

EU Consultation
Transforming the digital dividend opportunity into
social benefits and economic growth in Europe
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Response of;

Department of Communications, Energy and Natural Resources, Ireland
(DCENR)

4.1. Improving consumers' experience by ensuring high quality standards for terrestrial digital television receivers in Europe

a. Ensuring the availability of a compression standard on all DTT receivers sold after 1 January 2012 that is at least as efficient as the H264/MPEG-4 AVC standard.

This requirement should not be exclusive and should allow co-existence with other standards, among others to ensure backward compatibility with older standards. This measure would generate a critical mass of high quality TV equipment in Europe, in advance of the deployment of the related network infrastructure that will make full use of this increased transmission capacity. Taking into account an average renewal time frame for set-top boxes and TV sets of 5 to 8 years, such a coordinated move would also alleviate the typical "chicken and egg" issue that is encountered when Member States are migrating from the first generation of digital broadcasting networks to a more advanced one.

DCENR supports minimum technical standards for the placing on the market of DTT receivers. DCENR agrees that the compression coding proposed in such a requirement should not be exclusive; this facilitates multi-standard equipment allowing for global and backward compatibility. DCENR agrees that the maximum benefit for such a receiving equipment requirement is obtained when such equipment is available to consumers in advance of deployment of networks using such standards. It is planned that Irish DTT services will launch in 2010 using MPEG4 compression and DCENR notes that the UK proposes to use MPEG4 with their DVB-T2 multiplex early in 2010. DCENR thus considers that the propose date of 01/01/2012 is too late. DCENR considers that whilst low cost equipment such as set top boxes (STBs) may be replaced every 5 years, receivers which include a TV screen/display component are often used by consumers for 10 to 15 years due to the significant cost of purchase. In general DCENR considers that attempting to pick a winner in rapidly moving technologies can be fruitless. DCENR cautions that technology standards are being updated and surpassed very quickly and there is a significant risk that today's latest features may become "old technology" by 2012.

b. Setting standards for the ability of digital TV receivers to resist interference.

This could be achieved through a close cooperation of Member States in the context of equipment standardisation (CENELEC). A minimum quality of reception would improve the consumer experience as well as reduce the cost of other interference

protection measures which would be required on future equipment operating in adjacent frequency bands. It is important that any such minimum requirements be consistent at EU level in order not to create undue barriers in the single market for such equipment.

DCENR agrees that adequate interference immunity in DTT receivers is essential especially in the context of the forthcoming inclusion of new technologies and services in the frequency band previously used mainly for TV services. DCENR considers that it is appropriate that standardisation bodies (ETSI, DVB) prepare this work which will allow for wide area implementation of the improved immunity measures required.

Equipment of electronic communications networks and services other than broadcasting should also be designed to be as compatible as practicable with broadcasting transmission networks and broadcasting receivers

4.2 Increasing the size of the digital dividend through further spectrum efficiency gains

a. Promoting collaboration between Member States to share future broadcasting network deployment plans (e.g. migration to MPEG-4 or DVB-T2). This initiative would be complementary to the actions proposed in section 4.1. and would aim at fostering cooperation between Member States committed to future target dates for migration to more spectral efficiency standards by actually upgrading networks. The Commission would act as a facilitator and produce guidelines.

Experiences in network deployments are already shared at such fora as the EBU, CEPT and DVB. The Commission services can provide a useful support to Member State collaboration by actively circulating announced details of deployment decisions and actual deployments. Technology developments in the last 20 years allow many Member States to announce their plans in public consultations or on official websites which are seen by neighbouring Member States. Peer review/comparison of other MS decisions is already quite common in preparing for national policy decisions. DCENR sees neither a need for nor the benefit of EC guidelines in this matter.

b. Encouraging the deployment of Single Frequency Networks (SFNs) over Multiple Frequency Networks (MFNs)

This could include considerations to migrate progressively to lower power/higher density broadcasting network topologies. As this approach may require very significant investments, which could exceed benefits in many Member States, the proposed action would be limited to requiring Member States to exchange experience of SFN deployment with the assistance of the radio Spectrum Committee to gather and assess the information.

Single Frequency Network (SFN) deployment can ease pressure on frequency resources, however, like all efficiency opportunities; there are theoretical limits to the extent to which such networks can effectively be employed. The Netherlands in a consultation paper published earlier this year indicated that, despite the small size of the country, nationwide SFN's are not technically feasible. DCENR considers that National SFNs are not practical or feasible in Ireland. SFN deployment is also dependent on network topologies and changes to such would require significant

investments which the broadcast sector alone could not justify. DCENR agrees that exchanging experience of SFN deployment is very beneficial, in fact such information and experience sharing takes place at present through industry and spectrum management fora such as the EBU, DVB and CEPT. DCENR would not wish unnecessary administrative burden to be placed on Member States or NRA's to formally gather data on network deployment in the context of the Radio Spectrum Committee (RSC). The costs associated with employing external consultants to report to the RSC may preclude such an approach in the current economic climate.

c. Supporting research into "frequency agile" mobile communications systems.

Such systems could greatly simplify spectrum coordination, increase efficient use of spectrum, and allow for simpler transitional arrangements in the future. The development of such systems would however require significant investments that are very challenging to individual manufacturers but could probably be achieved on a cooperative basis, particularly if Community research funding would be made available to contribute to this goal.

DCENR supports the development of future frequency agile systems. DCENR recognises that this will require significant investments by manufacturers. Support to industry to develop/achieve open standards without excessive intellectual property (licensing) costs could be beneficial. There may be benefits in global multinational governmental support for such developments.

4.3 Making the 800 MHz band available for low/medium power electronic communications networks, under harmonised technical conditions, following the principle of technology and service neutrality.

The Commission study analysed how economic outcomes and costs/benefits vary under a combination of scenarios (with varying forecasts for demand for broadcasting and wireless broadband services over time) for spectrum supply and demand. This exercise showed, depending on the scenario that was examined, that opening up the digital dividend to wireless broadband services creates a value of anywhere between EUR 3 billion and EUR 97 billion. At present, the study identifies the opening of the **790-862 MHz band**, which is already under consideration in several Member States, as **the most pragmatic way forward** to optimise the impact of the digital dividend. This is why the Commission is proposing to take **immediate action on this particular band** (please also refer to section 5). EU harmonisation would allow greater economies of scale and ensure that there is no fragmentation between Member States regarding the technical conditions of use.

Member States would be requested to implement the measure as soon as possible but no final implementation date would be specified in the technical harmonisation measure; instead, the measure would ensure that any Member State developing its spectrum planning beyond the current broadcasting use would do so in accordance with the technical parameters of the Decision. In the long transitional period to be anticipated, it would also provide technical parameters for co-ordination between Member States that continue with high-power broadcasting in the band and those that move to medium to low-power electronic communications usage.

This is in line with the position of the Radio Spectrum Policy Group (RSPG), set out in detail in its (draft) Opinion on the digital dividend²³, which recommends that the Commission act swiftly to support the availability of the upper part of the digital dividend (790-862 MHz band) on a neutral basis for electronic communications services. The RSPG further advises that the Commission make its final proposal regarding this band at the latest by 31 October 2009 in order to give sufficient time to stakeholders to plan investments and complete the necessary technical preparation before the actual availability of the band following analogue switch-off in 2012²⁴. In order to optimise the potential impact of the 800 MHz band, and after further investigations, the **Commission may still consider proposing a final date for implementation beyond which the measure would have to be implemented by those Member States that have not already done so, in the context of strategic discussions** on the development and implementation of the roadmap in to the context of the multi-annual spectrum policy programme.

As a secondary measure, and in absence of a more generic allocation of the UHF band in the ITU, Member States could also be requested to show commitment to the digital dividend policy at international level by adhering to footnote 5.316 of the ITU Radio Regulations, which allocates the band 790–862 MHz to the mobile service on a co-primary basis (except aeronautical mobile). Those Member States which are not yet associated with this footnote would be requested to do so at the forthcoming WRC-11.

DCENR does not favour a mandatory deployment date for Electronic Communications Networks (ECNs) other than broadcasting transmission networks. Noting that the moves towards technology and service neutrality were actively discussed and supported by RSPG, DCENR considers that service and technology neutrality should be respected in relation to any ECNs deployed in the band 790-862 MHz. DCENR notes that the ITU GE06 agreement adequately sets out the required technical details associated with technical co-ordination of systems parameters between Member States.

DCENR would not be supportive of a “final implementation date” for a mandatory Decision under the Radio Spectrum Decision.

DCENR is examining whether it would be appropriate to seek to enter the relevant footnotes at the next ITU WRC. DCENR understands that the process for entering footnotes often requires neighbouring country agreements and ultimately conference agreement to the consideration of such an item on and within the agenda. This matter can be examined within CEPT and in inter Regional discussions between CEPT and other regional groups.

4.4 Adopting a common position on the potential use of the "white spaces" as part of a possible extension of the digital dividend

Member States would be invited to cooperate with the Commission in examining whether there are grounds for opening up the "white spaces", or interleaved spectrum unused between broadcasting coverage areas, for use by cognitive radio equipment on the basis of a common set of technical requirements in Europe. If so, consideration could also be given to developing a coordinated approach to the regulatory treatment of usage rights for white spaces.

The development of technical standards for cognitive technologies is likely to be global in nature. DCENR considers that, in keeping with national and regional circumstances, subsets of such equipment standards may be considered appropriate and approved for use in Europe. DCENR considers that it is imperative that the significant investments which will be made in ECNs including broadcast transmission networks should not be jeopardised or made worthless by a careless regulatory approach to the spectrum usage rights for “white spaces” and cognitive radio devices.

4.5 Ensuring the continuity and further development of wireless microphone applications and other secondary uses of the UHF spectrum

The objective would be to determine the best strategy to ensure a "migration path" for current secondary users of the UHF spectrum (wireless microphones and similar applications). This work could include an examination at EU level including, if appropriate, a mandate from the European Commission to the CEPT. This work could lead to specific spectrum harmonisation measures, inside or outside the scope of the digital dividend, for such secondary uses in the future, in particular those of a mass market/consumer nature.

DCENR supports work within CEPT to identify suitable spectrum for SAB/SAP and other secondary uses of the UHF spectrum. DCENR considers that frequency agile technologies should be explored in this regard. DCENR is concerned that, given the irregular and nomadic nature of these devices, future flexibility in spectrum management could be compromised if the expectation of long term access to spectrum was given to the industries associated with secondary spectrum use. DCENR would not be in favour of a spectrum harmonisation measure which conveyed any such expectation. DCENR considers that national circumstances should be taken into account in any measures proposed by the Commission in order to allow the most flexible options for individual member states during implementation.

4.6 More effective cross-border coordination with non-EU countries

According to this proposal, the Commission could make itself available to provide assistance to Member States in their negotiations with non-EU countries on a bilateral or multilateral basis²⁵. The need for further action in this domain should be examined as early as possible, given the long negotiation cycles in the area of international spectrum coordination and with a view to adopting a common position at the forthcoming WRC-11

4.7 Addressing future challenges

Dealing with the evolving nature of the digital dividend issue is a "dynamic" process. Developments in technology, services, market demand and societal requirements will require that the actions established under the roadmap evolve in parallel. Particularly relevant factors of uncertainty which have been identified are:

- the extent of consumer take-up of HDTV on the terrestrial platform in the future, compared to the take-up on other platforms such as satellite and IPTV on broadband networks (in particular in an NGA context) a higher growth of broadband wireless usage leading to a spectrum bottleneck²⁶;
 - the emergence of unforeseen additional broadband uses which would require access to more spectrum below 1 GHz, for example public service uses such as Public Protection and Disaster Recovery (PPDR) or public security;
 - the pace of introduction of new technologies: new transmission compression standards, new frequency agile technologies and their ability to take advantage of the white spaces;
 - the possibility to create synergies with other regions of the world in the light of not foregoing the chance to benefit from potentially world-wide economies of scale.
- The Commission proposes to establish a mechanism to monitor external developments affecting the roadmap. The Commission would report on any need for its review to the European Parliament and Council at least once every two to three years. This reporting would include changes in forecasts for spectrum demand and identify any future need for making further spectrum available on a co-ordinated basis.

DCENR concurs with the assessment that there is significant risk associated with predicting the future course of technology and consumer behaviour. DCENR cautions against a temptation for picking a winner in the context of regulation. DCENR concurs that in many technologies global developments may be a driver, but considers that national and regional circumstances must be taken into account when determining which spectrum can be made available from the range for which equipment has been developed and manufactured (choosing one or more options).

Further details on the proposed action lines and how they could be implemented should be defined following a full policy debate regarding the scope and precise nature of the follow-up to be given to these proposals.

5. URGENT ACTIONS

This section introduces two urgent actions that should be undertaken without delay in order to secure consumer benefits and ensure that the digital dividend can contribute effectively and in a timely manner to the EU economic recovery efforts, in anticipation of an EU roadmap. They should also prevent the emergence of fragmented national legacy situations which would hamper the establishment of a single market for future services and equipment, without prejudging general strategic policy decisions which will be taken in the context of the development of the full roadmap with the European Parliament and the Council.

5.1 Accelerating analogue switch-off by 2012

All Member States have already decided to phase out analogue broadcasting but, despite the target EU date of 2012, the actual final date for complete switch-off remains uncertain. As the digital dividend will only become fully available after the switch-off of analogue broadcasting in Europe, it is crucial to ensure a timely completion of this process in all Member States.

Member States which have not yet completed the digital switchover would be requested to **reaffirm their commitment to the EU target date for the effective switch-off of analogue TV broadcasting by 1 January 2012**, and to complete all

required preparatory measures necessary in 2011 at the latest in order to meet this deadline. Member States would be requested to accelerate the switchover process by **confirming the switch-off date in national law**, if they have not already done so.

DCENR supports the Commission's desire to see timely completion of analogue switch-off. Ireland has end 2012 as a working target for its analogue switch-off, and a switch-off before then is not anticipated. However, it must be pointed out that the broadcasting landscape is different in every Member State, with different population densities, different cultural and social traditions, and different preferences in television reception systems and even different stages in the evolution of those systems. In this regard the availability and affordability of reception equipment can be an issue. Analogue switch-off timeframes in neighbouring Member States can also affect service availability. It remains a matter for each Member State to decide the manner and timing of analogue switch-off, which will reflect, *inter alia*, the needs of the viewing public. Ireland has not set its switch-off date in national law and DCENR would not propose to do so. A legal mechanism for analogue switch-off is set out in the Broadcasting Act 2009. This mechanism does not set a date, but outlines an approach to be taken by the Minister in selecting a date.

5.2 Taking steps towards the opening of the 800 MHz band for electronic communications services by adopting harmonised technical conditions of use in Europe

The urgency of this measure is justified by the need to make this band available in a timely manner so as to ensure that it can contribute to the EU efforts for economic recovery. It would also prevent a risk of fragmentation in the internal market due to the fact that an increasing number of Member States are presently considering national regulatory actions regarding this matter.

The Commission would submit to the Radio Spectrum Committee (RSC) pursuant to the Radio Spectrum Decision a draft EC decision on the technical harmonisation of the 790-862 MHz band for regulatory opinion in autumn 2009, followed by a final adoption by the Commission at the beginning of 2010.

In parallel, it would be recommended to Member States to **refrain from any regulatory action regarding the use of the 800 MHz band** that would contradict, or complicate the application of, the technical harmonisation measure being planned at EU level.

Noting that the RSPG actively discussed and supported moves towards technology and service neutrality, DCENR considers that service and technology neutrality should be respected in relation to any ECNs deployed in the band 790-862 MHz. In general DCENR considers that attempting to pick a technology winner, given the rapid changes in technologies, can be fruitless. Any harmonising measure should not constrain the implementation of future generation technologies.

The Commission invites all interested parties to submit views and comments on the proposals set out in this consultation document. This input will be duly taken into account by the Commission when developing its official proposal for the EU roadmap for the digital dividend in view of the planned policy debate with the European Parliament and the Council.

To this aim, the Commission intends, this autumn, to:

- adopt a Communication on the digital dividend including the Commission proposals for the development of the EU roadmap;
- take action on the two urgent measures identified in section 5, including the proposed technical harmonisation measure and a Recommendation to Member States on interim measures to facilitate the process of making the 800 MHz band available as quickly as possible.

The main elements of the proposals outlined in this document will then be incorporated into the wider spectrum action programme to be submitted at the beginning of 2010 to the European Parliament and the Council for adoption.