



Liberty Global response to BEREC's draft Work Programme 2021

Introduction

Liberty Global welcomes the opportunity to provide feedback on BEREC's draft Work Programme for 2021 (WP2021).

Firstly, 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 reiterates that it supports BEREC's commitment to engage with stakeholders, with the aim of focussing its work on issues that are relevant to them. Consultation and information-sharing by BEREC with a broad range of stakeholders on BEREC initiatives is instrumental for stakeholder engagement. We particularly appreciate BEREC's early calls of input, (virtual) stakeholders workshop and the two-stage process for consultation, which includes a preliminary Calls for Input.

As you will be aware, we have previously raised concerns with BEREC about its level of engagement and we believe 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. In fact, we noticed that after the submission of our responses, no follow-ups took place and we have never been invited to share additional and more detailed feedbacks on specific topics. Rather, BEREC has focussed on summarising consultation responses and rebutting calls for amendments. Even though we acknowledge and appreciate BEREC's continuous effort to take into account the interest of all stakeholders, we believe that BEREC initiating also individual dialogue with stakeholders would bring more clarity to BEREC's work.

We therefore urge BEREC to continue to increase the opportunities for stakeholder engagement and to make consultations a bi-directional process where it's possible to share information and openly discuss issues that have been raised. Engaging with stakeholders in a meaningful way, including individual dialogue, will help to ensure that all processes and decisions undertaken by BEREC also take into account the interest of market participants, and in turn contribute to policies that meet the requirements for appropriateness and proportionality.

General comments on BEREC's WP 2021 and strategic priorities

Liberty Global notes that a large portion of BEREC's upcoming work outlined in the draft WP2021 includes carry over items from previous years or is part of its regular activities. In this regard, Liberty Global refers to and repeats its responses to previous Work Programmes. In the next sections of this response Liberty Global addresses specific initiatives identified in the draft WP2021 referring to specific paragraphs in the WP2021 — we will respond in more detail when the specific initiative is consulted upon by BEREC. We may do the same for initiatives identified in the draft WP2021 that we don't comment on in this response.



We note that the objectives of the WP2021 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.¹ 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.

We acknowledge that BEREC's work with regards to creation of the various Code-related Guidelines will have been completed by the end of 2020. A key part of BEREC's role in 2021 and the following years will therefore be to monitor the implementation and functioning of the Code, including how these Guidelines work in practice. BEREC is also required to provide an Opinion on the functioning of the Code (particularly on end-user rights) and to ensure that it is implemented in a consistent and harmonized manner across the EU. In this regard, Liberty Global supports BEREC's proactive approach to monitoring the market and urges BEREC to involve stakeholders in these activities.

Regarding the work around digital markets, Liberty Global recognizes that there are many different views across the EU on how to address new challenges associated with the rise of new digital services and technologies, and which has the potential to lead to regulatory fragmentation. Any policies should be designed to apply horizontally to all sectors across the EU, in line with the level playing field that is foreseen by the Commission's Digital Single Market strategy. We urge BEREC to keep this in mind when undertaking any work related to this strategic priority.

Finally, we note that one of the goals of the Code is to create more consistency in the application of consumer protection legislation across the EU, through modified full harmonisation of the end-user rights provisions. End-user rights are an area where there is significant fragmentation across the EU and BEREC will have an instrumental role in promoting regulatory best practice (incl. evidence-based consumer policy) and consistent application of these Code provisions across the EU.

¹ See "Liberty Global response to BEREC's Call for Input on its WP2021 and draft Strategy 2021-2025, 13 April 2021.



About Liberty Global

Liberty Global is one of the world's leading converged video, broadband and communications companies, with operations in six European countries under the consumer brands Virgin Media, Telenet and UPC. We invest in the infrastructure and digital platforms that empower our customers to make the most of the digital revolution.

Our substantial scale and commitment to innovation enable us to develop market-leading products delivered through next generation networks that connect 11 million customers subscribing to 25 million TV, broadband internet and telephony services. We also serve 6 million mobile subscribers and offer WiFi service through millions of access points across our footprint.

In addition, Liberty Global owns 50% of VodafoneZiggo, a joint venture in the Netherlands with 4 million customers subscribing to 10 million fixed-line and 5 million mobile services, as well as significant investments in ITV, All3Media, ITI Neovision, LionsGate, the Formula E racing series and several regional sports networks.



III. BEREC WORK IN 2021

1. Strategic priority 1: Promoting full connectivity

1.2. Report on regulatory treatment for backhaul

As noted in our response to the WP2021 Call for Input, 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, we consider that the market will provide for the vast majority of Member States' coverage needs (through privately financed deployment). In this regard, the Code has introduced numerous measures to encourage roll-out of VHCN. State Aid may also be used to provide backhaul to those remote and economically challenging areas where it is proven beyond any doubt that there is no prospect of commercial deployment. BEREC shall focus its activities on reducing the costs of roll-out and otherwise incentivising investment.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. We urge BEREC to involve stakeholders on issues that affect them at all times.

1.3. Work on the impact of 5G on regulation (carry-over)

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 (a cornerstone of the Code). This is particularly the case with regards to developments such as software defined networking (SDN) and network function virtualization (NFV). SDN and NFV will play a critical role in the evolution of all next generation networks, not just those in the mobile domain, or exclusively related to 5G.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. We urge BEREC to involve stakeholders on issues that affect them at all times.

1.4. Workshop on NRA experiences with 5G

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. However, those barriers do not exist exclusively in relation to 5G and we believe that it would be more helpful for stakeholders to extend the scope of the workshop, covering issues related to regulatory challenges in the broader deployment (and upgrading) of networks.



We urge BEREC to extend the scope of the workshop and invite all stakeholders to this workshop, and keep those that cannot join closely informed about the outcomes of this workshop, as well as its intended follow-up on this subject.

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

Liberty Global supports initiatives aimed at fighting disinformation on EMF exposure and note the significant negative impact that misconceptions (often caused by such disinformation) can have on deployment of 5G services. We consider 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.

We note 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 we believe 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.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. We urge BEREC to involve stakeholders on issues that affect them at all times.

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

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. In the 2020 DESI report for connectivity the European Commission for example clearly recognises fibre and DOCSIS 3.1 as VHCN.

To reflect the principles of appropriateness and proportionality we urge BEREC to harmonise the information which is submitted by operators to the Commission as part of this report. Given the significant burden already placed on operators under the geographic survey provisions, the introduction of further information requirements for this purpose (i.e. in addition to what has already been envisaged under the BEREC Guidelines on geographical surveys) would be inconsistent with the principles of appropriateness. We also reiterate the confidential nature of coverage information and urge BEREC to ensure that such information will only be published — in consultation with operators — at an aggregated level in a manner that does not enable providers to 'reverse engineer' competitors' footprints.



2. Strategic priority 2: Thriving sustainable and open digital markets

2.1. Report on digital platforms - Market & Economic analysis (carry-over)

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' (consisting of ex ante rules and a new competition tool aimed at certain digital services). As we have submitted previously, 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, we believe BEREC's role in this area should be limited to sharing knowledge to help policy makers rather than to assume any particular role.

We believe that significant differences between the digital and the telecoms sectors persist and we do not see any justification for a possible extension of ex ante regulation to digital platform markets. Ex ante market intervention has been applied in the telecoms sector to initially transit from a state-owned monopoly to a competitive market. It was designed on competition law principles and to apply only where, and as long as, necessary to artificially replicate competitive conditions and to then be progressively removed over time as markets became effectively competitive. The relevance of competition law is also reflected in the three criteria test that was codified in the Code. This transition to deregulation is showcased by the number of markets that are perceived to be susceptible to ex ante regulation dropping over the years — from 18 to just 2 in the draft revised Recommendation relevant markets — and regulatory practice by NRAs.

Digital markets (e.g. for online platform services) cannot be compared to telecoms markets. Ex-ante regulation is generally suitable to address market challenges in specific, narrowly defined sectors with a pathway to withdrawal of regulation, and we believe that a general ex ante regime which applies to various digital platform services does not meet the necessary criteria. The current competition law regime is sufficiently flexible to address identified market power issues. Policy makers and regulators should not seek to take the role of market makers. In this regard, we consider ex ante rules in digital markets would be unjustified, disproportionate and inconsistent with the Commission's de-regulatory agenda, which risks stifling innovation and leading to a reduction in investment.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. We therefore welcome the proposed public consultation on this report and we urge BEREC to ensure that all relevant stakeholders — including those outside of the telecommunications industry — are alerted to the study and consulted to ensure that its work is representative of the full digital platforms market (and not only stakeholders that are known to BEREC).

2.3. Open internet

2.3.1. Report on the Internet Value Chain

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, we consider 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. The increasing digitalisation of traditional communications services is a key factor in the trend towards greater competition, and the de-regulation of telecoms markets — paving the way for a more level playing field between providers.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. It is important to ensure that a broad range of stakeholders are consulted at an early stage, to ensure that any policy decision reflects market reality, and takes into account the cross-sectoral views of all participants in the value chain. We therefore welcome the proposed public consultation on this report and appreciate the opportunity to participate in the announced external workshops with institutions, academics and stakeholders.

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

Monitoring and reporting on the implementation of the Open Internet Regulation should be one of BEREC's key priorities, in view of the findings in the European Commission's Report on the implementation of the Regulation (EU) 2015/2120 and the underpinning European Commission Study on Open internet, which recognise that further efforts can be made to ensure the harmonized application of the Regulation by the regulators.

In relation to the review of the Guidelines operated by BEREC, we previously expressed our concerns in our response to BEREC's draft Work Programme 2020. We suggested that a substantive amendment of the Guidelines at the time was premature and not in line with the clear demand for regulatory stability. As we 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 our view, BEREC should focus on better cooperation between regulators in order to ensure that the regulation is implemented consistently.

We note that BEREC is not planning a public consultation on the report and we believe that this goes against the continuous stakeholder engagement that BEREC has indicated it is aiming for. We urge BEREC to involve stakeholders on issues that affect them at all times.

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

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 ESOs (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.



Relevant in this context is that regulatory policies should be technology-agnostic and capability-based as a regulation favouring any specific technology is likely to have negative impacts and chill investments. Only a mixed technology approach is functional to maximize innovation and infrastructure-based competition.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. We urge BEREC to involve stakeholders on issues that affect them at all times.



3. Strategic priority 3: Empowering end-users

3.2. Report on how to handle third-party payment charges on mobile phone bills (carry-over)

BEREC plays a crucial role in facilitating and ensuring a consistent implementation of the Code provisions in the Member States. 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.

Liberty Global supports BEREC's continued commitment to engaging and consulting with stakeholders on issues that affect them. Liberty Global welcomes the proposed public consultation on this draft report and urge BEREC to keep stakeholders involved in its development.



4. Cooperation with EU institutions and institutional groups

4.1. Institutional cooperation

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.



5. BEREC obligatory work

5.1 BEREC ad hoc work

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

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. In this sense, we consider relevant to highlight two issues related to the application of the Directive.

Firstly, we believe 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. NRAs should also have full regard to the existence and availability of alternative access measures that may achieve the same or similar outcomes, but with less negative impact (for example, Member States in which there is an existing ex-ante duct and pole SMP remedy imposed on an incumbent).

Moreover, the 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. We believe barriers to roll-out continue to exist — largely associated with fragmented and burdensome local planning and permit procedures, including in some cases high (non-cost based) fees/levies imposed by local authorities/governments. We have also experienced disparity in terms of the treatment by planning authorities of the incumbent in comparison to other operators. We therefore advocate for simple, transparent, non-discriminatory and harmonised nation-wide procedures for requesting and granting permits (including standardised fees based on a clear, cost-based and transparent methodology).

Stakeholders will be able to provide input to the forthcoming consultation on the Commission proposal on the review of the BCRD. However, given that BEREC is committed to engage with stakeholders and this initiative to prepare an Opinion impacts stakeholders interests, Liberty Global urges BEREC to involve stakeholders on issues that affect them at all times.

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

The Code has introduced a range of measures aimed at encouraging investment in and deployment of electronic communications networks, particularly VHCN. We consider 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. Subsidising network infrastructure in areas that may be commercially viable is the quickest route to distortion of markets and the undermining of investment



incentives. Similarly, the overbuild of existing, high-speed private networks would be inefficient and inappropriate use of public funds.

Stakeholders will be able to provide input to the forthcoming consultation on the Commission's review of the EU State Aid Guidelines. However, given that BEREC is committed to engage with stakeholders and this initiative to provide Input impacts stakeholders interests, Liberty Global would appreciate the opportunity to provide its opinion on the issue and urges BEREC to involve stakeholders on issues that affect them at all times.

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, we believe that the NDCM Recommendation adequately promotes deployment and take-up of VHCN by ensuring regulatory certainty. We note 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.

As noted above, since this initiative to prepare an Opinion impacts stakeholders interests, Liberty Global would appreciate the opportunity to provide its opinion on the topic and urges BEREC to involve stakeholders on issues that affect them at all times.

5.1.6. Ad hoc work relating to network security and cybersecurity

Liberty Global welcome 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. We believe 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.

We note that BEREC is not planning external workshops with stakeholders on this topic and therefore urge BEREC to involve stakeholders on issues that affect them at all times.

5.1.7. Ad hoc work relating to the Recommendation on Connectivity

Liberty Global strongly supports regulatory policies that facilitate private deployment of VHCN and sees itself as having a key role in the investment and deployment of VHCN in Europe. A large portion of our network is already built to provide Gigabit speeds, ultra-high capacity, reliability, and resiliency tailored to the needs of our customers.

In addition to the implementation of the Code and the review of the BCRD (see 5.1.2 above), we consider the Commission's work on the connectivity best practices toolbox will further promote private investment in VHCN (both fixed and mobile). In this regard, we consider that simplification and harmonization should be key points of future policies. Moreover, we urge BEREC to also consider



demand-driving policies, which will further improve take-up of high speed service which underpin the business case for investments in such networks.

5.2. BEREC mandatory tasks in line with EU legislation

5.2.1. Mandatory tasks stemming from the European Electronic Communications Code (EECC)

5.2.1.3. BEREC Guidelines to assist NRAs on the consistent application of geographical surveys of network deployments (carry-over)

BEREC published its final (Core) Guidelines on geographical surveys of network deployments in March 2020, and foresees adoption of two complementary new sets of Guidelines in 2021. These additional Guidelines will focus on the designation of areas where no undertaking or public authority has deployed a VHCN (Article 22(2)-(4)) and the verification of the quality and coverage information required to be provided by operators.

Alongside its response to the draft WP2021, Liberty Global has also provided a response on the draft Guidelines regarding Article 22(2)-(4). We reiterate that the forecasts should be used with caution, and support the consideration of additional criteria (such as population density) when designating areas. We consider further clarify 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, we reiterate that deployment plans are highly confidential and should not be disclosed.

Regarding the second set of additional guidelines on verification, we note that BEREC has now adopted the final Guidelines on the performance requirements of VHCN. BEREC has indicated that it will use QoS-1 (as used for the European Broadband Mapping Project) in conducting the geographic surveys to characterise the reach and performance of broadband networks (incl. the presence or not of VHCN), and will use QoS-2 and QoS-3 indicators as a means of verifying QoS-1 data. According to BEREC's VHCN Guidelines, the VHCN requirements are based on the 'capability' of networks. The Guidelines also therefore state that it is not necessary that the operator offers a commercial service that meets these criteria, but that NRAs may require operators to deploy test services within its network. We note that the requirement to introduce network wide test service is likely to place significant burden on operators and would disproportionately affect non-FTTB/H providers. In this context, we urge eBEREC to ensure that such requirements are necessary, appropriate and proportional,.

Liberty Global supports BEREC's continued commitment to stakeholder engagement in relation to the Guidelines of geographical surveys, and has found the two previous stakeholder workshops on this topic to be useful. Liberty Global engaged closely with BEREC on the first set of Core Guidelines and welcomes the opportunity to discuss our position with BEREC also in relation to these new guidelines.



5.3. Monitoring quality, efficiency and sustainability

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

Liberty Global welcome BEREC's initiative to monitoring the impact COVID-19 is having on telecoms operators and consumers. Since we are directly affected, we welcome the proposed public consultation on the report and we urge 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. We also urge 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.

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

A key aspect of BEREC's Work Programmes between 2021-2025 will be monitoring the implementation and functioning of the Code, to ensure that it is implemented in a consistent, harmonised manner across the EU and that it continues to promote private infrastructure-based competition in a technologically-neutral manner.

Our experience with the implementation of the Code by the Member States in our footprint has been fragmented in terms of both timing and substance. We already see significant fragmentation in relation to the end-user right provisions, which appear to be inconsistent with modified full maximisation. In this context, we consider that BEREC's activities in this area are highly important and relevant. We therefore welcome the workshop proposed by BEREC and consider it to be a good opportunity for NRAs to share their experiences and approaches.

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

Harnessing the power of broadband for societal change is key to realising the European Commission's plans to reduce Europe's emissions and to become the world's first climate-neutral continent by 2050. 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. We have invested heavily in upgrading our infrastructure resulting in energy savings and reduced emissions. We also work to reduce waste through recycling and refurbishment.

We 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 we welcome BEREC's proposed public consultation on this report and we look forward to be involved in all the activities BEREC is planning. We urge BEREC to involve stakeholders on issues that affect them at all times.



IV. POTENTIAL BEREC WORK FOR 2022 AND BEYOND

Multiple regional operators of NGA-networks

BEREC intends to carry out an investigation on the level of competition between regional NGA networks operators as starting point for its application in the SMP analysis. In our experience, we consider markets to be national as long as conditions between regions are homogeneous. An indicator of heterogeneous conditions might be operators using different business strategies such as price differentiation across their networks. Liberty Global urges BEREC to involve stakeholders on issues that affect them at all times and keep them closely informed about the outcomes of this investigation, as well as its intended follow-up on this subject.

State of Mobile roaming: 5G including cross network slicing

Liberty Global notes (as noted above in sections 1.3 and 1.4) that promotion of innovation in network technologies should be broader than mobile only. BEREC should not look at mobile in isolation but adopt a broader approach where the application of network slicing is not considered exclusively in relation to 5G and roaming.

Workshops on wholesale replicability test, IP peering

Liberty Global supports BEREC's initiative to host a joint workshop with the OECD on IP interconnection as it sees the value in the sharing of experiences in this domain. Liberty Global kindly requests BEREC to keep all relevant stakeholders closely informed about the outcomes of this workshop, as well as its intended follow-up on this subject.