

Additional comments:

In view of proposals for mobile use of the whole broadcasting band is this 700 MHz release a costly exercise of industry, licence payers and consumers?

The CEPT Electronic Communications Committee (ECC) meeting in March 2013 heard calls from a number of countries to consider studies on a long-term vision for the UHF broadcasting band. This has been prompted by WRC-15 agenda item 1.1 (additional spectrum allocations to the mobile service to facilitate the development of terrestrial mobile broadband), which has seen proposals into the ITU-R to consider a further mobile allocation in the 470-694 MHz spectrum. In response, ECC has set up a correspondence group to:

- Frame the studies to support the development of a long-term vision for the UHF band in Europe focusing primarily on technical issues, but addressing also economic, social and regulatory aspects.

- Formulate key questions which have to be answered by the group which will be responsible for these studies, taking into account the need to collect data on existing situation in each CEPT country. 3.20 The ECC plans to decide on how to progress this work at its meeting in June 2013, based on the report from the correspondence group. The options would include setting up a new ECC Task Group or adding this work to the programme of an existing group.

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?:

No

1. Currently the TV Licence payer has had to foot the bill for two reorganisations of the Television Network:

- Work carried out for the initial UK band plan - cost of upgrading aerials/new viewing and recording equipment.

- Work carried out for the 790-862 MHz band plan - only the primary TV location is covered by at800 and then only if no other service (satellite/cable) is received at that location.

This will be the third reorganisation caused, but likely not paid for by the Mobile Industry.

2. Section 2.1 states, "However there may also be some disruption for consumers if a change of use of the band takes place."

This understatement and subsequent sections of the document does not clearly identify the extensive costs the citizens and consumers have already been exposed to and will incur again for their domestic TV reception if similar reimbursements, which are now being used for the 800MHz band reorganisation, are used.

3. Whilst this will bring work into the aerial industry, judging by the allocation of work for the 800 MHz band, it is likely not going to be of benefit to the broad industry and only a few companies will carry out most of the work. The hidden cost for the aerial installer of dealing with and placating consumers when they are yet again faced with reorganising their domestic reception systems is intangible.

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.:

- In the case of 1) above the information is available from BBC, Arqiva and the ITV companies.
- In the case of 2) above, the difference between the £50 payment by at800 and the average of £150 for a basic aerial replacement to one point (reference CAI surveys on average cost of installation across the country).
- In the case of 3) above further information on how the current system for the 800 MHz band is being managed should be examined carefully and more time allocated for the implementation of all facets of clearance and subsequent re-use of the 700 MHz band.

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

Much greater benefits in both service and costs for the consumers would be obtained by redesigning the mobile networks as a cohesive system which utilised the propagation characteristics of the many bands now available to the industry and thus increasing spectrum and service efficiency without additional spectrum.

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. :

- Re-examine very carefully the actual case for an increase in spectrum; Canada has stopped its 700 MHz activities to carry out such a survey. Use a company not allied to the mobile industry to create a software model of a rationalised spectrum efficient network to achieve the maximum throughput to consumer devices, utilising a maximum of shared sites and equipment for the various licence holders. Run this model to obtain the actual spectrum needed over and above the current allocations (it may well be no extra spectrum is required).
- Assess the contention ratios the mobile operators will use to accurately assess the QoS customers will receive.

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?:

- The actual demand for "data" as opposed to the combination of voice and text contained in a digital signal is yet to be proved. Cost will be a major factor and the explosive growth of free R-Lan and potentially WSD will go a very long way to provide access to mobile phones and computers to the NET.
- Currently the poor coverage in many parts of the UK due to insufficient network resource, if improved as identified in response to question 3, would likely provide for many years expansion in data requirements.
- No further sub 1GHz spectrum is required if networks are properly planned and engineered.

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

- Consumers will be paying (again) for the re-engineering of the DTT network plus the cost of modifying their own domestic insulations with no significant gain in service or programming. The mobile operators, after an initial outlay will be receiving considerable profit from their networks, for the life of that network (20 years?).
- If the 470-694 clearance also takes place the costs above will be repeated.
- This again appears a very one sided profit loss balance sheet and should be adjusted to account for future profit to the mobile operators.

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

Yes

There is insufficient focus on the actual and hidden costs to the industry and consumers of these reallocations.

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

- The owners of communal aerial systems and the general public have expended very large sums of money on re-engineering their systems which under previous circumstances have a

life of some 20 years, if the early release in 2018 takes place this "life" will be reduced, in some cases, to below 5 years. This places an unreasonable and, in some cases, an unsustainable burden on users.

- Early release will encourage mobile operators to design less spectrum efficient systems on the basis that "there is more spectrum in the pipeline"

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?:

IF it is released it should be delayed as late as possible for four main reasons:

1. Until the 800 MHz networks are full deployed and in heavy use the interferences issue will not be fully known or understood.
2. The spectrum efficiency of the 800 MHz networks will determine IF and how much extra spectrum is required for mobile use.
3. To postpone additional capital cost to users and enable the maximum benefit from their current expenditure.
4. Until the 800 MHz networks are fully operational and full coverage of the UK is achieved it is not possible to gauge the additional capacity required. Given the costs to the non-mobile companies and consumers in the current economic climate rushing to satisfy the unreasonable demands of the mobile industry should be carefully examined and delayed until a clear picture of actual demand and the real capacity of the 800 MHz band is known.

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?:

As above

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

Ensure that the interference issues are fully understood and costed before a date is set.

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

Beneficial to industry and consumers as the interference issues would be better understood and costed. It would also give time for work to be carried out on installations.

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

Actual engagement with those affected may well throw up additional reasons for a later release date.

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

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

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?:

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?:

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

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

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?:

NO

- Many viewers use aerial amplifiers or view via a communal system. It is still unclear how these systems and equipment will respond to filtering and re-engineering for the 800 MHz band.

- Impact in the form of cost and labour must be quantified.

- Domestic users will in many cases need to change aerials again and, whilst the use of Group K may help with mitigation, Ofcom have not provided any clear guidance to the public other than to use wide band aerials, which enhance the interference.

- Impact on cable users has yet to be clearly identified for the 800 MHz band and the impact of further mobile use will depend on that knowledge once 800 MHz band networks are fully operational on all their channels and deployment of pico and micro cells.

- In all cases until the impact of further mobile use and fully deployed mobile networks is known it is difficult to plan.

- Fund a complete 700 MHz three channel test system at DTG along with pico and mobile units in order to carry out realistic testing. It would be reasonable for the cost of the system to come from auction profits or be funded by the mobile operators.

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?:

Yes

- Without a great improvement in out of band energy performance of all LTE equipment any improvements in TVs or communal equipment will be pointless. To date there is very little positive work on improving the standards or equipment.

- A clear requirement for better out of band energy performance must be made a condition of entering any 700 MHz auction

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

No

The public are under financial pressure on all parts of their lives, in most cases the new format will not give them any great improvement in the viewing experience. If this is mainly to enable mobile use the operators or the auction profits should fund or subsidise new consumer equipment.

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

The first question should be if this can successfully operate in the new environment of LTE in 694 790 MHz and if there is any point in introducing it if the mobile operators take over the rest of the 470-684 MHz band as is being investigated.

There has to be a point when the eye can no longer discriminate the greater definition on a screen within their sitting room. It may be that HEVC is a step too far for broadcast TV in the home and will be assigned to large screen entertainment with other methods of reception.

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?:

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

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?: