for these specific products, access regulation would have no effect.

[44] Revised BEREC CPs

166. Although the economic replicability test to be performed by the NRA (**Recommend 53**) is referred to as an ex-ante test, the Commission states that the time to perform the ex-ante economic replicability test is "no later than three months after the launch of the relevant retail product and in any case within four months". A post launch test is very useful to monitor the effective prices faced by the consumers, as well as to confirm the results of the ex ante replicability test applied before the launch of the product with real traffic patterns and to include any modifications in underlying costs of providing the service. However, the draft Recommendation could be amended to include the possible periodicity of the post-launch test, to analyze not only the nominal prices of the "flagship" products but also the changes to these prices that could modify the effective price. On the other hand, in some cases, by the time the results of the replicability test are finalised, the retail product would have already been offered to the end users for some time. In the case where the SMP operator does not pass the test, not only is it likely that competition may be seriously distorted, but also it will be very difficult to withdraw an established retail product from the market. Moreover, in **Recommend 53** it is not explicitly stated whether the NRA can force the SMP operator to cease the provision or stop the launch of the new retail offer in the market, if the test is not passed.

167. The parameters of the economic replicability test as currently drafted are very detailed and do not take into account relevant experiences from NRAs regarding the replicability tests already imposed on legacy products or consideration of national circumstances. BEREC invites the Commission to make the following changes to Annex II of the draft Recommendation and is happy to provide its assistance.

168. First, the economic replicability test could be applied to the individual products/bundles and/or be applied at a more aggregate level.[45] Second, flagship products are the products which can be expected to have a significant impact on the competitiveness of an operator, such as innovative products (e.g. higher bandwidths), tailor-made business products and/or products which are likely to be chosen by a significant share of customers. Above all, flagship products should likely be part of the business case of (potential) entrants and should include those offers addressed to the market segments which the (potential) entrants are more focused on and consider more important to compete in. It should therefore be open to the NRA to choose to apply the test to all retail products individually and in addition at a more aggregate level (e.g. market level).

169. With regard to the relevant regulated wholesale input, BEREC is of the view that this should not only refer to 'the most relevant regulated input' (singular), but to all relevant regulated inputs (e.g. LLU, VULA, Bitstream) that the alternative operator is using, which could imply a mix of wholesale services.[46] In order to ensure that economic replicability is guaranteed for all regulated wholesale inputs along the value chain, one could also consider

[45] In the "Report on the Discussion on the application of margin squeeze tests to bundles", ERG tackled this question on the level of aggregation appropriate for the economic replicability test. As mentioned in the report, *"[T]he larger the product set considered in the test, the greater the opportunity for the SMP operator to cross-subsidize some products from other products. If this is the case, this may mean that, in some products or sub-set of products, alternative operators may not be able to enter the market".* On the contrary, if the prevalent competitive conditions are such that the regulatory objective is granting more flexibility to the SMP operator, a greater level of aggregation could be more appropriate.

[46] As noted in the ERG Report on price consistency in upstream broadband markets, the application of the efficient operator concept in the context of broadband replicability could lead to the definition of a mix of products if the *"efficient operator" has climbed the ladder of investment and is using a combination of wholesale services. This "efficient operator" could therefore coincide with the theoretical operator defined by the NRA when determining the economic space (...). The outcome of this approach would mean weighting prices of different wholesale services in the design of the price squeeze test".*

the relationship between different access products. NRAs should be able to use the inputs which reflect the real use by access seekers.

170. BEREC would like to make some remarks on the standard to be applied in such tests. An economic replicability test based on an Equally Efficient Operator (EEO) standard has the considerable merit of providing investing SMP operators with predictability (which is best achieved by taking into account their own downstream costs). At the same time, there may be justifiable reasons for departing from a strict EEO standard, for reasons of dynamic efficiency and for the promotion of competition. BEREC would therefore welcome explicit clarification in the final Recommendation that NRAs can make adjustments to the EEO standard in certain market circumstances to ensure that economic replicability is a realistic prospect and therefore that, while EEO may be the starting point for assessment, there may also be circumstances in which an REO standard is appropriate in relation to economic replicability. In this manner the draft Recommendation will also be consistent with both the NGA Recommendation as well as BEREC's revised CPs, both of which NRAs have to take into utmost account. Concerns regarding the data to be used and the predictability for the SMP operator (and its investors) regarding the economic replicability test can be solved by the requirement that the NRA publishes its methodology.

171. In relation to the relevant cost standard, BEREC is concerned with the use of avoidable[47] costs only. Using only avoidable costs may not be appropriate given the high level of sunk and common costs in the fixed telecoms sector. The recovery of avoidable costs only may not be sustainable for competing alternative operators or incentivise entry by others. Where the goal is to promote effective retail competition, it may be necessary to allow for the recovery of joint and common costs. The goal is to promote market entry by allowing alternative operators to recover all efficiently incurred costs which should include joint and common costs. Whether these are considered at the individual product level or at a more aggregate level should be up to the NRA. Under point (i) of Annex II of the draft Recommendation it is recommended to use 'the SMP operator's audited downstream costs'. BEREC believes that it should be up to the NRA to choose the appropriate methodology (in light e.g. of the data available and the competitive situation) and to take account of forward looking costs and volumes. BEREC recommends that NRAs have the option of using LRIC+ as an appropriate cost standard given that these are the likely costs faced by entrants deciding to enter or expand in the long run and therefore promotes sustainable competition. Costs which are sunk for the incumbent will need to be recoverable by entrants if there is to be a realistic prospect of entry. The chosen cost standard should ensure that entrants can cover the efficiently incurred costs. This will in general be the incremental costs of a product/service plus mark-ups for common costs. If the aggregation level of the economic replicability test is defined at the level of individual products, there is a risk that the incremental costs of the specific individual product (in relation to the high fixed and common costs of the network) can be very low, even negligible. This would make it impossible for entrants to replicate the SMP operator's offer. This can be avoided by defining a large enough increment that ensures that all relevant direct and indirect (network) costs are included in the incremental costs.

172. BEREC agrees that the relevant time period should be set in accordance with the estimated customer average lifetime. Whether a discounted cash flow (DCF) analysis or another approach is most appropriate should be up to the NRA. In BEREC's view there is no approach which is clearly preferable to all others.[48]

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[47] Which are not the same as incremental costs.

[48] Again, BEREC already analyzed these possibilities in the above mentioned report. For stable markets, a static approach, as the period by period test could be adequate when current costs and revenues are a good forecast of future margins. This is more likely to happen in stable markets. On the contrary, in the case of markets with non-stable revenues and costs (for example non mature

173. The draft Recommendation (**Recommend 23**) recognises the NRAs' powers to stop the provision of certain retail offers when technical replicability is not ensured. BEREC notes that this provision should also be used to ensure economic replicability (as issues around economic replicability are as important and common as technical replicability). BEREC thinks that the power expressly recognised for NRAs in Article 10 of the Authorisation Directive, to stop or delay the retail offers, and Article 10 of the Access Directive, should also be recognised in cases of a lack of economic replicability. In any case, the SMP operator has the obligation to remove the margin squeeze by an appropriate adjustment of either the wholesale or the retail price.

markets) the static test may not be the best choice. This is because it does not take into account the reasonable short term losses accrued in the launch period of the service and does not consider the risks associated with investments that the company may incur in marketing the offer. In general, In this cases, a more dynamic approach, like the DCF could be preferable as it takes into account revenue and cost changes across time avoiding the accounting distortions that result from a static yearly method. This is useful if a large initial investment is required to market the offer (capital or marketing expenditure). With time, the service unit cost decreases due to economies of scale, learning curve, allowing for return on investment over a series of years.

## Annex 1: BEREC drafting suggestions

***COMMISSION RECOMMENDATION***

***of XXX***

***on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment***

***(Text with EEA relevance)***

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Having regard to Directive 2002/21/EC of the European Parliament and of the Council of 7

March 2002 on a common regulatory framework for electronic communications networks and services[49], and in particular Article 19(1) thereof,

Having regard to Directive 2002/19/EC of the European Parliament and of the Council of 7

March 2002 on access to, and interconnection of, electronic communications networks and associated facilities[50],

Having regard to the opinions of the Body of European Regulators for Electronic Communications (BEREC) and of the Communications Committee (COCOM)

Whereas:

(1) [TO BE COMPLETED]

[49] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC (Better Regulation Directive), OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12 (Framework Directive).

[50] Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, OJ L 108, 24.04.2002 p.7, as amended by Directive 2009/140/EC (Better Regulation Directive), OJ L 337, 18.12.2009 (Access Directive).

HAS ADOPTED THIS RECOMMENDATION:

## Aim and Scope

1. The aim of this Recommendation is to improve the regulatory conditions to promote competition, enhance the single market for electronic communications networks and services, and to foster investments in next generation access (NGA) networks so as to contribute in a technologically neutral manner to the overall objective of boosting growth and jobs, stimulating innovation and ultimately more efficient services for the end users in the European Union and furthering digital inclusion. This Recommendation aims at increasing legal certainty and predictability in light of the long term horizons of investments in NGA networks.

2. Where in the context of market analysis procedures carried out under Article 15 and 16 of the Framework Directive and in particular in application of Article 16(4) thereof national regulatory authorities (NRAs) determine that a market is not effectively competitive and identify undertakings which individually or jointly have significant market power (SMP) on that market (the 'SMP operator(s)'), they shall impose, amongst others and if appropriate, obligations of non-discrimination pursuant to Article 10 of the Access Directive and of price control and cost accounting, more specifically cost orientation, pursuant to Article 13 of the Access Directive.

3. This Recommendation concerns the application of those obligations and sets out a common approach for promoting their consistent and effective implementation with regard to legacy and NGA networks in so far as they allow for the provision of broadband services.

4. The provisions of this Recommendation provide further guidance on regulatory principles established by the NGA Recommendation[51], in particular the conditions under which cost-orientation of wholesale access prices should or should not be applied.

5. The principles enshrined in this Recommendation are applicable to the market for wholesale network infrastructure access (market 4) and to the wholesale broadband access market (market 5)[52]. This includes inter alia (i) access to the civil engineering infrastructure, (ii) unbundled access to the copper and fibre loops, (iii) unbundled access to the copper sub-loop, (iv) non-physical or virtual network access, and (v) wholesale broadband access (bitstream services) over copper and fibre networks (comprising ADSL, ADSL2+, VDSL and Ethernet).

## Definitions

6. Terms defined in the Framework Directive, in the Access Directive and in the NGA Recommendation have the same meaning when used in this Recommendation.

   In addition, for the purpose of this Recommendation, the following definitions should apply:

[51] Commission Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) (2010/572/EU) OJ L 251, 25.9.2010, p. 35 (NGA Recommendation).
[52] Commission Recommendation 2007/879/EC of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 344, 28.12.2007, p. 65.

(a) 'Book value' is the value of an asset as recorded in the audited statutory accounts of an undertaking~~. 'Book value' is the value of an asset as recorded in the audited statutory accounts of an undertaking.~~

(b) 'Bottom-up modelling approach' means an approach that develops a cost model starting from the expected demand in terms of subscribers and traffic; it then models the efficient network that is required to meet the expected demand, and assesses the related costs according to a theoretical network-engineering model. The purpose of a bottom-up model is to calculate the cost on the basis of an efficient network using the newest technology employed in large-scale networks. This approach differs from a top-down modelling approach, which is based on the undertaking's accounts. In a hybrid modelling approach the bottom-up model is refined by looking at the results of the top-down model. It is also possible to check the plausibility of some of the results of the top-down model by using the bottom-up model.

(c) 'Common costs' are shared costs resulting from products or services being produced jointly. Common costs are not attributable to any single product or service (e.g. management costs, overheads, etc).

(d) 'Current costs' means appraising costs by re-valuing assets at estimates of their current costs, allowing for wear and tear and adjusted for efficiency. Current costs are usually estimated by adopting either the "indexation" approach, whereby appropriate indeces are applied to asset book values, or the "absolute valuation" approach, whereby the existing quantity is multiplied by the current acquisition price.

(e) 'Depreciation methods' are the methods according to which the value of an asset is allocated over the life of the asset, affecting therefore the profile of the allowable earnings for the asset owner in any given period.

(f) 'Downstream costs' are costs related to retail operations, including marketing, customer acquisition, billing, etc. and other network costs required for such retail operations.

(g) 'Equivalence of Inputs' means the provision of all services and information to access seekers and to the downstream businesses of the SMP operator on the same terms and conditions (including price and quality of service levels), the same timescales using the same systems and processes. Equivalence of inputs as defined may apply to the access products, associated and ancillary services that are necessary for providing the 'Wholesale inputs' (including on a virtual basis where applicable) to access seekers and to the downstream business of the SMP operator. In this context reference to terms and conditions relating to price should be read in conjunction with Recommend 14. NRAs should ensure that access seekers can use the relevant systems and processes in the same way as the SMP operators' own downstream businesses, with the same degree of reliability and performance.

(h) 'Equivalence of Output' means the provision of all wholesale inputs to access seekers in a manner, which is comparable, in terms of functionality and price, to those the SMP operator provides to its own downstream businesses, albeit using potentially different systems and processes. In this context reference to terms and conditions relating to price should be read in conjunction with Recommend 14.

(i) 'Key Performance Indicators (KPIs)' are indicators, which measure the level of performance in the provision of the relevant wholesale services

(j) 'Long Run Incremental Costs (LRIC)' means the costs that are directly associated with the production of a business increment, i.e. the additional cost of supplying a service over and above the situation where the service was not provided, assuming all other production activities remain unchanged. "Long run" means that all factors of production including capital equipment are variable in response to changes in demand due to changes in the volume or in the structure of production, therefore all investments are considered as variable costs.

(k) 'Mark-up' means the addition that is made to the incremental cost (e.g. the LRIC cost) of a specific service in order to allocate and recover the common costs through allocation to all the services for which those common costs are relevant.

(l) 'New retail offer' means any new retail offer of services, including bundles of services, provided by an SMP operator based on already existing or on new regulated wholesale inputs.

(m) 'NGA-based wholesale layer' means a network layer at which access is granted to access seekers on an NGA-based network. Several 'Wholesale inputs' can be provided at the same layer. The wholesale access products offered at this network layer may consist of active inputs (e.g. bitstream over fibre), of passive inputs (e.g. fibre unbundling in the ODF, in the cabinet, or at the concentration point) or of non-physical or virtual wholesale inputs offering equivalent functionalities to passive inputs.

(n) 'Non-reusable civil engineering assets' are those legacy civil engineering assets that are used for the copper network but cannot be reused to accommodate an NGA network.

(o) 'Regulatory Asset Base (RAB)' means the total capital value of the assets used to calculate the costs of the regulated services.

(p) 'Reusable civil engineering assets' are those legacy civil engineering assets that are used for the copper network and can be reused to accommodate a NGA network.

(q) 'Service Level Agreements (SLAs)' are commercial agreements according to which the SMP operator is obliged to provide access to wholesale services with a specified level of quality. 'Service Level Guarantees (SLGs)' form an integral part of Service Level Agreements and specify the level of compensation payable by the SMP operator if the provision of wholesale services by the SMP operator has a quality that is inferior to that specified in the SLA.

(s) 'Wholesale inputs' means an access product required for access seekers to supply end-users with a broadband service on a retail market and consisting of an active or a passive product or a virtual access product offering equivalent functionalities to a passive access product. Wholesale inputs can be provided over legacy copper network infrastructures or NGA-based infrastructures.

### Application of a non-Discrimination Obligation

*Ensuring Equivalence of Access*

Proposed amendments to Recommends 7 to 11 discussed in paragraphs 36 to 66 of BEREC's technical analysis.

7. ~~Effective non discrimination is best achieved by the application of Equivalence of Input, which ensures a level playing field between the SMP operator's downstream businesses and third party access seekers and promotes competition. W~~Where NRAs consider that the imposition of a non-discrimination obligation under Article 10 of the Access Directive is appropriate, proportionate and justified pursuant to Article 16 (4) of the Framework Directive and Article 8 (4) of the Access Directive, NRAs should examine whether it would be proportionate to require SMP operators to provide relevant wholesale inputs on an Equivalence of Input (EOI) or Equivalence of Output (EOO) basis.

8. ~~Such an obligation could be disproportionate, in particular where the compliance costs (e.g. through the re-design of existing systems) outweigh potential competition benefits~~. ~~Providing legacy copper-based wholesale inputs on an Equivalence of Input basis is more likely to be disproportionate due to the higher costs to ensure compliance. Conversely, providing wholesale inputs consisting wholly or partly of optical elements on an Equivalence of Input basis is more likely to be proportionate given the low incremental costs to design new systems that comply with Equivalence of Input. The imposition of Equivalence of Input may in particular be deemed proportionate when it results in the non-imposition of price control obligations based on cost orientation on NGA networks as recommended in Recommends 49 and 50. When assessing proportionality, the imposition of Equivalence of Input can be deemed to be proportionate~~ NRAs should put in place effective non-discrimination remedies which best address the competition problems they have identified. A high level of non discrimination is ensured by the application of EOI. Where EOI is considered to be disproportionate, in particular i.e. where the compliance costs outweigh potential competition benefits, NRAs should ensure that the SMP operator provides the wholesale inputs to access seekers at least on an EOO basis. ~~w~~Where an SMP operator informs an NRA on a voluntary basis that it intends to provide wholesale inputs to access seekers on an Equivalence of Input basis, NRAs should determine the scope of the said obligation and assess whether it is adequate in the context of the other obligations imposed~~as long as such voluntary offer meets the conditions set out in this Recommendation~~.

9. ~~Where Equivalence of Input is disproportionate, NRAs should ensure that the SMP operator provides the wholesale inputs to access seekers at least on an Equivalence of Output basis.~~

10. ~~Where proportionate, Equivalence of Input should be applied to those wholesale inputs, which the SMP operator provides to its own downstream businesses, unless it can be demonstrated to the NRA's satisfaction having sought the views of third party access seekers that there is no reasonable demand for the wholesale input in question~~.

11. ~~NRAs should ensure that access seekers can use the relevant systems and processes in the same way as the SMP operators' own downstream businesses, with the same degree of reliability and performance.~~

12. A decision to impose Equivalence of Input where appropriate, justified and proportionate and following a consultation in accordance with Articles 6 and 7

of the Framework Directive is an obligation of non-discrimination pursuant to Article 10 o the Access Directive that is without prejudice to the potential imposition of an obligation for functional separation pursuant to Article 13 a of the Access Directive where an NRA concludes that the appropriate obligations (including non-discrimination obligations such as Equivalence of Input) have failed to achieve effective competition.

13. A decision to impose Equivalence of Input where appropriate, justified and proportionate and following a consultation in accordance with Articles 6 and 7 of the Framework Directive is a non-discrimination remedy that is also without prejudice to the analysis of the conditions of competition in the areas covered by the joint deployment of FTTH networks which is recommended in Recommend 28 of the NGA Recommendation.

14. Volume discounts and/or long-term access pricing agreements can be offered~~compatible with an Equivalence of Input and Equivalence of Output approach~~as long as they are non-discrimination in nature [refer to the NGA Recommendation].~~ However, in view of the need to ensure that market entry by an efficient competitor is possible, NRAs should accept volume discounts by SMP operators to their own downstream businesses only if they do not exceed the highest volume discount that has been granted to a third party access seeker. Equally, NRAs should accept long-term access pricing agreements by SMP operators to their own downstream businesses only if they do not exceed the highest discount for long term access that has been granted to a third party access seeker~~.

Proposed amendment to Recommend 14 discussed in paragraphs 70 to 74 of BEREC's technical analysis.

*Ensuring technical replicability of the SMP operator's new retail offers as a minimum*

15. Where Equivalence of Inputs is not, or not yet fully implemented and thus cannot ensure technical replicability of the SMP operators' retail offers, NRAs should, as a minimum, ensure such technical replicability.

Proposed amendments to the section on technical replicability discussed in paragraphs 75 to 91 of BEREC's technical analysis.

16. In particular, NRAs should require SMP operators that are subject to a non-discrimination obligation, to provide access seekers with regulated wholesale inputs, which allow them to effectively replicate new retail offers of the downstream businesses of the SMP operator.

17. To that purpose and in order to guarantee a level playing field between the SMP operator's downstream businesses and third party access seekers, NRAs should ensure that every access seeker (including the downstream businesses of the SMP operator) has access to the same technical and commercial information regarding the wholesale input. This includes information on new regulated wholesale inputs or on changes to already existing regulated wholesale inputs, to be provided according to lead times defined on a case-by-case basis.

18. The following factors (amongst other things) should be taken into account when assessing technical replicability of the SMP operator's new retail offer: (i) the timely availability of corresponding wholesale input(s) for ordering, delivery and repair necessary for an efficient operator to develop or adapt its own systems and processes in order to offer competitive new retail services, (ii) the availability of corresponding Service Level Agreements (SLAs) and Key Performance Indicators (KPIs).

19. In order to be able to monitor compliance with such an obligation, NRAs should require the SMP operator to conduct a technical replicability test prior to the launch of a new retail offer. In this case the NRA could~~should~~ require~~ask~~ the SMP operator to provide the NRA with the results of a~~the~~ test including all the information sufficient~~necessary~~ to demonstrate~~assess~~ ~~that~~ technical replicability is ~~fully~~ ensured~~, prior to the launch of the new retail offer~~.

20. Alternatively, NRAs may~~should~~ conduct a technical replicability test. In this case, it could~~should~~ require the SMP operator to notify new retail offers, which consume a relevant regulated wholesale input, with sufficient notice prior to the launch of such retail offers. Such notice should be sufficient for access seekers to replicate the relevant retail offer according to the parameters specified in Annex I. In this context, NRAs could~~should~~ require the SMP operator to notify the details of the retail offer relying on a relevant regulated wholesale input, accompanied with all information sufficient ~~necessary~~ for the NRA to assess~~perform a detailed~~ replicability ~~evaluation~~. When the NRA considers that the imposition of technical replicability tests prior to the launch of new retail offers is not proportionate, it should consider the imposition of alternative remedies to ensure a high level of non-discrimination.

~~21. Where the NRA considers that technical replicability of the new retail offer is not ensured, it should require the SMP operator to amend the wholesale input in a way that ensures technical replicability.~~

21~~2~~. In the absence of a formal decision by the NRA before the envisaged launch of the new retail offer, the SMP operator should be allowed to launch the new retail service provided it notified the NRA of the results of the technical replicability test in accordance with Recommend 19 or it has notified the new retail offer with sufficient notice in accordance with Recommend 20.

22. Where the NRA considers that technical replicability of the new retail offer is not ensured, it should require the SMP operator to amend the wholesale input in a way that ensures technical replicability.

23. Where the NRA considers that a retail offer which is not technically replicable would result in significant harm to competition, it should make use of its powers under Article 10 of the Authorisation Directive[5] to require the SMP operator either to stop the launch or to cease the provision of the relevant retail offer. When the NRA imposes such measure it shall give the SMP operator the possibility to make representations and to propose remedies. If appropriate, the NRA should require in a final measure that the retail offer be withdrawn or the regulated wholesale input modified (as per Recommend 22).

**Compliance Monitoring of Non-Discrimination Obligations**

Proposed amendments to the section on compliance monitoring discussed in paragraphs 92 to 108 of BEREC's technical analysis.

*Key Performance Indicators*

24. When imposing a non-discrimination obligation under Article 10 of the Access Directive, where appropriate and proportionate, NRAs should impose on the SMP operator the use of Key Performance Indicators (KPIs) in order to monitor effectively compliance with the non-discrimination obligation~~-~~.

25. The KPIs should measure performance in relation to the following key elements of the provision of regulated wholesale services:

(1) Ordering process;

(2) Provision of service;

(3) Quality of service, including faults;

(4) Fault repair times; and

(5) Migration (excluding bulk migrations).

26. NRAs should impose KPIs for each of the above-mentioned key elements of the provision of regulated wholesale services. KPIs should allow for comparison of services provided internally to the downstream businesses of the SMP operator and to the industry average of those provided externally to third party access seekers.

27. The specific details of KPIs should be agreed between the SMP operator(s) and third party access seekers under the supervision of the NRA and should be updated on a regular basis as necessary.

28. In imposing the KPIs, the NRA should take account of already existing performance measurements, even when only used for internal purposes of the SMP operator, if they prove to be appropriate.

29. NRAs should ensure that the results of monitoring KPIs are made available~~published~~ in a manner which allows for early discovery of potential discriminatory behaviour. To that purpose, NRAs should ensure the availability ~~publish on their website~~, on a periodic basis, ~~at least on a quarterly basis~~, of the performance indicators' measurement in an appropriate form to ensure transparency with regard to the provision of regulated wholesale services.

30. NRAs should ensure that the KPIs are regularly audited by the NRA itself or, alternatively, by an independent auditor if the benefits of doing so outweigh the costs associated with such an audit. In the latter case, the NRA may consider to apportion the costs of such audits to various electronic communications providers. When ~~the audit indicates that~~ the NRA has evidence that the SMP operator has not ~~does not compl~~complied ~~y~~ with the non-discrimination obligation~~imposed KPIs~~, the NRA should intervene in order to enforce compliance, for example by imposing dissuasive financial penalties on a periodic basis and/or by ordering that the SMP operator comply with the obligation within a short timeframe. NRAs should make public their decision to remedy non-compliance.

*Service Level Agreements and Service Level Guarantees*

31. NRAs should require the SMP operator to implement corresponding Service Level Agreements (SLAs) alongside KPIs.

32. NRAs should require the SMP operator to provide corresponding Service Level Guarantees (SLGs) in case of a breach of the SLAs.

33. SLG payments should ~~Payment of financial penalties should~~, in principle, be made without undue delay and be proactive in nature~~automatic~~. The level of such penalties should be sufficiently dissuasive to ensure that the SMP operator complies with its delivery obligations.

**Costing methodology**

**Note to the Commission: BEREC would at least require the following modifications, in addition to replacing "*should*" with "*may*" where referring to technical details in order to provide NRAs the ability to settle the technical details themselves. Taking into account the detailed comments in the technical analysis, BEREC would welcome the opportunity to work closely with the Commission on the re-drafting of this whole section of the draft Recommendation.**

Proposed amendments to the section on costing methodologies discussed in paragraphs 112 to 148 of BEREC's technical analysis.

*The recommended methodology*

34. NRAs should adopt a bottom up long run incremental costs plus (BU LRIC+) costing methodology; i.e. the use of a bottom up modelling approach using LRIC as the cost model and with the addition of a mark-up for the recovery of the common costs.

35. NRAs should adopt a BU LRIC+ costing methodology that estimates the current cost that a hypothetically efficient operator would incur to build a modern efficient network, which is in principle an NGA network. This is without prejudice to the question whether any NGA network present in the relevant geographic market is subject to cost-oriented access pricing, which is addressed in Recommend 36 of the NGA recommendation and Recommends 49 and 50 below.

36. When modelling the NGA network NRAs should define a hypothetical efficient NGA network, capable of delivering the Digital Agenda for Europe (DAE) targets, which consists wholly or partly of optical elements.

37. When modelling the NGA network, NRAs should include those existing civil engineering assets that are ~~generally~~ capable of also hosting an NGA network as well as civil engineering assets that will have to be newly constructed to host an NGA network. Therefore, when building the BULRIC+ model from the bottom up NRAs should not assume the construction of an entire new civil infrastructure network for the purpose of deploying an NGA network.

38. NRAs should value all assets constituting the Regulatory Asset Base (RAB) of the modelled network on the basis of full replacement costs, ~~except~~ with the possible exception for reusable legacy civil engineering assets.

39. NRAs ~~should~~ may value reusable legacy civil engineering assets and their corresponding RAB on the basis of the ~~indexation method. Specifically NRAs should set such RAB at the book value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index (RPI).~~ regulatory accounts [bearing in mind the efficiency requirement]. NRAs should examine the regulatory accounts of the SMP operator where available in order to determine whether they are sufficiently reliable as a basis to reconstruct such ~~book value~~RAB. When calculating the RAB with the recommended methodology, ~~They should otherwise conduct a valuation on the basis of a benchmark of best practices in the EU.~~ NRAs ~~should~~ may not include reusable legacy civil engineering assets that are fully depreciated but still in use. Specifically NRAs may annualize such RAB on the basis of an appropriate price index, such as the construction price index (CPI).

40. When applying the method described in Recommend 39, NRAs should lock-in the RAB corresponding to the reusable legacy civil engineering assets and then roll it forward from one regulatory period to the next.

Proposed amendment to Recommend 42 discussed in paragraphs 132 to 138 of BEREC's technical analysis.

41. For the purposes of regulatory accounts NRAs should set the lifetime of the civil engineering assets at a level which corresponds to the actual length of utilising the civil engineering network and the corresponding demand profile, which is normally not less than 40 years in the case of ducts.

42. When estimating the cost of wholesale access services ~~that are based entirely on copper, NRAs should adjust the cost calculated for the NGA network to reflect the less performant features of a copper network. For this purpose, the NRAs should consider an FttC network to be the modern efficient NGA network and should estimate the cost difference between an access product based on FttC and an access product based entirely on copper by making the relevant adjustments in the FttC engineering model, e.g. replacing the optical elements with efficiently priced copper elements, where appropriate.~~NRAs should adopt a modelling approach that fulfils the key requirements of a) being future proof (in the sense that the latest NGA technology that is appropriate for the national roll-out scenario is considered); b) is able to deal with the declining volume effect by simultaneously incorporating the demand for both copper and fibre access services; c) be able to calculate copper prices that are consistent with prices that would be calculated for fibre access based services.

*Timetable of implementation of the costing methodology*

43. NRAs should have regard to the principle of regulatory transparency and predictability and to the need to ensure stability consistent with the principle of cost-orientation when setting access prices, both when developing the recommended costing methodology in Recommends 34 to 42 (the 'recommended methodology') and when implementing it once it is finalised.

44. NRAs may~~should~~ ensure that the recommended methodology is implemented~~ no later than 31 December 2016 ~~, unless the costing methodology currently used fulfils the requirements already and is capable of ~~ensuring an undistorted make-or-buy signal to ~~incentivising~~e~~ efficient NGA investment. ~~On the basis of the most recently observed access prices in Member States applying key features of the recommended methodology, and bearing in mind the potential for limited local cost variations, the Commission expects the average monthly rental access price of the full unbundled copper local loop in the EU which will result from the application of the recommended methodology to fall within a band of prices between €8 and €10 expressed in 2012 prices.~~

Proposed amendment to Recommends 44 to 46 discussed in paragraphs 141 to 147 of BEREC's technical analysis.

To the extent necessary (in the Recitals to the final Recommendation) the Commission could provide guidance on a possible target range and make it explicit that this is neither mandatory nor binding.

45. ~~In those Member States where monthly rental prices for the full unbundled copper local loop currently fall within such band, as adjusted for subsequent price developments, the NRA should continue applying the costing methodology that it currently uses if it results in stable access prices in real terms within such band, as adjusted, during the period between the entry into force of this Recommendation and the finalisation of the development of the recommended methodologyand if the costing methodology it currently uses fulfils the requirements as set out in Recommend 42.~~

~~46. In those Member States where monthly rental prices for the full unbundled copper local loop fall outside such band, at the time of entry into force of this~~

~~Recommendation, NRAs should calculate costs and resulting access prices on the basis of the recommended methodology as soon as possible and well in advance of 31 December 2016. Where the difference between the current rate and the target rate resulting from the recommended methodology is significant, the NRA should impose access prices which gradually ensure that such target rate is reached no later than 31 December 2016, taking into account the impact on competition.~~

47. In exceptional circumstances where an NRA is not in a position, in particular due to limited resources, to finalise the recommended methodology before 31 December 2016, it should set interim access prices on the basis of a benchmark that only considers an average of the access rates set by NRAs implementing the recommended methodology. BEREC, including its related working groups, in cooperation with the Commission, should assist such NRA in implementing the recommended methodology in order to overcome this limitation of resources and, in particular, the cost of implementing the recommended methodology.

48. Once NRAs have finalised the recommended methodology, they should maintain it for the two subsequent market reviews or at least six years, whichever is the longer period, provided they maintain the price control obligation throughout such period. NRAs should update the data inputed into the recommended methodology when conducting a new market review, in principle after three years. Such update should only adjust such data in line with the real evolution of individual input prices and should ensure the full recovery over time of the costs incurred in the provision of the regulated wholesale access services. NRAs should publish the updated outcome of the costing methodology and resulting access prices over the relevant three-year period.

**Non-imposition of cost orientation on NGA networks**

**Note to the Commission: The Commission should clarify (by additional language to this effect) that Recommends 49 and 50 are intended to set out scenarios in which NRAs should refrain from imposing cost-orientation obligations. However they should not be seen as the only circumstances under which NRAs can lift cost-orientation for NGA. In this context (and in Recommends 49 and 50), BEREC invites the Commission to replace references to "should" with "may".**

**As a result of the amendments BEREC proposed for Recommends 49 and 50, the two now read the same. Rather than delete them below, BEREC suggests the text is rationalised in the final draft.**

49. In particular, ~~W~~where an NRA imposes on the SMP operator non-discrimination obligations concerning passive and active NGA wholesale inputs pursuant to Article 10 of the Access Directive that are consistent with

Proposed amendments to Recommends 49 and 50 discussed in paragraphs 150 to 157 of BEREC's technical analysis.

(a) Equivalence of Input following the procedure in Recommend 52 below;

(b) the obligations relating to technical replicability set out in Recommends 15 to 23 above; and

(c) the obligations relating to the economic replicability test as recommended in Recommend 53 below

t~~t~~he NRA may~~should~~ decide~~, in the same measure,~~ not to maintain or impose cost oriented price control obligations on active NGA wholesale inputs (except those inputs specified in Recommend 50 below), ~~including obligations for cost-orientation,~~ pursuant to Article 13 of the Access Directive on the active NGA wholesale inputs provided there are sufficient competitive constraints which ensure no price related competition problems, such as~~.~~

(d) the NRA can show that a legacy access network product offered by the SMP operator, which is subject to a cost-oriented price control obligation in accordance with the costing methodology specified at Recommends 34 to 42 above can exercise a significant competitive constraint;

(e) the NRA can show that operators providing retail services other than the SMP operator can exercise a significant competitive constraint. For the purposes of this condition, 'control' should be interpreted in accordance with competition law principles.

50. In particular, ~~W~~where an NRA imposes on the SMP operator non-discrimination obligations concerning passive NGA wholesale inputs or non-physical or virtual wholesale inputs offering equivalent functionalities, pursuant to Article 10 of the Access Directive that are consistent with:

(a) Equivalence of Input following the procedure in Recommend 52 below;

(b) the obligations relating to technical replicability in Recommends 15 to 23 above; and

(c) the obligations relating to the economic replicability test as recommended in Recommend 53 below

the NRA may~~should~~ decide~~, in the same measure, not~~ not to maintain or impose cost oriented price control obligations on passive NGA wholesale inputs or non-physical or virtual wholesale inputs offering equivalent functionalities pursuant to Article 13 of the Access Directive on such wholesale inputs provided ~~at least one of the following competitive safeguards is met:~~there are sufficient competitive constraints which ensure no price related competition problems, such as:

(d~~d~~) the NRA can show that a legacy access network product offered by the SMP operator, which is subject to a cost-oriented price control obligation in accordance with the costing methodology specified at Recommends 34 to 42 above can exercise a significant competitive constraint; or

(e~~e~~) the NRA can show that operators providing retail services over at least one alternative infrastructure that is not controlled by the SMP operator can exercise a significant competitive constraint. For the purposes of this condition, 'control' should be interpreted in accordance with competition law principles.

51. In geographic markets where the conditions listed at Recommends 49 and 50 are fulfilled only in some areas within that market, NRAs may~~should~~ differentiate remedies and maintain or impose price control obligations in accordance with Article 13 of the Access Directive only in those areas where such conditions are not fulfilled. NRAs should implement the recommended methodology so that the outcome is not affected by the imposition of differentiated remedies within a particular geographic market.

52~~2~~. ~~An NRA shall be deemed to impose Equivalence of Input in accordance with Recommends 49(a) and 50(a) when it includes such obligations as a remedy in the same final measure in which the NRA decides not to maintain or impose cost orientation~~. NRAs should ensure that where EOI is imposed the ~~such~~ final measure has previously been consulted as a draft in accordance with Articles 6 and 7 of the Framework Directive. The measure shall include the details and the timing of the implementation of Equivalence of Input (the 'roadmap'). The roadmap, which will be an integral part of the measure, ~~shall result from a signed commitment by an authorised company officer of the SMP operator (irrespective of whether Equivalence of Input was offered by that operator on a voluntary basis)~~ shall support ~~to~~the implementation of such obligation in full in a timely manner and no later than the end of the market review period of the regulatory measure in question. The roadmap shall include specific milestones setting out the timetable of implementation of each milestone. The first milestones should, at a minimum, include the obligations to ensure technical replicability and foresee the imposition, as soon as possible, of the most relevant KPIs, SLAs and SLGs necessary for the provision of the key regulated wholesale services. The NRA should ensure that the roadmap takes into account the views of interested parties, such as potential access seekers, provided during the preparation of the roadmap. ~~The roadmap shall clearly state that if the NRA finds that the SMP operator has not complied with one or several milestones held essential for the provision of the regulated wholesale services, the NRA will consider that the non-discrimination conditions for not imposing price control obligations on NGA networks are no longer met.~~ In circumstances where an NRA *has already imposed* an obligation of cost orientation on NGA products, the roadmap should specify the timing of the lifting of that obligation in order to ensure that there is no harm to competition arising from the disruption of existing access agreements (for example, the lifting of cost-orientation could be conditional on the passing of a milestone clearly specified by the NRA). Conversely, where an NRA *has not imposed a cost orientation obligation* and the SMP operator fails to meet a pre-specified EOI milestone, the NRA should be entitled to consider reintroducing cost-orientation (i.e. without the need for a further market analysis) or indeed to impose penalties. Finally, NRAs may consider, if appropriate, any additional warranties in the context of EOI implementation, aimed at ensuring that the mechanism for incentivizing NGA investment is working effectively (e.g. compliance of the SMP operator with its commitment on NGA deployment, QoS targets for NGA, etc.)

Proposed amendments to Recommend 52 discussed in paragraphs 158 to 162 of BEREC's technical analysis.

53~~3~~. An NRA shall be deemed to impose the economic replicability obligations referred to in Recommends 49(c) and 50(c) above when it includes the elements listed in (a), (b) and (c) below in the same final measure in which the NRA decides not to maintain or impose cost orientation, having consulted such final measure as a draft in accordance with Articles 6 and 7 of the Framework Directive:

Proposed amendment to Recommend 53 discussed in paragraphs 163 to 166 of BEREC's technical analysis.

(a) The details of the ex-ante economic replicability test that the NRA will apply, which should specify, a minima the following parameters in accordance with the guidance provided in Annex II below:

– the relevant downstream costs taken into account;

– the relevant cost standard

– the relevant regulated wholesale inputs concerned;

– the relevant retail products; and

– the relevant time period for running the test.

(b) The procedure according to which the NRA ~~will~~ can conduct an ex-ante economic replicability test, specifying that the NRA ~~will~~ may start such procedure on its own initiative or upon request from third parties at any time, but no later than three months after the launch of the relevant retail product and will conclude it within the shortest possible time and in any case within four months. The SMP-operator should comply with the economic replicability test at any time. The NRA should impose a procedure that ensures this compliance. The procedure should make clear that the ex-ante economic replicability test to be performed by NRAs in the context of Recommends 49(c) and 50(c) is different from and without prejudice to margin squeeze tests that may be conducted ex-post in the context of competition law enforcement.

(c) The remedy it will adopt when the test is not passed using the enforcement tools provided under the Regulatory Framework to ensure compliance, including where appropriate the request that the SMP operator shall modify the wholesale price of the relevant NGA based wholesale access product according to the NRA's guidance and on the basis of the results of the performed ex-ante economic replicability test.

Where the NRA considers that a retail offer which is not economically replicable would result in significant harm to competition, it might make use of its powers under Article 10 of the Authorisation Directive to require the SMP operator either to stop the launch or to cease the provision of the relevant retail offer. When the NRA imposes such measure it shall give the SMP operator the possibility to make representations and to propose remedies. If appropriate, the NRA should require in a final measure that the retail offer be withdrawn or amended or the regulated wholesale input modified.

54. Once the measure has been adopted, the NRA should make public on its website the roadmap and the details of the ex-ante economic replicability test together with the final measure. The NRA should use all the enforcement tools provided under the Regulatory Framework to ensure compliance with all aspects of the impose measures.

Done at Brussels,

For the Commission
Neelie Kroes
Vice president

### Annex I – Specification of Lead time and provisions of information

When assessing the reasonableness of the required lead time period, NRAs should take into account the following factors:

(1) if the product is a new product or is an update of an existing product;

(2) the time necessary to consult and agree on the wholesale processes aiming at the provision of the relevant services;

(3) the time necessary to create a reference offer and sign contracts;

(4) the time necessary to modify or up-date relevant IT systems;

(5) the time necessary to market the new retail offer.

### Annex II - Parameters of the ex-ante economic replicability test

Proposed amendments to Annex II discussed in paragraphs 167 to 173 of BEREC's technical analysis.

~~When the Equivalence of Input obligations are already implemented or are in the process of being implemented in accordance with Recommend 52 and when technical replicability is ensured, the ex-ante economic replicability test referred to in Recommend 53 assesses~~In accordance with Recommends 53, the NRAs may assess whether the margin between the retail price of the relevant retail products and the price of the relevant NGA-based regulated wholesale access inputs covers the incremental downstream costs and a reasonable percentage of common costs.

The parameters referred to in Recommend 53 (a) are:

(i) Relevant downstream costs

~~Downstream costs are estimated on the basis of the costs of the SMP operator's own downstream businesses ('equally efficient competitor' test). NRAs should use the SMP operator's audited downstream costs, provided they are sufficiently disaggregated.~~ NRAs may use the 'equally efficient competitor' test (EEO) to estimate the relevant downstream costs in order to ensure the entry of alternative operators which are at least as efficient as the regulated operator. In the specific cases where an efficient ~~WhereFor even~~alternative ~~-efficient entrants~~ operator ~~who do not have the same~~cannot match the economies of scale / scope of~~as~~ the regulated operator, ~~cannot match the costs of the incumbent (e.g. due to disadvantages in economies of scale),~~the ~~-it can be appropriate to use the~~ costs ~~or economies of scale~~ of the efficient alternative operator (or reasonably efficient operator (REO)) should be used as ~~s for~~ the relevant downstream costs~~-elements~~. *(or: Where even efficient entrants cannot match the costs of the incumbent operator enjoys a cost advantage (e.g. due to disadvantages in economies of scale or scope), it can be appropriate to use the costs or economies of scale of efficient alternative operators for the relevant cost elements an alternative cost standard, such as a 'reasonably efficient operator' test (REO).*

(ii) Relevant cost standard

~~The incremental cost (equivalently, the avoidable cost) of providing the relevant downstream service is the appropriate standard. An LRIC model should be used, for consistency with the recommended cost model.~~ The LRIC/~~(or~~ LRIC~~+)~~ costs of providing the relevant downstream service is the appropriate cost standard. ~~A LRIC model should be used, for consistency with the recommended cost model.~~ The chosen cost standard should ensure that entrants can recover their efficiently incurred costs. On the aggregated level, ~~This will in general be incremental costs.~~ LRIC is the change in total costs resulting from the production of an increment in the quantity of output, which can be the whole output of the product in question or just the incremental output associated with the conduct under investigation. LRIC includes all product-specific ~~fixed~~ costs, even if those costs were sunk before the period of exclusionary conduct. LRIC+ costs ~~On the aggregated level, it might be appropriate to~~ include a mark-ups for common costs from the relevant service. To ensure that efficient entrants can replicate the SMP operator's offer, the increment should be defined in such a way that it includes all relevant direct and indirect (network) costs.~~.~~

(iii) Relevant regulated wholesale inputs

NRAs may identify all relevant regulated wholesale inputs (e.g. LLU, VULA, Bitstream)~~ and may consider them as well as relations between them.~~ ~~NRAs should identify the most relevant regulated input used or expected to be used by access seekers at the NGA-based wholesale layer that is likely to be prevalent within the time-frame of the current market review period in view of the SMP operator's rollout plans, chosen network topologies and wholesale offers' take up.~~

~~Such input may consist of an active input, a passive input or a non-physical or virtual input offering equivalent functionalities to a passive input.~~

~~NRAs should undertake the ex-ante economic replicability test in order to assess the margin earned between the retail product(s) referred to in (iv) below and the most relevant regulated input identified at the chosen NGA-based wholesale layer.~~

~~In addition, in case this is justified, in particular when a retail product referred to in (iv) below is launched based on a different input than the one previously identified, or when there is a substantial demand for access at a new NGA-based wholesale layer, NRAs should also assess the margin earned between the retail product and the new NGA-based regulated wholesale input.~~

~~If the SMP operator's network characteristics and the demand for wholesale offers greatly vary throughout the territory of a Member State, the NRA should assess the feasibility of differentiating the most relevant NGA-based regulated wholesale layer per geographic area and adapt the test accordingly~~. In order to have consistent prices along the value chain, NRAs may also consider the relationship between different access products.

(iv) Relevant retail products

The economic replicability test ~~should be~~ could be conducted for the most relevant individual tariffs and/or applied to a more aggregate level ~~conducted at least for the most relevant individual tariffs and may also be applied to a more aggregate level with an appropriate level of aggregati~~

~~(e.g. market level).~~ (e.g. market level). The relevant retail products can be expected to have a significant impact on the competitiveness of an entrant. ~~NRAs should assess the most relevant retail products including broadband services ('flagship products') offered by the SMP operator on the basis of the identified NGA-based wholesale access layer. NRAs should identify flagship products on the basis of their current and forward looking market observations, which should include an assessment of retail market shares in terms of volume and value of products based on NGA regulated wholesale inputs and, where available, advertising expenditure. Flagship products are likely to be offered as a bundle. NRAs should assess innovative variations of such bundles, if they are likely to replace the flagship product.~~

(v) Relevant time period

The relevant time period should be set in accordance with the estimated customer average lifetime or another appropriate time period related to the duration of the retail offer as identified by the NRA. ~~For the above-mentioned flagship products, NRAs should identify an adequate reference time period to ensure there is a positive margin. NRAs should evaluate the profitability of the flagship products on the basis of a dynamic multi-period analysis, such as the discounted cash flow (DCF) approach. The relevant period for this ex-ante economic replicability test should be set in accordance with the estimated customer average lifetime.~~

~~The guidance provided for the ex-ante economic replicability test referred to in Recommend 53 and in this Annex II is limited to the purposes of this Recommendation, which relate to the application of Articles 15 and 16 of the Framework Directive together with Articles 10 and 13 of the Access Directive, and is therefore different in aim and scope and entirely without prejudice to the application of competition rules by the Commission and the relevant national competition authorities, and to its interpretation by the General Court and the Court of Justice of the European Union. This guidance is without prejudice to any action that the Commission may take or any guidelines that the Commission may issue in the future with regard to the application of competition law in the EU~~.

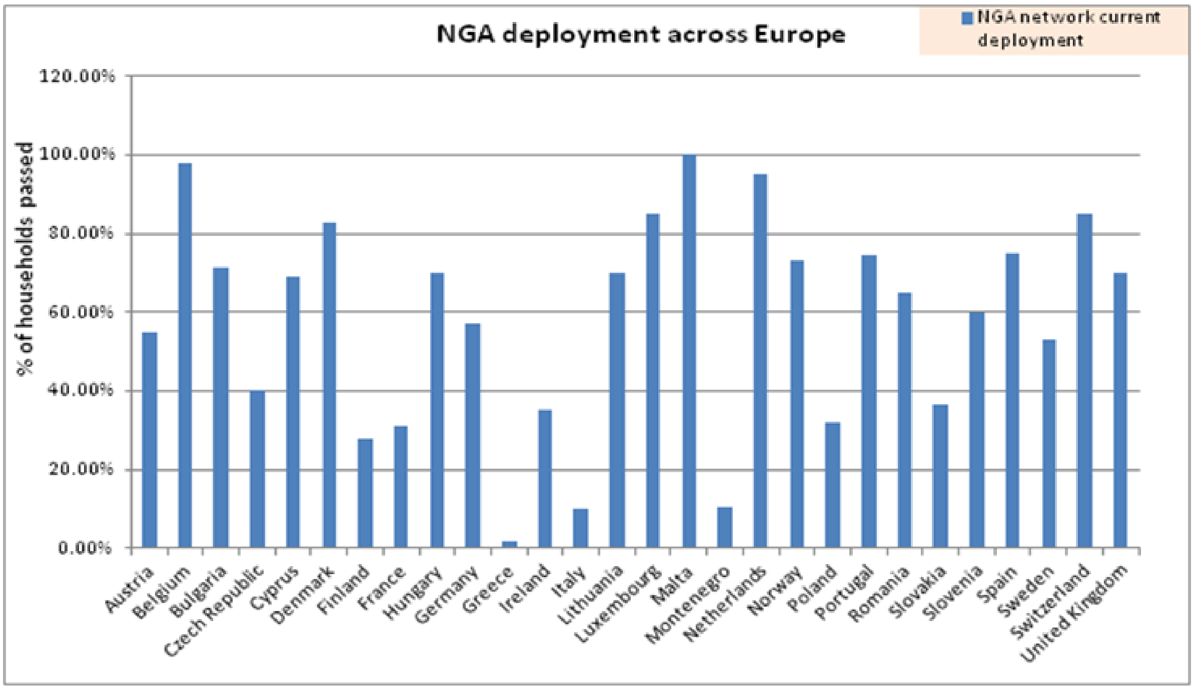
## Annex 2: NGA deployment across Europe

BEREC circulated a mini-questionnaire to its members on the current status of the NGA deployment in each Member State (MS). The below analysis is based on responses received from **29** NRAs and represent a snapshot of the current NGA network deployment in Europe.

### Results of the analyses

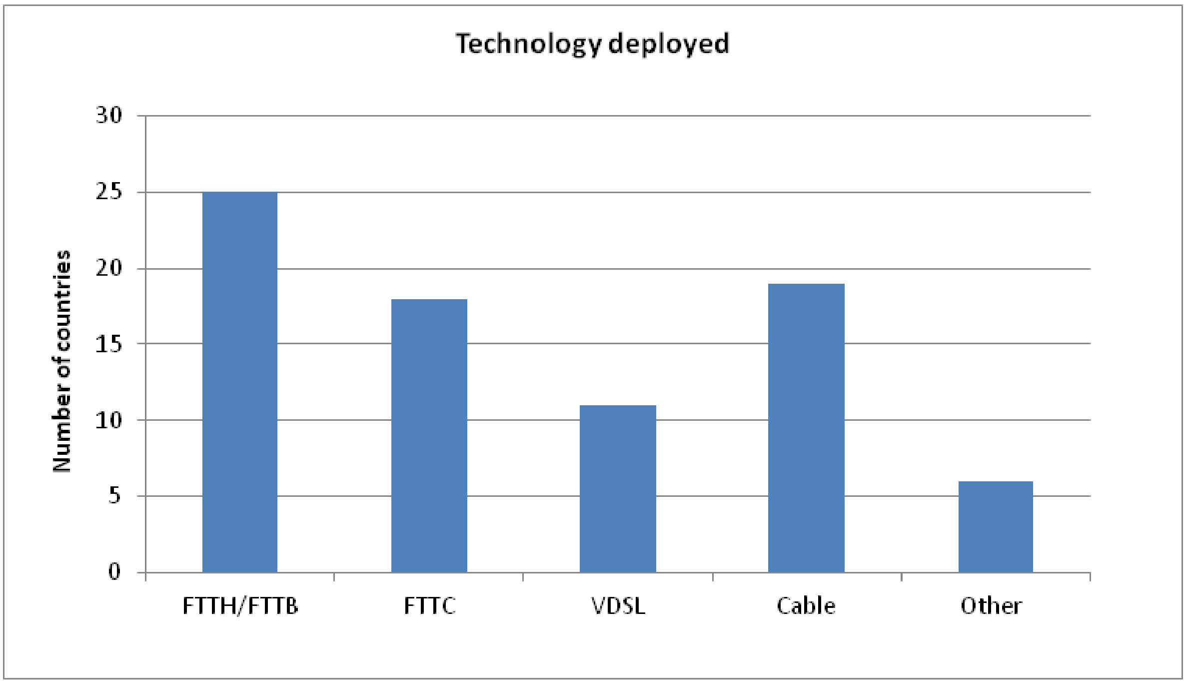
#### *Coverage*

Most of the responding NRAs indicated the presence of significant NGA coverage at present, based on different technologies such as FTTH/FTTB, FTTC and cable.




#### *Networks*

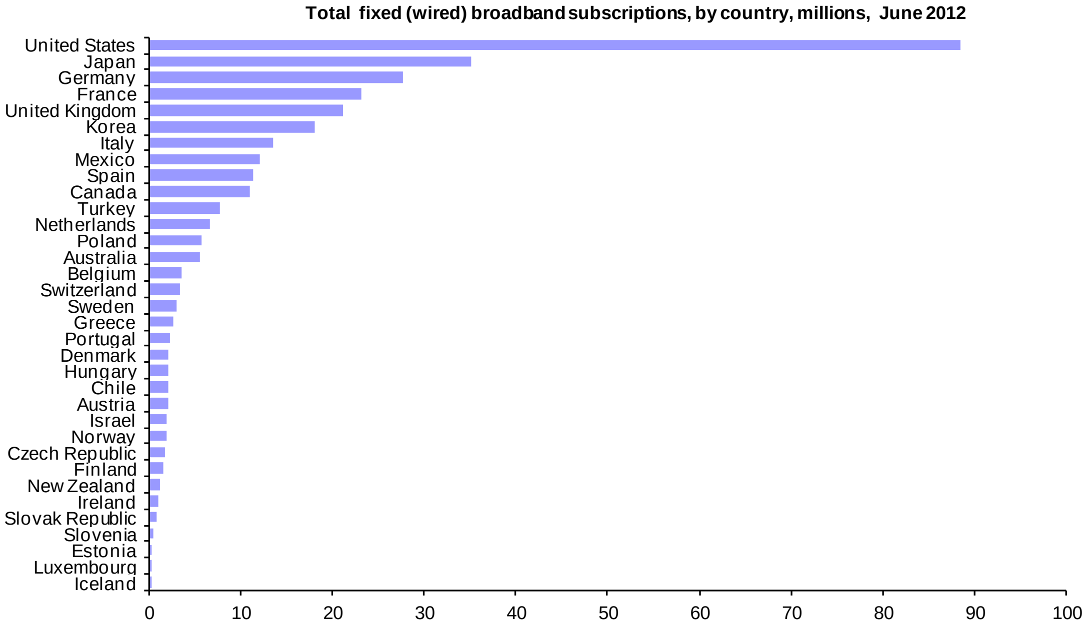
The key technology being deployed in most of the responding countries (86% of the responses) is **FTTH/FTTB**, followed by **cable** in 19 countries. FTTC is deployed in more than half of the responding countries (18), while VDSL is deployed in 11 countries. Mobile technologies (such as LTE) are not included in this analysis.



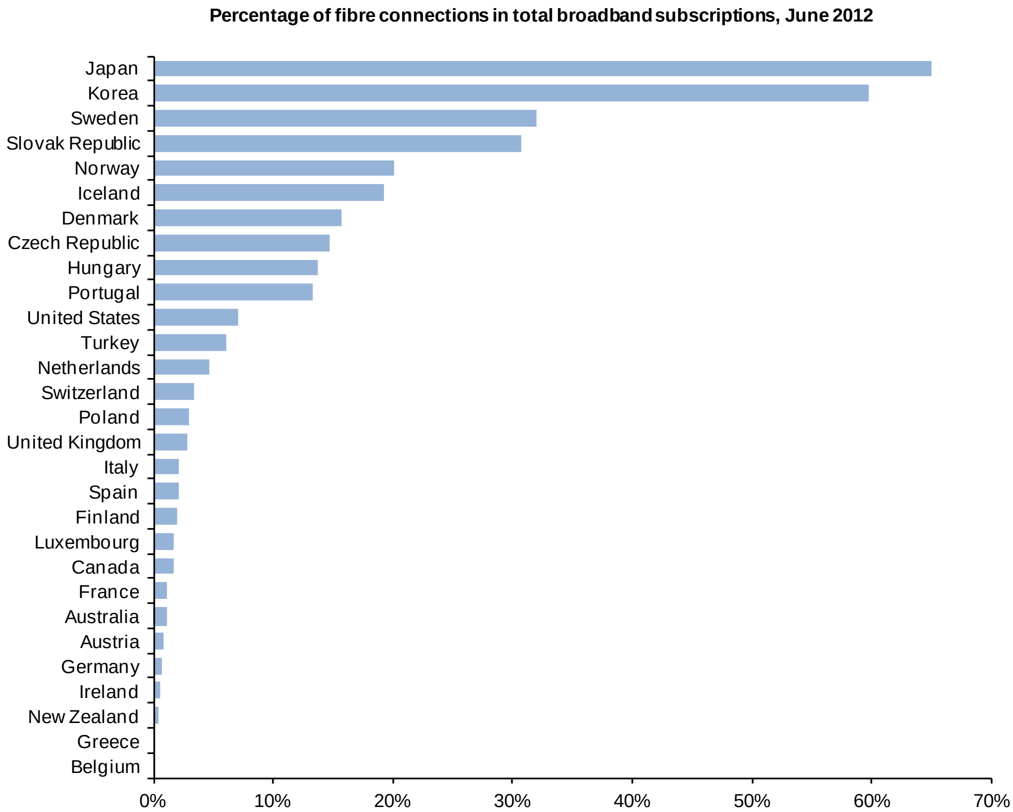
Technology deployed
Number of countries
30
25
20
15
10
5
0
FTTH/FTTB
FTTC
VDSL
Cable
Other

## Annex 3: OECD statistics

### *Figure 1*

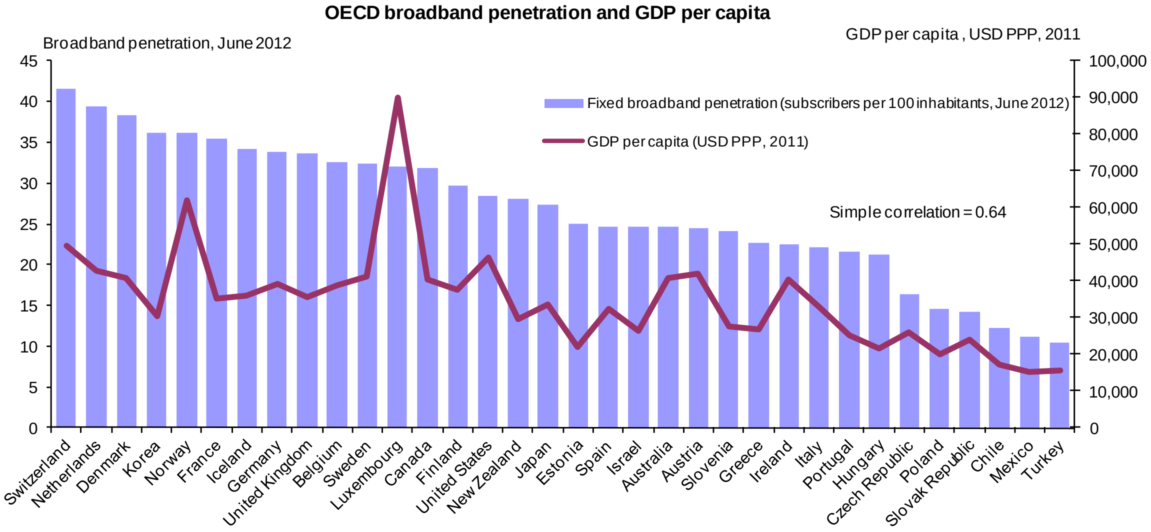



### *Figure 2*




*Note:* Includes fibre-to-the-home (FTTH) and fibre-to-the-building (FTTB or apartment LAN) connections. Some countries may have fibre but have not reported figures so they are not included in the chart. See the OECD broadband portal for information on data sources and notes.

## *Figure 3*




*Source :* OECD

*Notes:* GDP per capita includes estimates for : Australia, Canada, Ireland, Israel, Japan, Mexico, New Zealand, Poland, Switzerland, Turkey and United States