

BEREC Report on the outcome of the public consultation on the draft BEREC Work Programme 2021

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I. Introduction

During its 44th Plenary Meeting (1-2 October 2020) BEREC approved for public consultation the draft BEREC Work Programme 2021. The role of the public consultation is to increase transparency and to provide BEREC with valuable feedback from all interested parties. This public consultation on the draft document follows BEREC's initial public consultation for inputs to the Work Programme 2021, which closed on 13 April 2020 and prompted a wide spectrum of stakeholder engagement.

In accordance with BEREC's policy on public consultations, the current report is a summary of how stakeholders' views have been considered. In addition, BEREC also publishes all individual contributions on its website, taking into account stakeholders' requests for confidentiality. The public consultation was open until 5 November 2020.

This document, then, summarises the responses received to the public consultation and presents BEREC's position with regard to suggestions and proposals put forward in those responses, as relevant. In total 14 responses were received, none of them considered as confidential, and based on the request of the respective respondents.

The 14 non-confidential contributions were received from the following organisations: Open Fiber, Global System for Mobile Communications Association (GSMA), Qualcomm, Allan Brennan, TeleCoop, European Telecommunications Network Operators' Association (ETNO), FTTH Council Europe, DIGITALEUROPE, Liberty Global, Europe European Competitive Telecommunications Association (ECTA), Eir, European Consumer Organisation (BEUC), Huawei, and MVNO Europe.

BEREC welcomes all contributions and thanks all stakeholders for their submissions. The non-confidential contributions received from stakeholders will be published in their entirety on the BEREC website.

Generally, the responses of the stakeholders are supportive for the work programme of BEREC of 2021. The preparatory process of drafting this work programme involved stakeholders twice, first at an early stage with an initial call for early inputs in March and April and secondly in the public consultation in October on the WP document. BEREC notes that many stakeholders are keen to engage further with BEREC requiring additional consultations beyond those already planned by BEREC in 2021. BEREC will do so on an ongoing basis through BEREC's many interim consultations, webinars, workshops, questionnaires etc. on the work set out in the BEREC WP 2021. BEREC appreciates this willingness of its stakeholders to engage on its work in 2021 and is continually working to improve its transparency and engagement with all stakeholders.

II. Background

Open Fiber expresses its overall agreement with the priority work areas identified for the next year the list of priorities indicated by BEREC reflects the main issues that need to be addressed next year and is consistent with the EECC long-term objectives.

ETNO agrees on the importance of the monitoring of the impact of the EECC and on moving from providing guidelines to assessing the market and technological developments. ETNO also welcomes the new focus of BEREC to monitor and evaluate the measures taken during the COVID-19 pandemic, with the aim of contributing to the resilience of the European electronic communication networks both during the ongoing pandemic, and in such situations in the future.

Liberty Global notes that objectives of the WP 2021 are aligned with the three high-level priorities contained in the BEREC strategy 2021-2025, i.e. promoting full connectivity, supporting sustainable and open digital markets and empowering end-users. The 2018 European Electronic Communications Code (Code) aims to ensure wide-spread high speed connectivity through promoting private investment in VHCN, and promotion of (infrastructure-based) competition. In particular, the Code creates the right conditions for competition and investment by promoting consistency of rules (and their application), regulatory certainty, harmonisation across the EU single market and a level playing field for all players.

Liberty Global reiterates that any regulatory interventions should be necessary, appropriate and proportionate. These principles should be the cornerstone of BEREC's work and the application of it by national regulatory authorities (NRA). Secondly, Liberty Global notes that it supports BEREC's commitment to engage with stakeholders, with the aim of focussing its work on issues that are relevant to them. Liberty Global is concerned with BEREC about its level of engagement and believes that there is still room for improvement. On a number of occasions, Liberty Global has provided responses to BEREC's early calls for input and to draft documents. Those responses were subsequently followed by the publication of a final document in which it was unclear whether and which stakeholder responses were taken into account.

ECTA supports for most of BEREC's draft WP2021, sharing its commitment to the European green and digital transitions. ECTA notes that the draft WP does not always reflect the full balance of objectives contained in the EECC. E.g. mentioning only fibre and 5G omits the access and take-up dimensions, as well as the reference to citizens and businesses, which all are contained in art. 3(2) (a) EECC. ECTA further notes that the Work Programme places significantly less emphasis on Guidelines and Common Positions which steer the work of national regulatory authorities.

Eir recognises the importance of economic regulation and BEREC's role in safeguarding consumer, citizen and commercial interests and welcomes the opportunity to comment on BEREC's draft Work Programme for 2021.

BEUC welcomes that in addition to three strategic priorities, BEREC considers universal service and consumer protection as important horizontal principles that form an essential part

of the high-level priorities. However, this needs to be reflected in ambitious work programme activities to ensure a balanced work programme. BEUC is concerned this might have an impact on workstreams related to consumer protection. Rather than spreading too thin, BEUC urges BEREC not to invest too much attention in political priorities of the Commission that are not central to its mandate.

MVNO Europe is concerned that BEREC may retreat to the position of an observer, and that it may place too much focus on the end-user and consumer dimension. This is not what is needed at this time, considering that competition is the most important driver for promoting end-user interests. MVNO Europe believes that restrictive and anti-competitive practices must be put to an end. The concept of end-users must be assessed broadly, to not only encompass consumers, but also business users. MVNO Europe also expects BEREC to actively encourage NRAs in taking decisive action where wholesale access to networks is unjustifiably denied, delayed and degraded. Historically, action has been taken for fixed networks, and only exceptionally for mobile networks. and the public sector as users of electronic communications networks and services. MVNO Europe calls upon BEREC to explicitly acknowledge the role of operating systems as form of digital gatekeepers that should be subject to ex-ante regulation, and to include this in the introduction and background sections of its final Work Programme for 2021.

BEREC thanks the stakeholders for the broad support for the objectives and priorities of the WP 2021. A substantial part remains the successful implementation of the Code promoting the EU single market, creating the right conditions for competition and investment and ensuring connectivity while protecting the rights of end-users.

BEREC appreciates the support of stakeholders to BEREC's commitment to tackle the new challenges in 2021, i.e. the transition to digitalisation and sustainability and BEREC's new focus on the issues related to the COVID-19 pandemic regarding the resilience of the European electronic communication and the digital divide.

BEREC appreciates the commitment of the stakeholders responding to BEREC's early calls for input as well as to the draft document of the WP 2021. This process of consulting twice proved to be very effective. Because of this early input many of the stakeholders' suggestions and concerns could be taken into account when drafting the WP 2021. As a result, there is a broad support on the content of this WP. Where there were divergent contributions, BEREC tried to find a balanced approach while respecting the priorities of the BEREC strategy 2021-2025.

1. Strategic priority 1: Promoting full connectivity

Qualcomm supports BEREC efforts in promoting full connectivity and prioritizing work that improves the general conditions for the expansion and take up of secure, competitive, and reliable high-capacity networks across Europe. In this context, wireless networks and in particular 5G have an important role and BEREC should do its best to eliminate all possible inhibitors to 5G deployment

ECTA recognises that BEREC's reference to ensuring a smooth transition from legacy infrastructures is well-intended, but asks for it to be boosted for more positive effect, i.e. the text could usefully be revised to "a smooth transition to VHCN networks, which is procompetitive, non-discriminatory, and is mindful of end-user interests".

Eir welcomes BEREC's position that ensuring that very high capacity networks (VHCNs) and 5G services are available in a timely manner is a key policy objective and in particular that work that promotes full connectivity should be prioritised. In the current context of the ongoing COVID-19 pandemic, the absolutely crucial nature of communication networks and the necessity of digital connectivity have been repeatedly demonstrated.

BEUC would like to see more BEREC focus on ensuring that connectivity including via new technologies like 5G delivers results for consumers. BEUC urges BEREC not to only focus on priorities of importance to industry but to ensure that consumer-relevant elements of 5G such as quality of service, coverage, information and marketing practices, are equally prioritised in BEREC's work. BEUC welcomes that the work programme reflects that in a workshop BEREC will foster discussions with national regulatory authorities (NRAs) and other competent authorities to monitor the roll-out of 5G, but BEUC regrets that when it comes to information to consumers, it is only mentioned to eventually to inform end-users about the availability of 5G networks and services. BEUC recommends monitoring developments, correct misleading practices and ensure the proper development of 5G for all consumers.

BEREC welcomes the feedback provided by stakeholders and has carefully considered the respondents' views related to the strategic priority of promoting full connectivity. BEREC emphasizes that it values the input from stakeholders on issues related to 5G and therefore will continue inviting their involvement.

1.1. Report on a consistent approach to migration and copper switch-off

Open Fiber appreciates the introduction of the copper switch-off process. Open Fiber believes that it is necessary to identify a consistent approach to the copper switch-off process, which represents one of the most important incentives both to build new VHC networks and to migrate customers from the incumbent's legacy network.

In Open Fibre's view, it is fundamental that a consistent European approach insists both on a pro-competitive design of the process and on the necessity to carefully monitor the ways in which incumbents work out the migration processes, in order to safeguard the alternative operators' network and investments.

More specifically, Open Fibre argues that NRAs should guarantee that migration processes allow end customers to migrate towards the best performing VHC networks available (both incumbent and alternative operators' infrastructures without discrimination) in order to maximise the consumer welfare. Open Fiber would also like to reiterate the importance of continuing to address the topic of the access to existing infrastructures, since it represents an essential element to build VHC networks in a timely and efficient way.

Open Fiber particularly appreciates that BEREC provided for a public consultation on the Draft of its Report on the copper switch-off process, giving all operators the opportunity to express their points of view and any concerns.

GSMA supports the report on a consistent approach to migration and copper switch-off. It is of high importance that proper procedures and approaches are put in place to migrate from copper networks to fiber networks and ultimately to switch off copper networks. GSMA fully agrees that operators should properly plan and communicate migration plans sufficiently in advance to ensure that end-users including consumers and alternative providers are not left off in migration or switch off issues. In case BEREC considers providing specifications, they should take into account that operators require flexibility to effectively manage complex migration processes and thus must not be prescriptive. GSMA notes that where copper switch-off happens in areas which have no alternative fixed infrastructure, Fixed Wireless Access (FWA) could be foreseen as a potential solution.

ETNO believes that copper phase-out is market reality that concerns all operators, however, it is extremely important to approach it in a way that is supportive of the common goal to promote the development of a Gigabit Society in Europe and that will help create favourable circumstances for investments in very high capacity networks. ETNO notes that there are some fundamental flaws in the current discussions on copper phase-out related to the interpretation of the economic reality of investment on the one hand, and to the economic and operational complexity of copper decommissioning, on the other.

FTTH Council Europe is pleased to see that there will be a report on Copper Switch off and that this report will be a matter for public consultation. EECC requires a start to work on considerations relating to copper network switch off under Article 81 of the EECC and while a specific set of Guidelines is not required, in practice significant guidance is necessary so BEREC's work in this area is important and justified. Such a transition involves significant co-ordination and complexity, even factors such as the length of time to switch copper networks services to fiber-based service delivery will need to be reviewed in other legislative instruments. While the FTTH Council Europe believes only competitive markets will drive take up (and investment) where sufficient wholesale access is available over fiber, operators should be in a position to switch off their copper networks in a planned and orderly fashion and this should not act as a barrier to a transition to VHCN.

FTTH Council Europe notes that copper switch-off requires the ability and incentive to switch by the incumbent, challenger operators and customers. The availability of FTTH access for

access seekers and a willingness to migrate, or own FTTH (co-)investment is critical as well as an understanding of the benefits of FTTH. In addition, it requires a willingness and ability of residential and business customers to migrate, which in turn is linked to awareness and the terms of switching. The incentives for operators and consumers to migrate can in turn be influenced by regulatory approaches to access regulation and pricing, migration and advertising standards. Switch-off also necessitates the removal of legal and regulatory barriers, which might unduly delay or prevent switch-off. Voluntary migration by customers from copper to fiber is influenced by the relative pricing of the products in relation to their perceived value. Customers also need to be able to switch easily from a practical perspective.

ECTA appreciates that BEREC will open a public consultation at Plenary 4 2021 and prior to adoption of the Report at Plenary 2 2022, although this seems to be quite a lengthy timeframe given the importance of the subject. ECTA considers BEREC's scope of attention insufficient in terms of safeguarding a procompetitive and non-discriminatory transition to VHCN: definition of the architecture and especially the wholesale access/hand-over points, involvement of wholesale access takers in the definition of the transition/migration arrangements, definition, monitoring and enforcement of key performance indicators (KPIs) and service level guarantees (SLGs), imposition of a strict non-discrimination obligation on SMP, reference Offers, rejection of raising the wholesale charges for copper based services are necessary to facilitate the switch from legacy networks. ECTA also recommends that a workshop (e.g. with representative trade associations) be held, similar to the workshops that were held in the run-up to the BEREC Guidelines on art. 76 EECC.

Eir welcomes the development of a Report aiming to develop a consistent approach to migration and copper switch-off. The retirement of copper services is an important part of the business case for the roll-out of fibre networks and the faster that customer migration from copper to fiber occurs, the stronger the business case for investment in fiber becomes. Eir believes that the focus of regulation should therefore shift away from legacy services and it is important that regulatory best practice in this regard is adopted in a harmonised manner across Member States.

Huawei suggests a very close interaction with stakeholders on this report in order to avoid distortions in the market and frustrated investment. It might be beneficial to involve stakeholders on several stages e.g. two-stage consultation to include as much as possible experience from the market.

BEREC thanks the respondents for their input and welcomes the general support expressed for the report on a consistent approach to migration and copper switch-off.

The report will take into account stakeholders' view twice, it will be based on data collected from the respective NRAs including the stakeholders' view on migration and their involvement at national level and also a public consultation of the draft report is foreseen. BEREC notes that Open Fibre and the FTTH Council Europe appreciate that the report will be a matter for public consultation. BEREC, however, does not see a need for a third stakeholder involvement as proposed by ECTA.

With regard to ECTA's proposal to consider the wholesale access/hand-over points and the involvement of wholesale access takers in the definition of the transition/migration arrangements, BEREC would like to point out that, according to the draft BEREC Work Programme 2021, the report will analyse the alternative wholesale access products, which includes the access/hand-over points and also the involvement of the stakeholders.

1.2. Report on regulatory treatment for backhaul

ETNO is concerned about the suggestion that wholesale access to fibre backhaul connectivity of cell sites may need to be regulated. ETNO is concerned that BEREC states that “wholesale access to fibre backhaul connectivity of cell sites needs to be ensured (and regulated, if appropriate) to prevent potential problems in terms of lack of coverage and refusal of access to bottleneck facilities” and proposes to review in the Work Programme 2021 how backhaul is addressed in market analysis by NRAs. ETNO understand that BEREC assumes that backhaul for cell sites is regulated in the EU countries or will need regulation in the coming years. In reality, up to now, except for very few cases, NRAs have not deemed necessary to regulate mobile backhaul, as markets are competitive, also due to the presence of alternatives (mobile operators often use their own infrastructures or radio link) and to the fact that mobile operators usually enjoy a strong countervailing buying power. Any additional regulation in new markets shall be preceded by a thorough analysis demonstrating the absence of competition and the need to address market failures.

FTTH Council Europe understands the deployment of fiber to every building and base station a fundamental objective for European regulators. Other regions of the world have also been advancing with North America and parts of Asia deploying prototype 5G networks and the reality of the dependence on fiber does not need a policy endorsement.

Much of the 5G costs attributed to the fixed network can be saved by having a combined and inclusive roll-out of fibre at the start. In the case of low cell density deployments, the savings are very dramatic since the cost of deploying additional fibres to the selected sites can be quite low. While not as dramatic for High Cell Density, the savings are still impressive and all parties are provided with tangible evidence to consider on how such savings might be achieved. Looked at from a public policy consideration, it is clear that measures that encourage FTTH deployments to anticipate future 5G network support would yield significant savings to all parties concerned.

DIGITALEUROPE welcomes BEREC's upcoming work on various aspects related to backhaul regulation. The widespread rollout of fibre to buildings and base stations for backhaul purposes is primordial for 5G deployment. With this in mind, measures that encourage fibre-to-the-home (FTTH) deployment can be an important factor in facilitating 5G network rollout, generating significant savings and faster market uptake.

Liberty Global supports policies that promote continued private investment in VHCN, which is vital also for ensuring the availability of backhaul (incl. for 5G). Backhaul infrastructure does not represent a bottleneck and BEREC should not seek to extend ex ante regulation to

competitive aspects of the telecommunications network infrastructure. Rather, Liberty Global considers that the market will provide for the vast majority of Member States' coverage needs (through privately financed deployment). BEREC shall focus its activities on reducing the costs of roll-out and otherwise incentivising investment.

ECTA appreciates that BEREC will open a public consultation at Plenary 2 2021, prior to adoption of the Report at Plenary 1 2022. ECTA asks BEREC to explicitly examine in its Report, any and all restrictions imposed by operators with significant market power the use of regulated wholesale access products for the purposes of backhaul (including fixed and mobile backhaul).

Eir notes that in case of a need for a common position (CP) arises, it is unclear when work on this would begin or indeed when such a CP might be published. Given that this work stream and the possible eventual publication of a CP will be important in the context of the next round of market reviews, eir urges BEREC to consider advancing this work item.

Huawei suggests distributing the planned questionnaire not only to NRAs but also to major stakeholders to get a fuller picture e.g. on technological developments that could impact the assessment of the competitive landscape in the market. Huawei would be more than happy to contribute with its expertise in such a questionnaire. However, any additional regulation in new markets shall be preceded by a thorough analysis demonstrating the need to address market failures.

BEREC thanks stakeholders for the feedback provided and agrees with many of them on the relevance of backhaul for the deployment of both fixed and mobile networks, especially in the context of 5G deployments. BEREC does not presume a generalized need to regulate wholesale inputs for backhaul infrastructure, nor the contrary. The report will provide a snapshot about the current situation in MSs regarding the different aspects of backhaul deployment, the availability for all type of actors and regulation, taking also into account the new recommendation on relevant markets to enter into force in December 2020. Regarding the potential need for a common position, BEREC will assess this question based on the conclusions of the report to be done. In any case, should the result point to requiring the development of CPs, BEREC will prioritize them. On the proposal to distribute the questionnaire to major stakeholders as well, BEREC will take it into account when assessing the information to be collected.

1.3. Work on the impact of 5G on regulation

GSMA notes that any further work on topics listed in the 5G radar should be undertaken with early stakeholders' involvement and consultations at European and national levels. GSMA emphasizes that 5G does not trigger a general need for additional regulation given that many issues, such as privacy, are typically covered by existing horizontal regulation. Discussion is

needed mostly on how to achieve extended 5G network coverage given that the usual approach (i.e. coverage obligations as part of awards) are not fit for purpose.

ETNO believes that 5G does not trigger a general need for additional regulation as many issues such as privacy are typically covered by existing horizontal regulation. ETNO acknowledges that 5G is important for the European economy and society as a whole, and while it is still early days, the commercial deployment of 5G has begun. ETNO urges BEREC to let the 5G ecosystem reach a certain maturity and to then carry out a proper analysis of the backhaul market and other infrastructure elements before concluding on any regulatory action. ETNO members are open to contribute to the discussion on the current status and experiences of 5G deployment based on existing pilots and early launches.

Liberty Global supports BEREC's work in this domain, and its commitment to engaging with stakeholders on issues relating to 5G. However, as noted in previous responses to BEREC's Work Programmes, the promotion of innovation in network technologies should be broader than mobile only in line with the principle of technological neutrality. This is particularly the case with regards to developments such as software defined networking (SDN) and network function virtualization (NFV).

ECTA appreciates that BEREC will hold a public workshop in Q1/Q2 2021, prior to adoption of the Report at Plenary 2 2021. However, the description of this workstream (which has been going on for about two years) can only be characterised as aloof, i.e. BEREC positions itself as an observer, rather than as an enabler and as a problem solver, and therefore it seems that little will come from this workstream. ECTA believes that BEREC should specifically consider giving clear guidance on network sharing and network slicing.

MVNO Europe is concerned that BEREC positions itself very much as an observer, and gives no indications that it is prepared to give active guidance to NRAs, or that it intends to encourage NRAs to act to resolve issues. Many MVNOs are confronted with tacit or explicit negative responses to their requests for access to 5G networks. MVNO Europe requests BEREC to expand this item to address generic MVNO access to 5G networks. MVNO Europe also expects to be invited to participate in the workshop envisaged.

MVNO Europe notes that in many EU Member States, MVNOs were prevented from launching 4G simultaneously with their host operator(s), with delays on network capability parity often exceeding 18 months. MVNO Europe members have painfully experienced that technology transitions in mobile, e.g. from 3G to 4G, but also in other markets have often led to restrictive commercial practices, foreclosing markets for MVNOs.

BEREC welcomes the feedback provided by stakeholders. BEREC would like to emphasize that the 5G Radar does not provide for projects, but sets out the developments leading to issues that may require regulatory attention. Whether these developments will actually materialize into projects to be included in the BEREC Work Program depends on their priorities, or whether there is a legal basis for BEREC. Roaming is an example where the soon to be revised regulation gives BEREC responsibilities and an opportunity to anticipate where and how 5G deployment and development may have an impact on roaming. BEREC further acknowledges the importance of harmonisation and the benefit of addressing regulatory

uncertainty in a timely fashion. The 5G Radar is developed to help BEREC and NRAs to plan to address the requirements according to their occurrence and urgency

BEREC emphasizes that it values the input from stakeholders on issues related to 5G and therefore will continue inviting their involvement, for 2021 in particular in the public workshop planned for Q1/Q2.

1.4. Workshop on NRA experiences with 5G

GSMA supports the view that it is useful to discuss the experiences regarding 5G rollout and information to end-users and willing to continue working together with BEREC on this topic. The GSMA believes that MNOs should be involved as they have detailed visibility of the issues around 5G deployment.

Liberty Global supports BEREC's initiative to host a workshop with NRAs and competent authorities as it sees the value in the sharing of experiences in this domain. However, Liberty Global believes this workshop should not just be for expert bodies but should be extended to stakeholders such as operators. Cooperation between this broad group of stakeholders is a key instrument to identify barriers and hurdles to the deployment of 5G networks and to better inform end-users.

ECTA asks for all stakeholders to be involved in this workshop, not just national regulatory authorities and Other Competent Authorities. Alternatively, an additional workshop could be held with industry representatives.

Eir notes that given the importance of community and municipal buy-in in relation to minimising deployment obstacles and ensuring widespread and ubiquitous coverage as envisaged by the EECC and the Gigabit Society Goals, this workshop would also benefit from the collaboration of mobile operators and other stakeholders.

MVNO Europe requests to be invited to participate in the planned workshop, i.e. this workshop should not be reserved to NRAs, but also involve stakeholders, or a separate workshop with stakeholders should be held prior to it. MVNO Europe highlights that some of its members are leading providers of solutions to business and industrial end-users and thus are eminently placed to provide a perspective on 5G from the innovators' perspective.

BEREC thanks stakeholders for their feedback and has carefully considered stakeholders' views that this workshop should be open to external stakeholders.

Today, BEREC maintains the view that an internal workshop (perhaps with RSPG) would best meet our needs for the following reasons: firstly, the proposed workshop builds on the work completed during the period 2018-2020, which stakeholders have already had early and frequent engagement with. Secondly, BEREC acts as a dedicated information exchange between experts responsible for managing information to consumers on coverage and where they can strategically review the feasibility study on development of coverage information for 5G deployments.

As a result, BEREC does not consider that external stakeholders should be invited to participate in a workshop where the content could, in large part, consist of intra-NRA reflections about internal working methods / exemplar case studies / other internal learnings on the road towards 5G service reporting.

However, BEREC will monitor the wider context surrounding future connectivity in Europe and make an informed decision on the format to best suit the requirements at the appropriate time.

1.5. Workshop on EMF: How best can BEREC promote science-based EMF exposure limits recommended by experts

GSMA fully supports BEREC's aim to promote science-based EMF exposure limits recommended by experts. GSMA would like to draw BEREC's attention to the following important considerations: importance of 5G EMF measurements, EMF education and misinformation and new ICIRP Guidelines.

Allan Brennan agrees that BEREC's statement on EMFs' must put an end to all current disinformation campaigns. Many media outlets throughout the EU continue to make false claims, stating non-ionising EMFs are safe and pose no threat to human health. Those claims are incorrect, put public health at risk. Allan Brennan believes that people identified in Directive 2013/35/EU as being 'at particular risk' from EMF exposure (pregnant women, people with pacemakers etc.) and children are particularly vulnerable to adverse health effects from non-thermal EMF exposures. The EMF Directive requires all workplaces (schools, hospitals, businesses etc.) to conduct a general risk assessment after the installation of a Wi-Fi network (and specific risk assessments for those with pacemakers).

Allan Brennan states that BEREC have an opportunity to demonstrate leadership and guidance by sharing its own EMF risk assessment procedures and EMF staff information booklet with NRAs'. BERECs' EMF workshop should focus on methods used to identify non-thermal EMF symptoms, avoid EMF risks and how best to promote the same procedures for the European public. BEREC shall adopt the precautionary principle and advise EU NRAs' to wait until all WHO research has completed in 2022 before increasing public exposure to more microwave radio frequencies. Once the WHO results are published, investigated and found to be credible, decisions can then be taken with regards to 5G public exposure.

ETNO suggests that governments and regulators should work towards public acceptance for 5G as health-related concerns linked to 5G have become more prevalent in many European countries. ETNO welcomes the proactive stance taken by BEREC and RSPG in this regard. In parallel, governmental intervention is urgently needed to fight against the mis- and disinformation related to 5G. Furthermore, in order to ensure efficient spectrum allocation and 5G roll-out, governments should not set overly strict EMF norms that are not based on scientific evidence.

DIGITALEUROPE is convinced that together with operators and other governmental stakeholders, BEREC can play a key role in providing consistent, fact-based positions and fighting misinformation regarding EMF health effects in the context of 5G and mobile

technologies in general. DIGITALEUROPE welcomes the proactive stance taken by both BEREC and the RSPG, which needs to be complemented by urgent governmental action to fight misinformation and overly strict EMF limits that are not based on scientific evidence.

Liberty Global supports initiatives aimed at fighting disinformation on EMF exposure and notes the significant negative impact that misconceptions (often caused by such disinformation) can have on deployment of 5G services. Liberty Global considers it positive that BEREC is aware of the problems that operators are confronted with and commits to engage with expert bodies from the health sector and radiation authorities in order to adequately inform the public, tackle fake news and for provide neutral and correct information.

Liberty Global notes that the report delivered by BEREC in 2021 will only outline next steps and expected benefits of further work in this area. Operators are currently in the process of deploying their networks and Liberty Global believes that these actions are needed today. As such the timeline proposed by BEREC should be reviewed, providing for concrete actions already as early as possible in 2021.

ECTA supports BEREC contributing to science-based information being made available. However, given that BEREC admits that it is not an expert in health matters and in public relations, ECTA notes that this work should not distract BEREC from carrying out its duties in accordance with its mandate established by EU law.

Eir welcomes BEREC's aim to promote science-based EMF exposure limits and address information gaps on 5G and EMF. Eir notes that a recent study, carried out by IPSOS on behalf of ETNO, found that telecom operators are a trusted source of information and along with governments can have a large impact on attitudes towards 5G. Therefore, Eir considers that this work stream could also benefit from a workshop with other stakeholders e.g. operators in order to consider their views and experiences.

BEUC notes that BEREC must involve and follow the advice of health authorities. As the draft work programme admits, the task of coordinating useful and relevant information on EMF for this purpose is large scale. It could be very complex given that the NRAs are not health experts.

Huawei welcomes this important initiative as BEREC is a trustworthy, impartial, and independent organisation which can promote and disseminate science- and fact-based information on the EMF topic to European citizens. Huawei stands ready to support this workshop with expertise from around the world.

BEREC welcomes the feedback provided by stakeholders and has carefully considered the respondents views and sets out the following points.

Some respondents consider that the workshop should be open to all stakeholders, including operators. However, BEREC wants to gain an understanding on how other independent expert bodies address citizen queries and concerns on EMF and exposure limits. Operators, even though they are a trusted source of information, can't be considered as independent expert bodies and BEREC prefers to avoid the public perception that BEREC's starting point for the

project has been industry-led. Nevertheless, BEREC could commit to seeking all stakeholder comments on next steps, using the usual consultation approach.

One respondent suggested that concrete outcomes should be delivered in 2021, and not just a report with next steps. However, BEREC wishes not to set unrealistic expectations of what can be achieved by addressing this topic in 2021 as the outcome depends on the workload and cooperation/planning with other bodies, among which may include the World Health Organisation (WHO). BEREC strongly believes that work in this area removes barriers to the rollout of 5G and should be welcomed by all stakeholders. As such, and in response to the point by one stakeholder, this subject is not a distraction to BEREC core task.

In response to some of the specific points about BEREC's ability to end disinformation campaigns, provide EMF risk assessment procedures, consider methods used to identify non-thermal EMF symptoms, adopt the precautionary "principle", BEREC's role in these subjects is overstated. The basis for workshop is "How best can BEREC promote science-based EMF exposure limits recommend by experts", and not on the precautionary approach mentioned by the respondent.

In light of the above, BEREC does not propose to change its views on the nature of the proposed workshop.

1.6. Report to enable comparable national broadband coverage indicators throughout Europe

Open Fiber would like to underline the importance of this topic that has been introduced for the first time therein by BEREC. As properly specified in the Draft, the BEREC Guidelines on Geographical Surveys of network deployments (phase one) do not provide detailed indications on how to aggregate grid/address information so to make national figures are comparable. That is why Open Fiber agrees with BEREC on the need to introduce this new Report, which aims to fill an existing gap by looking at possible alternatives to delivering national aggregations and revising existing DESI definitions.

According to Open Fiber BEREC seems to consider that only the NRAs should be part of the discussion. There is no doubt that such a Report will have a great impact on the way in which information will be collected and thus, Open Fiber agrees that the national authorities should be involved in the definition of national broadband coverage indicators.

However, Open Fiber would like to suggest that the draft Report be made available for consultation also for the market operators, as their contribution would be very useful for the purpose of the Report itself because of their relevant experience and knowledge in the field. This would also be consistent with the approach taken by BEREC with regard to the Report on copper switch-off, whose draft will be open for a public consultation.

ETNO expresses its support to harmonise broadband coverage indicators across the EU, including the criteria and methodologies used at national level. This is critical to provide accurate and comparable data in the EU level reports such as the EC's DESI report.

Liberty Global supports efforts by BEREC to develop harmonised broadband indicators and comparison metrics in order to ensure that the results of the geographical surveys under Article 22 of the Code can be more easily compared across the EU. However, it would be useful to understand how BEREC intends to use these indicators and metrics and ensures they are aligned with coverage information that is, as noted by BEREC, reported by the European Commission in its annual Digital Economy and Society Index (DESI) Reports.

ECTA is concerned that well-established existing national indicators may have to be changed as a result of BEREC work to harmonise indicators, causing administrative burdens for operators, with no clear advantages for operators and for consumers, which are not able to shop for broadband outside their home countries. Nevertheless, ECTA acknowledges that harmonisation by BEREC could lead to unified collection of operator's coverage data by the different national authorities in the Member States.

Eir considers that this report should be subject to a public consultation in the same way that the BEREC Guidelines on Geographical Surveys were. In addition, Eir notes that BEREC foresees a workshop with OCAs in Q3 2021. Eir is of the view that other stakeholders should also be part of this discussion.

Huawei supports this work to create comparable indicators for broadband coverage across Europe because reliable and accessible data is the basis for new innovative services, correct business decisions and consumer choice. Such data is of utmost importance for vertical industries in a 5G world. However, given the potentially broad impact of such indicators beyond the telecommunications industry, Huawei recommends to consulting the draft report with stakeholders before publication.

BEREC established Guidelines on the data required to produce broadband geographical surveys (BoR (20) 40) and those were subject to public consultation. In contrast to BoR (20) 40, this new report will not suggest any changes in or addition to the data to be collected by Authorities, or imply any additional burden on operators, as it focusses entirely on an activity to be undertaken by public administrations. This new report refers to the aggregation methods that Authorities use to calculate national coverage indicators taking the geo-referenced data Authorities collect as it is.

BEREC is not intending to collect the national coverage indicators but is working to provide a report on aggregation methods and definitions that the EC may consider in the context of the Digital Scoreboard. Because of the timing of the DESI report, the work strand needs to end in 2021.

BEREC acknowledges that operators may have expertise relevant to the report, and understands that this task is relevant to them, so will enlarge the Workshop's invitation to stakeholders.

2.1. Report on digital platforms - Market & Economic analysis

GSMA supports BEREC's aim to build its knowledge and expertise in the digital economy to ensure that technological, economic, legal, and user protection perspectives are integrated in the design and practice of regulation.

ETNO believes that BEREC could add value on the ongoing debate concerning the role of platforms in the digital communications market. As the market dynamics are becoming increasingly complex, ETNO welcomes BEREC's intention to conduct a market and economic analysis of digital platforms and to monitor the effects of the internet value chain. While the mandate of most NRAs is limited to ECS, ETNO nevertheless welcome BEREC's effort to gain a deeper knowledge of digital markets and how they impact ECS providers and other players in the ecosystem, fully exploiting the new power of data collection from other actors as foreseen by the EECC. In particular, taking into account NRAs' practical experience of implementing the regulatory framework for telecommunications, as far as relevant for online platforms their expertise in designing, enforcing and monitoring remedies can be a valuable input for the ongoing broader considerations on how to define an effective digital markets regulatory framework. Moreover, as digital markets are mainly European or global in scope, BEREC's experience in coordinating NRAs' actions could play a key role in contributing to a harmonized enforcement of the regulatory framework for digital markets.

Liberty Global supports BEREC taking a proactive approach to monitoring digital markets dynamics and cooperating with institutions and legislators, particularly in the context of the new proposed Digital Markets Act. Liberty Global agrees that BEREC, with its significant experience in the telecommunications sector, can assist policy makers with regards to understanding and regulating complex markets. However, Liberty Global believes BEREC's role in this area should be limited to sharing knowledge to help policy makers rather than to assume any particular role. Liberty Global believes that significant differences between the digital and the telecoms sectors persist and does not see any justification for a possible extension of ex ante regulation to digital platform markets.

ECTA notes that BEREC's and NRAs' interest in digital markets and the wider digital ecosystems should not result in diminished attention and shifting resources away from the substantive competition problems that continue to characterise electronic communications markets. ECTA appreciates that BEREC will open a public consultation at Plenary 1 2021, prior to adoption of the Report at Plenary 3 2021, although this seems quite late in view of the legislative agenda of the EU institutions on this topic.

Eir welcomes BEREC's efforts to continue to build its knowledge and expertise in the digital economy. Eir notes that the issues related to the nature of potential bottlenecks in the provision of digital services will be key to the Commission's upcoming Digital Services Act and Digital Markets Act. It has become increasingly clear over the last couple of years that competition law and regulatory frameworks should ensure that digital platform markets remain contestable and contested.

MVNO Europe welcomes the reference to the concept of intermediation power. MVNO Europe emphasises the importance of operating systems and related hardware devices, which can

be used and are used to affect other markets, and notably electronic communications markets. MVNO Europe expect BEREC to affirm a requirement of device neutrality, i.e. the principle that inescapable device manufacturers should not, merely for their own business reasons, be allowed to deliberately degrade the selection of functionalities on their own devices. Mobile telecommunications operators should be entitled and readily able to access the functions of operating systems they need to fully provide their services and enable their users to use all features of devices and operating systems in all parts of the value chain.

BEREC welcomes input provided by stakeholders and agrees that BEREC's experience can be especially useful in the design of the regulatory model and implementation for the DSA/DMA. On the late delivery of the report on DPs, BEREC would like to highlight that BEREC's input for the legislative process on the DSA/NCT was provided in September 2020 as a response to the public consultation organized by the EC. The ongoing work will be subject to public consultation at the beginning of 2021, taking into account the proposal from the EC, and working in parallel on ECS regulation, that has not received, nor will receive any diminished attention, as the variety of reports, opinions and guidelines produced this year show. On the issues related to device neutrality and openness of operating systems, BEREC will address in the report on Internet Value Chain, although operating systems will also be addressed on this workstream.

2.2. Report on the harmonised collection of data regarding OTT services relevant to electronic communication markets

GSMA supports BEREC in this work in principle and agrees that BEREC should take a more prominent role in this field to support a level playing field with OTT partners. Work to standardize data collection in respect of what OTT services are offered in the EU would be welcome insofar as it relates to BEREC's proposed plan to feed these data points to its' proposed market analysis on digital markets. However, standardizing data collection in this field should not lead to a situation where consumer privacy might be undermined or a level playing field is inadvertently undermined.

DIGITALEUROPE notes that harmonisation is also relevant to the enlarged scope of the EECC, which brings over-the-top (OTT) applications particularly number-independent (NI-ICS) and network-independent number-based interpersonal communications services (NB-ICS) under the scope of national telecommunications laws. DIGITALEUROPE observed that non-uniform features of national telecommunications laws for example in matters such as contract requirements, data collection and security notifications are widely being applied to these newly governed services as Member States amend their frameworks in response to the EECC. DIGITALEUROPE believes strongly that it is in the interest of regulators, providers and ultimately end-users that BEREC assists the NRAs to take a close look at these issues as they implement the new national laws and to squarely acknowledge the need for maximum

regulatory harmonisation and cross-border co-operation with regard to NI-ICS and network-independent NB-ICS.

DIGITALEUROPE regrets that this topic is overlooked in BEREC's 2021 Work Programme and is considered neither as strategic priority nor as an ad hoc work project (e.g. relating to network security and cybersecurity). We also regret that this important topic is not envisaged for the coming years. DIGITALEUROPE therefore urges BEREC to include this dimension after this consultation.

ECTA appreciates that BEREC will open a public consultation at Plenary 1 2021, prior to adoption of the Report at Plenary 3 2021. It is important that all stakeholders (not just providers of OTT services) are able to participate in any work, notably to ensure equality of opportunity and administrative burden between traditional ECS providers and NI-ICS providers and video streaming providers.

Eir welcomes BEREC's intention to issue a Report in 2021, which will identify the services that NRAs wish to collect data on, specify the particular metrics of interest, and provide definitions for same. Given the nature of OTT services and the manner in which they are used by consumers, it is important for NRAs to gain an additional understanding of the ways in which they influence the competitive dynamics in the market, which is not possible without the collection of information similar to that regularly provided by traditional operators.

BEREC appreciates the support for this kind of work expressed by several stakeholders, and agrees that this work should be subject to public consultation so that different stakeholders can have their say. The project is based on the definition of appropriate metrics on several OTT services, in particular NI-ICS and video-streaming services.

Noticeably these services are not subject to the same set of regulatory provisions as traditional ECN and ECS, and in preparing their information requests, NRAs have to ensure that those are proportionate to their needs and reasonable. Therefore, on this basis, it could not be presumed that the data requirements on traditional ECS providers and NI-ICS and video-streaming providers should be equated or even similar.

BEREC agrees that data collections in this field should not lead to a situation where consumer privacy might be undermined. This is indeed, one of the many considerations to make when defining appropriate metrics.

2.3.1. Report on the Internet Value Chain

GSMA urges BEREC to take into account the work being done under the Digital Services Act, Digital Markets Act, as well as BEREC Report on IP-Interconnection practices in the Context of Net Neutrality.

ETNO particularly welcomes the planned Report on the Internet Value Chain. As new gatekeepers have appeared on several layers of the value chain other than connectivity, ETNO is pleased that BEREC will study the broader concept of digital neutrality, to ensure the principle of open, fair and non-discriminatory markets along the digital value chain. Together with the ongoing Report on digital platforms - Market & Economic analysis, this study will bring valuable impact to the DMA debate.

Liberty Global supports BEREC taking a proactive approach to undertake a comprehensive view of the complete internet value chain, beyond electronic communications networks, internet access services and end-user equipment. In particular, Liberty Global considers that it is important to consider how developments have changed the competitive and commercial landscape, including the increasing overlaps between highly regulated, traditional telecoms markets and open, digital markets. This is particularly the case with the rise of OTT service providers.

ECTA appreciates that BEREC will open a public consultation at Plenary 1 2022, prior to adoption of the Report at Plenary 3 2022. At the same time ECTA notes that it is incredibly late. ECTA insists on being able to participate in full in this work, including in the form of a delegation made up of technical and regulatory experts. ECTA notes that an entity such as CERRE clearly lacks the independence to be treated as a privileged interlocutor by BEREC. ECTA accordingly expects to be able to participate in the Heads Workshop at the end of 2021 and represent competitive interests in this work at the same level as other invitees.

BEUC strongly welcomes BEREC's work item on the internet value chain. BEUC has been asking BEREC to work further on device neutrality in the past and continues to support this workstream. BEREC rightly points out that electronic communication services and telecom networks are not the only elements of the internet value chain that BEREC should look at.

Huawei welcomes the planned Report on the Internet Value Chain continuing work already done by BEREC in recent years. Open, fair and non-discriminatory markets along the whole digital value chain will benefit not only European citizens but all players along the value chain driving innovation. BEREC should take a very general and holistic approach with this report to identify the key players along the whole value chain and their practices influencing competition, innovation and investment.

MVNO Europe regrets BEREC's timeline for this item. Holding a public consultation as late as the end of Q1 2022, and BEREC adopting a final Report in Q3 2022 is clearly too late, given that the European Commission is expected to publish legislative proposals, possibly including a draft Digital Markets Act, as soon as 2 December 2020.

BEREC thanks the stakeholders for the support of its work on this aspect. The request to speed up the work is noted, yet BEREC expects the DMA-related issues to be addressed in the first place in the Report on Digital Platforms (item 2.1). Although this work stream seeks to analyze the internet value chain from a more holistic perspective, and not specifically at providing expert-input for the DSA/DMA legislative process, it cannot be assumed that the DSA/DMA has been adopted by the European co-legislator in the second half of 2022.

In any case, BEREC will organize workshops with all type of actors in 2021 where all stakeholders will be able to provide their views on the different parts of the value chain, that will be taken into account in the preparation of the BEREC report.

2.3.2. Implementation of Regulation (EU) 2015/2120 and the BEREC Guidelines on the implementation of the Open Internet (OI) Regulation

Liberty Global expresses concerns regarding a substantive amendment of the Guidelines that at the time was premature and not in line with the clear demand for regulatory stability. As Liberty Global predicted, the review resulted in very prescriptive provisions with a clear negative impact on regulatory stability. This occurred at the expense of other work items in this domain, such as the long overdue publication of the regulatory assessment methodology. In Liberty Global's view, BEREC should focus on better cooperation between regulators in order to ensure that the regulation is implemented consistently. Liberty Global also notes that BEREC is not planning a public consultation on the report and therefore Liberty Global believe that this goes against the continuous stakeholder engagement that BEREC has indicated it is aiming for.

ECTA believes that it would be worthwhile to invite stakeholders such as ECTA to the forum where NRAs discuss the implementation of the OI Regulation, or to a separate workshop, because information and exchanges of views on this topic are clearly informative and relevant.

BEUC welcomes BEREC's work on net neutrality but in the same time expecting more ambition on some points of BEREC's updated open internet guidelines notably on zero rating. BEUC also applauds BEREC for the emphasis in this work programme on supporting NRAs' obligation to closely monitor and ensure compliance with the Regulation, including on cases related to zero-rating.

BEREC thanks the stakeholders for their input and notes the concern expressed by Liberty Global. BEREC will in this work stream continue to support NRAs with closely monitoring and ensuring compliance with the Regulation by maintaining a forum to (informally) discuss national cases and questions relating to the consistent application of the Regulation.

Although BEREC continues to seek stakeholder engagement, this specific forum is a place where NRAs should be able to informally discuss and analyze possible enforcement cases.

This has to remain confidential. Having updated the BEREC Guidelines just in 2020, BEREC considers the current situation quite stable. Yet a public workshop could be organized, in case of significant developments that make a stakeholder dialogue relevant – e.g. a judgment of the European Court of Justice.

The annual implementation report includes the non-confidential information on the application of the Open Internet Regulation and the Open Internet Guidelines.

2.4. Collaboration on the Net Neutrality Measurement tools and evolution of the regulatory assessment methodology

GSMA welcomes the fact that BEREC aims to rely on best practices. It is essential that this workstream includes testing and feedback with operators to ensure that the tool is accurate and thus provides real value to the customer.

Liberty Global supports BEREC's workstream aimed at deployment of the Net Neutrality Measurement tool, and note that the regulatory assessment methodology is long overdue. BEREC shall involve all stakeholders in every step of the evolution of the measurement methodology BEREC is considering and also to consult European Standardisation Organisations (such as ETSI). In this context, if any changes occur, BEREC should support stakeholders who want to develop their own measurement tools based on the updated methodology and clarify how they can have NRAs certify their tools.

ECTA wishes to reiterate that a cost benefit analysis is needed before imposing administrative burdens and costs on operators, with particular regard for smaller challenger operators and new entrants which may not have the scale and resources to adjust to constantly changing requirements.

Eir welcomes BEREC's work on the net neutrality measurement tools. The inconsistencies across Member States are not currently being addressed by NRAs, which is negatively impacting on those operators who are compliant in relation to non-compliant providers, due to such providers gaining an unfair and anti-competitive market advantage.

BEUC notes that any review of BEREC's net neutrality regulatory assessment methodology must preserve the balance approach achieved in the current methodology, which took on board several civil society recommendations.

BEREC thanks the respondents and notes that the aim of this work stream is to update and enhance the current measurement methodology e.g. on how to measure higher bit rates on 5G and fiber networks more accurately. BEREC aims to utilize running code and laboratory testing to verify the accuracy so that the measurements can provide real value to the customer. The current international measurement standards and best practices will be studied as a basis for this work to identify how the regulatory measurement use cases can be best met. BEREC will seek stakeholder engagement, by consultation and/or a workshop.

BEREC also aims to revise the best practices regarding the certified monitoring mechanism as defined in the Open Internet Regulation and how to best utilise the measurement tools in terms of NRAs' supervisory roles and to further develop the measurement methodology regarding the measurement of the general quality of internet access services.

With this work item BEREC will work towards a common, harmonised measurement framework by giving guidance for NRAs but for example the potential certification is still a national matter.

3.1. BEREC study on consumer behaviour and attitudes towards digital platforms

GSMA supports BEREC's aim to get a better understanding of digital platforms and consumers' views on digital platforms and of the platforms' role as providers and distributors of digital services.

Qualcomm notes that structural competition problems are caused by large digital platforms acting as gatekeepers. Qualcomm shares the European Commission's assessment that large digital platforms that act as gatekeepers are able to control increasingly important ecosystems in the digital economy, with significantly detrimental effects for competition, innovation and consumers. Such harmful conduct can cover a broad range of issues such as unfair trading conditions, self-preferencing, data extraction, denying access to certain data in certain circumstances, restricting disintermediation (preventing business users from accessing data generated by their own use), exclusivity or consumer lock-in.

DIGITALEUROPE is of the view that in light of the extensive legislative process that will ensue from the European Commission's upcoming proposal for a Digital Services/Markets Act, such activities would represent a substantial misallocation of BEREC's valuable resources. These issues touch on complex areas where BEREC has neither specific expertise nor any legislative mandate. By contrast, DIGITALEUROPE urges BEREC to use its current regulatory tools and authority to boost Europe's digital transformation through more rapid 5G and fibre deployment, complemented by enhanced Wi-Fi.

ECTA observes that this part of the draft WP2021 quasi equates end-users with consumers. ECTA calls upon BEREC to thoroughly review all work items part of Strategic Priority 3, to adjust them to also include the B2B and B2B2C and public administration dimensions.

BEUC welcomes that BEREC requested a study on consumer behaviour and attitudes towards digital platforms. BEUC would strongly suggest BEREC and NRAs to also reach out to consumer organisations for the purposes of this study, given that they are in direct contact with consumers and can provide valuable input. BEUC strongly recommends BEREC to also carry out a study about the situation for consumers in electronic communications markets beyond digital platforms.

MVNO Europe wishes to ask BEREC to make sure that the concept of end-users is not equated solely with consumers, but also explicitly encompasses business users and the public sector as a user of electronic communications networks and services.

BEREC thanks the stakeholders for their views. BEREC would like to note that this project is already ongoing. 12.000 consumers have participated in the survey on consumer behavior towards digital platforms as a means for communication. The focus of this study is the physical consumers and not the legal entity. Therefore, whilst we welcome input received in respect to B2B and B2C, this has not formed part of the study which focuses on the residential users' behavior on digital platforms

3.2. Report on how to handle third-party payment charges on mobile phone bills

GSMA believes that this workstream should also consider overlaps and contradictions between telecoms and financial regulation, e.g. restrictions on offering the ability to charge for third party services and the requirement to provide access to a directory enquiries service.

ETNO suggests that BEREC should refrain from making new proposals that risk to hamper required legal stability for operators. Accordingly, a cautious approach should be considered when assessing for instance regulation of third-party billing.

Liberty Global supports initiatives for BEREC to better understand specific consumer issues in the telecommunications and to work towards a harmonised European approach. BEREC's guidance on how to handle third-party payment charges on mobile phone bills should identify in a transparent and clear manner the areas where consumer harm is likely and therefore where any intervention under the Code is necessary. Any proposed intervention should be compliant with the principles of proportionate, necessary and appropriate regulation and should thus not overlap with or contradict financial or other regulations and based on evidence of consumer harm.

ECTA notes that the EECC does not seem to require harmonization in this area. Lot of work already occurs at national level, and it is an area which is not readily suitable for harmonization given the diverse national situations and market trajectories.

BEUC welcomes that BEREC will conduct a report on how to handle third-party payment charges on mobile phone bills. BEUC members have raised the issue of third-party payment charges over the years. Some countries have regulated this to a certain extent and, as BEREC rightly points out, the EECC also proposes to go a step further. We encourage the report to consider lessons learnt from financial services and energy legislation as well.

MVNO Europe urges BEREC to handle this topic prudently, and to interact with stakeholders such as MVNO Europe on this as early as possible in the development of BEREC deliverables,

in order to avoid introducing new overly bureaucratic rules, which might end-up harming competition rather than promoting it.

BEREC notes the concerns raised and would like to confirm that the purpose of this project is to collect and collate information that offers insights into Third Party Payments using ECS providers as the mechanism to bill / charge users, rather than to make proposals for a new harmonized regulation. The Report will focus on the current market in advance of the introduction of the EECC. The Report when completed will be published for consultation and seek views of Stakeholders

4.1. Institutional cooperation

GSMA encourages BEREC to continue following the existing and ongoing work carried out by other competent authorities and to continuously strengthen cooperation with them, in order to provide useful insights when required.

Liberty Global supports BEREC's continuous effort to engage with other European institutions in order to strengthen cooperation at the European level. This action is crucial to ensure consistency of the regulatory framework, especially in relation to network security, 5G roll-out and the European Digital Market.

ECTA welcomes that BEREC intends to strengthen institutional and international cooperation in focusing inter-institutional cooperation on institutions that work on directly adjoining topics e.g. RSPG for radio spectrum, EPDB for data protection, ERGA for audio-visual regulation, ENISA for cybersecurity and the ECN for competition law enforcement issues. However, ECTA asks BEREC to be much more precise in the final Work Programme 2021 in this regard.

BEUC welcomes the emphasis on increasing and structuring institutional cooperation, breaking the silos.

BEREC welcomes the positive responses from the stakeholders to this workstream. BEREC shares with stakeholders the vision that a strengthened cooperation would contribute to a better and consistent implementation of the regulatory framework. Breaking the silos is an important step in that direction. In 2021 BEREC is going to draft a strategy document on this cooperation. The content of the strategy has still to be decided upon as well as how this will reflect in future Work Programmes.

4.2. International cooperation

Huawei welcomes this initiative, given the global nature of communication and the underlying value chains. Huawei encourages to deepen the dialogue with Chinese institutions in the field of communication, in order to foster mutual understanding and exchange of best practices.

5.1.2. BEREC Opinion on the Review of the Broadband Cost Reduction Directive

GSMA supports the need to review the Broadband Cost Reduction Directive (BCRD) in light of current technological, market and regulatory developments. Turbocharging the BCRD provides an effective pan-European instrument for network deployment is vital in connecting Europe for a better and digital future. The BCRD's effectiveness has varied greatly between Member States. To increase the BCRD's effectiveness, incentivize and facilitate the deployment of future networks its scope should be widened. Moreover, consistent, harmonized and efficient procedures for the Member States should be introduced. Thus, it would significantly contribute to achieving Digital Single Market (DSM). GSMA suggest the following comments for the context to the review: fit for purpose, cutting red tape, bold and enforceable and support networks as enablers for digitalization.

FTTH Council Europe notes that a consistent EU wide approach that relies on best practices could deliver enormous benefits to the market. Since the original work programme has been launched it is clear that this is a priority for the European Commission and that a revised version of the BCRD will be delivered in 2020.

The FTTH Council believes that the public sector can act as a vital catalyst to accelerate the roll out of infrastructure by lowering entry barriers and facilitating competition. This can be developed based on access to passive infrastructures and the ability to pursue independent deployment strategies. Investments in passive infrastructures lower entry barriers for all operators and provides for any operator to move first which in turn may create its own dynamic. Even if the first operator to deploy in a given area does not ultimately engage in a large scale deployment, the real possibility that it could happen may, of itself, stimulate other operators to accelerate their investments in VHCN. The FTTH Council believes that this competitive race can be the best mechanism for ensuring mass market deployment in an appropriate and timely manner.

DIGITALEUROPE welcomes BEREC's upcoming Opinion on the European Commission's BCRD review. Simplified regulations around site access and planning permissions are essential. 80% of deployment costs comes from civil engineering work including planning and permission work with cumbersome and drawn-out processes adding significant unnecessary cost to deployment. Ensuring appropriate access to passive infrastructure such as in-building wiring could significantly lower deployment costs and facilitate market entry, particularly in

potentially competitive urban areas. The Commission's review and BEREC's Opinion should lead to a consistent EU-wide approach that builds on best practice to date.

Liberty Global believes that a well-functioning BCRD could play a role as part of a broader package of measures to achieve the objectives of the Gigabit Society Strategy and it is important that it is applied in the right way to avoid unintended consequences. Liberty Global believes that NRAs should, when called upon to adjudicate on requests for access to telecoms infrastructure under the BCRD, consider the potential negative impacts such a decision may have on both the investment incentives of the party from whom access is sought and on the deployment of new (or the upgrade of existing) infrastructure. Liberty Global notes that BCRD has so far been implemented in different manners, and varying degrees, across the EU. This fragmentation risks to complicate the use of the BCRD, leading to unintended consequences. Liberty Global believes barriers to roll-out continue to exist.

ECTA indicates wishes to observe that the Broadband Cost Reduction Directive does not provide for a BEREC Opinion on its review. Nothing prevents BEREC from consulting stakeholders on it, by way of call for input and thereafter in the form of a public consultation on a draft Opinion.

Eir notes that the Directive has not been consistently implemented and the manner in which certain aspects have been transposed in specific member states has led to a scenario where the provisions have proved ineffectual for granting access to infrastructure. For example, in Ireland there is no requirement for non-SMP operators to publish a reference offer, which only serves to undermine the objectives of the BCRD. To address inconsistent implementation, Eir considers that the provisions in the BCRD should be strengthened and that remaining barriers to the Single Market could be addressed by eliminating divergent rules and practices regarding joint use of existing infrastructure, civil works, permits and related administrative procedures and prices/fees at national and sub-national levels.

BEREC notes that the stakeholders support the need to review the BCRD. With regard to ECTA's observation that the BCRD does not provide for a BEREC Opinion on its review, BEREC would like to clarify that at the end of October 2019, the European Commission asked BEREC for an opinion on the revision of the BCRD delivered by Plenary 1 2021. BEREC will focus its opinion on the European Commission's questionnaire on the revision of the BCRD.

5.1.3. Input to the evaluation and potential review of the EU State Aid Guidelines

GSMA supports BEREC's work in this field. The GSMA is also working on the topic and will provide its contribution to the Commission's public consultation. This is particularly important, given the size of the NextGenEU package and the need to build back better through transforming Europe into a digital and green continent. Given these funds are of market

shaping size it is essential that BEREC plays a role to ensure competition in telecom markets is preserved throughout the recovery process.

Liberty Global considers that the market will provide for the vast majority of Member States' coverage needs, through privately financed deployment of both fixed and mobile networks. Regulators and governments should therefore continue to promote private investment through a mix of technologies (not only fixed), and only thereafter consider public funding to those remote and economically challenging areas where it is proven beyond any doubt that there is no prospect of commercial deployment. It is vital, however, that any use of State aid is targeted and contained to the specific area in question.

ECTA notes that given that BEREC already announced that it intends to respond, and that the deadline is 5 January 2021, there is time for BEREC to consult stakeholders. ECTA therefore invites BEREC to initiate a public consultation.

BEREC welcomes that GSMA supports BEREC's work in this field.

With regards to Liberty Global's view on the role of private investment and public funding, BEREC would like to point out that already the current EU State Aid Guidelines (paragraph 2) make clear that the investments shall primarily come from commercial investors but, in order to achieve the broadband objectives, also public funds are necessary.

BEREC would like to clarify that all stakeholders have the possibility to take part in the European Commission's targeted public consultation opened in the beginning of September 2019 and running until 5 January 2021. Several stakeholders informed that they will respond to this consultation and ECTA also has the possibility to submit its view to the European Commission.

5.1.4. BEREC Opinion on the review of the Access Recommendations

Liberty Global considers that the current guidance provided in the Access Recommendations is sufficient and clear, and that no additional guidance or changes are necessary. More specifically, Liberty Global believes that the NDCM Recommendation adequately promotes deployment and take-up of VHCN by ensuring regulatory certainty. Liberty Global notes that NRAs can be hesitant to apply the price flexibility approach (including the ERT) in the manner proposed by the Recommendation and consider that BEREC has an important role in encouraging NRAs to apply the framework set out in the Recommendation.

ECTA notes that this topic is of fundamental importance to ECTA and its members. ECTA asks BEREC to encourage the European Commission to publish the draft text of the proposed new Recommendation and if this were not to occur for BEREC to publish the draft itself when it is requested to provide an Opinion, so as to enable input from stakeholders.

BEREC notes that there is some conflicting input of stakeholders on this issue. BEREC provides its Opinion on the draft recommendation to the Commission, i.e. no public consultation is foreseen at this stage of the process. Stakeholders can provide their input during the consultation phase. BEREC is neither entitled to override the EECC nor to instruct the Commission on the topic of possible stakeholders' involvement in its administrative process related to soft law....

5.1.5. Peer review process

GSMA supports BEREC's participation in the Peer Review Forum and continue to advocate for measures to increase the robustness of this process. The collaboration, cooperation and critical exchange of good practices between Member States cannot be understated and this is an area where the GSMA believes further progress can be made. Understanding the sensitivities, limiting the peer review process only for Member States does have merits. At the same time, including the concerned market players in an open, transparent and honest discussion about the immense impact that spectrum awards have on the market for decades and consequently on the feasibility to offer a cost effective connectivity to all EU citizens in due time, is absolutely essential.

ECTA notes that it is essential for stakeholders to understand which general policy line BEREC is taking in peer review processes, and for BEREC to report at least ex-post on the nature of its intervention, and on the outcome thereof, if any.

MVNO Europe notes that BEREC needs to bring not only the full connectivity dimension to the table, but also the promotion of competition and end-user interests. We highlight in this context the contents of Article 5 of the Radio Spectrum Policy Programme, which enables pro-competitive conditions (e.g. wholesale access including MVNO access) to be included in spectrum assignment proceedings. Also, BEREC proposes no exchanges with stakeholders regarding the peer reviews. The outcome of peer reviews should also be published.

BEREC has considered the comments seeking stakeholder involvement in / access to Peer Review, including publication of information. Peer Review Forum is organized, composed and chaired by Members and representatives of RSPG, but is open to voluntary participation by BEREC. The responsibilities for adopting and publishing reports as set out in Article 35(7) and (9) of the EECC falls to RSPG.

Should stakeholders intend to comment on awards which are the subject of a Peer Review Forum, then BEREC suggests that they do so using the awarding authority's consultation procedure. .

5.1.6. Ad hoc work relating to network security and cybersecurity

GSMA supports BEREC in this work and has engaged with BEREC's ad-hoc Group on 5GCS on numerous occasions since its establishment. In this context, the GSMA appreciates BEREC's genuine interest in the GSMA's Network Equipment Security Assurance Scheme (NESAS), which the GSMA is pursuing to submit for acceptance as a scheme under the EU Cybersecurity Certification Framework and the Cybersecurity Act. The GSMA is looking forward to future cooperation with BEREC on this important topic and stands ready to continue sharing industry's knowledge and expertise.

Liberty Global welcomes BEREC's cooperation with the NIS Cooperation Group (NIS CG) and ENISA in their work towards producing a toolbox for 5G Cybersecurity implementation. Given its excellent relationships with stakeholders, both directly and through national regulators, BEREC is well-placed to contribute significantly to the policymaking in this domain. Liberty Global believes that this workstream should not be limited to network security and cybersecurity but should be more extensive and include issues related to network termination points. Liberty Global notes that BEREC is not planning external workshops with stakeholders on this topic and therefore urges BEREC to involve stakeholders on issues that affect them at all times.

ECTA considers that BEREC should systematically bring much-needed technical objectivity to the security discussions, i.e. any cybersecurity measures, including the determination of high-risk suppliers, should be subject to objective assessments and justifications based solely on the objective facts.

Huawei very much welcomes the work of BEREC on 5G Cybersecurity. BEREC can contribute to this ongoing heated debate that is full of misinformation and misperception with independent, unpolitical and unbiased advice. Huawei wants to encourage BEREC to promote open and transparent dialogue.

BEREC notes the suggestions commencing from the stakeholders and is planning to keep a very good cooperation and open dialogue established with all relevant market players. Organizing public and internal workshops is a commonly used approach by BEREC and turn out as useful tool to all participants. In this fast changing environment BEREC will provide further inputs and/or support competent EU institutions concerning mainly activities connected to EECC (Art. 40 and 41), the 5G Toolbox implementation and NIS Directive future developments.

5.1.7. Ad hoc work relating to the Recommendation on Connectivity

GSMA welcomes BEREC contribution to the deployment of connectivity and 5G networks. GSMA supports BEREC's engagement with the Commission and Member States on the topic.

ECTA notes the recent European Commission's Recommendation as well as it having been adopted without appropriate stakeholder consultation. ECTA welcomes BEREC's supportive disposition and is available to contribute to improving legislation and regulation, including on the six points from the Recommendation.

Eir welcomes BEREC's focus on promoting full connectivity and any engagement with the Commission and Member States on this important topic, including the development of a common approach, in the form of a toolbox of best practices.

BEREC welcomes that GSMA, ECTA and Eir support BEREC's engagement with the Commission and Member States on the topic.

5.2.1.1 Review on End user rights – BEREC Opinion

GSMA urges BEREC to engage with stakeholders on the issue and to subject the opinion to public consultation considering the potential relevance of the impact of rapid technological developments on the application of rights of end-users.

ETNO considers the potential relevance of the impact of dynamically evolving services and commercial practices on the application of end-user rights therefore ETNO urges BEREC to engage with stakeholders on the issue, and to submit the opinion for public consultation.

ECTA expects to be able to participate in this work at the same level as any others with whom BEREC intends to engage discussions. Public consultation in this area is not envisaged by BEREC; therefore ECTA believes that stakeholders such as the association representing challenger operators must be included in this work.

Eir considers that there needs to be early and substantive engagement with stakeholders given the likely impact of any potential readjustments of obligations and the impact on regulatory certainty, the cost of compliance for providers of electronic communications services and innovation.

BEREC notes that all stakeholders request more involvement in the BEREC Opinion. BEREC's response is to confirm that as the Opinion is an expression of BEREC's views it will not be submitted to public consultation. In particular, BEREC will organize workshops and webinars with stakeholders and other interested parties, as well as meetings, surveys and questionnaires in the early stage of the drafting process.

5.2.1.3 **BEREC Guidelines to assist NRAs on the consistent application of geographical surveys of network deployments**

Liberty Global reiterates that the forecasts should be used with caution, and support the consideration of additional criteria (such as population density) when designating areas. Liberty Global considers further clarification could be provided regarding the timing aspects particularly the cadence of geographical surveys, designation procedures and state aid procedures to avoid constant information requests, and hence high burdens being placed on operators. Finally, Liberty Global reiterates that deployment plans are highly confidential and should not be disclosed.

BEREC notes LG's comments and the suggestion about additional criteria for the geographical surveys of network deployments. BEREC informs stakeholders that this item is also a carry-over from the work programme of 2021.

5.2.2.1 **International roaming benchmark data Report**

ECTA requests that the scope of the recurring BEREC report be extended to cover Internet of Things (IoT), permanent roaming for IoT, 5G, roaming for industry 'verticals', and for network slices if applicable. As regards BEREC's input to the forthcoming EC legislative proposal, this should also cover these same topics.

MVNO Europe welcomes this BEREC workstream, which has always yielded highly relevant information for policy-makers, regulators, industry and consumers, notably on the wholesale charges set by Mobile Network Operators when they negotiate roaming bi-laterals compared to the wholesale charges paid by MVNOs as unilateral buyers of wholesale roaming. MVNO Europe suggests additions to BEREC's monitoring activities: wholesale international roaming for IoT and 5G, IoT and 5G MVNO access and other forms of wholesale access and 5G network slices.

MVNO Europe suggest for the inputs to any legislative proposals of the European Commission on roaming that BEREC advocates reduced wholesale caps, imposing on Mobile Network Operators the pass-on of any discounts they have negotiated at wholesale level and 5G and IoT adequately encompassed by the future EU Roaming Regulation.

BEREC has already identified the need to expand its data collection on international roaming to cover connected devices/connected objects. The 26th data collection that was launched in October 2020 included, for the first time, relevant additional sections. Taking into account the information that will be collected as a response to these additional questions as well as the

relevant market and regulatory (new roaming regulation expected) evolution, BEREC will reconsider the need of adding further sections in its IR BMK template.

5.3.1. Report on COVID-19 crisis – lessons learned regarding communication networks for a resilient society

GSMA supports BEREC's aim to provide a report on this important topic. The future will require us to be more resilient and more digital, and this calls for rapid and bold action. By increasing the pace of digitalisation, Europe can achieve new efficiencies linked to the new attitudes and behavior we see taking hold across society. Decisive policies are needed to propel Europe towards greater digital self-determination and technological leadership for the benefit of all.

ETNO welcomes the initiative of BEREC to study, monitor and report on the impact of COVID-19 on the electronic communications markets, and welcomes the opportunity to share ETNO's experiences with BEREC in the context of a forthcoming public consultation. ETNO particularly welcomes the forward-looking perspective of such an exercise, in the understanding that network resilience is not only about managing the increased demand and supporting new trends in work, education and communication during the crisis, but also about learning lessons to ensure a robust and resilient network for the future.

DIGITALEUROPE welcomes BEREC's initiative to compile a report collecting best practice and drawing regulatory lessons to ensure future-proof connectivity. The coronavirus pandemic has revealed that not all children can study online, nor can all household members watch streaming video services on TV, communicate with video through messaging applications, or reliably conduct business from their home offices. VHCN rollout constitutes a crucial element of ensuring such ubiquitous connectivity, not just to ensure high-speed broadband and improved connectivity to consumers and the general public but to meet enterprises' connectivity needs as they are accelerating their digital transformation strategies and transitioning to more circular and sustainable economic models. These next-generation networks will form the basis for new digitisation capabilities, the creation of new markets and economic growth.

Liberty Global welcomes BEREC's initiative to monitoring the impact COVID-19 is having on telecoms operators and consumers. Since Liberty Global is directly affected, Liberty Global welcomes the proposed public consultation on the report and urges BEREC to ensure that all relevant stakeholders including those outside the telecommunications industry are not only consulted and called to express their opinion on the report, but also involved in the monitoring activity. Liberty Global also urges BEREC to take into consideration the role all the actors in the internet ecosystem can play to ensure that connectivity is maintained during these difficult times.

ECTA welcomes BEREC playing a role in the context of the ongoing COVID-19 pandemic, and especially welcomes BEREC's acknowledgement that European telecommunications networks have stood their ground. ECTA wishes to emphasize that certain executive and regulatory practices from the first lockdown should not be repeated, because they have had

anticompetitive effects and harmed consumers and business users, and therefore should actively be discouraged by BEREC. Reference is made in particular to unjustified suspension of number portability where no or limited human interaction is involved, and to unjustified suspension of margin-squeeze testing.

ECTA notes that reducing the digital divide has therefore become a higher priority than it was before. While ECTA and its members stand ready to contribute to extending fixed and mobile connectivity, this can only be achieved with a mix of technologies and solutions. Fast roll-outs of fixed and wireless are of the essence. There is therefore an excellent case for BEREC and NRAs to make their voice heard with national, regional and local governments to emphasize the importance of furthering healthy competition in electronic communications.

BEUC very much welcomes that “BEREC plans to compile a report on the measures that NRAs implemented during the COVID-19 pandemic and assess the impact of the crisis on the sector and on end-users. BEREC should look at the situation not only during the pandemic, but also before the pandemic. BEUC and its members stand ready to provide input.

BEREC notes that all stakeholders are positive about the COVID-19 reports, we will take into account their specific ideas when the report will be developed.

5.3.2. Stock-taking on the national experiences of the implementation of the EECC

ECTA asks BEREC to involve stakeholders in this workstream, including in the workshop foreseen, or to organise an additional workshop with stakeholders.

BEREC notes ECTA's suggestion to make our very first workshop on the implementation of the EECC open. At first BEREC believes that a discussion among NRA's is necessary, However, in case of the following workshop/event on the topic planned for 2022 the involvement/participation of stakeholders would be helpful.

5.3.3. Internal Report on the applicability of BEREC's Guidelines for the elaboration of Opinions in Phase II cases

ECTA asks BEREC to involve stakeholders in these workstreams. Experience has shown that the Phase II process leading to a BEREC Opinion is a black box for stakeholders, with BEREC actively resisting stakeholder input. A moment of self-reflection by BEREC, and taking input from stakeholders, is appropriate as the EECC is transposed into national law, and notifications will effectively be made in application thereof.

BEREC notes that participation of stakeholders in the Phase II process is not envisaged by the EECC. Stakeholders have the possibility to express their views during national public consultations on draft measures and when called upon with a “Notice for third party statements” by the Commission.

5.3.5. Report on Regulatory Accounting in Practice

ECTA appreciates the value of this recurring report. It should definitely continue to be published annually, and continue to be improved. One point on which it can be improved is transparency on which decisions are taken by which NRAs. ECTA notes that the WACC already covers the cost of capital including profits of operators with significant market power. Therefore there is therefore no justification for uplifts over and above the WACC.

BEREC collects the regulatory accounting data from NRAs with a cut-off date of 1st April of the relevant year as laid down in the respective decisions of NRAs. Related to the second point: the WACC chapter describes and analysis the WACC calculations of NRAs in a factual way (“as is”). BEREC will consider how to update the way the WACC chapter is organised in light of the Commission's Notice and the BEREC WACC parameters Report.

5.3.7. Termination rates at European level

ECTA considers that publishing this periodic report will retain its value, even after the Eurorates based on Article 75 will enter into effect. This is the case notably because there are expected to be differentiated rates, and as the draft Delegated Regulation currently stands there is a possibility that some operators might increase wholesale call termination rates.

MVNO Europe strongly supports continued data collection and publication by BEREC. The existence of the future EU Delegated Regulation on Eurorates does not justify BEREC ceasing or reducing monitoring activity. It will in particular be of key importance for BEREC data to reveal whether some large operators or operator groups trade below the Eurorates with each-other, while discriminating others.

BEREC welcomes the support to continue reports on TR's

5.3.8. Sustainability: assessing BEREC's contribution to limiting the impact on the environment

GSMA supports the efforts to achieve the Paris agreement climate objectives. The consistent use of the latest mobile technologies and the decisions of mobile operators to transition to green energy have been a testament to the importance of the industry to reduce its carbon footprint and completely eliminate it by 2050. GSMA believes the commonly recognized great enabling potential and the well evidenced good will of our sector to sustain the EU Commission climate ambition should encourage measures that generate positive incentives for operators to reduce their energy consumption voluntarily by enhancing an investment friendly ecosystem at an earlier stage, while the 5G deployment is still ongoing, to make a real difference.

Allan Brennan suggests BEREC should advise NRAs' to adopt, actively promote and demonstrate a bias towards energy efficient technologies. This will help NRAs' maximise their contribution to the environment. Wired infrastructures (and devices) use significantly less long-term energy than wireless networks. With regards to energy use and wireless technologies, NRAs' shall publish and inform the public of the maximum signal-levels required for different wireless services.

TeleCoop suggest BEREC that before addressing sustainability issues related to the technical operations of BEREC and the BEREC Office, the work programme should underline what the normative targets are.: Europe has to reduce our GHG emissions by 7,6 % per year whereas the energy footprint of the digital sector increases by 9 % per year. Consequently, the promotion of sustainability in the digital sector described on page 41 and 42 of the BEREC's work programme should be built on the basis of a clear GHG reduction target.

TeleCoop suggests to include a specific evaluation on the negative and positive environmental impacts of 5G, namely the evaluation of the hidden costs externalities. Also needed an evaluation of the part of smartphones sold in Europe thanks to telecom operators in order to enlighten the debate with data on business model of telecom operators at the root of the main environmental issues.

TeleCoop suggest that BEREC should undertake to produce operational recommendations at the European level and not only for NRAs. BEREC should present these recommendations to the European Commission and the European Parliament in 2021. BEREC shall be mandatory to consult before starting any directive project potentially increasing the impact of the telecom sector on environment. Evaluation is needed regarding the financial support needed by BEREC to produce a full range of data shared by the EU countries on environment and the digital sector.

ETNO shares the first objective of information sharing and best practices exchange among NRAs with specific focus to energy efficient and circular economy solutions. However, ETNO urges BEREC to perform this exercise in close collaboration with stakeholders and experts in the targeted sectors, taking into account their profound expertise and established good practices. Additionally, not only each Members States' specificities should be considered and

analysed, but also the variety of the methodology implemented and of the measuring systems to assess infrastructures' environmental footprint. This can be done for example with the involvement of experts in the listed NRA's workshops planned in 2021 or with the organization of ad-hoc roundtables with the BEREC ENG on sustainability.

ETNO would like to highlight the need for BEREC to closely coordinate with the Commission and the several Directorates-General involved while carrying on the above-mentioned objective, as the impact of the digital sector on the environment is a recurring focus area in many policy dossiers that are currently under evaluation or will be soon be reviewed.

ETNO thinks the study aimed at identifying the key areas in which NRAs' regulatory decisions/actions might have the potential to impact sustainability, should be embedded and get synchronized with all the other institutional and national initiatives already on-going. ETNO confirms its availability for this exercise with interviews with the consultants and other forms of inputs gathering. To better clarify the report objectives, ETNO encourages BEREC to include more information regarding when finalizing its Work Programme.

DIGITALEUROPE strongly believes in the need to deploy sustainable VHCNs to contribute to reaching the new EU climate objectives. Making more efficient use of IT and ensuring that data centres are powered with clean energy will be cornerstones in the effort of industries across the board to improve their environmental footprint. DIGITALEUROPE will therefore be happy to participate in BEREC's reflections around this topic.

Liberty Global agrees with the goals of the European Green Deal, which stress the importance of the twin challenge of the green and the digital transformation. Liberty Global has invested heavily in upgrading our infrastructure resulting in energy savings and reduced emissions. Liberty Global also work to reduce waste through recycling and refurbishment.

Liberty Global believe there are three key actions for policy makers: increase the availability of renewable energy; stimulate self-regulatory initiatives to increase energy efficiency of networks; and promote refurbishment and recycling by promoting grace periods for products currently on the market. Therefore Liberty Global welcomes BEREC's proposed public consultation on this report and look forward to be involved in all the activities BEREC is planning. Liberty Global urges BEREC to involve stakeholders on issues that affect them at all times.

BEUC notes with interest that BEREC will be further exploring its role in promoting sustainability policies. BEUC would like to add a notion of caution with regards to voluntary, non-enforceable pledges from the telecom sector. NRAs have enough experience to understand that pledges or self-regulation are most of the time not sufficient or efficient. BEUC suggest that BEREC rather fosters cooperation with environmental authorities on this foreseen activity.

Huawei is of the opinion that BEREC should put a strong emphasis on studying how the advanced ICT technologies like fibre and 5G could contribute to a dramatic reduction of carbon emission. BEREC can also contribute by raising awareness and setting the right incentives for climate neutral ICT technologies. Huawei therefore welcomes the planned BEREC report identifying areas of regulatory intervention available to NRAs to maximize their positive contribution on the environment.

BEREC welcomes the comments made about its ambitions regarding sustainability.

BEREC intends to collaborate with relevant stakeholders to enrich work and not duplicate the work already underway at national, European and international level.

BEREC recalls that the year 2021 should allow the identification of priorities and that the 2022 work program will help to clarify BEREC's objectives on the issue.

IV. POSSIBLE BEREC WORK FOR 2022 AND BEYOND

ECTA thanks BEREC for including an item on non-discrimination on quality of service that ECTA has recurrently suggested. At the same time, ECTA and its members are concerned that placing it on a longer-term horizon risks perpetuating existing competition problems. ECTA does not believe that non-discrimination on wholesale services by SMP has been resolved, and therefore believes that this should be a priority item, actionable as a workstream in 2021. The same applies for the workshop on the wholesale replicability test.

ECTA notes regarding the workstream of factual investigation of the level of competition between multiple VHCN/NGA regional operators that BEREC should be prudent and avoid triggering premature deregulation of operators with significant market power, giving them room to encumber and exclude competitors and stifle competitive dynamics.

ECTA is not aware of the origin of the workstream of Compensation in the case of early termination of contracts and observes that BEREC gives no indications on its intentions at all.

ECTA expects to be able to participate in the workshop with BEUC on end-user provisions at the same level as BEUC.

ECTA notes that the state of mobile roaming: 5G including cross network slicing topic is clearly relevant, but in 2022, it risks coming too late.

BEUC fully agrees that the legal obligation that BEREC has to deliver an opinion by the end of 2021 does not leave a lot of time to assess the implementation and enforcement of the EECC due to the very short period of application and possible transposition delays. Therefore, BEUC welcomes to have such a workshop in 2022 and look forward to closely engaging for its preparation. However, there is no reason not to organise a workshop in 2021 as well. This would allow for continued engagement with consumer organisations and consumer interests.

BEREC notes the comments on possible work for 2022 and beyond that will be considered when drafting the Work Programme of 2022

