



Issue 1

BT's reply to Ofcom's call for input on:

Future use of the 700MHz band

(Issued by Ofcom on 24 April 2013)

1. INTRODUCTION

BT welcomes this call for input on implementing Ofcom's strategy for the future use of the 700MHz band. Our overall position is summarised in section 2 below and our answers to Ofcom's specific questions are provided in Section 3.

This input should be considered in conjunction with our responses to Ofcom's related 'calls for input' and consultations that have addressed in more detail the various related aspects of Ofcom's long-term plan for the UHF band, for example TV White spaces and broadcasting spectrum pricing.

2. SUMMARY OF BT VIEWS

BT supports Ofcom's long-term strategy for the UHF spectrum that was decided following an earlier consultation. In BT's view the important aspects of this strategy are:

- Ensuring that the DTT platform is able to continue to develop to meet UK consumer expectations and requirements, including additional HD programmes, but with a clear route map to migrate to more efficient technology using substantially less spectrum than today. The return of 600MHz to TV use and the subsequent release of 700MHz (once there is a clear net benefit to do so) is an appropriate approach.
- In the long-term, and with the right commercial arrangements, it may be feasible to further reduce the spectrum dedicated to broadcasting once fixed superfast broadband coverage, customer take-up and penetration of consumer equipment make this a viable alternative to DTT for nationwide coverage. Spectrum pricing may also be a relevant tool in this longer time-frame to promote efficient use of spectrum remaining for broadcasting.
- Shared access to the TV "white spaces" on a licence-exempt basis via a database system will improve the efficiency of the use of the spectrum as a whole and can generate benefits to businesses and consumers. Inclusion of this within the plan is important.

We welcome the opportunity to now help influence the detail of how the strategy for the UHF band is implemented in the UK. We welcome Ofcom's recognition that it will be necessary to be proactive in the related international discussions in order to be able to fully implement Ofcom's vision. We see this as an important task that needs to be fully underway now, with appropriate consultation to help inform the UK positions going into relevant bodies such as ITU, CEPT, EC RSC, and RSPG.

The call for input appears to make the assumption that the 700MHz spectrum would be awarded by auction. We believe that all options for award of this spectrum should be fully considered and consulted on, including comparative selection (e.g. for a neutral host network with regulated wholesale access) or shared use under Licensed Shared Access / Authorised Shared Access (LSA/ASA). Accommodation of emergency services within the spectrum may also be relevant. If the spectrum is indeed auctioned, then given the very asymmetric spectrum holdings of the UK mobile players a key challenge will be to structure the award in a way that promotes competition and innovation. The consideration in the present document of whether the auction can be used to determine the spectrum clearance date is arguably premature and not the right priority.

3. RESPONSE TO CONSULTATION QUESTIONS

Question 1: Have we correctly identified and characterised the potential costs set out above, and what other costs – if any – should be taken into account in our assessment?

Yes, Ofcom has identified the relevant costs of a change of use of the 700MHz band.

Question 2: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in assessing each of these potential costs? Please identify any sources of specific evidence to which we should have regard.

We see the impact on consumers, in terms of potential need to change out TV aerials and set-top boxes, as a key issue. A re-planned DTT platform with different local frequencies and supporting only DVB-T2/MPEG4 technology needs careful analysis to accurately determine how many consumers will be affected and what costs will arise.

The estimated costs of reduced capacity available for White Space Devices should ideally be included, although we are not in a position to estimate this amount at present as the final technical conditions for shared access have not been announced.

Question 3: Have we correctly identified and characterised the potential benefits set out above, and what other benefits – if any – should be taken into account in our assessment?

No comments.

Question 4: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in assessing each of these potential benefits? Please identify any sources of specific evidence to which we should have regard.

No comments.

Question 5: In particular, what is your view of the likely future demand for additional sub-1 GHz spectrum for the provision of mobile data services, and what evidence supports this view?

There is little doubt that there is demand for 700MHz spectrum for mobile data services, the real question is what value it has for this use, and when will that value exceed the value of other existing use (TV) and the costs of other alternatives (e.g. small cells for indoor coverage, more cells using other bands for outdoor capacity)? Our preliminary view is that the 700MHz spectrum will have sufficiently high value for mobile use only when devices are widely available in the European market and this may be after other large countries, that are less dependent on DTT, roll-out 700MHz networks.

Question 6: Should we place different weights on some costs and benefits than on others, for example depending on whether costs would be borne by consumers, DTT operators, or mobile operators?

Yes, it seems reasonable that consumers, who are unlikely to be aware or able to influence spectrum allocations decisions, but may have to bear the costs of changes, should have some additional weighting in the process to reflect their legitimate expectations that equipment purchased will remain usable for many years.

Question 7: Do you have any other comments on the work we are currently undertaking on potential costs and benefits?

No comments.

Question 8: Have we correctly identified the costs and benefits that could vary depending on the timing of release, and the impact of those factors? Are there other costs and benefits which would vary depending on the timing of release of the 700 MHz band which we should take into account?

No comments.

Question 9: How quickly could the 700 MHz band be released? What would be the impact on DTT infrastructure costs of releasing at the earliest possible time compared to a later time? What would be the factors which affect these costs?

We cannot answer this question as we do not have visibility of all the relevant DTT platform costs. However, it is very clear that an early date would leave large numbers of consumers with incompatible equipment and the costs and disruption to DTT for all parties involved would substantially increase.

Question 10: How, and to what extent, are the costs for existing (PMSE) and potential (WSD) interleaved users of the 700 MHz band likely to vary depending on the timing of release? What would be the factors which affect these costs?

The timing of the release is not the key issue for WSDs as this is a new application that is not yet authorised by Ofcom. It is the reduction in available spectrum that is more relevant.

Question 11: Should we consider any other cost-related arguments / evidence in favour of an earlier or later release date?

No comment.

Question 12: What would be the impact on mobile broadband delivery and competition of releasing the 700 MHz band later rather than sooner?

If 700MHz is released later rather than sooner other bands would be more intensively used and there would be greater reliance on more cells and small cell off-load would be necessary. Alternatively network quality would reduce and prices might increase. The availability of devices and roll-out in other countries would also be a relevant factor, if UK was much ahead of other countries the benefits may be reduced.

Question 13: Should we consider any other benefit-related arguments / evidence in favour of an earlier or later release date?

No comments.

Question 14: Is the range of potential dates for release likely to be wide enough to merit consideration of an incentive auction approach?

The assumption is made in the document that an auction will be used to award the spectrum. This might be the best approach but we believe that all options should be considered and consulted on before a decision is reached. These options could include comparative selection (e.g. for a neutral host network with regulated wholesale access) and shared use under Licensed Shared Access / Authorised Shared Access (LSA/ASA). New concepts such as LSA/ASA might be potential ways of gaining access to the spectrum (e.g. on a geographical basis at certain dates). The possible need to

accommodate emergency services use within the 700MHz band needs to be factored in to the debate.

The significant asymmetry in spectrum holdings of mobile operators, including BT, would suggest that a significant aspect of the spectrum award would need to address promotion of competition and the measures that are required to achieve this. The date of the release may not be the highest priority issue.

If an auction is held we are very doubtful that an incentive auction to determine the release date is appropriate.

Past experience suggests it is hard to be sure in advance as to when an auction will actually be held (the last one slipped 5 years from what Ofcom originally wanted).

Question 15: If so, what are the challenges to designing an effective incentive auction in this case, and how might these challenges be addressed?

It is hard to see how the costs to consumers of various release date options would be factored in to the bidding.

The fact that broadcasting spectrum is not subject to incentive pricing may complicate the issue.

The possibility of windfall gains, if existing licence holders held out for what buyers would pay for early release (rather than true costs), would need to be considered.

Question 16: If we followed an incentive auction approach, how should we take account of wider costs and benefits – i.e. those not felt by participants in the auction?

The impact on consumers needs to be considered. This is a key issue. One solution would be to compensate all those affected by an earlier change.

Question 17: Do you have any views at this stage as to the parameters of an incentive auction, such as the default date and payment mechanism?

No, it seems premature to consider this aspect. It will be important to firstly consider competition issues, how these will be addressed within the award, requirements of emergency services in the band and other factors.

Question 18: Is there a version of the overlay auction approach which could be suitable for 700 MHz release?

Our preliminary view is that an overlay auction is not appropriate and an administrative decision on timing, giving all parties plenty of time to plan, is the best solution.

Question 19: What are the benefits and risks of conducting an overlay auction in this case?

This creates a lot of uncertainty for consumers and the industry with interests in the DTT platform which would only be resolved post-auction and can't be planned for well in advance.

Question 20: Have we correctly identified and characterised the potential impact of 700 MHz release on consumers accessing DTT? What other impact – if any – should be taken into account in order to identify pre-emptive measures to reduce this impact?

Yes, the main issues have been correctly identified in our view.

Question 21: Do you have any comments on the pre-emptive measures relevant to DTT identified above? Are there other pre-emptive measures we should be considering?

No comments.

Question 22: Have we identified the correct measures to support consumer adoption of DVB-T2?

We agree that there is a need to encourage consumer adoption of DVB-T2 equipment. Ofcom has highlighted an industry prediction that by the end of 2018 some 80% of primary TV receivers will be DVB-T2/MPEG-4 compatible. That would leave some 20% that are not, which is clearly a concern. The existence of secondary TVs that may not be DVB-T2/MPEG4 compatible must also be considered. This suggests that Ofcom does need to address the issue of how the impact on consumers can be minimised. It indicates that a 2018 date for migrating to a re-planned DTT platform would be unrealistic and a later date is preferable.

Question 23: What regard, if any, should we have to wider technical evolution of the DTT platform, such as HEVC?

Depending on the timing of the next DTT re-plan, it may be appropriate for at least one MUX to utilise HEVC and / or an enhanced modulation standard beyond DVB-T2, should these be widely available at reasonable cost at that time. This approach would follow the UK's current policy of using two generations of DTT standards in parallel to incentivise consumer adoption of new more spectrum-efficient technology.

Question 24: Have we correctly identified and characterised the potential impact of 700 MHz release on PMSE users? What other impact – if any – should be taken into account in order to identify pre-emptive measures to mitigate this impact?

No comment.

Question 25: Do you have any comments on the pre-emptive measures identified above? Are there other pre-emptive measures we should be considering?

No comment.

Question 26: Do you have suggestions for how we can assess the impact on PMSE users and equipment if 700 MHz is no longer available for PMSE use?

No comment.