

Draft RSPG Opinion on the role of radio spectrum policy to help combat climate change

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EBU comments

The European Broadcasting Union (EBU) welcomes the possibility to comment on the draft Radio Spectrum Policy Group (RSPG) Opinion on “the role of radio spectrum policy to help combat climate change” (draft RSPG Opinion). In this context, the EBU will also comment on the RSPG Report “on the role of radio spectrum policy to help combat climate change” (RSPG Report).

The EBU is the world’s leading alliance of Public Service Media (PSM) organisations¹. It is a not-for-profit organisation representing 115 member organisations in 56 countries. PSM organisations, which vary significantly from one country to another (e.g., in terms of size, level of funding, regulatory requirements, including public service obligations, etc.), are entrusted with the provision of high-quality audio and audiovisual content that fulfils the cultural and democratic needs of the society they serve.

It is important to emphasize EBU members’ commitment to fight climate change. PSM organisations support the evolution of technologies towards more efficient and less power consuming means of production, distribution technologies and receiving devices. These issues are addressed in great detail in dedicated members’ working groups on PSM sustainability and green production. EBU and its Members would like to continue the technology shift needed to reduce their carbon footprint and remain committed to working further in these areas.

Comments on the RSPG draft Opinion

The EBU welcomes the RSPG draft Opinion and, first, its point 8 indicating that “current harmonised spectrum could respond to various technology needs”. The so-called GE06 agreement thus provides for harmonised use of spectrum for Digital Terrestrial Television (DTT) in the 470-694MHz band. The protection of the GE06 agreement is crucial for a sustainable and energy efficient provision of DTT for the people of the European Union.

The EBU also welcomes the useful reminder of the process described in points 10 to 14 to address spectrum needs, via the ITU, the CEPT and the EU (with the RSPG and the European Commission). The EBU notes that such a process should balance the spectrum availability to all users/services with their efficient use of spectrum and efficient energy consumption. In the

¹ More information about the EBU can be found on the website: www.ebu.ch.

past ten years, broadcasters across Europe and the world switched from analogue to digital transmissions. In doing so, their use of spectrum became significantly more efficient, hence less spectrum was used. Together with the use of more robust and energy efficient technologies, there has been an optimization of the distribution networks leading to less power used and a smaller carbon footprint. To give more concrete indications on a given example: the biggest TV broadcasting stations typically used to operate at an output power (ERP, equivalent radiated power) of up to 500 kW, when transmitting with analogue technology. After the switch to digital broadcasting, typical high-power stations today operate at 35 to 50 kW of ERP thanks to the higher resilience to noise of the digital modulation system chosen for Digital Terrestrial Television.

The EBU would moreover like to mention that a recent study has shown that, in the UK, distribution and consumption of BBC TV services accounts for 0.6% of the total national electricity usage. This represents a significant portion of the national carbon footprint. The study also shows that terrestrial television broadcast technologies contributes significantly to the efforts through a reduced energy consumption (more than 50 % saving as compared to other distributing platforms, e.g. streaming or cable²). The protection of existing terrestrial broadcasting is indeed essential – this can only happen if DTT's access to the UHF band is preserved. This would furthermore pave the way to allow for the deployment of future 5G broadcast networks in Europe that are similarly energy efficient.

The EBU also commends point 17 of the draft RSPG Opinion, whereby “*RSPG notes the development of Wireless Power Transfer, including to evolution of automotive sector, and recommends analysing the coexistence with existing services in the HF band*”. While it is important to reduce CO₂ emissions from the automotive sector, it is necessary to avoid interferences caused by Wireless Power Transfer devices to existing services, and as such, certain technical characteristics in WPT devices might be required to avoid interference to HF and other bands, especially LF and MF bands³ – the EBU also notes that the WPT efficiency seems lower than that of wired transmission power.

With regard to point 26, the EBU welcomes the RSPG recommendation to assess how active or passive infrastructure sharing may help to reduce the carbon footprint of wireless electronic communication services (ECS). Instead of deploying additional wireless communication networks by using additional frequencies and infrastructure components at similar locations, it may be more sustainable to share existing frequencies and infrastructure facilities – in order to improve coverage in remote areas on an energy effective basis. Additionally, the introduction of a legal framework to oblige mobile network operators to enable national roaming could save unnecessary CO₂ emissions while still maintaining competition objectives.

The EBU would finally highlight that, if reporting for ECS Network operators “*on their emissions and actions taken to achieve the Union's environmental targets*” (point 28) is considered necessary, it should be “workable”: instead of reporting per units, the reporting should be done at the level of the company; similarly, reporting should be done comprehensively, not by topic.

² BBC White Paper “Using Behavioural Data to Assess the Environmental Impact of Electricity Consumption of Alternate Television Service Distribution Platforms”, (2020): <https://www.bbc.co.uk/rd/blog/2020-09-sustainability-video-energy-streaming-broadcast> accessed 12 July 2021 (BBC White Paper).

³ All three of these bands are used for broadcasting and many other services.

Comments on the RSPG Report

The RSPG Report seems to start by assimilating the “wireless sector” to the “ICT sector” (see titles page 7), and states⁴ that “[d]ue to the lack of data available today, it is quite challenging to determine precisely the impact of technologies that use the radio spectrum”. The EBU would question this: the ICT sector is broader than the wireless sector, and at the same time, it seems that broadcasting, even if not considered as ICT, would be part of the wireless sector. Having said that, the EBU would like to draw attention to the fact that data is available on the broadcasting sector’s power consumption (e.g. BBC study mentioned earlier).

However, the EBU agrees with this baseline observation on page 7: “User devices, networks and data centres are the three main parts of the ICT sector. Currently, user devices (including phones, tablets and computers) account for the largest chunk of the sector’s overall carbon footprint.”⁵ The EBU would like to stress that the broadcasting sector is investing in new technologies enabling *inter alia* more energy-efficient consumption: where new equipment or technology is required, broadcasters are adding green requirements/credentials to their procurement processes, and purchasing greener equipment. However, buying habits have changed, the broadcasters are moving into the circular economy methodology whereby equipment is not replaced unless the old equipment has broken or cannot be repaired, e.g., laptops (part of BBC’s *Ourselves* section <https://www.bbc.com/aboutthebbc/reports/policies/sustainability>). Broadcasters are becoming more aware of the long-term effects and take into account the cradle to grave mentality, e.g., the technology itself may be greener than its predecessor, but is it necessary to throw away the old equipment simply because a new version has become available? What about the energy required for manufacturing of this new technology? At RTÉ no new equipment is issued unless required: for example, no new laptops are given unless the old one is no longer working or close to no longer fit for purpose. For electric waste, RTÉ has a contract with a company to collect the e-waste that recycles the equipment. At RTÉ in 70% of all waste is recycled.

Similarly, the RSPG Report underlines at page 7 that the “emissions during use emerge almost entirely from electricity consumption. Clearly some electricity is also consumed in the other stages of these devices’ lifecycle. However, many key ICT players invest in renewable energy, such as solar and wind power, in a bid to lower their carbon emissions.” From that perspective, the broadcasters bid to reduce their Scope 2 emissions are moving to renewable energy for powering their buildings (for example BBC⁶ and ITV⁷), but also reducing consumption of energy where and when not required. Where new buildings are concerned, the broadcasters are moving towards green buildings, for example RTS will be part of EPFL’s eco-campus⁸. During the production process they use green consultants or have become green production certified with bodies such as [albert](#), [Ecoprod](#) and [Green Film Tools](#). Green production examples such as using hydrogen generators, using local staff and vegetarian/locally sourced caterers, etc. RTÉ uses sustainable production sets and are reducing the number of sets through re-use. The catering is seasonal and locally produced to reduce the carbon footprint. RTVE recycle their costumes and pass them to schools or universities instead of throwing them. Similarly, from the distribution perspective, as highlighted already in 2015 in Annex 1 of

⁴ Point repeated page 11, 22 and 23

⁵ The EBU would underline that spectrum use is a small part of the ICT sector power consumption; whilst this consultation is on spectrum management, this is an important point to bear in mind.

⁶ <https://www.bbc.com/aboutthebbc/reports/policies/sustainability>

⁷ <https://www.itvplc.com/socialpurpose/climate-action>

⁸ <https://www.rts.ch/entreprise/a-propos/10470236-bienvenue-dans-notre-futur-batiment-rts-a-lausanne.html>

ITU Report BT.2385⁹, especially for remotely located broadcasting stations, there are many examples of broadcasters generating renewable electricity to power transmission sites. For instance, ARD is currently deploying a sustainability board in Germany that evaluates to improve sustainable energy efficient solutions like, among others, the increased installation of solar panels on rooftops of media production facilities or next to radio and television transmitter sites.

Furthermore, on page 10, the RSPG Report states that *“a shutdown of legacy 2G/3G networks would significantly reduce the energy consumption per transported bit, thus lowering the climate footprint. However, RSPG is aware that there might be further implications of a shutdown of legacy technologies besides the aspect of energy efficiency that needs to be considered since these networks may well provide important services in MS. The RSPG recommends in its Opinion on a future Radio Spectrum Policy Programme that the European Commission and Member States anticipate any impact of any possible future phasing out of legacy systems.”* The EBU would like to recall that, in the context of the UHF band use, the audiovisual sector has once, most often twice, in the past 10 years phased out legacy broadcast technologies enabling a more efficient use of spectrum and more efficient power consumption. The EBU recognises that this has required investments by the broadcast industry as well as by citizens to renew their equipment and user devices, respectively. It may be more efficient exploring other spectrum-using industries possibilities to phase out their legacy networks before pushing them to develop new technologies requiring more new spectrum – at the possible expense of more efficient users of spectrum.

Finally, the EBU welcomes the following references made at:

- page 13: *“Power-Line Telecommunication (PLT) technologies are also under development and in operation in some areas as possible components of a smart grid network including the smart meters component. RSPG noted that to avoid radio interference to spectrum users, there is a need for consistency with the radio framework whilst also complying with standards”* and
- page 15: *“WPT-EV systems equipment generate electromagnetic waves whose energy is mainly contained in their operating band in part of HF band which is also used by radio communications services. Considering the future density of wireless power transmission (WPT) systems for electrical vehicles (EV) stations, their positions and the emission power targeted, and the potential proximity with mobile and fixed radio equipment operating in HF band , there is a risk that interference could be caused to such communications equipment.”*

⁹ ITU Report « Reducing the environmental impact of terrestrial broadcasting systems” published on 26 October 2015: https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-BT.2385-2015-PDF-E.pdf