

The BBC's response to the Spectrum Review of the management of the spectrum currently used for point to point fixed links and other services that share this spectrum

The BBC is pleased to have the opportunity to respond to this consultation related to the management of spectrum currently used for point to point fixed links and other services that share this spectrum.

In most instances, the BBC does not hold licences for fixed links. Instead, the BBC has managed service contracts for transmission and where links are used, it is the responsibility of the provider to source and manage the licences. The use of fibre and satellite as delivery mechanisms has reduced the need for links in urban areas. However, in more rural areas, for example the Scottish borders, fixed links are still a vital element of the delivery mechanism for radio and TV services and are likely to remain so for at least the next decade. In addition, fixed links are essential to the overseas distribution of BBC services.

The BBC therefore believes that, amongst the number of bands the spectrum review is considering, this is unlikely to be a priority for Ofcom.

The BBC will only respond to questions where it believes it can add benefit to discussions.

Question 1

What are likely to be the key underlying factors influencing changes in demand for this spectrum (in terms of quantity of spectrum or preferred bands) over the next 5 to 10 years? Please provide band specific evidence to support your view.

As set out in the consultation document, it is difficult to determine future demand as it is dependent on how the downstream technology changes over time. In the TV and Radio transmission domain, the growing availability of fibre connectivity should reduce the overall demand for fixed links, especially in urban areas. However, rural areas are unlikely to benefit in the short term of new or extended fibre connectivity and additional capacity. Therefore, it is imperative that suitable spectrum is maintained for fixed links for use in the broadcast domain until such an alternative exists, and at least over the next 10 years.

Questions 2, 3, 4, 5a and 5c

The BBC does not wish to comment at this moment in time.

Question 5

(b) A number of the frequency bands under review are currently used for satellite Permanent Earth Stations (PESs), for example to feed Direct to Home satellite broadcast services. What are the continued and future spectrum requirements for satellite PESs (E-s & s-E) likely to be and in which bands? Please provide evidence to support your views.

In Q1 2011, Direct to home Satellite had a 25% market share of platforms across all TV sets (Source: GfK research). Both pay and free-to-view satellite platforms are successful in the UK and likely to remain so in the near future. Therefore PES will be required going forward, with the current spectrum used remaining available.

(d) Are there factors specific to the satellite based communications sector which mean that it faces particular difficulties

BBC World Service and BBC World News operate 2600+ C-Band receive-only earth stations worldwide. Less than 1% of these are registered with the local telecommunications regulator. It may therefore be difficult to ensure that any further allocations for mobile on a co-primary basis are sufficiently distant to ensure no increase in interference to the earth station.

Question 6

What is the likely timetable for rollout of Smart Grids and what impact will these developments have on demand for spectrum in the bands covered by this review?

The rollout of Smart Grids may increase demands for spectrum in the bands covered by this review. However, the use of PLT / PLC (Power Line Transmission / Power Line Communications) technology may reduce the increase in requirements for spectrum in these bands. That said, significant care will be necessary to ensure that the deployment of PLT does not increase interference and hence impact upon other users of spectrum in bands outside the scope of this review.

Question 7

What impact will DAB expansion have on demand for the spectrum under review? Are there any other demand drivers that Ofcom should consider in relation to broadcasting use or services related to broadcasting?

The BBC has managed service contracts for transmission services, including DAB. Therefore, the method of distribution of BBC DAB services to the transmitters, for any future DAB network expansion, will be determined by potential suppliers as part of a procurement exercise. However, it is worth noting that the current trend is to feed small transmitters by a satellite feed rather than using fixed links.

Question 8

a) What is the likely demand for broadband wireless access applications in the spectrum under review and which bands is this likely to specifically impact? How should Ofcom consider the demand for backhaul to support such applications and is such backhaul demand likely to arise in the spectrum under review?

The BBC does not wish to comment at this moment in time.

b) Do you consider that the emergence of rural broadband fixed wireless access will influence overall demand for the spectrum under review and to what extent? Which bands is this likely to impact most?

From experience in other parts of the world, BBC World Service would expect to see an increase in demand for the spectrum in the 4GHz band (3.6 – 4.2GHz). Great care must be taken to ensure that any allocation (either on a Co-primary or secondary basis) to broadband wireless technologies such as WiMax does not render this spectrum unusable to satellite communications. This is generally a problem when the terrestrial interference from the WiMax terminal is 10s of dBs higher than the wanted satellite carrier, this may be despite the WiMax carrier being several MHz away.

Question 9

Do you consider that there will be a material additional demand from the PMSE community for access to the spectrum under review? Which bands under review is this likely to impact most and to what extent?

There will definitely be a continuing requirement for wireless cameras, which the move to HD and 3D will increase. In parts of Europe, 2300-2400 MHz have been used extensively for these wireless cameras, but these bands are also now allocated at ITU level to IMT, and CEPT is considering whether to harmonise those. This will put additional pressure on the 2-3GHz frequency bands that will result in an increased demand on the higher frequencies. However, it should be noted that ground to air links, for examples motorbike to helicopter links used in sport coverage- do not work so well at 5 or 7 GHz. This should be taken into account and some spectrum in the 2 GHz range will continue to be needed for broadcasters' coverage of sports and should be protected.

Question 10

How might the economics of new fibre provision (with or without reliance on regulatory remedies – whether active or passive), as compared with wireless provision of both terrestrial and satellite based services, impact on the requirements for wireless backhaul? We are interested in the possible impact, in terms of the extent of possible substitution for wireless links and in terms of the nature of wireless links affected (urban v. rural, lower / higher frequency bands).

As stated earlier, we do not believe that the provision of fibre in rural areas in the timescale of this review (5-10 years) will be adequate for the replacement of fixed links to transmission sites. Therefore spectrum will still be required for fixed links at least over this period.

Question 11

What issues relating to spectrum access for different services do you think Ofcom should review? How might Ofcom start to rely more on commercial decisions when determining allocations of spectrum in the bands covered by this review?

1. Suitable spectrum is always made available to those geographic areas that require fixed links, e.g. rural areas.
2. That the “polluter pays” principle remains
3. Ofcom ensures it has suitable resources to enforce the any specified conditions to licences
4. Any spectrum that is licensed to a commercial entity is used efficiently within a short timescale and not allowed to stay unused.
5. If blocks of spectrum are transferred to a third party through, for example, an auction process, there should be an obligation on the user of the spectrum to efficiently use the spectrum and have a continued obligation to improve efficiency by the use of new technology, for example.

Question 12

We would welcome views on the potential for more widespread use of market based approaches to the spectrum under review such as third party band management, and the regulatory steps which would need to be taken to facilitate this.

With respect to the various methods of band management, the BBC is agnostic to the approach used, as long as

1. Suitable spectrum is always made available to those geographic areas that require fixed links, e.g. rural areas.
2. That the “polluter pays” principle remains
3. Any spectrum that is licensed to a commercial entity is used efficiently within a short timescale and not allowed to stay unused.

Question 13

The BBC does not wish to comment at this moment in time.

Question 14

What is your view on the impact of geographically uniform fees for spectrum bands included in this review? If you consider that a geographic fee modifier would promote more efficient use of spectrum, how might that modifier be constructed?

As noted in the consultation document, the range of spectrum under review is relatively lightly loaded and it is expected that future requirements will be achievable in the current spectrum. It is also noted that a geographic fee modifier is complex to implement and may force users to use other forms of delivery systems. Therefore, there appears no evidence to change to current use of geographically uniform fees.

Questions 15 and 16

The BBC does not wish to comment at this moment in time.