

About Sky

Sky UK Limited (“**Sky**”) is a wholly owned subsidiary of Sky Limited (which in turn is a wholly owned subsidiary of Comcast Corporation). Sky Limited is the holding company of a number of subsidiaries carrying on business in the entertainment and communications sectors.

Responses to consultation questions

Question 1

Do you have comments on the overall approach to the review?

Sky supports Ofcom's spectrum management vision and welcomes periodic reviews of the way spectrum is used as a means of informing future spectrum policy decisions by Ofcom.

Sky is aware that it is not always possible to predict the way spectrum will be used in the future and therefore, in those cases, it becomes more useful to identify potential technology developments which might influence the way spectrum could be managed and establish flexible regulatory frameworks that can accommodate future uses.

Question 2

Have we captured the major trends that are likely to impact spectrum management over the next ten years?

Ofcom has accurately identified the major trends that are likely to impact spectrum management over the next ten years.

In addition, Sky considers that spectrum management policies and decisions should not be taken in isolation of wider environmental factors and efficiencies. For example, while low-power communications might be expected to provide a number of benefits, reduced energy consumption is only one of the factors making up environmental impact. Television broadcasting is a very efficient way to provide communications and entertainment to the population and the longevity of television receivers tends to be better than many other products. This is positive for the environment in reducing energy and resources used on new products and also scrappage.

Furthermore, Sky considers that Ofcom must take a firm and proactive approach to the protection of spectrum used by UK based organisations for broadcasting, in particular as threats to both terrestrial and satellite spectrum allocations are on the increase.

Question 3

Could any of the future technologies we have identified in Annex 6, or any others, have disruptive implications for how spectrum is managed in the future? When might those implications emerge?

Sky has limited knowledge of most of the technologies mentioned by Ofcom in Annex 6 of the consultation in the context of spectrum management. However, Sky encourages Ofcom to explore the use of such technologies to ensure the efficient use of spectrum through an automated approach wherever possible.

One area in which Sky does have experience is self-configuring networks (which Sky has deployed as part of its Sky Q platform in order to provide entertainment and broadband services throughout the home). Critical to this Sky Q platform is the availability of Wi-Fi spectrum in the 5 GHz band in order to create a stable mesh. However, a large number of the available channels are subject to Dynamic Frequency Selection (“DFS”) requirements and this is a significant constraint on the ability to create and maintain a stable self-configuring network. It is well known that the vast majority of DFS trigger events are spurious. Indeed, Ofcom’s own aerial surveys have shown how little used these DFS channels are. Sky (along with others) has raised the possibility of securing improvements to the DFS mechanism and we would welcome an initiative by Ofcom in this regard.

Question 4

Do you agree that there is likely to be greater demand for local access to spectrum in the future? Do you agree with our proposal to consider further options for localised spectrum access when authorising new access to spectrum?

Sky agrees that there is likely to be greater demand for local access to spectrum and would support the introduction of a streamlined approach for applicants.

Question 5

Do you agree with the actual and perceived barriers identified for innovation in new wireless technologies, and our proposed ways of tackling those?

Sky agrees with Ofcom’s aim to ensure that European Conference of Postal and Telecommunications Administrations (“CEPT”) groups create service and technology neutral technical conditions for spectrum usage. This will not be easy however, as certain industry sector players invest heavily in lobbying. Ofcom will therefore need to be vigilant and firm in these forums, particularly post Brexit.

Organisations seeking to innovate would benefit from product conformance, certification and approval processes which are easy to understand and cost effective to implement. Ofcom could assist further in this area, particularly for SMEs.

Question 6

Do you agree with Ofcom’s proposals to improve our outreach and reporting activities, and spectrum information tools?

a) Are there additional ways that Ofcom could better engage with existing and future users and providers of wireless communications?

b) Please explain any specific areas where you believe more or better provision of information could provide value to stakeholders.

Ofcom's workshops are a very useful tool, both as physical seminars and online meetings, to allow more individuals and organisations to understand and engage with Ofcom's thinking. Presenting Ofcom's policies and ideas and encouraging feedback are key to ensuring that Ofcom's policies are serving market needs.

Transparency is vital for UK stakeholders to be able to access relevant information and we believe that there should be a review of the meetings and information gathered by Ofcom in respect of spectrum management with a view to making the processes and data more widely available. For example, the International Frequency Planning Group meetings are not widely understood outside of those currently engaging with them.

Question 7

Do you agree that it is important to make more spectrum available for innovation before its long-term use is certain? Do you have any comments about our proposed approach to doing this?

Test and trial licences are a long-established feature of Ofcom's spectrum management regime. So long as existing spectrum users have sufficient protection, Sky agrees with the principle of making spectrum available for innovation, especially those bands with an uncertain future.

Sky supports Ofcom's approach of promoting international harmonisation so long as some flexibility in implementation is retained. This flexibility should be used to allow Ofcom make national decisions on allocations and technology where appropriate.

Question 8

Do you agree that it is important to encourage spectrum users to be 'good neighbours' to ensure more efficient use of the spectrum? Do you agree with our proposals to:

- a) increase realism in coexistence analysis at a national and international level?*
- b) encourage spectrum users to be more resilient to interference?*
- c) ensure an efficient balance between the level of interference protection given to one service and the flexibility for others to transmit?*

Do you have any comments on which of these will be the most important?

Sky agrees on the importance of ensuring efficient use of spectrum and believe that Ofcom has identified the correct proposals subject to a cautious approach with respect to existing spectrum users and product and infrastructure life cycles.

Sky had made a suggestion for improvement in spectral efficiency in its response to question 3.

Question 9

Are there any other issues or potential future challenges that should be considered as part of this strategy?

Sky considers that licensing processes should be streamlined, especially for spectrum for short term and / or local use. Automated processes should be introduced wherever possible and these should incorporate visibility of available spectrum at the time of making an application. Automated applications should also be considered.

Question 10

Do you agree that continued use of our existing spectrum management tools (as set out in sections 4-7) will be relevant and important for promoting our objectives in the future, in light of future trends?

Please refer to Sky's responses to questions 4 to 9.

Question 11

Is there anything else we should be considering doing, or doing differently, to promote our objectives?

Ofcom's spectrum management strategy for the 2020s is an evolution of past practices rather than a revolutionary development. Sky considers that Ofcom must now put more emphasis on delivery of its spectrum management strategy. Priority items should include: automating (dynamic) spectrum allocation and licensing; facilitating better spectrum efficiency through updates to (or more flexible implementation of) technical standards such as DFS; protecting all spectrum with a primary allocation to broadcasting; protecting PMSE; and analysing options for re-farming of spectrum where possible such as for 6G.