

**Plenary session: Regulatory Challenges of the Digital Future:
Including the impact of the new telecom regulatory package on
broadcasting and frequency issues.**

Background Paper EPRA/2007/13
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Introduction

The purpose of the plenary session is to outline potential new challenges in the regulation of the broadcasting (and communications) sector that specifically impact upon the future shape of broadcasting, and the types of services that will be available to the public. The digitisation of data is now moving toward an era where most data (audiovisual, music etc.) is becoming digital. One of the main advantages of this is the increased possibility for use of that scarce and valuable public good, the radio spectrum. Digitisation allows more data over less spectrum space, however the gains are not infinite: in reality most countries are already dividing up much of the gains with the planning of DTT via the addition of new channels on a variety of multiplex services.

The British case is useful for providing an example of a “Digital Dividend”. The Ofcom Review paper¹ explains clearly the nature of the Digital Dividend for the UK, which will be similar for other countries:

- The development of DTT, even allowing for increased capacity (more channels) still leaves part of the spectrum (that part offering the best combination of range and capacity Ultra High Frequency, UHF) available for other uses. In the case of the UK this will be the 112Mhz, which is made up of 14 channels of 8Mhz.
- In the case of the UK, there are other channels that can potentially be freed up for use that are currently used for airport radar and wireless microphones.
- The third area of interest, undoubtedly of relevance to all countries concerns the frequencies for the Multiplexes for DTT. In this case what is described as interleaved spectrum, a “white space” that lies between the areas allocated to the Multiplexes, is also an additional aspect of available spectrum.

From a European Union wide perspective, the release of UHF spectrum is described as being comparable in size to the frequencies currently being used by cellular networks in Europe. The involvement of EPRA members in the planning of policy and strategy varies, of course, according to their remits. These issues are of particular relevance to converged authorities dealing with both broadcasting and telecommunications issues. In many countries it will be the telecommunications authority that plays a leading role in this process. However, as these decisions will impact upon the future broadcasting landscape, and in many cases regulators may have the remit to regulate content on new platforms, the development of strategy and policy is of relevance to all regulators. This paper will outline in more detail the work in this area being carried out by the converged regulators, and also the role being played by (the purely) broadcasting regulators in the development of policy.

At the outset, it is important to place current and future governmental and regulatory decisions in the context of both international decisions on spectrum allocation and

¹ www.ofcom.org.uk/consult/condocs/ddr/ddrmain.pdf

management (of the International Telecommunications Union), and European Union proposals on spectrum allocation and management (in the context of reviewing the telecommunications regulatory package).

Spectrum management framework

At the 2006 Regional Radiocommunication Conference (RRC06) of the International Telecommunication Union (ITU), it was decided that the switchover from analogue to digital broadcasting in Europe should be completed by 2015 and hence that broadcasting frequencies needed to be re-organised. As part of the discussions, the frequency use of the frequency bands the 174-230 MHz and 470-862 MHz by digital broadcasting was outlined in the GE06 Agreement, in which each country is allocated a total of seven to eight full coverage layers. To prevent interference, the channels used in one area are different from those used in neighbouring areas.

The next step in the process involves the International Telecommunications Union (ITU) World Radiocommunications Conference (WRC07) to be held in October-November 2007, where the ITU Radio Regulations will be adapted. The Commission's Communication² to the European Parliament and the Council of July 2nd this year listed the objectives that the Commission would like to achieve at the conference: to upgrade the status of mobile services to the same status as broadcasting services (currently ITU Radio Regulations give broadcasting services a higher regulatory status in the UHF band); to enhance flexible and efficient use of spectrum; to ensure compatibility of decisions with EU policies.

The European Commission has been playing a growing role in this area in particular since the adoption of the Spectrum Decision, which enables the Commission to take technical implementation measures to satisfy the harmonised spectrum requirements of Community policies. It is assisted in this process by the Radio Spectrum Committee (RSC) and the Radio Spectrum Policy Group (RSPG) that has recently published opinions on the introduction of multi-media services³, and on the policy implications of the Digital Dividend.⁴ In addition the RSPG developed the Wireless Access Policy for Electronic Communications Services (WAPECS) enshrining the principle of technology neutrality.

In the context of information society policy, and with reference to the above opinions, the EC is currently reviewing the regulatory package for telecommunications services.⁵ Regarding spectrum management, the following proposals are put forward:

- Introducing the freedom to use any technology in a spectrum band (technology neutrality). Spectrum users would be free to use any type of radio network or access technology in a given spectrum band to provide a service;
- Introducing the freedom to use spectrum to offer any communications service (service neutrality). Exceptions would need to be appropriate, time-limited, non-exclusive, justified and necessary to achieve certain objectives such as audiovisual policy, promoting cultural and linguistic diversity and media pluralism, establishing pan-European services, etc;
- Facilitating access to radio resources, the coordinated introduction of trading in rights of use. This system would relate to specific spectrum bands and tradability would apply throughout the EU;
- Establish transparent and participative procedures for allocation. In particular this

²http://ec.europa.eu/information_society/policy/radio_spectrum/docs/ref_docs/com/com_2007_371_en.pdf

³ RSPG (2006): Radio Spectrum Policy Group Opinion on the Introduction of Multimedia Services - RSPG SGG Multimedia. Document RSPG06-143 Final 1 RSPG Opinion #5. Available online:

http://rspg.ec.europa.eu/doc/documents/meeting/rspg11/rspg06_143_final_rspg_opinion_multimedia_services.pdf

⁴ RSPG (2007): Radio Spectrum Policy Group Opinion on the EU Spectrum Policy Implications of the Digital Dividend. Document RSPG07-161final, RSPG Opinion # 7 14/02/2007. Available online:

http://rspg.ec.europa.eu/doc/documents/opinions/rspg07_161_final_op_digdiv.pdf

⁵ EC Staff Working Document. Available online:

http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/public_consult/review/staffworkingdocument_final.pdf

- would include rules that ensure allocation is subject to public consultation;
- Decision mechanism for coordinated spectrum management. This would introduce a system for developing decisions applicable in all member states, such as identifying spectrum that should be subject to general authorisations only (unlicensed bands), identifying spectrum where rights should be tradable, and also competition, legacy, aspects of exceptions to the proposals above.

In addition, the proposals for a new framework also include proposals for streamlining market reviews and simplification of the "Article 7 procedure"⁶ with regard to regulation of the internal market for communications services. To this end they have also communicated a desire to increase the role (and legal status) of the ERG (European Regulators Group).⁷

The proposals will have a significant impact on the planning of use for the Digital Dividend. Certain parts of spectrum may be pre-designated as being non-licence authorisations. National decisions to allocate spectrum for particular services will need to be justified in the context of the public interest obligations outlined above. The following sections outline the status regarding policy development on Digital Dividend use, and provide examples of policy action to date. In many cases some of the proposals above are already common practice such as the implementation of public consultations on proposed uses of the spectrum. However, there are considerable divergences of approaches and opinions with regard to pre-defining services on spectrum for licence tender, and following the market-led approach as outlined by the commission.

Potential use of the Digital Dividend and status of decisions

A range of possibilities exists regarding the provision of new services in the extra spectrum space. The Radio Spectrum Policy Group⁸ of the European Commission identified potential uses to include the following:

Broadcasting: introducing a higher number of programmes; increasing coverage; introducing local television channels; high definition television HDTV; mobile or portable reception of broadcasting; data broadcasting; enhanced television.

Electronic communications: mobile telephony/broadband; broadband access for scarcely populated areas; services Ancillary to broadcasting, which already coexist with broadcasting; low power devices (licence exempt or not); private mobile radio; military communications; Public Protection and Disaster Relief (PPDR).

Broad decisions on Spectrum use

To date most decisions or statements regarding future spectrum use are quite general. The most common statement is the intention to prioritise audiovisual services. There is a general preference for audiovisual services in the *Czech Republic*, and in *Belgium Flanders*. In *Belgium*, it has been decided that all frequencies allocated from the GE06 are intended to be exclusively used for digital broadcasting and co-managed between the French, Flemish and German speaking communities, with all applicants for frequencies to be equally treated when the digital spectrum is divided. In *Italy*, all the capacity currently in use for audiovisual services will still be used for the same kind of services after the switch-off. The frequencies will be used for traditional DTT multiplexes/HDTV services (DVB-T) and mobile TV services (DVB-H).

⁶ These procedures require national regulatory authorities (NRAs) to conduct a "national" and a "Community" consultation on the regulatory measures they intend to take - comprising definition and analysis of relevant markets and the proposed imposition or removal of regulation on undertakings providing electronic communications networks or services - prior to adoption. The Commission may comment on the draft measures, and in certain cases, exercise its veto power requiring their withdrawal.

⁷http://ec.europa.eu/information_society/policy/ecomms/info_centre/documentation/com_erg_discussion/index_en.htm

⁸ The group assists the Commission in the development and adoption of technical implementation to ensure harmonised availability and efficient use of radio spectrum, and the collection of information related to the use of radio spectrum.

In *France*, the Law 86-1067 (as amended by Law 2007-309 on the modernisation of audiovisual broadcasting and the television of the future), stipulates that the majority of the Digital Dividend will be used for audiovisual services. According to the law, use of the Digital Dividend will have to:

- favour the diversification of the offerings of services;
- improve the geographic coverage of digital terrestrial television;
- ensure equal access to electronic communication networks;
- improve the efficiency of public service terrestrial radio links;
- optimise the management of the terrestrial public domain.

However, no spectrum has been reserved for particular services. The auctioning of capacity without pre-defined use is not possible in the French audiovisual or electronic communication legal framework. The law also outlines the framework for planning the decisions regarding the DD. The process will involve:

- The creation of a parliamentary commission (la Commission du dividende numérique), with whom the ministry will consult.
- A report (schéma national de réutilisation des fréquences libérées par l'arrêt de l'analogique) by the Prime Minister will be published, and commented on by the Commission. This report will define the principles of the distribution of the Digital Dividend among the different administrations managing spectrum (CSA, ARCEP, ministers).

There is also a tendency in many countries (Belgium Walloon) to not make overly rapid decisions on spectrum use. Indeed, a major consideration is the decision to leave free spectrum available for potential future and unanticipated services and technological developments. This is also a central argument in the Ofcom Digital Dividend Review (see below).

Table 1. Status of policy development regarding the Digital Dividend (EPRA)

| level of policy development | Groups | Specific details |
|---|---|--|
| Legislation enacted relevant to this issue | France | - the Law 2007-309 on the modernisation of audiovisual broadcasting and the television of the future sets the frame-work for a decision-making process on DD (see below). It also outlines principles for use of the DD. |
| Countries with proposals for Digital Dividend use under consultation | United Kingdom, France, Norway, Sweden | - In the UK, the Ofcom launched a consultation on future access for programme-making and special events (August 2007). Currently Ofcom is consulting on the use of the Digital Dividend - In France, a decision-making process has been established: the Minister will decide after consultation with the parliamentary Commission du dividende numérique. A report will be published defining distribution of DD among management agencies, the CSA and ARCEP. ARCEP has launched consultation on sub-band use (July-Sept 2007). - In Germany, the ALM published guidelines on the use of the DD, which are under review up to July 2008. - In Norway a working group has been established and will report on findings and recommendations re. DD use in October (at latest early 2008). - In Sweden, the Post and Telecom Agency has submitted a report to the government on possible DD uses. |
| Countries where debates and discussions are starting on Digital Dividend issues | Netherlands, Italy, Belgium Walloon, Belgium Flanders, Czech Republic, Denmark, Lithuania, Spain. | - The Italia Digitale is leading discussions with stakeholders |
| Countries currently developing digital strategies who have not yet addressed issues of Digital Dividend | Bosnia and Herzegovina, Montenegro, Hungary, Ireland, Malta | - focused on DTT planning and strategy - aspects of the DD are likely to be discussed in this framework |

Based on responses to EPRA questionnaire.

As table 1 shows, EPRA members are at different levels of advancement with regard to these decisions. Those countries where DTT roll-out is well under way are at the forefront of policy development regarding spectrum use, while many other states are just developing the strategy for DTT implementation. In many of the countries where proposals are being put forward, the debate is becoming quite interesting, with in several cases political parties making statements and proposals regarding the future of digital broadcasting (in Germany and Spain). In responding to the EPRA questionnaire on this issue, many EPRA members pointed to a central aspect of the debates: there is, in general, a different consensus on the use of the Digital Dividend between the broadcasting industry and the telecommunications industry (Germany, Denmark, Sweden).

Proposals and consultations

General principles

In *Germany*, guidelines⁹ for the use of frequencies for digital broadcasting were published following the RRC 06 decisions. The German Federal Government and the *Länder* had asked the public service broadcasters and *Landesmedienanstalten* to prepare for the implementation of these plans at national level and to propose some guidelines for future spectrum use. These guidelines are now under review until July 2008. The principles underlying the concept for frequency use are the following:

- Priority of broadcasting with appropriate consideration of the entitlement to development interests of telemedia services;
- Coverage of the needs of the Länder;
- Frequencies for PSB and private operators should be technically and economically of equal value;
- With the conversion to digital, as planned, the frequency resources likely to be freed up in the short term are for DTT (DVB-T: comprehensive offer of PSB; offer of private channels at least in metropolitan areas, DAB and DMB (Federal, Land, and local/ regional levels), DVB-H (Federal, and also metropolitan areas);
- Note should be taken of the principle of efficient frequency use;
- The appropriate authorities at the Land level will decide on the use of frequencies to be freed up at a later point.

A crucial point of debate was the distribution of the so-called "Digital Dividend" between public and private broadcasters and the related growth potential for broadcasting and telemedia services. According to the agreement, the public broadcasters will have essentially completed the digitisation of terrestrial television by 2008. More recently, the German Social Democratic Party (SPD) published guidelines (developed by the Article 5 committee of the SPD) on the regulation of the media in the digital environment on August 20th, which will be discussed at the party convention in October. The guidelines also addressed issues related to the Digital Dividend: in response to the approach of the European Commission regarding the Digital Dividend, and the distribution of freed up capacity, a purely market approach, the committee stresses that PSB is a cultural rather than economic good and that broadcasting should have priority in the re-distribution of capacity.

Broad consultations

In *the UK*, Ofcom consulted on its proposed approach to awarding the Digital Dividend in the UK from December 2006 until March 2007.¹⁰ It published a summary of responses in May 2007.¹¹ It also consulted on future spectrum access for programme-making and special events (PMSE) between June and August 2007.¹² A statement is expected before the end of 2007 detailing final proposals for awarding the Digital Dividend. It will publish a further consultation as soon as possible thereafter on detailed award design. The award itself is expected to take place

⁹ http://www.alm.de/fileadmin/Dateien/Frequenznutzungskonzept_4.2.pdf

¹⁰ www.ofcom.org.uk/consult/condocs/ddr/ddrmain.pdf

¹¹ www.ofcom.org.uk/radiocomms/ddr/condocsummary/ddrsummary.pdf

¹² www.ofcom.org.uk/consult/condocs/pmse/pmse.pdf

in late 2008/early 2009, with licences issued in the first half of 2009.

Ofcom in its review identified a number of possible uses for the Digital Dividend, of which television-related uses included mobile television, standard or high-definition digital television and local digital television broadcasting. Given the variety of potential uses, and the high level of uncertainty involved, *Ofcom* concluded "... we, as a regulator, simply cannot say with confidence what will be the best use of this spectrum over coming decades. To claim that we could would be wrong". Therefore, *Ofcom* proposes to follow a market-led approach to the Digital Dividend, in line with its previously established policy on spectrum liberalisation for electronic communications. In particular, *Ofcom* proposes not to set aside the Digital Dividend only to be used for television broadcasting, nor for digital terrestrial television via high-definition TV. Instead, it plans to package the spectrum so that it could be used not only for television broadcasting, but also for other existing and future services. All spectrum would be awarded by licence on a national basis, except for the interleaved spectrum (white space) appropriate for local television. The licences would be issued for a 12-year period, and would be technology and service neutral as well as tradable. *Ofcom* stated that the earliest date that auctions could begin for at least part of the dividend would be the second half of 2008.

The *Swedish Post and Telecom Agency* has submitted a report to the Government concerning a possible Digital Dividend. Different market players and authorities have given their opinion of the report and there is an ongoing debate in Sweden. The Swedish Post and telecom Agency was commissioned to investigate what the Digital Dividend might be after a transition to digital terrestrial television. Whether or not the Agency perceived different realistic alternatives it did not make any recommendations. The Swedish market seems to be divided into those who prefer telecommunications and those who prefer broadcasting services.

In *Norway*, a working group has been established and will report on findings and recommendations regarding Digital Dividend use in October (at latest early 2008).

Proposals or decisions on new services

Mobile broadcasting over the terrestrial networks represents one of the major new services of interest. In *France*, the ARCEP launched a public consultation (in July 2007 with responses due on September 26th) on the use of the Digital Dividend for mobile electronic communications services.

On 12 December 2006, the *German DLM* presented a draft framework agreement on the multi-regional trials of mobile broadcasting services based on the DVB-H standard (Digital Video Broadcasting - Handheld). Mobile broadcasting in the DMB standard (Digital Multimedia Broadcasting) has been available in 11 German cities since the beginning of September 2006. DVB-H will be the second technical standard for mobile television to be tested. Following the consultation on this, a tender for DVB-H services is currently under way with results expected in October.

A Bill under debate *in Spain* on the advancement of the information society addresses the issue of mobile broadcasting over terrestrial networks. The socialist group (PSOE) has submitted an amendment to the bill that would introduce a basic regulatory framework for the provision of mobile TV over digital terrestrial networks, and end the requirement that the frequency licence is granted to the broadcasters, as is currently the case for DTT, insisting that frequency licences be granted to a multiplex operator through a beauty contest.

Proposals and decisions on standards

Following a consultation, the *French* Ministry of Culture drafted a decree regarding standards establishing a mandatory use of DVB-H for terrestrial mobile television systems and DVB-SH for hybrid terrestrial and satellite television systems. Broadcast signals will have to include information on the programme schedule, the numbering of the services, and information regarding parental control.

In contrast, the *German* system has already launched DMB and will be launching DVB-H mobile broadcasting over terrestrial networks.

Proposals and decisions on enhanced and interactive services

In *France*, the ministry has made several statements concerning the necessity to have enough spectrum to enable each DTT channel to switch to HD in the future. The CSA also recently carried out a consultation on the introduction of High Definition (HD) services over digital terrestrial networks (DTT), a service that will need to be limited as there is not sufficient capacity available. The current plan is to launch, from 2008, three HD services over the R5 multiplex, which is not currently being used, with one HD service reserved for public service HD and the other two services to be assigned through a call for tender. HD services on the other multiplexes have been deferred for the moment.

In *the UK*, BBC plans to introduce HDTV on cable, satellite, DTT, IPTV and the Internet (BBC iPlayer), and an on-demand BBC HD channel content through the BBC iPlayer, have led to a Market Impact Assessment being carried out by the Ofcom and the BBC Trust (from May 2007).

Proposals and decisions on content issues

The EC Communication (2007) on mobile broadcasting called for a light-touch regulatory environment, with particular reference to obligations such as must-carry obligations and 'other traditional broadcast obligations' whereby these should not be imposed on new services.

France has already introduced must-carry obligations for mobile television operators.

In *Germany*, current proposals (in the context of the 10th Amendment of the Interstate Broadcasting Treaty on Broadcasting and Telemedia Services) to apply "must carry rules" to all platforms, have been criticised by industry groups representing IPTV and mobile broadcasting ventures. For example, the Association of Telecommunications and Value-Added Service Providers (VATM) (*Verband der Anbieter von Telekommunikations- und Mehrwertdiensten e.V.*), expressed concerns that the draft amendment would lead to discrimination against television distribution (Internet and mobile TV) over the telecommunication networks. The concern was with the application of "must carry" rules to all platforms. The VATM noted the monopolistic position of broadcasters with regard to the provision of content and claimed that for IPTV services to have any chance to compete with the other platforms, it should be necessary to introduce instead "must offer" rules that would ensure content producers must offer all platforms equal and non-discriminatory access to content.

In *Cyprus*, the Broadcasting Authority, with the cooperation of the Ministry of Interior, is currently in the process of amending the current legislative framework in order to include the regulation of radio-television content of various digital broadcasting services regardless of the technical means of transmission.

A further broader consultation was launched by the *French* Ministry of Culture in January 2007, regarding mobile television¹³: content matters, business models, the role of the various segments of the value chain, conditional access systems and interactivity of handsets, to coverage obligations for the multiplex operators.

Other consultations of relevance include the *Ofcom* consultation on a discussion paper on assessing the potential of digital media to deliver public service audiovisual content to UK citizens (the results were published in June 2007).

Spectrum allocation and re-allocation

Two of the major converged regulators have established policies for allocation of frequencies, which are similar to the preferences of the European Commission, as outlined above, while other states are less inclined to opt for a market-led approach to deciding on the best use of frequencies released after analogue switch-off.

¹³ http://www.csa.fr/upload/decision/Consultation_TMP_CSA.pdf

According to the *Ofcom* response, the approach to this will be consistent with its vision for spectrum management set out in its Spectrum Framework Review.¹⁴ *Ofcom* has proposed a market-led approach to awarding the Digital Dividend, imposing as few constraints as possible (essentially only to avoid interference with other services and to meet international obligations) on how the spectrum can be used. This means that licences would be technology- and application-neutral and awarded by auction and that licensees would be able to trade and change the use of the spectrum. *Ofcom* proposed that the Digital Dividend should be packaged in a way that would be suitable, but not reserved, for use by local and additional national digital terrestrial television (DTT) services.

In *Italy*, the approach currently is not to allocate the capacity in advance through a legal act but to adjust to market requirements. Given the switch-off mechanism in *Italy* (it will proceed by region and by channel at the same time) the DD will not be available all together but progressively and its allocation will be decided according to emerging needs. Considering also that *Italy* already has frequency trading mechanisms in place, the operators interested in launching digital services (mobile or traditional) can purchase the capacity and roll out the service. If there is a great deal of requests for these services, there may be very little "unused" capacity after the switch-off date (currently set at 2008).

Overview

EPRA members are at different stages in the process of developing digital television and hence some are also further along in the planning process with regard to use of spectrum made available after analogue switch-off, the "Digital Dividend".

International decisions on the re-organisation of frequencies and coordination of frequency use, alongside EU proposals on the future regulation, use and allocation of radio spectrum will have a significant influence on the development of policy. More international and European coordination is required, and also more harmonisation of use of frequencies is desirable from the point of view of the European Commission.

In particular, the Commission proposes both technology neutrality and service neutrality with regard to spectrum allocation, and that certain parts of the spectrum be identified as requiring general authorisations only.

Opinions diverge in various European countries as regards the best approach to deciding on the allocation of spectrum in order to best serve the needs of the consumer. In addition, the opinions of the two competing industries, broadcasting and telecoms also diverge with regard to the types of services, and platforms that should have access to the Digital Dividend.

Relevant documents

ALM and ARD/ZDF (2007): Guidelines for the use of frequencies for digital broadcasting. Available online: http://www.alm.de/fileadmin/Dateien/Frequenznutzungskonzept_4.2.pdf

CSA (2007): Consultation publique ouverte par le Conseil supérieur de l'audiovisuel pour la diffusion de services de télévision mobile personnelle par voie hertzienne terrestre en mode numérique [Public Consultation published by the CSA on mobile television services broadcast over digital terrestrial networks]. Available online: http://www.csa.fr/upload/decision/Consultation_TMP_CSA.pdf

European Commission (2006): COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the Review of the EU Regulatory Framework for electronic communications networks and services {SEC(2006) 816} {SEC(2006) 817}. Available online:

¹⁴ www.ofcom.org.uk/consult/condocs/sfr/sfr2/sfr.pdf

http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/communic_reports/review/po_com_2006_334_reexam_ecomm_en_acte1_clean.pdf

European Commission (2006): COMMISSION STAFF WORKING DOCUMENT. COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the Review of the EU Regulatory Framework for electronic communications networks and services {COM(2006) 334 final}. Proposed Changes. Available online: http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/public_consult/review/staffworkingdocument_final.pdf

European Commission (2007): COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Strengthening the Internal Market for Mobile TV. COM(2007) 409 final. Available online: http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/communic_reports/mobile_tv/409_en_original.pdf

European Commission (2007): COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. The ITU World Radiocommunication Conference 2007 (WRC-07) (Text with EEA relevance) Brussels, 2.7.2007. COM(2007) 371 final. Available online: http://ec.europa.eu/information_society/policy/radio_spectrum/docs/ref_docs/com/com_2007_371_en.pdf

Ofcom (2006): Ofcom Digital Dividend Review. Available online: www.ofcom.org.uk/consult/condocs/ddr/ddrmain.pdf

RSPG (2006): Radio Spectrum Policy Group Opinion on the Introduction of Multimedia Services - RSPG SGG Multimedia. Document RSPG06-143 Final 1 RSPG Opinion #5. Available online: http://rspg.ec.europa.eu/doc/documents/meeting/rspg11/rspg06_143_final_rspg_opinion_multimedia_services.pdf

RSPG (2007): Radio Spectrum Policy Group Opinion on the EU Spectrum Policy Implications of the Digital Dividend. Document RSPG07-161final, RSPG Opinion # 7 14/02/2007. Available online: http://rspg.ec.europa.eu/doc/documents/opinions/rspg07_161_final_op_digdiv.pdf