Transcript of IIC/BEREC Telecommunications and Media Forum 2021

Day Two – Thursday 27th May 2021

Welcoming words by IIC Director General Lynn Robinson

LYNN ROBINSON: Hello, I'm Lynn Robinson, Director General of the IIC and I welcome you to Day 2 of the Biennial BEREC and IIC Telecommunications and Media Forum. I would like to thank Michel Van Bellinghen, Chair of BEREC, and IIC President Chris Chapman for their warm welcome yesterday.

We commenced Day 1 with three excellent sessions and a keynote speaker. Thank you to all moderators and speakers for such rich content. As we move into our second day, we're looking forward to the focus being on two very topical things; green growth, sustainability and ICT's role in the climate change agenda, and secure connectivity and critical infrastructure provision.   But particularly delighted to welcome Jessica Rosenworcel, Acting Chair of the FCC as our closing keynote speaker. Jessica will be in conversation with Michel Van Bellinghen, to discuss the digital divide, post-COVID challenges and opportunities, secure connectivity and the evolving role of communication regulators. But now, it's my pleasure to hand over to our good friend and very active member of the IIC, Fiona Taylor, Head of International Public Policy at Verizon, who Is moderating the first panel today. Over to you, Fiona.

Panel 1 – Green growth, sustainability & ICT's role in the climate change agenda

FIONA TAYLOR: Thank you very much Lynn for that very warm introduction, and also, I would like to thank BEREC, Michel Van Bellinghen, its Chairman, but also all the staff and the IIC, Chris Chapman, Lynn, Amanda, your whole team. You have put together a wonderful programme, and it's a real honour to have the opportunity to moderate this fascinating panel. As you can see from the agenda, I am surrounded by extraordinary speakers, so I hope I can do them justice in moderating this panel.

The subject of today's panel is key and that I think is probably an understatement. Sustainability is at the top of policy makers and Governments' concerns. It's at the top of society's concerns, civil society's concerns, industry's concerns. I think everyone agrees that this is something that needs to be done collectively, it's a common effort that is essential and urgent, so we will dive into questions around that.

Perhaps one of the things as well with regards to this panel, that makes it even more interesting, is the fact that there is a dual aspect to the digital sector when it comes to sustainability. There is the obvious desire to reduce the sector's footprint, but the sector also has a lot of benefit and a big role to play in enabling other parts of industry, society *et cetera* to also reduce their footprints. Just to illustrate this in figures, the GeSI Smarter 2030 Report, found that for every 5% increase in access to digital technology, there is a corresponding CO_2 reduction of 16%. So I think this also what we will be looking at throughout the panel, is also that dual role and how can you enable and support both of these roles in the most efficient way.

Needless to say, a lot is happening in the sustainability space, both at policy Government level but also through a lot of industry initiatives that are ongoing. We know that the EU is committed to reduce greenhouse gas emissions by at least 55% by 2030, and to be climate neutral by 2050 so needless to say, a very ambitious agenda where all the actors and all the stakeholders involved need to pull their weight in the discussion.

So as I mentioned, it's quite a complex picture there's a lot going on at governmental level but at global level we have, just to name a few, we have the UN SDGs, we have the Paris

Agreement, we have the EU Green Deal at a more regional level, but when we look at Europe, we also have a lot of initiatives that are ongoing at Member State level. There are also as we will find out today a lot of interesting initiatives and interest going on at BEREC within the RSPG, but also with regulators, and we have the pleasure of hearing from ARCEP on that. We also shouldn't forget that even before policy or regulation kicks in, there's been lot of voluntary initiatives that have taken place have been developed by industry. To name a few, I referred to the GeSI Report, so GeSI is an important group that has been in place for probably over 10 years if I am not mistaken. We've had the European Green Coalition that was launched in March, and just as recently as Tuesday the mobile telcos have launched a Sustainability Rating System so again a lot is happening in this space.

To dive directly into that, today's panel I think is great in a representation of that complexity and of all those different angles as we will start off looking at what is happening with ARCEP in France, both at the regulator level but also at Member State level. We will dive in a more niche market of the telecoms sector and have a deep dive into spectrum, and the role of spectrum, spectrum policy and its impact on the environment. Interestingly, we will also be looking at sustainability in its broader sense so not just from a green perspective, looking at what the audio-visual broadcaster is doing in Ireland. Then we will dive into what industry is doing and interestingly we will be able to have the perspective of a European telco and a US telco giving us more of a global perspective on that.

So without any further ado, I will hand over to our great next speaker who doesn't need an introduction, because I think we all know Emmanuel Gabla. I will not go into our speakers' bios because they are all available online, and I think it's better to keep the time to hear from Emmanuel rather than that, he will take us through the various initiatives that are ongoing in France, so over to you Emmanuel.

EMMANUEL GABLA: Thank you very much Lynn. Well as you say the relation between the digital and the ecological transition is essential and it's also essential to remember that the major role of digital technology are playing in meeting the environmental goals. However, today, I will not talk a lot about what, how digital technologies can help, but

certainly how they have a significant growing contribution to do to our environmental footprint. They can do that by seeing that the digital sector itself engage its green transition by complying to the environmental targets set at European level and by the Paris agreement.

At ARCEP we believe that one of the key roles of regulation is to support this transition by building appropriate indicators and creating proportional incentive and obligation to accelerate the initiative that private actors already started to launch. I think my camera is not really sharp, but I will try to do it better. I think it is doing better now I hope.

Anyway, first what we see that there is a progressive awareness of the digital sector environment footprint in France. There has been raising awareness about the issue for three to four years possibly thanks to work of civil society actors, for example the circular economy law adopted in 2020 already included important measures to reduce digital ecosystem wastage and increase products reliability, as well as elevating the level of environmental information available regarding digital technologies and its footprint. Besides recently several events have made a specific catalytic growth and help to give priority to these issues on public authorities' agenda such as the COVID-19 crisis, highlighting our considerable systemic dependence on digital solutions and 3.5Ghz auctions we had in France to grant the 5G licence that led to debates inside society about the meaning of technological development in our societies.

More generally there is a movement in the public debates sets a better controlling ICT negative [inaudible] data privacy, paid for content, economic dominance and sustainability are really the topic points. At ARCEP are convinced that regulators should play a proactive role to respond to this need for better consideration of environmental goals and digital technology governance and in that sense after defending the opening up to competition, investments for better connectivity in territories and net neutrality principle, we do think that environmental regulatory policy will be a new chapter in our regulation. This idea is to reconcile connectivity and sustainability.

Achieving the digital sustainability, the collaborative work, in fact we did a collaborative work with good understanding, both with the other authorities, competent authorities but

also with the industry. We decided to deepen the reflection regarding environmental issue by launching in June 2020 a platform called Achieving Digital Sustainability and a series of dedicated events, to bring together interesting stakeholders to advance the level of knowledge and to think about the tools that can be mobilised to manage the footprint sector. In fact, it was very difficult, it was very interesting also, to know how a regulator can go beyond the sole field of expertise and seemed for us very important to rely on the other people's expertise and to collective intelligence. So formed both together around 130 participants and resulted in the co-writing a report last December, including ARCEP's understanding and 42 contributions from external stakeholders.

We formulated a number of recommendations around three areas, strengthening public policy makers' capacity to steer the digital technology environmental footprint, with common standards, methodology and data on the digital technology footprint. Incorporating environmental issues into ARCEP's regulation actions to facilitate the transition from copper to fibre and encourage network optimisation, and finally increasing incentive for economic private and public sector organisations and consumers, with code of conduct [inaudible] relevant stakeholders and tools to increase users' environmental level and aiding consumer decision, with data driven regulation. This has led the Government also to step into the play fields and there has been a comprehensive strategy that has been set up by Government at national level, illustrating the importance for telecom regulating, reacting with environmental goals, sorry.

We have been working on implementing the roadmap that the Government has issued, and the four initiatives including co-ordinating with the ADEME, the national agencies for environmental issues, to study and assess the environmental footprint of digital technology, investigate how environmental concerns can be more considered by designing the upcoming frequency allocation, we will allocate the 26ghz frequencies in the coming years but see how we can better design the method we will use for allocating frequencies. We conduct a study on mobile device distribution model and lifecycle to see how we can reduce the footprint of the digital equipment.

The last initiative was one of the main proposals in our December report, it was strongly believed that regulators have a key role in playing, collecting, aggregating and making

available relevant data regarding the digital sector footprint, and it does possess the necessary expertise and are used to use this type of data collection processes.

To end this introduction, we are convinced that environmental and digital technology transitions go beyond national border and can only be optimised when they are designed at the EU European level and also international level. These type of events and our continuous close co-operation with other NRAs in BEREC, notably with other institutions, digital players and civil society are great opportunities to share national experience, and reflect on a co-ordinated approach to support the sector compliance to EU environmental targets as you said Fiona. I hand over to you.

FIONA TAYLOR: Thank you very much Emmanuel, and thank you very much also for making the point about the fact that whatever is being developed at national level needs to be part of a broader picture, i.e. European level, but even international and global level and I think we will probably come to that in the 30 minute Q&A we have but, before we dive into that just if I may just a couple of questions for you. I think the first one and I am not playing devil's advocate or being provocative here, but I was curious to also see ARCEP's definition of its role with regards to sustainability, given also the competence and mandated that is given by the European code, i.e. the EECC, so I think that's an interesting question in terms of the role of regulators within the bigger picture of what is happening, but also within the specific, the sector specific side so, I will start there and then I can maybe throw another question at you before we move on.

EMMANUEL GABLA: Yeah, with pleasure. First, we have to see of course there is no direct competence given by the EECC to an area in this sector, in this field, in field of environmental issues. But what we have to say is first of all, EECC is not the only legal text that confers a mandate to NRA. We have national initiative can be taken for example in France the national code of Telecoms gives that ARCEP has been dealing with environmental issues since 2010. I mean it is one of the mandates of the ARCEP as a French regulator to see these issues, but also more generally, we can see that the role of a regulator is not only to stick exactly to what is set in the codes, we also have sometimes a prospective role. We have to take initiative, and be at the forefront of new issues, so as to update regulatory tools to the economic, ecosystem that is consistently

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evolving. It's true for example for tackling emerging technologies impact, or rising societal challenges such as digital divide, the economic domination of a few platforms, big platforms you see what I mean, and environmental imperative, all those issues are not set in stone, they are not of course always programmed and foreseen in the legal text but clearly, it's the action and the proactive action of the regulator that can make the line move.

FIONA TAYLOR: For sure, for sure. No, thank you for that and maybe last question before we move on. I was interested I mean obviously ARCEP has been quite innovative in the way it's approached things with the platform it launched that you referred in to 2020 and what is even more interesting is the multi-stakeholder approach that the platform has taken so could you maybe say a few words about how the initiatives from ARCEP have been received, by civil society, by the industry, from your experience so far?

EMMANUEL GABLA: First of all, we have to say that most civil society and industry have not waited for ARCEP to do [inaudible], civil society and the actors already had a lot of initiatives going on. But it was good certainly that the ARCEP tried to put everybody together, around the table to increase awareness of all the actors. I have to say that has been a rather positive reception of interest about authority concerning sustainability from all the actors. Operators and service providers were relatively satisfied with our approach, that was an inclusive approach also very important. It's not a top-down, we think about it in our ivory tower and they had to comply with it, no, we tried to build it on a consensus basis and also to see how the initiatives that are already begun before we start our initiative. How they can all go together and click together, and really I think all the actors were really positive in their approach. Of course they were a little afraid that we would impose too much obligation, but as it's not the way we see things, really everybody is really collaborating in a positive way and I hope it will be the same, and I am sure it will be the same, at European level when everything will be go on. There has been a group that has been set in BEREC and there also, everybody all the regulators are really keen to work together and we are really happy to see that European level is also really interested and putting emphasis on this issue.

FIONA TAYLOR: Thank you very much and I think you made a very important point A)

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that industry is not inactive up until now, to the contrary, and I think each side has a lot to learn from each other and I think that is the best way to make good policy making, to make sure as it can be effective as possible. We go back into that in our Q & A at the end, but I don't want to be rude but for the interests of time I have to hand over the floor to Frank Krüger but thank you very much again Emmanuel for that interesting perspective and sharing what France is doing.

So, we have the luxury of having Frank Krüger and we didn't want to be disrespectful to the Chairman of the RSPG by putting him second because we are going into the niche element of spectrum, it was a good transition to move there and we also have the luxury Frank, that you also part of the Federal Ministry for Transport and Digital Infrastructure in Germany, so you can give us both perspectives. So, we will start off with the RSPG and the work you've been doing there in linking the role of spectrum policy and sustainability to see what role you can play as regulators there. So, over to you, thank you Frank.

FRANK KRÜGER: Yes, thank you, Fiona. I will mostly relate to my work as RSPG Chair but, of course, some aspects of my work as Director of the Ministry will come in as well.

First of all, thank you for inviting me to this very interesting event. I think it is, yes, it is an important topic all round the world, green growth, sustainability and how to combat the climate changes which are important to all of us. Innovative solutions for a better environment are needed to reach our goal for Europe to become a climate neutral continent by 2050, and digital technologies and digital solutions are already acknowledged as critical enables in many sectors. A recent example of key role of the ICT sector we have seen during the pandemic, ongoing pandemic, we were dependent very much on good working infrastructures, whether mobile or fixed, and they enabled distant working, home schooling and remote healthcare on the one hand; and as well the digital transition during this period has resulted in positive environmental effects, by reducing transport and thereby reducing the pollution level caused by it.

So, however, we are also aware of the fact that telecommunications and digital infrastructure themselves needed to become more climate neutral - sorry, and as Emmanuel Gabla said earlier, we need to reconcile the rollout of infrastructure like 5G

and fibre on the one hand, and climate aspects on the other hand. A successful transition to climate neutral Europe will sharing ideas of successful innovation within the Member States of the EU but also with the stakeholders and today is a good event to do such and when I am talking in my capacity as a Chair of the Radio Spectrum Policy Group and I would love to give you a few insights of what we are doing.

As you know, the RSPG is a high-level advocacy group to assist the European Commission in the development of radio spectrum policy and as Chair, I am Chairing this group since the beginning of 2020, from the very beginning of my Chairmanship the climate was the key topic for me from the very beginning. The European Commission asked us after they introduced the Green Deal, to work out an opinion on this topic and we are all keen to be part in it. That's why the work programme is dealing with first time with that policy as Emmanuel says, the spectrum related aspects of the climate change and how to contribute to climate neutrality.

Of course, since this was a new issue for all of us, we needed to discuss a lot. We needed to debate amongst our members and, of course, we need to discuss with all the relevant stakeholders how spectrum policy itself can help to combat climate change and, yes, we were facing quite a lot of challenges. So, because there were no reliable studies that we could build upon on this particular aspect. So, we simply lack precise data on the environmental impacts of technologies that use radio spectrum. In addition the work of the sub-group has shown that the topic has been far more complex than we first anticipated, because you have to also take into account the rebound effects so when MNOs replace their current equipment by more climate friendly, how can the carbon footprint of the manufacturing process be reduced or equalised. So these are relevant aspects as well.

So what do we do as sub-group? Not only debating with stakeholders and with ourselves as well, we have met a lot of times which as was climate friendly because we met virtually and got a lot of, we got far members on board than usual, and had the opportunity to meet far often, and this was with regard to this topic very interesting because we have different workstreams. We have a report we are just preparing, we have an opinion where we make some - we tried to give some recommendations and as well we have put some

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recommendations already in our draft RSPP opinion, you know, that the Commission intended to work on the new RSPP, which is not furthermore the case but anyway we were asked to work out an opinion and there we have to introduce climate friendly - or climate aspects as well.

The stakeholders' workshop was very interesting because we got a lot of input by stakeholders and we included it in our draft report and, of course, one aspect of spectrum is spectrum can help monitor, or help enable technologies that help monitor the climate change. Of course, we will as well consider in our report how various sectors can reduce their impact on environment and to describe some of the steps that communication sector itself can undertake, and we will reflect the steps taken by the telecommunication industry itself.

As I said already, we are as well completing the draft opinion, where we will give some recommendations and which will be adopted in middle of June. So we will finalise our work on this aspect in middle of June, the opinion, and the report so then you can see the whole result, and yes, I think these are the first aspects. We can go a little bit more in depth in the questions you have prepared to ask.

FIONA TAYLOR: Very interesting, and I think we will all be looking forward to mid-June to see what the recommendations are. Before we have that pleasure, maybe just a quick question, and I don't know how far you can answer it already at this stage but given the work you have done so far over the last year and sort of gathering, understanding and what information is necessary and where to get it et cetera, et cetera, what is your sort of initial assessment of the role of spectrum policy in regards to climate change?

FRANK KRÜGER: As I said we gave some indications already in the RSPP opinion and we, of course, will invite the European Commission to task energy efficiency and other climate-related aspects into account when they fund research within the wireless sectors, as well as Commission and Member States are further invited to promote the development of methodologies to assess the impact of ECS wireless technologies on climate change and with the involvement of EC stakeholders, of course, and all interested parties and where appropriate with support of ETSI, and those methodologies should

include a focus on ECS radio components, base stations, terminals and so on including the impact of frequency bans, because there are probably different impact of different bans.

So the RSPG efforts already made with self-regulation and other voluntary initiatives of the wireless ECS sector to reduce carbon footprint. Just these days we some [name] announced to inform their customers about climate compatibility of smartphones. I think these are the right actions and goes into the right direction. As well, the RSPG will underline that Member States should share best practices. We had the toolbox procedure which is the opportunity to share best practice on the implementation on the strategic objectives of the current RSPP, and in order to reduce the carbon footprint in the European Union. As I have said last point, Member States should recognise that monitoring of climate change collecting data, weather forecasting for instance or gathering climate related data are important tools to combat climate change and these are, to some extent as well, spectrum related.

FIONA TAYLOR: Thank you very much for that Frank. Maybe one last quick question, but I think you have touched upon it. Emmanuel touched upon it, it's about the dual role of the sector right, in reducing its own footprint but also as an enabler and perhaps you can say a few words from a spectrum perspective on that as well.

FRANK KRÜGER: Yes, I can here talk as well on that in my capacity as a director of this sector in the Ministry. Of course, yes, the challenge is twofold. To one extent we need digital infrastructures to become more climate neutral. We need, yes, fast rollout of 5G fibre to the homes and to the networks, and on the other hand we need to do all efforts to limit the climate carbon emissions on, by using devices and building networks. Yes, this will remain a challenge but there is transparency, yes, action is quite a good way in the right direction.

FIONA TAYLOR: Great. Thank you very much Frank and let's hold onto the remaining questions for the Q&A, but thank you for giving us an initial insight into the sort of niche spectrum, a niche key focus because as we know spectrum does matter, but in terms of, from a policy angle we go from horizontal going deeper and deeper. Maybe from our deep

dive we're going to broaden it a little bit, if I may, by looking at what is happening in Ireland and more specifically the perspective of the broadcasting regulator, so, with Declan who will take us through it and again the interest here is that we will move beyond the environmental definition of sustainability and maybe look at it from a broader perspective, which is as essential as the others and should not be neglected. Thank you for joining us and for giving that perspective and I hope you are doing fine, Declan. Over to you.

DECLAN MCLOUGHLIN: Morning Fiona and morning everybody. I was saying to Fiona yesterday I was getting my vaccination so I wasn't sure whether I would be fit and ready for the BEREC conference today but feeling good, feeling lively and energised by the session this morning. Thanks to BEREC and thanks to Fiona, we're all very much engaged in this topic on an ongoing basis but it's great to get together as a community of practitioners to really focus and sort of step back and I'm really delighted to have the opportunity to talk about the work of the Broadcasting Authority of Ireland in this area.

When Emmanuel was talking earlier, I was nodding my head there when he was talking about the role of the regulators and where the direct competencies and that was very much a question that the BAI had when we turned to look at the issue of sustainability in the Irish broadcasting sector.

So what is our role here, why should we be in this space? I think Emmanuel touched on it very clearly there when he said regulators shouldn't be limited by its specific statutory provisions. There's as much to be said about what regulation says it can and shouldn't do and where the spaces are between that, so sort of we looked at that as part of our strategy number of years ago, recognising the importance of sustainability, as a national, European and international issue.

So what role can the Broadcasting Authority of Ireland play, and what role can broadcasters play as an industry, and as an important conveyor of information about sustainability, about climate change, about biodiversity and all of those related issues. That resulted in a specific strategic commitment that the Broadcasting Authority introduced in a strategy which is really about both modelling and leading best practice in terms of governance and sustainability in these areas, and we developed a vision in that

context which was essentially guided by the United Nations Sustainable Development Goals. That was a very conscious decision to look at a not very much wide perspective, and a key decision we made was that we would bring the broadcasting sector together. It would be a sector wide initiative which became the Broadcasting Sustainability Network, which is launched last November.

The network I suppose has two kind of key aims, one is to foster best practice, and support the sector to improve its own sustainability performance, and then also recognising very specific role of the media in Ireland in terms of informing debate about this issue, to sort of galvanise the sector, to use its voice to inspire positive action around this issue and also to provide honest and credible and meaningful debate around the topic on an ongoing basis. The network got together, and it sort of decided what are we going to do and how are we going to shape this and drawing on a lot of the excellent work done elsewhere, like the response to the Media Forum and the Global Media Compact, the network agreed that it would develop its own sectorial sustainability roadmap which really created a guide to support the objectives of the network, and to give a sort of a shared vision for where the broadcasting sector wants to go.

That roadmap, I suppose, consists of two key elements. It's got three kind of topic pillars reflecting the Sustainable Development Goals, so it's got a green pillar, an inclusive pillar, and a resilient pillar and these set out key actions round the environments, around diversity and inclusion, and also about having a resilient ethical broadcasting sector. Then recognising that within the broadcasting sector, there's different levels of experience, different levels of practice, different levels of ambition, and bearing in mind the type of sort of the public sector, the commercial sector, the community radio and television sector, that there would need to be a way to allow people to sort of engage at a place that they were at.

So as well as the three pillars, then there are also three levels ambition that are set out in the roadmap. There's a 'create', which is a really about reflecting and beginning your sustainability journey as a broadcaster. There's then the 'build' which is really about looking at what actions the sector could take to grow towards a sustainability journey, and then there's the 'pioneer' element and a lot of broadcasters, especially large broadcasters

in Ireland are at that stage where they are really engaging in best practice, they're showing leadership, at a national and European level in the area of sustainability. The roadmap itself then is underpinned by a vital important responsibility around transparent reporting and governance, which I think are essential as we agreed for ensuring accountability and credibility.

In developing the roadmap and developing our approach, we were also very conscious of the vital role that the media plays in supporting the public sphere in communicating the whole issue about sustainability, and also the fact that at least in Ireland in terms of our own research that radio and television in Ireland are significant sources of trust, and sources of credible and important sources of news. You know, the whole the network itself is sort of fitting within I think today's conference shows, very much a huge focus at a national and European level around this issue, and the intention is that the network will sort of sit alongside and support the emerging action at a Government level. We have a recent Climate Action Act which was brought into effect earlier this year and there will be climate action plans flowing out of that. There's also a national strategy around reviving the cultural sector in terms of post-COVID and that has a sustainable element, and then as we all know there's the European Media and Audio-Visual Action Plan which also emphasises the importance of sustainability but in that.

So still a good few challenges which remain at least for the network, and our own work. The network itself is very much at the 'create' stage, it's beginning its journey towards sustainability and towards a sectoral wide approach, but I think this is a great stage to be at because we can learn from all of those who have come before us, we can learn from those in the sector who have been advancing this topic, and the signs are good in this respect and at this stage, the sector was launched in November, we now have all the major broadcasting sector players have signed up for the charter, for the network, so national public commercial television radio services, the community radio sector, the commercial radio sector, and then an important thing to says that the network has a broad focus so it's not only about broadcasting, but it also about programme makers. So we have membership from Screen Producers Ireland, which is one of the major representative bodies for programme makers, and also Screen Ireland which is a national

film fund.

So we've got off to a good start, but we are post-COVID and in terms of the broader challenges of traditional media, it's all about trying to build this network but also being mindful of the financial sustainability challenges that the sector faces. Then also, there's going to be a lot of statutory regulations, probably arising out of the Climate Action Plan and we need to find a way to ensure the network is something that does not simply become a vehicle for ensuring that baseline compliance with law is managed, that it's something that real, living. It's an exciting time for media in Ireland where there's going to be a widening of regulations to include statutory regulation of linear, non-linear and also now social media, that provides a really important opportunity for the network and for this whole issue.

FIONA TAYLOR: Great, thank you very much Declan for that very different perspective on sustainability but yet as essential. Perhaps if I can abuse my role a little bit, what I, would be interesting to hear a little bit more from you in terms of the public debate around sustainability, and responsible reporting. How do you see the role for the broadcasting regulator in that instance? Can you say a little bit more on that?

DECLAN MCLOUGHLIN: Sure, thanks for that question Fiona. To answer that I suppose it's probably worth saying that the, we have moved into, as all know, we have moved into a new phase of the sustainability journey and with the targets 2030, with targets for 2050 and while I think, at least I hope the whole issue of whether climate change is real has been put to bed as an argument, it's not going to be a lot of real issues around how that impacts the sustainability. So what we eat, where we work, how we work, the impact of technology, issues around agriculture and farming, water, geo-engineering, city and local planning, housing, immigration and emigration, they will be real issues that will come to the fore and media play a vital role in terms of how the public get that information. And as we know, the whole issue of disinformation is really live now, as an issue. Media has a key role there in terms of being providing credible and trusted information, and the role of regulator I suppose is to put in place and maintain the broadcasting standards that will apply to coverage of these kind of stories. The rules are there, of course, to hold broadcasters to account, but I think they are also there to be very clear about the fact,

very articulate about the fact that broadcasters do have freedom of speech, they do have the right to push back to aggressively challenge fake news, or false narratives, and I the role for regulators is to recognise that this a need to ensure honest, credible communications and put in place standards, but also to be very clear that broadcasters do have the right to challenge false narratives and also to interrogate some of the real challenges that will come up on a policy level and political level going forward.

FIONA TAYLOR: Thanks for that. You also mentioned in your roadmap and the ambitions that you are looking at in Ireland, you mentioned funding and I think particularly in a post-COVID era, could you maybe in a few words, give us a bit of more of a flavour of what you meant round the funding initiatives?

DECLAN MCLOUGHLIN: Yeah, I think for the whole issue of sustainability isn't the core function of a regulator. Traditionally a broadcasting regulator that's about licensing, plurality and all of those important issues. I think the role of regulators in terms of funding is to support the network. A lot of the people in the network are in competition with each other to varying degrees, and I think the regulator can provide an honest space, can create an honest space where these different industries can actually get together to focus on these things. In the case of BAI we're funding a network, we're funding a sustainability co-ordinator to drive the network. We have also funded a lot of initiative round programming. For example, we funded a programme around the Wild Atlantic Way which is an environmentally sensitive site off the West Coast of Ireland, and that has led to not only programming but it's also now being embedded into the education where the programme is used to explore the Sustainable Development Goals. We have also funded initiatives around the implementation of the Albert Carbon Calculator for Ireland. Other initiatives such as Women on Air which is a database for identifying experts in a range of subjects, who are women and who can contribute to national debates on these issues. So there's a lot more to be done around supporting education, training, programming, they're some of the initiatives that we have undertaken.

FIONA TAYLOR: Great, thank you very much for that. We can talk maybe more about broader reach of sustainability and ESG in our Q&A, but thank you very much for enlightening us a little bit more into the array of work that you do, that was very interesting.

Thank you very much.

So now that we have heard different perspectives from the regulator side, we're going to dive into what is being done in practice from industry. We have the pleasure of having Clive Carter with us from BT, who can give us an overview of what BT has been doing, and as I mentioned, operators, industry, has been very active. A lot of us have commit to being carbon neutral by certain dates, we can talk about mine but we can do that later in the Q&A, but also looking at the various role that regulators can play, not just with regards to regulating but also with regards to the enabling part and perhaps the stimulating part on the consumer side and so on and looking at the tensions between growth and sustainability. So Clive, over to you.

CLIVE CARTER: Thank you very much Fiona. I would like to take my 5 minutes if I could, to actually look at three aspects of sustainability. As you mentioned the first is how BT is making our own contribution to the delivery of net zero. The second is how we can help our consumers, our customers, make changes themselves, but thirdly as you say what is the role of policy going forward. I mean communication sector policy, and I agree with what Emmanuel said earlier which is this actually should be, and will be, the next phase of communications policy in terms of goals and objectives.

On the first, BT set itself demanding targets. We have been active in climate change and in terms of our carbon footprint for 28 years. We have a goal to be net zero by 2045. We have made significant progress. We have reduced our own emissions by 50% in last 4 years. We now have 100% renewable energy and our UK networks are powered entirely by green energy. We have strong plans to electrify our vehicle fleet which is a significant contribution to our carbon footprint. We will have 28,000 of our vehicles of 33,000, electrified by 2030.

Of course, we're building the new networks, the new networks which are more energy efficient and more resilient and reliable. Fibre does require less engineer visits, it's more resilient than the legacy copper network, and of course 5G is more efficient, up to 80 to 90% majority efficient than 4G going forward.

What needs to be done is more than just the sector itself delivering. We can help educate,

inform and indeed encourage our customers to change. We have got 22 million customers in the United Kingdom. We have already helped, in 2019, our customers avoid 13 million tonnes of carbon. That's the equivalent to the carbon consumption of 3 million UK households. I've mentioned the fact that of course we're building the new networks, but we're also engaging with trying to get our customers on to those new networks. We're actively promoting fibre services, but we also now have a social tariff for broadband where we are making broadband accessible for those on lower incomes, and we're also trying to bring the real-life implications of change to our customers by case studies and working with them to demonstrate to how they make changes in their own lives and in their own choices in order to adapt and influence their carbon footprints. But it's tricky and there are some elements we can learn from policy around with engaging with customers, because not all customers will want to engage and change, and you can learn quite a lot from, for example, in the policy sphere about behavioural economics and the ability to incentivise and encourage people to move to new ways of doing things.

The last thing I wanted to touch on though and the really big one is, are questions around policy. Policy does have a role to play. I think there will be some significant questions around communications policy and sustainability going forward, and in the UK that has been acknowledged by the UK Government in its National Infrastructure Strategy where the Government has an intent to give duties to regulators, where relevant, on sustainability. Now, that is not communication regulators, it will include utility regulators but I do think the communication sector has a role to play but that leads to some quite interesting questions and some quite different ways, potentially, of working in the future, and I will give a few examples. I don't have answers but I will give a few examples.

Clearly one area where actually I think policy can make a difference is around efficient build. We have often in the past had this debate around what is the static efficiency of single network versus the dynamic efficiency of multiple competing networks. There is a middle ground where you can have more sharing and still the competitive intensity and the drive to invest, but I think the focus on sharing, certainly in certain parts of the country in the UK and of course across Europe, will grow.

Second element policy can influence and engage with is legacy retirement. So closing down those older and less environmentally sustainable networks. For example, we are closing down the public switch telephony network in the UK in 2025. Everything and everyone agrees that the new technologies are more efficient, but also the migration to those is not necessarily friction and pain-free for customers. There will be some customers who voluntarily move, there will be some customers where all of us will find it difficult to move them and policy engagement and assistance in that stage will be vital. Some will be easier than others. I don't think many people will bemoan the loss of 3G networks given that 4G right is now widespread, but 2G is quite a different challenge.

So the third element for policy is how policy makers keep up-to-date with what's the latest and greatest technology. 5 years when I was working within Ofcom and you came to the debate what is the future of wireless everyone was saying small cells and, in the UK, thousands and thousands and thousands of small cells would be the way of densifying mobile networks and increasing capacity. It didn't turn out like that yet, and actually mid-band spectrum and 5G technology improvements have led to alternative way of delivering the same outcome and an alternative way has led to less infrastructure deployment, so keeping on top of the latest technology capability is important.

The market ethos. The comms sector across Europe is very heavily market-led, market-driven, competition-driven and one of my questions is how can sustainability policy leverage that market ethos in comms? Fiona, you noted the MNOs, the mobile operators eco rating announcement earlier this week. I'd love to see policymakers coming in behind and helping those companies who have strong sustainability credentials differentiate themselves in the market and make customers aware of who is good and who is less good in this space.

A fifth questions is efficiency as a goal, and I genuinely wonder how far we would necessarily have the same policy outcomes if we are thinking about efficiency as well as investment, as well as choice, as well as price. What do I mean by that? A good example is network neutrality. The network neutrality principle is clearly important around opening up the opportunity for innovation, but the best efforts internet is not necessarily the best way to distribute vast volumes of content and of course we see that because networks

need to be dimensioned for that busy hour. If you were thinking about the efficiency angle of distribution would you come up with a slightly different version of net neutrality policy that included sustainability considerations.

Lastly, by no means least of course is the thorny question of digital adoption and effective use which I think came up yesterday during the conference as well. It is an obvious one. A lot of the benefit of ICT and telecoms and connectivity can bring only come with near-ubiquitous take-up and effective use by customers. We are doing a lot ourselves to work with customers and with businesses to increase skills, but that is a shared task and there is a lot more that needs to be done in that space. So overall, BT can make personally as a company its own contributions, but I think actually the leveraging of BT's contributions and the wider sector and the role of policymakers going forward will have a bigger overall effect.

FIONA TAYLOR: Thank you very much for that. It was obvious that within BT you had a very mature reflection with regards to sustainability and are quite innovative and have done quite a lot in that space as well. Maybe just to come back to one of the points that you made, I think it is a very important point is keeping in mind the market ethos, as you mentioned, is also the fact that some operators have already done a lot, at perhaps the cost of commercial benefit at some stages. So, you mentioned broadly that regulators could perhaps recognise the good guys verses the others, I don't want to say good guys/bad guys, but you know, but what would be potential regulatory or public policy enablers that could be developed to support more sustainability for players, the good and the bad ones. Do you have a few ideas? I don't want to put you on the spot.

CLIVE CARTER: We already had actually another speaker who will have a lot more experience and ARCEP has been active already in trying to actually measure and monitor the carbon footprint of those actors in its sector. Actually I think in when we say in that sector, I think we should be broad. Handset device manufactures are not regulated in that sense of classical economic policy, but they clearly make a contribution, a significant contribution to the carbon footprint and the mitigating actions to carbon emissions within our sector. There's that centralised and companies do care about their brand value, and where they sit within a league ranking. League rankings can be quite important and quite

powerful ways as long as they get traction.

Another one I think you are absolutely right is around consumer kite-marking and consumer information. Regulators can do more both to help inform consumers but also to either push through soft power the use of these sort of tools or indeed potentially mandate where you want companies to make clear what is their relative carbon emissions, or carbon footprint or the effectiveness and efficiency of the service they are offering and that is a way to try to get, certainly, those customers who are less engaged for this issue to not to just think about price first, quality second, yes, sustainability third maybe or sustainability second even. It would be lovely if we could get vast group of consumers to worry more about sustainability than potentially price as the driving factor.

For policymakers I think the challenge there is what is that common and fair comparator that allows the balancing and trading off and saying here is a simple from the kitemark, some traffic lights, or in the UK the equivalent of energy efficiency rating of a home when you buy it. That can be tricky because it can be contentious, and everyone has a different way of measuring this but I think that is the right policy and the right challenge for policymakers to sit in that middle for the almost broker, to allow that information to pass into the market.

FIONA TAYLOR: Yeah, no, the measurement issue is something that we can maybe come back to in our Q&A because it is essential to find the right target and the right percentages exactly not to penalise the ones that have already done a lot, because there's some subtleties there. But maybe one last question, and again I don't want to be provocative or put you in a difficult position, it is a BEREC workshop, we are speaking at. You talked about the tensions between outcome for regulators, right, on the one side they have the sort of network consumer projection competition responsibility and on the other hand should we add sustainable to it and is it compatible. Do you have a view there? And again I, I am aware of the environment we're speaking at.

CLIVE CARTER: No, No, I do have. Regulators are well versed in making trade-offs either implicitly or explicitly in terms of their duties and no regulators have duties that are entirely consistent. You can interpret them in a range of ways, to a range of goals.

Investment, innovation and positive consumers outcome can all clearly work in the same direction but at the same point, significant investment in new networks does need to be paid for and does flow through to prices. The way that has been squared, whilst the price might higher, the quality is also higher so what consumers are getting is better. Obviously, you can then bring the same consideration into bear, is what consumers getting better with the sustainability outcome in there included as well? But there will be some uncomfortable moments. There is typically, certainly in the mainstream media and press but also in the court of public opinion, in my opinion a very short-term focus on pricing. A desire not to see prices increase. We've seen it in other sectors, where certainly in the utilities in the UK, the green tax which then flowed through potential price increases, it wasn't well explained and it didn't land well with customers, consumer and customer bodies. That is an important where regulators and policy makers need to hold firm, when they are making choices, they should be very clear and explicit about those choices and say this is for the long-term benefit. Again, they do that, they do it already in infrastructure investments which is a long-term play.

I think another one, actually much more tricky going forward is whether more resilient networks is consistent or not with sustainability in terms of green footprint. So more resilient networks help in climate change response and having networks that are more resilient to flooding and weather events, but in building that resilience in are you increasing costs or are you increasing the footprint through more use batteries, more use of uninterrupted power supply. What's the trade-off there? I think regulators can absolutely do it, it's just going to be a complex task and one of the previous speakers talked about it's a co-creation activity, it's something that needs to be done with industry and bodies so everybody is brought into this going forward and again I wouldn't underplay the importance of governments in this. They set the mandate for the regulators and most of those governments are increasingly onboard with this, but it's going to be a pretty big debate.

FIONA TAYLOR: I am sure they want to have comments on the trade-offs you've mentioned in the Q&A but thank you very much for that overview, highly appreciated and I look forward to discussing that a little more in depth. Thanks a lot, Clive.

So last but certainly not at least and dare I saw a female voice, I hand over the floor to Claudia, Claudia Selli, I think everybody should know Claudia or knows Claudia, she doesn't need any introduction. We are moving on from the UK perspective, we will move on the other side of the pond to having a US perspective and also perhaps a global perspective looking at what is happening at the US government level with the new administration and then diving into how proactive AT&T on the sustainability front. So, Claudia, over to you.

CLAUDIA SELLI: Thank you very much Fiona and thank you very much for the great work that went into these from ICC and also BEREC and for the great motivation and live discussion, Fiona. I am really honoured to be part of this panel. As previous speakers have recognised, climate change is certainly one of the world's most pressing challenges. As you were referring to last week President Biden signed an Executive Order on climate related issues and has also told government agencies to prepare for climate related shocks across the economy as escalating disasters threaten on prices, the value of retirement funds as well as even global financial system. A report from the Environment Protection Agency shows that global warming is now being felt in the US in the forms of wildfires, floods, heatwaves and President Biden's new push focuses on the risk that disasters could pose to consumers, businesses, investors, and even in government and they have certainly their impact, so as we are certainly a largest - one of the world's largest companies we also think we can be part of the solution. The importance of access to technology and data in meeting these ambitious goals cannot be overstated.

AT&T has committed itself to become carbon neutral by 2035 and, you know, as you know data drives innovation and can be ecologically beneficial, both in terms of making our operation more efficient and driving new insights also to improve sustainability. So virtualising many network functions for example, we can eliminate significant portions of energy intense network equipment and rely instead on low-cost energy efficient hardware. As a result AT&T will be able to deploy new capabilities faster, utilise less energy and lower its greenhouse gas emission footprint. We have currently 75% of our core network function virtualised, and this has reduced admission as stated with for example redundant processing, equipment and storage and a free flow of data, not only

helps us manage our operation more efficiently but also serve our customer more efficiently and certainly, you know, we are also working with our customers to use AT&T connectivity and technology that help reduce emissions.

Today we have measured greenhouse gas savings equal to 2.2 times, the footprint of our operation, and our international and societal impact programmes and initiatives are helping to build resilience to better prepare our business and communities we serve for the impacts of climate change. But of course, national government as well as Clive was alluding to have an important role to play in helping global companies like ours combat the effects of climate change and by making it easier for everyone from the scientific community, to the business community to deploy data driven tools and the technology.

So I think, for example promoting transparent, fair and market driven rules for global commerce and digital trade can enable more efficient individuals and collective action on climate issues. Working together countries can certainly place special emphasis on adopting market access rules that facilitate and promote digital trade and set standards. Allowing companies to provide services on a non-discriminatory basis is important to create a vibrant market for digital products and services. Promoting cross-border data flows will allow small and medium enterprises to participate in this digital revolution. This has the potential to help keep the costs of transitioning to a green economy low and give more consumers and business access to data driven products and services. Think next-generation batteries on energy efficient sola panel for example. These measures can grow the global data economy and create the right conditions for new and innovative use cases that help us monitor our changing climate and act accordingly. We're working for example to assess the risks of climate change so that we can make smarter and climate informed decisions for the future. Smart, forward looking policies that place technology and innovation at the centre of our fight against climate change such as the EU Green Deal and Digital Transformation Plan, can certainly help build our sector wide effort to make our communities, infrastructure and economies more resilient. Multilateral industry wide effort will be equally important. As you mentioned Fiona, you know for example through the membership with GeSI since 2009, AT&T has had the opportunity as other industry of course, to collaborate with leading ICT companies on promoting sustainable

business practices and technologies that enable sustainability through ICT innovation. We have had the opportunity for example to sponsor many of the GeSI-led studies on ICT enablement that have been recognised by global business, governments and consumer stakeholder. So access to cross-border data and cross-border co-operations will help advance our effort to protect our planet. As climate scientists tell us this is really the decisive decade to avoid the worst consequences for climate crisis. Proactive measures across all industries are necessary and can include setting best practices and technology standards that promote sustainability and action to help raise awareness educate citizens, and these initiatives coupled with Government support, can certainly be a step in the right direction. I will leave at that, Fiona thank you very much.

FIONA TAYLOR: No, it's great, thank you Claudia. This was very interesting, I think there's a lot of exciting questions that are running through my mind, but perhaps the first one that was of interest in what you referred to was how far you have moved on with the virtualisation of your network and the impact that also has in terms of footprint and sustainability. Can you also talk about other initiatives that AT&T is taking beyond the virtualisation of the network towards being more carbon neutral and meeting your target of 2035?

CLAUDIA SELLI: Thank you Fiona. Indeed, certainly we have, we are taking actions across the industry and apart as you say from the virtualisation of the network functions, we're certainly for example transitioning to a low emission fleet. We will continue to bring down emissions from its operational fleet by optimising routes, switching to hybrid vehicles, reducing the overall size of the fleet. We are accelerating for example energy efficiency and network optimisation efforts, and each year AT&T implements thousands of energy efficiency projects across the networks and operation. Bringing down electricity use and reducing costs.

Another part is expanding sustainable future film and TV production, as also for example Warner Media reduces the energy and resource consumption associated with film and television production through clean tech solutions, sustainable products and reuse of waste reductio effort. Last, but not least, certainly supporting the renewable energy market by entering into power purchase agreements with renewable energy developers.

We're trying to reduce you know, the emission footprint against rising against energy costs and help to add more clean electricity to the US power grid. Also investing in carbon offsets and we aim to reduce the footprint as close as to net zero emission as possible. So these are the main actions that we are taken currently through the industry.

FIONA TAYLOR: Super. There's a few questions I would like to ask but I can only ask one more before we move on to the Q&A. But perhaps it's looking at the enabling element of what our industry can do, so you talked a lot about work AT&T is doing to reduce its footprint, but maybe you want to say a few words about how broadband can enable consumers to move towards more sustainability, that's an important area I think to also refer to.

CLAUDIA SELLI: No absolutely, and thank you for the great question. So I mean as you know of course, broadband can enable a lot of services that can help, that can certainly support consumers as well as you know reduce the carbon footprint and for example, I would like to mention a few examples like telehealth, telemedicine appointments, results normally in 47 times decrease in carbon emission. Also transportation, so connected automated vehicles that can save 23% of fuel and energy, traffic, smart homes, smart water sensors that help prevent 1 trillion gallons in leaks per year and smart lightbulbs for example that use 75% less energy. Precision agriculture for example, broadband helps farmers use less chemicals by up to 80%, water by up to 50% and fuel by up to 40%. Other examples can certainly include smart cities where also the traffic is you know controlled and reduced in a way, so these are all I think great services that broadband can enable.

FIONA TAYLOR: Indeed, I mean quite a lot and again it shows as well how proactive industry has been, not only in terms of its footprint but also in terms of playing its role as an enabler, I will get there eventually, so thank you for that. I think we can now call, bring in everyone together, particularly the first speakers, who probably feel it's been long time since we have seen each other now. So we have until 11, just so our audience knows you know that we have won 5 minutes on the agenda. But perhaps before looking at some of the questions that we, I have but then we got from the public, I was curious to see whether any of the regulators, Frank, Emmanuel, Declan if you wanted to react to

some of discussion round the difficult and complex role that regulators may have in balancing the various objectives and goals particularly with regards to the trade-offs, so I wanted to give you a possibility to respond to those thoughts as well so I don't know if who wants to start, on your side on this as any thoughts.

DECLAN MCLOUGHLIN: I am happy to come on that Fiona. I think the issue that Clive pointed out here earlier on, it's about that corporate participation in terms of spectrum, or in terms of ICT, or in terms of digital, it's that co-creation. It's that co-operation, it's that realising that the success lies in bringing together all of the stakeholders and recognising the innovation, the drivers that each of them bring whether it's legal, or whether it's innovation via technology, or whether it's sort of developments driven by audiences or by customers. It's that collective approach. I think and that's the key message I think that is becoming increasingly apparent as we move forward especially the next 10 years.

FIONA TAYLOR: Emmanuel, Frank any follow up?

FRANK KÜGLER: Yes, I think what has become clear that with regard to sustainable networks we have to deal with a lot of trade-offs and tensions. You have discussed already with some pre-speakers about tension between, for instance, consumer prices and sustainability, competition and sustainability, resilient networks and sustainability. So I think that's a lot of work for regulators on the one hand, and for industry on the other by self-regulation, yes, to solve these trade-offs and to come to conclusions which help us by developing consumer-oriented, competition-oriented and resilient networks on the one hand and to be as energy efficient on the other hand as well, because we all know that we need the networks, 5G networks, fibre networks in order to save energy consumption on, with regards to other services. Or to use other digital services which may help us reducing, to become more climate neutral. So, but with regards to the rollout of networks, and related costs we have to deal with some trade-offs which need to be reconciled.

FIONA TAYLOR: Emmanuel?

EMMANUEL GABLA: Of course there will be some trade-off but what is important also is to be sure that the consumer is aware of what's happening, and as previous speaker said it is important that the consumer has information. For example the information about

the environmental footprint of each operator and this can be done through the data provision to be sure that the consumer has all the data necessary and that's also something that we think is very important, that data regulation and the consumer empowerment is something that is very important in this issue also. The consumer can choose as Clive said, having perhaps a cheaper price, or having a better environmental footprint in the services provided. It's consumer choice and the fact that this issue has been more and more important in society, clearly shows that this thinking in the consumer minds will be more important in the future.

FIONA TAYLOR: Indeed, and I think when you refer to transparency, and consumer awareness, I think it also goes back to some of the points you have all touched upon I think more or less in your presentation's and particularly in the work that BEREC, the RSPG, ARCEP and others are doing is to try to look at measurements so I would like to hear more about measurements because what I think is important when we talk about measurements obviously it's comparing apples and apples. That makes it extremely difficult, and I think is well a key part of measurements is also efforts to not discriminate against early adopters. To say, for example, you have to reduce by 50% in 5 years, for a company that has already reduced 50%, that would be extremely difficult. So I don't know who wants to start and who has thoughts on measurements, and how to define them and how to make sure that have they are A) informative, telling but also comparable and fair. It's a big question, I am sorry about that.

EMMANUEL GABLA: Perhaps, it's an issue that we have identified quite early when we touched on the issue of environmental, there is no real standard that standard measurement that exists. That's why we have been worked with the environmental agency to try to define those standards, and that is what we're clearly doing now. We're working with them, and also of course with the sectors. Once again on this issue it's a really co-creative, collaborative work we have to do and to try to define those standards, is how we can measure to define measurement standards that are the same for everybody and there we can compare them, not apples and oranges, but apples and apples.

FIONA TAYLOR: Thank you Emmanuel sorry I didn't mean to interrupt. There's a slight

delay. Any other thoughts on measurements? Clive, you're moving forward am I putting you on spot or were you going to speak?

CLIVE CARTER: Yes, thank you I was, it's not necessarily about specifically on measurements but one lesson that has been learned in the communication sector is the role that third-party intermediaries have for helping consumers translate those measurements into active choices. So, and obviously that has been easier in the past when those measurements are on speed, or on price, relatively objective and measurable, but those third parties can play just as much a role as potentially policy makers an industry, because they can again act as that intermediary to translate it into the users' own experience and to speak in their language. At the right point in time when customers are thinking about making a choice, they can present whatever information is necessary but to do that, obviously, you have absolutely righted spotted Fiona, the policy need to define what is a fair set of measures.

Secondly, the providers need to have, if not obligation, at least strongly encouragement, to provide that information. If it is not accessible by the policymakers and if they can't collect it, and in the United Kingdom there are some quite strong data collection powers that Ofcom now has in terms of things it can request, if we can't, how do you get that information out there? As you say, those actors who are not necessarily on their A game, who are not necessarily the cutting edge are not going to have an incentive to shout about it and that's clear and that is the key point that we need to look at. Not just what the information is, how you get it out there.

FIONA TAYLOR: Any additional thoughts?

DECLAN McLOUGHLIN: I can relate to that, it's just the pure communication of it. Over recent years we have been dealing with issues of high fat/high sugar foods how they are communicated and how they are communicated in a way that readily is understandable by consumers as well as being simple, transparent and credible. So, I think, to draw on the point that Clive was making, it's also about the pure communication of it and in a way that is meaningful for audiences, and like the A-ratings but they can pick up or if it is a consumer product or a consumer device ,they can see there is a clear labelling here and

the labelling is very easily understood and I can make consumer choices based on that labelling. Obviously very complicated when you are dealing with a range of services such as with [inaudible] the BEREC organisation but some sort of labelling and some sort of clear communications of that is probably important.

FIONA TAYLOR: Maybe when you talk about measurements and common measurements there is another question that comes to mind from, maybe even my perspective; and that's around consistency and harmonisation which is a obviously a keyword when we talk about EU but, you know, as we mentioned at the beginning of this session, sustainability efforts should not have orders and should be, as far as possible, global and, you know, I hear a lot and we have discussed a lot about global efforts that are going on; the SDGs, we have the EU Green Deal that's going on, we have existing rules and regulations already in place at EU level with regards to sustainability. Other ones are coming. We are now looking at sustainability from a narrow sector specific perspective on top of the others. We also have countries like the UK that may not be part of the EU discussions but, how can we try to ensure that we don't create patchworks? And that we can, at least, at European level and I'm not imposing a solution on the global level at this stage, but how can we make sure that we don't sort have a patchwork of different approaches?

So, I think maybe it is a question as well for some of you as regulators who sit in European bodies who can tell us more on that but also I would be interested to have Claudia and Clive's views on that.

EMMANUEL GABLA: As I mentioned earlier, BEREC is already touching on that. We have created a group, first focus group and now a working group on this issue, and ARCEP is also of course involved in it, but also many, many regulators participate in this group. We all figure it is important and we all acknowledge that this thing has to be done at the European level. If country A, Member State A do something that is not compatible with Member State B, of course it won't be effective in the end. So we really want to try to do that all together and the of course the European Commission is very interested in participating in the BEREC and the IIC work that we do, it really is a process.

FRANK KRÜGER: Yes, maybe I can add from the RSPG perspective. Of course, we don't need the patchwork, we need consistent and harmonised approach. The first thing that we are proposing, as I said, to agree on methodologies to measure the impact on climate change of ICT networks of devices and so on, I think that is one way very important issue and then of course we need to be on framework, on routes in order to implement the same measures across Europe.

FIONA TAYLOR: Claudia, Clive, any thoughts?

CLAUDIA SELLI: Yeah, thank you Fiona. I think this is a crucial point and certainly has already Emmanuel and also Frank have been pointing out certainly having the regulators pushing for more organisation is certainly a critical element and you know having the Commission as well on the same side by maybe choosing certain instruments that are more conducive to harmonisation is a first good step. On the other hand, I think also industry can play a strong role by supporting and advocating for you know, that there is harmonisation throughout the various Member States because this is certainly key to us and certainly being involved as well in multi-stakeholders dialogue that there is continuous exchange, how certainly we can support and help each other. While it is challenging to have a global maybe agreement, or certainly transatlantic agreement on that, but it's key as you were saying because green as well as digital generally cannot stop at borders, but there need to be a comprehensive and a continued dialogue among the different areas, also because I think regions look at each other very much, and an initiative that has taken on one side sometimes get, at least can inspire the other regulators. This ICC forum is certainly very well to [loss of audio] type of discussion and debate.

FIONA TAYLOR: You are back, we lost you for a second.

EMMANUEL GABLA: And we lost you again.

FIONA TAYLOR: But I heard what you were saying, you were saying these kind of exchanges are also important for that and I think we have the so-called Brussels Effect as well, so who knows, who knows if it will have a sufficient strength but at least the EU has been leading in the green environment. So, hopefully, it can also deliver on this as it has delivered, for example on the GDPR, not to mention it.

Perhaps one of the things we haven't discussed yet and it's looking at the boundaries of the sector, but obviously as BEREC and as Telecom Network Regulators one of the key questions as well that certain elements are not in the telecos hands and that is looking across the value chain and how - what would be the best approach to make sure that, you know, they are also covered by thoughts, by support, by being pushed, by being enablers, any thoughts on that?

EMMANUEL GABLA: That's not an easy one.

FIONA TAYLOR: I know, I am sorry you have 5 minutes, I had to ask a difficult one.

CLIVE CARTER: If I may, certainly, from BT's perspective one of the things we have done, we have taken 20% of our carbon footprint out of our supply chain. That is not as good as what we achieved within BT that but that goes partly to your point Fiona about influence, but I think there is stuff that the Telcos and the sector can do engaging with that supply chain and also then calling out where the supply chain isn't necessarily up to scratch, or pulling its weight in the same way. Again, it is that, I hate to say it, but almost name and shame of those organisations that do participate in these sorts of voluntary schemes and those that don't.

There is a strong incentive for most, I think, organisations now, you know, environmental social governance is an important part of how firms, good firms are being run. So they do want to engage, they really do and so I think that is a real positive there, but, nevertheless, there will be things in what does the supply chain look like? What is the amount of choice in the supply chain? Are there constraints that we might face where actually then further pressure, or indeed rules, could be brought to bear if particular problems or hot spots are identified? I am optimistic that more can be done and I think BT will continue to do more with our supply chain as the other companies will as well, but I think it is one where this is much more like a symmetric broad ICT market than it is about network operators doing network operators things.

FIONA TAYLOR: Indeed, and I'm glad you mentioned the EESG dimension, and not to put ourselves forward but we issued our Annual Report a few weeks ago and indeed looking at a responsible supply chain is also our responsibility as industry, but we have

to make-do with what is available at some stage. So I don't know Emmanuel, I think you were going to speak?

EMMANUEL GABLA: Yes, when we speak about terminal equipment for example, and we saw that terminal equipment has a big role in the environmental footprint. In France now we are working [inaudible] on trying to see how equipment can be better used and reused and recycled. This is also a point that is very important and where we can really have a big impact so how can we be sure that the equipment can be used longer and perhaps not everybody buy new equipment but can be second-hand equipment. Those kind of issues should be already pushed on and worked on. We are doing that in France and certainly we will present that at a European level to keep in touch with you when it is there.

FIONA TAYLOR: That's definitely an important point. We have 3 minutes left and I see we have one question from the audience, it's a narrow question but I'll read it out and whoever wants to take it jump in, I think Emmanuel has tried to answer it. "Can any of you speak to Article 44 of the Code", and I have to confess I don't know what Article 44 by heart is of the Code but, "It is the one that gives environmental protection consideration to decisions made regarding the co-location of networks and the sharing of facilities." So does anyone feel like talking to Article 44 of the Code?

EMMANUEL GABLA: A pleasure. At least in France and other countries also, the Code is being transposed. It is not currently transposed yet in France, it is still in doing it, the Parliament is doing it. So we don't have the Article at hand yet so we haven't used it. But clearly this will be something that ARCEP will definitely considered if we can push for more co-organisation and more network sharing when necessary, we will do it. Of course competition is important, I mean as Clive said, competition is important and differentiation is important but also when necessary and when it is a better for environment, we will push for co-sharing over network sharing. The Article will be used.

FIONA TAYLOR: Brilliant that is exactly the answer I wanted, thank you Emmanuel, and we're bang on time. It's 10:59. I know the other panellists are waiting in the backstage room as we were before, but I just wanted to thank you all for such a great panel. I think

it was frustratingly too short because there is so many stones that we have left unturned that I would have liked to discuss, but it is what it is. But I wanted to thank you all for this great panel and it was a pleasure to share it with you all. Thanks again to BEREC, and the IIC, and to the brilliant panellists. Bye-bye.

CLIVE CARTER: Thank you.

CLAUDIA SELLI: Thank you.