



Huawei response to the RSPG public consultation: Draft RSPG Opinion on the role of radio spectrum policy to help combat climate change

Huawei Technologies welcomes the opportunity to provide feedback on this important consultation.

We consider that 5G is an important tool in combatting climate change, both in the context of enabling energy efficient operation of mobile networks in the face of the continued phenomenal growth in the demand for data, as well as its ability to help a wide range of industries to achieve their environmental targets – known as the “*enabling effect*”.

We broadly agree with many of the proposals set out in the draft RSPG Opinion. We would like to further comment specifically on three of these proposals.

15) Member States should ensure the availability of spectrum for public transport purposes, as appropriate.

We welcome the availability of spectrum to deliver more efficient public transport.

As we highlighted in our response to the RSPG questionnaire on climate change earlier this year, Huawei Technologies considers that the future of transport will involve a smart combination of technologies to prevent and restrict unsafe behaviour, to reduce the rates of injuries and fatalities, and – importantly – to reduce the energy consumption and carbon footprint associated with automotive transport.

With a view to achieving our vision of smart and green transport, Huawei’s strategy includes wireless connectivity between vehicles and mobile networks – including based on the V2N mode of Cellular V2X (C-V2X) technologies – to enable bi-directional, secure and trustworthy communications, and to help create new solutions (such as assisted and automated driving) to reduce the carbon footprint of road and rail transport.

This would benefit from access to spectrum for use by electronic communication systems (ECS), especially in the mid-bands range up to 7 GHz, in order to meet the high-capacity connectivity demands citywide and along major transport paths (e.g. railway tracks and highways) for advanced private/public transport services in a sustainable and cost-effective manner.

We do not consider that such spectrum should be dedicated for use by public transport, but rather that it should be available to deliver a range of vertical use cases via public mobile networks. This would not only avoid the fragmentation of spectrum caused by service-specific assignments, but it would also bring benefits in terms of reduced power consumption and carbon footprint by exploiting existing mobile network infrastructure and avoiding the duplication of networks for delivering specific services.



24) RSPG recognises that the availability of large contiguous frequency blocks per operator could avoid the energy consumption associated with the support of multiple carriers and carrier aggregation. Member States may strive to improve the energy efficiency of networks by making available spectrum in the largest blocks possible where appropriate.

We fully agree with the above.

In addition to the need for large contiguous frequency blocks, we consider that the frequency of the band is also important in the context of carbon footprint.

Specifically, mid-bands spectrum (including 6425-7125 MHz) for IMT networks over the 2025-2030 timeframe is essential for the provision of use cases which enable the energy efficient smart cities of the future, including high quality video communications, traffic management, advanced/automated driving applications, and sensor networks.

Insufficient spectrum at mid-bands would imply extreme densification of network equipment (at mid-bands or high-bands) to meet the demands of such use cases. Extreme densification would impose unsustainably high costs (ultimately borne by citizens and consumers), an increase in overall network power consumption, not to mention the carbon footprint associated with the civil works required to install high numbers of base stations. A specific analysis¹ was recently carried out showing that the lack of additional mid-band spectrum would lead to a significant relative increase in terms of energy consumption and radio network cost.

Accordingly, we encourage EU regulators to develop a roadmap for mid-bands spectrum to address the needs of macro-cellular mobile networks in the 2025-2030 timeframe.

27) The RSPG recognises that the current EU framework to facilitate the roll-out of indoor small cells may also contribute to combat climate change.

We fully agree with the above. The established light regulatory regime is intended to facilitate the deployment of “small-area wireless access points” (indoor and outdoor small cells) with an expected positive impact on climate (e.g. by avoiding unnecessary constraints on transmission power, thereby leading to a smaller number of network equipment, and enabling a lower carbon footprint).

As stated earlier, while network densification will deliver important benefits towards the effective deployment of public mobile networks, extreme network densification would lead to higher costs and greater impact on climate. We strongly believe that administrations should ensure the availability of adequate amounts of mid-bands spectrum in the short to long term to allow operators to find the most appropriate balance between network densification through small cells, and network expansion through additional macro cellular coverage layers exploiting large continuous frequency blocks in new bands.



¹ GSMA Report “Estimating the mid-band spectrum needs in the 2025-2030 time frame,” July 2021
(<https://www.gsma.com/spectrum/wp-content/uploads/2021/07/Estimating-Mid-Band-Spectrum-Needs.pdf>)