

BEREC Report on the outcome of the public consultation on the draft BEREC Common Position on Mobile Infrastructure Sharing

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Introduction

This report summarises the responses received to the public consultation on the draft BEREC Common Position on Mobile Infrastructure Sharing (hereinafter- draft Common Position). The public consultation was organised from 12 December 2018 till 18 January 2019.

In response to the consultation on the draft Common Position, BEREC received 21 contributions from the following stakeholders:

1. Article19,	8. Facebook,	15. Telefónica,
2. CETIN,	9. Fastweb,	16. Telenor Bulgaria,
3. Deutsche Telekom,	10. GSMA-ETNO,	17. Telenor Hungary,
4. DigitalES,	11. Magyar Telekom,	18. Telenor Serbia,
5. DNA Plc,	12. Nokia,	19. TMCZ,
6. ECTA,	13. O2 Czech Republic,	20. Vodafone,
7. European Wireless Infrastructure Association (EWIA),	14. Tele2,	21. 1&1.

BEREC is grateful to receive the submissions and has carefully considered them, and sets out its summary of assessments and responses in this report. The non-confidential responses are also published on BEREC's website and should be consulted for the definitive version of respondents' submissions.

1. Overview of BEREC's draft Common Position

BEREC's draft Common Position on Mobile Infrastructure Sharing set out, amongst other things, three draft Common Positions (CPs) on:

- common definitions of different infrastructure sharing types: passive sharing, co-location, site sharing, mast sharing, active sharing, RAN sharing, MORAN sharing, MOCN sharing, frequency (or spectrum) sharing, national/local roaming, core network sharing and backhaul sharing;
- common important objectives which NRAs should consider when assessing infrastructure sharing agreements (providing that it is within their competence to do so): effective competition, better connectivity and efficient use of spectrum;
- common factors which NRAs should consider when assessing infrastructure sharing agreements (providing that it is within their competence to do so): competitive market forces evolution, the feasible level of competition, type of sharing, shared information between the sharing parties and its impact on their ability to compete, reversibility and contractual implementation.

BEREC also set out that assessing infrastructure sharing agreements would require evidence-based analysis on a case-by-case basis, a point it made several times in the draft Common Position.

In addition, BEREC set out that the remit of its draft Common Position would be limited to NRAs acting under the electronic communications legislation, and that sharing arrangements would also necessarily have to comply with relevant competition law.

1.1. Report structure

The first part of the report considers respondents' comments on the common definitions (see section 2), common important objectives (see section 3) and common factors (see section 4) and sets out BEREC's response to these comments.

The second part of the report (see section 5.0) considers comments by respondents on the drafting of other sections of the draft Common Position including the following:

- The role of Appendix 1 and competition law;
- BEREC's indicative analysis of different types of network sharing;
- Benefits and drawbacks of sharing; and
- Other comments.

2. Comments on common definitions (CP1)

EWIA appreciates the approach of establishing consistent definitions of the various forms of sharing.

Fastweb mentions that, regarding the typology of infrastructure sharing, BEREC's effort of systematizing network infrastructure sharing schemes, for the sake of an informed and clear discussion with all stakeholders at EU levels, is useful.

Telenor Hungary considers that a common and consensus based typology promotes better understanding. **Telenor Hungary** agreed that the types of sharing listed under passive sharing are relevant and acceptable. It proposed to add more information of the purpose of the classification "other sharing types". It suggests that it may be better if co-location was renamed location sharing because the term is more widely used in fixed access regulation.

ECTA considers that, with CP1, the draft CP offers a generally useful overview of infrastructure sharing types. However, **ECTA** suggests to improve proposed text in respect of the following aspects regarding active sharing scenarios:

- 1) RAN sharing being defined as joint use of 'the same access network equipment', it is unclear what differentiates 'Multi-Operator Radio Access Network (MORAN)' defined as 'RAN sharing where only equipment is shared' therefrom. This leads to every form of RAN sharing being MORAN sharing, leaving doubts about the economy of the proposed typology.
- 2) the term 'Multi-Operator Core Network (MOCN)', by its designation, does not fit the definition of RAN sharing, as it excludes network sharing at the core layer (as, by that definition, '[e]ach operator uses its own network').
- 3) the relation between the definitions of MORAN, MOCN and spectrum sharing is ambiguous: either the distinction between MORAN and MOCN turns on the inclusion of spectrum under MOCN, making the term 'spectrum sharing' as such redundant, or it turns on the inclusion of passive elements under MOCN, thus contradicting the qualification as active sharing more generally.

ECTA claims that BEREC should also clarify the reasons why the above typology appears to have been limited to sharing arrangements within the access part of the network. **ECTA** considers this of significant importance, as problems of competitive differentiation appear most fully where sharing extends beyond the access part.

Under active sharing, **Nokia** considers that on the frequency (or spectrum) sharing, the report fails to consider potential new sharing models that can be enabled in the 5G era, especially when considering the use of high-frequency bands which can be shared between services (e.g. with satellites, backhauling) or between users of the same service (e.g. sharing of the 26 GHz frequency in Italy between mobile operators). Under the section on other sharing types (3.1.3), **Nokia** recommends adding "Network Transport slicing" as a network sub-layer which could be linked to the Broadband Forum definition of Fixed Access Network Sharing (FANS) for virtual infrastructure sharing.

Magyar Telekom welcomes that the Common Position provides a refined typology of the different types of mobile network sharing arrangements. **Magyar Telekom** points out that

national roaming is distinct from the other forms of active sharing (at least financially), since it is not about sharing Opex and Capex investment in infrastructure, but merely a wholesale contract. For this reason, it suggests it should be better placed under other sharing types.

GSMA – ETNO recommends to remove the sentence - “Passive elements are sometimes referred to as “unpowered components” as these elements usually do not require a power supply” - might bring more confusion than clarity. The definition of active sharing in **GSMA – ETNO** ‘s view should also mention that active sharing in many cases includes sharing or joint operations and maintenance.

Telefonica encourages BEREC to amend the description of active sharing in CP1 to take full account of the most recent standardisation initiatives in 3GPP and the future possibilities to differentiate services under an active sharing deal.

BEREC Response:

BEREC observes that stakeholders were generally supportive of the goal to set out a common dictionary of definitions through a Common Position. This should help to foster a collective understanding of relevant infrastructure sharing terms for EU policy makers, regulators, and operators and their advisors. BEREC’s response to some of the specific points is as follows:

BEREC has considered the point to rename the term “co-location” as “location sharing” and notes that the term is not exclusively used to describe sharing in fixed use case examples. BEREC considers that co-location would be well understood in the context of sharing in mobile.

BEREC has considered ECTA’s point on clarifying the articulation of MORAN, MOCN and spectrum sharing definitions. BEREC modified the CP1 to clarify that MOCN is a RAN-sharing agreement where, contrary to MORAN, the same spectrum is accessible to (shared between) the clients of the operators concerned. When this spectrum is the aggregation of frequencies awarded to different operators that are part of the agreement, it is now called MOCN with spectrum pooling (instead of “sharing” in order to avoid the confusion with the fact that the same spectrum is shared between the clients of different operators).

BEREC has considered ECTA’s point that the typology seems to be limited to sharing arrangements in the access part of the network and would respond that its draft Common Positions definitions are not limited to the access of the network (see in particular the “other sharing types” section in the common position). BEREC also considers that it has created a starting baseline of definitions so that there is an improved collective understanding, at this point of time. In the future, it may be beneficial to revise and/or complete the definitions to take other possible forms of sharing into account.

On Network slicing point, BEREC has considered the view that the report fails to consider new sharing models such as Network Transport slicing and does not find any reason to set out to define this type of arrangement in the Common Position, given the limited evidence available to properly assess the merits of doing this now. Further work would be needed in order to determine if and when it might be beneficial to present a common definition on

slicing. In general, BEREC considers that it might be useful to return to the matter of definitions in the future with the benefit of experience of new these models of sharing.

BEREC has considered the point to amend the description of active sharing in CP1 to address the most recent standardisation initiatives in 3GPP and does not consider that the definition needs to be amended at this time. Standards are updated often and BEREC considers that it would not wish to fix the definition to one standard when there are ongoing standards developments including those related to 5G as mentioned by other respondents. BEREC considers that it might be better in this instance to amend its description of benefits and drawbacks of sharing to alleviate Telefonica's concerns (see section 5.3).

In light of the above, BEREC adopted the definitions as set out in the Common Position 1, as amended.

3. Comments on common important objectives (CP2, on objectives on effective competition, better connectivity and efficient use of spectrum)

Facebook expressed that national regulatory authorities should consider how to facilitate faster and less expensive deployment of connectivity infrastructure by streamlining local licensing and permitting processes, opening up rights of way and access to facilities, and removing other impediments to competition.

Tele2 considers that the assessment should address all regulatory objectives, not only that of effective competition, and include parameters to be weighed against a possible potential loss to competition. For example, in **Tele2's** view BEREC's CP3 primarily focusses on the effects on competition between operators within the network sharing agreement and ignores how the larger effects on competition in the market outside the sharing agreement. **Tele2** considers that when it comes to better connectivity and efficient use of spectrum, BEREC should support NRAs in their assessment of these parameters especially during a time when Member States are licensing spectrum and operators are going to deploy new network technology in the near future.

TMCZ suggested including "Promote *take up* and investment in high capacity networks" as an additional objective. It also suggested adding a reference to the objectives in Article 8 (5) (d) of the framework directive on promoting efficient investment and innovation in new and enhanced infrastructures, including via cooperative agreements. Furthermore, it indicated that the legal framework is about *efficient* infrastructure based competition, as did **ECTA**.

Magyar Telekom considers CP2 as an excellent opportunity to provide further guidance to NRAs to highlight how a counterfactual should be applied when conducting an ex ante analysis. It sets out that the situation when two entities wilfully enter into a network sharing cooperation agreement in general should be assessed under general competition law. Therefore, it considers that it would be useful if the Common Position differentiated into more detail between ex ante and ex post assessment of network sharings while pointing out the exact tools which ought to be used in an ex ante assessment by an NRA.

Telenor Hungary suggests elaborating on the text related to investment promotion which is introduced by the European electronic communication code (EECC) under the provisions on general objectives. **Telenor Hungary** noted that the draft Common Position does not define well the conditions under which regulatory procedures concerning network sharing can be initiated and what their outcome can be. **Telenor Hungary** considered that the draft does not help certainty, and creates an uncertain environment for investments in the sector.

Telenor Hungary sets out that as long as the cooperation between operators enhances efficiency and service quality and does not decrease the competition in retail and wholesale mobile services, regulators should not interfere with MNO business decisions. **Telenor Hungary** indicates that the draft Common Position does not clarify what kind of definition of effective competition should be used by regulatory authorities and suggests to add references to provide more guidance.

In **ECTA's** view, it is decisive that infrastructure sharing agreements be assessed with regard to their long-term impact on effective competition, and notably whether and how they impact operators' incentives to engage in efficient infrastructure-based competition, assuming this to be efficiently possible in terms of the domestic context in which the infrastructure sharing agreement operates. As regards the better connectivity objective of (a) service improvements in terms of coverage or quality, (b) service and technology development and transition management, and (c) reduction of deployment costs for passive infrastructure, **ECTA** is of the opinion that they require appropriate contextualization in view of the preceding remarks. **ECTA** proposes to redraft the relevant wording in the Common Position as 'improved joint use of or deployment efficiency for (very) high capacity electronic communications networks used for the provisioning of wireless electronic communications services'.

EWIA encourages policy makers and regulators to consider the positive effects of hosts / independent infrastructure providers when considering approving or imposing sharing between mobile operators. **EWIA** claims that neutral hosting allows for competition at the infrastructure level, thus enabling differentiation in service offerings. In **EWIA's** view when considering, in particular, permitting or even imposing forms of active sharing, policy makers and regulators should consider whether regionally-restricted sharing could be based on the neutral host model. The sharing must not necessarily be restricted to national mobile operators.

GSMA – ETNO points out that while the objectives to be achieved (as referred to in subsection 3.2.1 of the draft BEREC Common Position) could partly coincide in the two cases, since they are the general objectives of an efficient and effective competition, the same is not valid for the parameters (as referred to in subsection 3.2.2 of the draft Common Position) to be considered when the sharing agreements are to be assessed. Additionally, **GSMA – ETNO** notes that the trade-off between competition intensity and investment as described under subsection 3.2.1.point "a) Infrastructure based competition" is not as simple and linear as otherwise stated. **GSMA – ETNO** recommends BEREC to clarify the prioritization between the objectives included in subsection 3.2.1 of the draft Common Position.

GSMA – ETNO considers the regulatory objectives should include the promotion of investment, innovation of new generation networks and deployment of 5G networks.

Deutsche Telekom noted that unfortunately the BEREC Common Position does not reflect the importance of infrastructure sharing in the context of 5G deployment, as was set out in BEREC's Report on infrastructure sharing (June 2018), and also that the Common Position neglects the positive impact of network sharing on future 5G roll-out.

BEREC Response:

BEREC considers that the objective of better connectivity identified in its CP, aligns with the view of Facebook that NRAs remove regulatory barriers to enable faster and widespread infrastructure deployments. In addition, BEREC would encourage NRAs to take account of all relevant initiatives aimed at increasing connectivity in the future such as those aimed at authorising / enabling smoother deployment of small cells (e.g. under Article 57 of the EECC).

BEREC agrees with Tele2 that NRAs need to consider all relevant objectives. The objectives identified in the CP provide context for NRAs when considering sharing agreements.

BEREC has considered the points to clarify the term *efficient* infrastructure based competition and the reference to Article 8 (5) (d). BEREC will clarify that efficient infrastructure-based competition is one of the sub-goals of effective competition. Article 8 (5) (d) will be included in the legal background part. In addition, BEREC has considered Telenor Hungary's views that BEREC should elaborate on the text related to investment promotion which is introduced by the EECC under the provisions on general objectives. BEREC has updated the legal framework introductory section by mentioning the additional objective in the EECC of connectivity and access to very high capacity networks and by indicating that the EECC emphasises that competition includes efficient infrastructure-based competition. Furthermore, BEREC observes that NRAs will exercise their functions, objectives and duties in accordance with the relevant provisions of the EECC, and as a result there are no further substantive changes to be made to the section of the CP dealing with the objectives.

BEREC has considered the views of Magyar Telekom and Telenor on the role of general competition law when two parties enter into agreements themselves, and does not find any reason to change the high level important objectives identified in the draft Common Position. BEREC reiterates that such agreements cannot avoid complying with competition law.

BEREC has considered ECTA's detailed points about how the connectivity objective might be applied by NRAs. In this aspect, BEREC maintains its view that it is a matter for the specific NRAs (and CAs) how to conduct their analysis. BEREC's CP provides a useful context and overall framework for NRAs on the high level objectives to be achieved when they are assessing sharing agreements. BEREC does not see any merit in trying to provide further contextualisation on how the objectives should be applied, as it considers that case by case assessment is of critical importance, as was submitted by many respondents under comments on CP3 (see also section 4 below).

BEREC has considered EWIA's point about taking into account neutral host model sharing. In so far as BEREC understands the point, EWIA seems to highlight a very specific and detailed type of sharing arrangement. In BEREC's view such a model is not an objective to be achieved / considered by the relevant NRA when assessing a sharing agreement, however, it may be one of the context specific parameters to be considered. Therefore, BEREC encourages NRAs to consider specific market peculiarities (which in some markets could encompass the impact of neutral host model sharing arrangements) when conducting assessments. BEREC considers the specific point about the potential benefits of the wholesale model and sharing in section 5 below under other comments received on BEREC's indicative analysis of a sharing agreement. Therefore BEREC does not intend to amend the high level objectives to account for EWIA's point.

BEREC has considered GSMA-ETNO's points including its views on the objectives in 3.2.1 and 3.2.2, specifically that the example in 3.2.1 is not as simple and linear as BEREC indicates, and that BEREC should prioritize the stated objectives, as follows:

First, BEREC considers that the important objectives are set out to provide context on how an NRA might wish to frame its assessment, whereas the parameters set out under CP3 are non-exhaustive and are likely to be context specific, a point accepted by many respondents

(See also section 4 below). Therefore, BEREC recognises that the example is likely to be more complex in practice and will clarify that efficient infrastructure-based competition is part of the objective. Furthermore, BEREC will add in 3.2.1. that joint rollout and joint operation of mobile communications infrastructure, as opposed to several independent infrastructures, might bring about savings in many areas. In areas with low usage the benefits from network sharing in mobile communications are comparatively high. This change will also clarify that the effect of the existing market share on the incentives to invest in order to win additional market share is not the only one to consider.

Second, BEREC's example in 3.2.1 is not intended to be an exemplar case but gives an indication of the types of considerations which may arise in any given assessment. Indeed, BEREC would also respond that it would be unreasonable for it to provide a fully reasoned example in this short high-level Common Position report. Therefore, BEREC considers that it does not have to provide a more detailed example in order to highlight to NRAs that arrangements are likely to be complex and therefore should be considered on a case by case basis. Therefore, BEREC does not intend to amend its example.

On GSMA-ETNOs other point, BEREC does not see a need to set out a prioritisation of objectives as the assessment to be undertaken by NRAs would be context specific and the priorities for some markets may not be same. Therefore BEREC does not see a need or benefit to assign priorities on objectives, as the assessment is likely to be context specific.

BEREC has considered GSMA-ETNOs view that one of the goals is to achieve promotion of investment and innovation in networks including 5G and Deutsche Telekom's point that BEREC should have regard to the positive impact of sharing on 5G, as follows. BEREC recognises that while it may be important that the CP refers to 5G, it is too early for BEREC to prescribe what the impact of sharing on 5G may be. However, this matter could be further considered under the "Report on the impact of 5G on regulation and the role of regulation in enabling the 5G ecosystem" (BEREC Work Programme 2019 deliverable 3.1). In addition, BEREC would encourage NRAs to carefully assess any views that parties to a sharing arrangement may provide on the matter of the impact of sharing on 5G. As more concrete examples of 5G deployments arise, and as more 5G sharing examples develop, BEREC looks forward to working with NRAs and industry to improve the CPs it has developed in this report.

4. Comments relating to common factors (CP3, on the parameters to consider when assessing network sharing agreements in order to achieve/maintain the above mentioned objectives)

Magyar Telekom requests BEREC to elaborate on further considerations which have to be done in case of non-replicable sites. It considers that the draft Common Position should clarify that non replicable sites are much more likely to exist in densely populated areas. In addition it should be clear that the views expressed in points a) to c) of the subsection 3.2.2. (under Feasible level of competition) regarding the assessment of areas with potential infrastructure based competition carry the experience of past ex post competition law cases, and will not apply in the same manner, if NRAs take an ex ante view of the market.

GSMA – ETNO recommends that BEREC should adjust its statement regarding active sharing in CP3 that this would be the least preferred form of sharing because this seems too undifferentiated. In this context, it explains that there is a big difference in ability and incentive to compete between RAN sharing and national roaming. According to **GSMA-ETNO** the two main reasons are that, on the one hand, RAN has a limited influence on differentiating factors such as capacity, coverage and service functionality which are dependent on other network layers and, on the other hand, new (IP-based) services are RAN-agnostic.

GSMA – ETNO also remarks that CP3 disregards that true network sharing is by nature a long-term agreement, as no operator would commit to these massive network investments without long-term certainty. Therefore, the merit of point 5 (reversibility and contractual implementation) under subsection 3.2.2 is questionable as the content and explanations given are unconvincing and do not adequately defend the statement.

ARTICLE 19 remarked that, in the assessment of infrastructure sharing agreements, the impact on long term availability for consumers of service quality and of service choice should be taken into account. This would limit the possibility of exploitative abuses by dominant actors. **ARTICLE 19** considers that national roaming should be seen as a useful way of ensuring consumer choice and quality for services by increasing the number of plans available to those consumers. **ARTICLE 19** argues that there is no need to have narrow view of the opportunities presented by mobile technologies developments.

ECTA suggests including the list of competitive concerns linked to infrastructure sharing agreements from BEREC's report on infrastructure sharing, to ensure appropriately comprehensive considerations. Additionally, **ECTA** attached several observations on specific elements (technologies involved, feasible level of competition, non-replicable sites or deployments, types of sharing, and reversibility and contractual implementation).

Two respondents commented on BEREC's proposed shared information parameter and on the impact on the ability of parties to compete as a results. For example, **Telenor Hungary** considers that the statement on the negative incentive to invest seems to be speculative, since such risk can be mitigated or eliminated by the proper design of the information sharing process and by proper organisational or institutional solutions. And **digitalES**

considers that the sharing of information parameter in CP3 would be out of scope of the document, because this is subject to compliance with the laws of competition.

4.1. Case by case assessment (interlinked with CP3)

Some respondents commented on *how* NRAs should consider the non-exhaustive list of identified parameters, and not only on the contents of parameters on the list. For example:

digitalES considered it essential to also take into account the very different local regulation and, specifically in the case of Spain, the wide dispersion in Autonomic and Municipal regulation that affect the deployment. In particular, **digitalES** points that it is the operators who must define the investment or sharing model that best adapts to the different realities of the market, since the existence of other impediments not directly related to the costs of deployment cannot be ignored, e.g.: the existence of municipal regulation or the protection of certain areas of a municipality (cultural heritage, usually in more densely populated areas) and the visual impact or situations of social alarm.

digitalES considers that the regulatory authorities should not impose specific sharing scenarios and that BEREC should focus on the development of generic guidelines that facilitate and give legal certainty to the agreements that can be reached by operators on sharing without favouring some to the detriment of others. It would allow the sector to develop the models that best suit the different situations. **digitalES** suggests always taking as a basis the case by case analysis according to the different market situations.

ECTA commented that the need for case-by-case assessment implies that any discussion of benefits and drawbacks must occur against the specific details of a concrete infrastructure sharing agreement. While not part of the three common positions set out in the draft CP, the list of potential benefits and drawbacks feed into the common positions and will form part of the finally adopted document. **ECTA** therefore considers it appropriate to preface their presentation by a remark recognising their non-exhaustive nature and a clearer emphasis on the need for context-specific assessment.

EWIA supports the view that forms of active sharing such as roaming are ‘likely to be not in line with the objectives of infrastructure-based competition’ and that such measures must be considered on a case-by-case basis and take into account the impact on infrastructure-based competition.

In **Telenor Hungary’s** view, RAN sharing does not result in only service based competition. The company explains that conclusions could not be made based on simple indicators but only after a careful empirical evidence based analysis on a case by case basis. In **Telenor Hungary’s** view, RAN sharing fully fits into the concept of infrastructure-based competition because participants of these agreements are MNOs who have made significant network investments, including in radio access network. In the understanding of **Telenor Hungary**, RAN sharing solely means that the same radio and antenna serves both participating parties’ access networks.

Magyar Telekom remarks that CP3 provides an ex post competition guidance on network sharing and the parameters listed in this Section are rather generalized and unsubstantiated.

It considers that the draft Common Position fails to differentiate between the possible effects of different sharing types that again might result in a more detailed analysis of infrastructure sharing.

4.2. Specific comments on geographic scope parameter in CP3

Some respondents provided general and specific views on the geographic parameter set out in CP3 in the draft Common Position.

In **Telenor Hungary's** view, the draft Common Position suggests three groups of geographic areas according to the expected direct profitability of sites and links up to this typology with in **Telenor Hungary** opinion misunderstood concept of infrastructure based competition. **Telenor Hungary** advocates that, as active sharing is evidently compatible with infrastructure based competition, there is no reason to differentiate between sites or locations with regard to the regulatory classification of favourability of active network sharing elaborated in the draft Common Position. **Telenor Hungary** in general stresses that a fixed network logic of network deployment cannot be applied to mobile networks.

Telenor Bulgaria considers that using an inadequate geographic classification can have far-reaching consequences.

GSMA – ETNO considers that using population density as the sole criteria for geographic scope seems arbitrary. From **GSMA's** point of view, the issue is more complex and there are more relevant factors such as topology of the area, existing network grids and the handover coordination between own and shared networks.

In **TMCZ's** view, the focus on geographic scope is excessive. Defining relevant geographic areas in practice could be difficult and NRAs should take all factors in consideration and afterwards should identify the benefits to make an informed decision.

In **CETIN's** view, BEREC should clarify what is the impact of sharing agreements on competition (positive or negative). It considers that the technologies involved in a sharing agreement should always be considered by BEREC/NRAs. It noted that operators are generally forced to implement the latest technologies even if (additional) business opportunities are limited and the corresponding costs are high. In relation to the geographic scope, it sets out that exclusion of some areas in sharing agreements would lead to a "Swiss cheese effect" with handover issues in borders between shared and non-shared areas, and that the counterfactual to be considered is whether it would be profitable to deploy a network or not (although it agrees that the population density of certain areas may be a relevant consideration).

ECTA generally agrees with the list of factors provided in the draft common position. Nevertheless, **ECTA** considers that the parameter 'geographic scope' should be further clarified and it highlighted inter alia the following points:

- 1) The CP should distinguish population density and geographic factors such as cost-shaping topological features which do not have to be correlated with population density.

- 2) Analysis of the level of efficient infrastructure-based competition feasible in a given territory must always be related to an overall appraisal of the geographic scope of the infrastructure sharing agreement. In **ECTA's** view, such emphasis could appropriately address the concern about the wider competitive impact in relation to the objective of promoting competition.
- 3) Building on this, the CP should encourage competent authorities to practically assess geographically limited forms of collaboration in such a wider perspective where the overall infrastructure sharing agreement extends beyond the geographic scope of the concrete instance of collaboration.
- 4) Due to the overall relevance of geographic considerations to how competent authorities will approach their analysis, **ECTA** also suggests to either begin the list with or preface it by the presentation of this parameter.

Magyar Telekom: Especially 5G deployment in high frequency bands are expected to require very significant investments. As a result it is likely that even in densely populated areas a standalone network deployment will not be financially viable, in its view.

BEREC has noticed that mainly all contribution regarding CP3 are focussing on two main issues in case NRAs have to assess sharing agreements. On the one hand, concerns from stakeholder were raised about the number, type and extent of common factors; in particular on the geographic scope. On the other hand, stakeholders set out views on their understanding of the general context and of the specific nature of assessments (e.g. need for a case by case assessment).

Therefore BEREC would like to address the main issues in its response to stakeholders:

BEREC Response on common factors:

BEREC would like to emphasize that its list of common factors is not intended to be exhaustive and that the level of information required in order to reach a fully reasoned conclusion is a matter for the NRAs who are conducting a sharing assessment. As a consequence, BEREC does not find any reason to support substantive changes to its CP3 to address respondents' views (e.g. to include a parameter such as non-replicable sites or to set out the timeframe for analyses) given that the list is not finite nor should it be considered to be an exhaustive list for the purpose of an assessment.

BEREC Response on specific geographic parameter:

As already mentioned above, BEREC's CP3 sets out some of the parameters which an NRA in case of assessing sharing agreements may wish to consider. Essentially, all of BEREC's parameters reflect and reinforce the need for case by case analysis. In line with respondents' views, the identified parameters may be more complex when viewed in the specific context of an initiating sharing agreement. BEREC's analysis sets out the extent to which the geographic scope may need to be carefully considered by NRAs. As a result, BEREC does not intend to refine its example but again would encourage NRAs to continue to share their experience on the application of all relevant parameters. BEREC observes that the parameters to be considered including the geographic factor would be context specific. BEREC does not consider that the emphasis of CP3 is weighted towards considering one

parameter over any other, and in this aspect the CP3 is not excessive – in fact, CP3 is a non-exhaustive set of parameters to guide NRAs who may have to conduct an assessment. In addition, it is not a matter for BEREC to determine the level of complexity of an assessment (e.g. Swiss cheese effect) and, if some parameters are difficult to include, these will be given careful consideration in the particular context.

BEREC Response on case by case:

BEREC observes that respondents support the need for case by case analysis, as the parameters may impact different sharing cases differently. BEREC considers that the analysis of sharing arrangements should be context specific and that NRAs should make appropriately informed assessments having regard to most relevant factors in each particular case. Due to the need for a case by case assessment and in view of the factors which have to be taken into account by NRAs analysing sharing agreements, BEREC emphasizes that the list of factors in CP3 should be seen as non-exhaustive.

5. Other comments

BEREC observes that respondents provided wider views on the drafting of certain sections of the draft Common Position including on the following:

- The role of Appendix 1 and competition law;
- BEREC's indicative analysis of different types of network sharing;
- benefits and drawbacks of sharing; and
- Other comments.

These are considered below.

5.1. Clarifying of the role of Appendix1 and competition law

In **Telenor Serbia's** view, the background section on legal framework does not make a clear distinction between competences of the NRAs in terms of ex ante regulation on one side and their jurisdiction over mobile infrastructure sharing agreements on the other side.

GSMA – ETNO, Telenor Serbia and Telenor Hungary suggest excluding Appendix 1. For **Telenor Serbia**, it would make the document more straightforward and achieve its goal of providing the guidance to the NRAs when tackling with mobile infrastructure sharing agreements. In **GSMA – ETNO's** view, Appendix 1 is out of scope of the draft BEREC paper and goes beyond BEREC competences.

In **NOKIA's** point of view the scope and objectives of the document are unclear as mobile sharing agreements assessment falls under the authority of either the national regulatory authority or the national competition authority. The contexts where the common position applies should be clarified.

Tele2 noted that for infrastructure sharing based on commercial agreements, the approach under competition law should be that they are 'permitted unless'. However, the harsh approach taken towards certain types of infrastructure sharing (e.g. active sharing) implies that such sharing arrangements de facto become 'prohibited unless'. In **Tele2** view, this is against the nature of ex-post analysis of these types of agreements, and could lead to the wrong approach of doing assessments. A strong assumption against the arrangement could quickly lead to a burden of proof on the operator to establish the opposite.

Magyar Telekom considered useful for the draft Common Position to differentiate into more detail between ex ante and ex post assessment of network sharings and to point out the exact tools which ought to be used in ex ante assessments by NRAs.

GSMA – ETNO remarked that ex-ante conditions on the sharing of mobile infrastructure should be avoided as the commercial agreements between the parties and ex-post anti-trust legislation are sufficient and prevent regulatory actions from causing market distortions.

For **ECTA**, the final CP should further clarify the relationship with competition law in two respects. First, nothing in the Common Position should be taken to prejudice the assessment of infrastructure sharing agreements under competition law. Secondly, NRAs should remain mindful of the fact that infrastructure sharing agreements operated through joint ventures are susceptible to assessment in terms of whether they significantly impede effective competition, and accordingly engage in interagency collaboration as appropriate.

BEREC Response Issue

BEREC does not intend to delete Appendix 1 as suggested by several respondents. Appendix 1 provides additional context and is a short synopsis of some of the relevant material that may be useful for NRAs to consider at the time of analysing a sharing agreement. Furthermore, NRAs have to formulate conditions attached to rights of use for spectrum that are in accordance with competition law principles (see also recital 124 of the EECC). Appendix 1 does not contain legal, commercial, financial, technical or other advice for NRAs and was prepared having regard to the context specific nature of sharing arrangements and the proposed case by case analysis.

5.2. Comments on BEREC's indicative analysis of different types of network sharing

Telenor Hungary suggests to remove this section entirely from the draft Common Position as it can negatively prejudice future analysis of the NRAs even if does not intend to do so.

ARTICLE 19 pointed that Infrastructure-based competition in the mobile sector is inherently different from infrastructure-based competition for fixed networks.

Tele2 considers that the positive effects identified in subsection 2.2.1 are underestimated in both scope and importance, that the drawbacks identified in subsection 2.2.2. are either not present in current sharing agreements or, to a lesser extent, are not supported by market realities, that relevant factors are already limited due to constraints other than network sharing (for geographic coverage and quality of services), or can be effectively remedied by taking appropriate countermeasures and finally that the assessment does not take into account wider public policy interests, such as the quick adoption of 5G technology at network level.

GSMA – ETNO mentioned that paragraph 4.3 of the draft Common Position needs to more clearly state that not all areas where infrastructure competition is not feasible would require spectrum sharing.

ECTA re-emphasized the need to ensure that the proposed analytical framework achieves the greatest possible degree of effectiveness. To this end, **ECTA** invited BEREC to fully recognise the differences in dispute resolution procedures as well as other application settings, and to ensure that the final CP is brought to the attention of all competent authorities likely to be involved in its application and the assessment of infrastructure sharing agreements in general.

Telenor Hungary suggests revising the discussion of the benefits and drawbacks of infrastructure sharing, as the three types of infrastructure sharing analysed in the document are quite different regarding their features and their possible impact.

BEREC Response:

BEREC has considered respondents views on its indicative analysis of different types of network sharing arrangements and considers that CP3 addresses the concerns raised. For example, there is benefit in case by case assessment and the analysis of parameters will be context specific. BEREC's indicative analysis is high level in nature in order to provide NRAs with context on some of the types of relevant issues. BEREC encourages NRAs to continue to share information so that the indicative analysis can be supported by the latest information available to NRAs.

5.3. Comments on benefits and drawbacks related to sharing agreements

Comments on the benefits and drawbacks are grouped below in terms of three main headings as follows:

1. BEREC's benefits/drawbacks list, and the relative balance in the report

CETIN recommends to develop a separate additional benefit as technological benefit. It claims that without the infrastructure being shared and cost efficiently reduced, new technology such as 5G will be developed throughout the EU Member States in significantly lower speed and may potentially not be deployed at all.

GSMA – ETNO explains that active sharing can be very beneficial not only for legacy technologies as mentioned (2G, 3G, etc.) but also for upcoming technologies like 5G.

digitalES suggests to include in the section 3.2.2. of the draft Common Position an additional parameter to be analysed by the NRAs in relation to the existence of barriers¹ to the deployment of mobile networks. It notes that this may impact on the conclusions established in the section 4.2 of the draft Common Position. It considers that impediments, which prevent or hinder in many cases new deployments in certain areas, can be resolved with sharing agreements, which it considers would be more relevant in view of the deployment of 5G networks.

For **Magyar Telekom**, the benefits and drawbacks set out in Section 2.2. should be defined with a forward-looking mindset, within the regulatory framework used by the NRAs, rather than a result of the ex post competition case law under the competition law framework.

In **Tele2's** view, BEREC has attempted to provide a tentative and non-exhaustive list of potential benefits. However, it considered that was not clear from the text that this is the case. **Tele2** believes the Common Position should explicitly uncover all the possible benefits

¹ ...such as the existence of municipal regulation or the protection of certain areas of a municipality (cultural heritage, usually in more densely populated areas), as well as the visual impact or situations of social alarm

(and drawbacks) of every particular mobile network sharing agreements based on a case-by-case analysis.

In addition, **Tele2** concerns that the separate categories of benefits may not be helpful to make an appropriate analysis. As an example, **Tele2** explained that pooling available investments to run a more cost-efficient operation is the approach for the sharing operators to achieve a better network (e.g. broader coverage, higher quality, faster deployment). This is according to Tele2 improved cost efficiency instead of cost reduction.

Telenor Serbia points that the benefits defined in this subsection are very general and high level. According to **Telenor Serbia**, benefits analysis should correspond to each model of infrastructure sharing as described by chapter 4 of the draft Common Position. **Telenor Serbia** mentioned an example that cost savings resulting from infrastructure sharing enhance the competition of operators on the end user side because the operators will use the saving to invest more either in developing of new services or by lowering the prices of the end users.

TMCZ states that some benefits associated with infrastructure sharing (in particular active sharing) are missing including the ability to maintain legacy network operating at a higher level of quality, the reduction of shadowing between different operators' antennas and the efficient use of the sites.

Tele2 admits that efficiencies have welfare effects beyond competition and user choice. For instance, more than 90% of our CO₂-equivalent emissions are from electricity usage, which in turn is almost entirely caused by our base stations and other network elements. Network sharing is also from an environmental perspective by far the more efficient operational approach.

digitalES pointed that it is necessary to clarify the differentiation made in the text between the "Drawbacks" and "Benefits", since the related aspects within each block can turn into the opposite depending on the scenario and the type of sharing.

In the view of **TMCZ**, the draft Common Position shifts the balance too much on drawbacks against benefits and suggests that the final version of the Common Position better reflect the findings of BEREC Report on the benefits and drawbacks, which were more balanced.

Concerning benefit 3 (consumer choices) where service-based competition is preserved, **Telenor Hungary** argues that active sharing does not lead to only service-based competition since the mobile networks remain independent even with sharing.

CETIN emphasizes that the pass-on effect as mentioned in benefit 1 primarily depends on the level of competition at the retail level. Concerning benefit 3, **CETIN** argues that there shall be no competition concerns when sharing takes place in areas which otherwise would not be served in counterfactual non-sharing scenario.

TMCZ also argues the pass-on effect to consumer (benefit 1) is an issue from antitrust perspective and should not be part of the Common Position.

2. Scope of BEREC's analysis (active and passive sharing and role of wholesale)

EWIA noted that regulators need to take into consideration and avoid the risk of a foreclosure of the market for investments from independent wholesale infrastructure providers. This would result in losing access to multi-billions of private long-term investments into the European Union, which could fund broadband coverage and benefit end users. **EWIA** concurs with the view that active spectrum sharing is likely to have a greater impact on competition than passive sharing. In **EWIA's** view, while the Common Position considers the benefits and drawbacks of different forms of infrastructure sharing between operators, it does not consider the beneficial role of 'wholesale-only' infrastructure on competition, which have been recognised in Article 80 of the EEC. NRAs should consider the merits of the wholesale-only or 'neutral host' business model in providing a pro-competitive solution for infrastructure or network sharing.

FASTWEB pointed out that a more detailed analysis on existing voluntary agreements (especially between incumbent MNOs and so-called tower companies) might greatly benefit a better understanding of risks and benefits of infrastructure sharing.

Telefonica provide guidance on how sharing mobile infrastructure can reduce the burden of coverage obligations.

Telenor Hungary considers that features and impacts of active RAN sharing agreement are closer to passive sharing. Therefore, RAN sharing does not result in any decrease in the number of independent mobile networks and a downgrade from infrastructure-based to service-based competition. **Telenor Hungary** claims that BEREC misses important benefits, especially those related to active sharing, e.g. larger coverage, denser networks, optimized locations, enhanced and more efficient RAN operation, and consumer benefits. Additionally, **Telenor Hungary** pointed out that faster network roll out associated with active sharing is very important and should be supported by NRAs.

The feedback of **Telenor Bulgaria** is very similar to the feedback of Telenor Hungary, and also calls for additional attention on the benefits of active sharing. **Telenor Bulgaria** refers to a higher cost-benefit ratio for operators in a scenario which operators sell off their infrastructure and then lease them back.

DNA explained that it hopes that BEREC and NRAs will take account of all the benefits that infrastructure sharing and access to others' physical infrastructure cause and will not focus on infrastructure-based competition when it is not a real option.

Telenor Bulgaria points out that active sharing will reduce the number of sites thus also minimize the overall electro-magnetic field exposure.

3. General and specific comments on drawbacks

In **Telenor Serbia's** view, the drawbacks described in the document are often overlapping and do not reflect potential drawbacks for each model. Thus, it should be defined much more precisely.

Tele2 points that subsection 2.2.2. needs more information and analysis. While possibly true, several conclusions cannot be drawn based upon the information presented. **Tele2** disagrees that there are significant drawbacks in network sharing.

Having regard to its views on the benefits above, **Telefonica** encourages BEREC to amend section 2.2.2. on the potential drawbacks of infrastructure sharing. Whilst recognizing the efficiencies that infrastructure sharing can bring about, the BEREC draft opinion is in **Telefonica's** view unjustifiably pessimistic regarding the possibilities to differentiate and compete under an active sharing agreement.

digitalES pointed out that the differentiation by level of service offered, which is pre-established in the document as a consequence of the disadvantage "Reduced incentives to invest / ability to compete", may not be such a disadvantage according to the type of sharing. According to **digitalES**, with passive sharing as well as MORAN, operators still maintain opportunities to differentiate themselves in coverage and quality service, and it is in the MOCN-sharing type scenario that these opportunities begin to be lost. Additionally, **digitalES** also does not agree with the statement that infrastructure sharing reduces the resilience of mobile networks in certain geographical location (drawback 3).

Telenor Hungary explained that reduced cost investments should not be automatically taken as a drawback, but the key point in the assessment should be whether the decrease in the investment leads to consumer harm directly or indirectly due to the lessening of the competition or not. The concern related to reduce ability to compete is overbroad. It is true for roaming, but not for active sharing agreements. **Telenor Hungary** advocates that it cannot be stated that RAN sharing results in a significantly reduced incentive to compete for the parties.

Tele 2 considers that BEREC's assessment that active sharing leads to lesser opportunities to differentiate is incorrect. Differentiation between operators depends on having individual control over the core network rather than the RAN.

GSMA – ETNO noted that the description of reduced incentives to invest in a shared network (Drawback 1) does not provide a nuanced or accurate picture of the potential effects of network sharing. In **GSMA – ETNO's** opinion, the operator's ability to compete on the downstream markets is not necessarily reduced by engaging in network sharing as the most differentiation happens in the core network and IP layer, which are not shared. **GSMA – ETNO's** view was also that drawback 3 is not for the customer, since the customer can only use its host network.

Regarding drawback 2 in **Telenor's Hungary** opinion, the draft statement is oversimplified and lacks the necessary foundation and can very likely not be proven in any specific case.

BEREC Response (benefits/drawbacks list, and relative balance):

BEREC has considered respondents views on the list of benefits and drawbacks and whether the list omits or overstates benefits/drawbacks. For the avoidance of doubt, the list was not intended to set out a final list of all possible benefits (and drawbacks). BEREC recognises that there may be different benefits and drawbacks depending on the particular example, and therefore does not see any additional need to add to its description in the draft Common Position.

BEREC Response (Scope of BEREC's analysis - active, passive and role of wholesale):

BEREC has considered respondents views on the scope of BEREC's analysis and considers that it would not be appropriate for this analysis to try and cover the scope of all possible scenarios as requested by respondents. For example, on Telefonica's point about how sharing might interact with coverage obligations, BEREC recognises the need for case by case assessment (see Section 4.2). Essentially, the draft Common Position will provide NRAs with additional sources of material to consider if/when they are assessing sharing arrangements. In addition, BEREC would observe that the submissions to the draft Common Position and this report itself, are also relevant sources of information for NRAs. In particular, these documents may usefully assist NRAs to set the scope of their analysis in terms of what aspects of active, passive or wholesale to take into account. NRAs are also likely to receive dedicated submissions by the sharing parties themselves so there is an abundance of material available to NRAs in order to set the scope of their assessments.

BEREC Response (drawbacks):

BEREC has considered respondents on the drawbacks. In particular, it has considered whether its views on drawbacks of shared network architecture (MORAN and passive sharing) could be misinterpreted. For example, and for the reasons of case by case analysis, BEREC understands that there may be cases where the ability of service providers to differentiate is not as impacted by shared network architecture as BEREC's draft Common Position suggested. BEREC therefore addresses the tone of the second paragraph under drawback 1 in a proportionate manner to address the above concerns. In particular, BEREC sets out the ability to compete at levels outside shared architecture might remain to some extent, so as to highlight to NRAs that such drawbacks need careful consideration. Furthermore, BEREC would continue to highlight that it would be a matter for NRAs to satisfy themselves of the impact of shared network architecture might have.

5.4. Other comments

Other comments are grouped below in terms of three main headings, as follows:

1. Claims that BEREC should give greater support for network sharing

Telenor Bulgaria considers that the draft common position should give a clear support to network sharing schemes that will drive technology development.

CETIN sets out that the draft common position lacks clearer and stronger support for infrastructure sharing.

Vodafone noted that the draft Common Position should advocate a pro-network sharing approach unless certain red lines are crossed.

Telefonica pointed that the draft common position should help fostering reasonable expectation of approval for voluntary sharing deals. It highlights the role of NRAs as facilitators of voluntary agreements.

ARTICLE 19 considers that BEREC should consider having a clearer position on active sharing, to enhance legal certainty for market operators. **ARTICLE 19** notes that BEREC focuses mostly on passive sharing. In its view, active sharing has numerous advantages, among which the optimisation of scarce resources, the decrease in duplication of investments and the enhancement of service differentiation. **ARTICLE 19** explains that such advantages are weighted against competition concerns arising from decrease in network competition and possible refusal to deal, which could be avoided through appropriate regulatory intervention.

1&1 indicated that BEREC should publish pro-competitive position supporting and pushing a competitive mobile market, ultimately for the benefit of end-users; lowering barriers of market entries. New entrants should be able to get access to existing networks by national roaming or through infrastructure sharing at fair and procompetitive prices. Clear rules and guidance should be applicable for all NRAs.

Magyar Telekom remarks that the draft Common Position fails the substantiation of statements. The draft Common Position should clarify whether it provides guidance on active or passive sharing, or sharing involving spectrum sharing.

digitalES, in contrast, indicated that the draft Common Position should not be ambiguous nor favor some models over others (passive vs active). I should focus on facilitating and providing legal certainty to the development of the different models. **digitalES** suggests that the document be categorized as a BEREC report instead of a BEREC common position.

In **Telenor Serbia** and **Telenor Hungary's** view, what BEREC wants to achieve with its document is unclear. Does it actively support various models of infrastructure sharing or does it primarily address competitive concerns with infrastructure sharing agreements? It therefore suggests that BEREC improve the text.

2. Claims BEREC should not overlook impact of sharing on 5G

Telenor Serbia considers infrastructure sharing as the precondition of 5G in the context of network investment, services and time to market. New technologies such as 5G should thus be more reflected in the common position.

GSMA – ETNO marked that the draft Common Position takes a backwards-oriented view on competition in mobile telecommunication services. For these common positions to be valid for the future, they need to take into consideration at least both how mobile markets have developed and the future evolution of access networks, in particular the changes when it comes to 5G networks. **GSMA – ETNO** and **Deutsche Telekom** recommend being cautious not to set out restrictive recommendations that may create uncertainty or generate chilling effects on future innovation, thereby slowing down the introduction of 5G and the achievement of EU connectivity goals. In their view, BEREC should rather increase legal certainty for efficient investments that avoid redundant infrastructure and result in environmental and public health benefits.

In **Tele2's** view, BEREC takes a position that is detrimental to the fast adoption of 5G technology, despite the European Commission's strategic connectivity objectives.

Nokia noticed that while the draft document is listing existing types of sharing agreements available to date in the existing networks, some potential network sharing alternatives that are specific to new technologies such as 5G are not listed.

Telefonica pointed that BEREC's common position should reduce uncertainties for infrastructure sharing in small cells

1&1 noted that BEREC should act as a lever in enabling alternative operators such as MVNOs to continue to play their role in delivering innovative solutions, in particular in view of 5G.

DNA admitted that, since roll-out of 5G networks will require a significant amount of new mast and equipment sites as well as fibre, it is of utmost importance to ensure fair pricing of shared mast and equipment sites and leased fibre to these sites.

3. Various other comments

Deutsche Telekom and **GSMA-ETNO** noted that, whereas the EECC provides NRAs with the power to impose national and regional roaming obligations in the context of license conditions, such powers are not foreseen by the current Authorization Directive. **Deutsche Telekom** mentioned that access obligations such as national roaming under the current legal framework can be imposed following the process of Framework Directive and Access Directive.

digitalES indicated that certain sharing scenarios could lead to exceeding the limits of radioelectric emissions. This can condition the choice of a certain type of sharing. In particular, it is less problematic in the case of active sharing compared to passive sharing (and even less when spectrum is shared).

ARTICLE 19 suggests assessing the opportunities to mix the various sharing strategies already identified by BEREC in different combinations. In its view, BEREC's members could provide support to local governments, for instance in rural areas, that are struggling with connectivity.

ECTA is of the view that the final CP should explicitly state that its adoption is without prejudice to existing sharing agreements and thus does not necessitate a reassessment of those agreements.

ECTA indicated that infrastructure sharing agreements operated through joint ventures are susceptible to assessment in terms of whether they impede effective competition. It suggested that NRAs engage accordingly in interagency collaboration as appropriate.

As BEREC has previously identified dispute resolution proceedings as the main source of NRA involvement in the assessment of infrastructure sharing arrangements (BoR (18) 116), **ECTA** encourages NRAs to ensure that applicable rules for these proceedings are widely publicized and to regularly assess market actors' awareness thereof. Importantly, according to the type of agreement, this may also extend to third parties if they are among its

beneficiaries. **ECTA** also stressed that for dispute resolution mechanisms as a regulatory tool, only the Code ensures binding decisions on the basis of clear and efficient procedures. The rules of the EECC would prevail over those of the Broadband Cost Reduction Directive.

O2 Czech Republic set out that adopted conclusions are general proclamations only, are not supported by any evidence and are moreover with no relevance for future networks. It is of the opinion that this aspect should be seriously evaluated and properly reflected in the proposed material.

Magyar Telekom suggests considering the deletion of the following statements like “and remain a concern in some European markets currently” and “range of problems”, because that such broad and unqualified statements may be misinterpreted as prejudicing any future or ongoing ex post competition law investigations (benefits section).

BEREC Response (BEREC should support sharing)

BEREC supports all sharing models that comply with competition law. BEREC’s draft Common Position highlights that there is a need for careful consideration by NRAs of all relevant factors when assessing sharing arrangements, and that in general passive sharing does not raise as many competition issues as active sharing, but that this will be context specific. Given the extensive number of parameters to be considered in any given arrangement (see indicative analysis), and observing that the analysis of parameters may be complex (see also the CP3), BEREC considers that NRAs would be best placed to set out their support for relevant sharing arrangements. BEREC does not intend to restrict NRAs from considering and supporting particular types of sharing noting that one purpose of the draft Common Position was to foster a collective understanding of relevant infrastructure sharing terms.

BEREC Response (BEREC should not overlook impact of 5G on sharing)

BEREC has considered respondents views that it should not overlook the impact of 5G on sharing. As set out in its response to CP2, while it is too early for BEREC to prescribe what the impact of sharing on 5G may have, the matter could be further consider under the “Report on the impact of 5G on regulation and the role of regulation in enabling the 5G ecosystem” (BEREC Work Programme 2019 deliverable 3.1).

BEREC Response (on various other comments)

BEREC’s response to Deutsche Telekom and GSMA-ETNO is that the EU regulatory framework for electronic communications is a series of rules which apply throughout the EU Member States. Directives 2002/19/EC (Access Directive), 2002/20/EC (Authorisation Directive), 2002/21/EC (Framework Directive) and 2002/22/EC (Universal Service Directive) of the European Parliament and of the Council have been substantially amended by directive (EU) 2018/1972 (establishing the European Electronic Communications Code), therefore BEREC should follow the latest legislative framework, which recasts regulatory approach and principles on infrastructure sharing.

BEREC has considered digitalES’s view that certain sharing scenarios could lead to exceeding limits of radioelectric emissions, and considers that this would be a context

specific matter which supports the proposal of case by case analysis of sharing arrangements.

BEREC has considered Article 19's view on the mix of different sharing strategies and providing supports for local governments, and considers that this would be a context specific matter which supports the proposal of case by case analysis of sharing arrangements.

BEREC concurs with ECTA's view that the adoption of the CP does not necessitate a reassessment of existing agreements. BEREC also considers that all existing agreements must continue to comply with competition law.

BEREC has considered ECTA's view that NRAs *...engage in interagency collaboration as appropriate...*, and considers that this would be a context specific matter which supports the proposal of case by case analysis of sharing arrangements.

BEREC has considered ECTA's dispute resolution rules, and considers that these rules are publically available and that there is no action required by BEREC under its common position.

BEREC has considered Telefonica's view that more evidence and proper evaluation is required, and considers that CP2 and CP3 addresses the points (see also the above discussions in section 5 on BEREC's indicative analysis and benefits and drawbacks of sharing).

BEREC has considered Magyar Telekom's views to delete statements that might prejudice future or ongoing investigations, and considers that the statements would not be prejudicial as they are not attributed to named parties or named sharing examples in markets.