Presentation for the Radio Spectrum Policy Group

‘Exploiting the digital dividend’ – a European approach: overview of the study for the European Commission

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Digital switchover presents an unprecedented opportunity to generate economic value from the radio spectrum

- Freed spectrum (the 'digital dividend') arising from the switchover from analogue to digital television across Europe results in an unprecedented opportunity in view of:
  - the superior propagation characteristics of the UHF band and the amount of spectrum that is potentially available (theoretically up to 350MHz)
  - the wide range of potential uses of the spectrum including:
    - additional digital terrestrial television channels (standard definition)
    - high-definition digital terrestrial television
    - cellular/wireless broadband networks in less populated areas
    - broadcast mobile TV networks
    - low power uses (e.g. radio microphones and short range data devices)
  - the potential role this spectrum could play in creating economic growth and new employment across Europe
    - studies undertaken to-date imply that the potential economic value that could be generated from making spectrum available to these uses is likely to amount to several billions of EUR each year across Europe
- Decisions national governments make about the future use of and process for awarding the digital dividend in each country are likely to have a significant impact on the economic value generated from the spectrum

However various technical, commercial/economic and regulatory/socio-political considerations apply

Technical considerations

- Interference obligations in international agreements (e.g. RRC-06)
- Protection of DTT and other existing uses
- Existing rooftop television antennas
- Preferred frequencies for individual uses
- Interference between new uses in adjacent channels

Commercial considerations

- Availability of alternatives (spectrum bands/platforms)
- Scope for economies of scale
- Cost of redeploying existing services
- Content and transmission rights

Regulatory considerations

- Definition of property rights, including scope for trading/ liberalisation
- Licence obligations
- Protection of social value
- Regional provision

Economic benefits could be foregone if Member States adopt different approaches to the use of freed spectrum

Importance from a European perspective

- High-power use of spectrum resulting in need for cross-border co-ordination
- Nature of spectrum (e.g. propagation characteristics) means this is possibly the band where the scope for innovation will be greatest over the long-run
- Scale economies are key for many potential uses of this band (e.g. mobile handsets, DTT receivers)
- Use of services across Member States e.g. facilitation of roaming on mobile phones
- Unique opportunity to co-ordinate availability of spectrum in this band across Europe as a result of switch-off of analogue signals

Investigations undertaken by CEPT

- Practical co-existence between high- and low-power density networks in adjacent channels
- Possibility of harmonising at EU level a sub-band for multimedia applications
- Possibility of harmonising, or co-allocating, a sub-band for mobile communication applications
- Tentative scenarios for organising consistently the digital dividend in Bands IV and V
- Possibility for fitting new/future applications/ services into non-harmonised spectrum of the digital dividend (such as the 'white spots' between allotments)

The nature of this spectrum means that the actions of one or more Member States could adversely affect the interests of all

Based on input from stakeholders, the study will identify and evaluate options for a co-ordinated EU approach

Areas for co-ordination

- The amount/location of co-ordinated spectrum
- Type of uses allowed
- Approach taken to the award of digital dividend spectrum
- Timing of any primary awards
- Scope for secondary market activity
- Licence terms e.g. obligations, renewal rights

Options for EU action (examples)

- No action (Member States continue to develop their own approaches with co-ordination limited to existing international measures)
- Guidance only (EU provides guidance on key policy areas, such as availability of spectrum, but Member States not obliged to follow)
- Mixed approach (EU mandates states to follow certain key policies but Member States have flexibility in other areas)
- Mandated approach (EU mandates states to follow very similar policies across a number of areas)

Market/technology evolution

- The development of terrestrial TV (does this remain the dominant use of UHF spectrum or could it be gradually phased out in favour of IP, cable and satellite alternatives)
- The evolution to HD services may lead to additional bandwidth requirements
- The development of wireless broadband (will the UHF band emerge as a favoured band for such services)

The project has five areas including the economic analysis and consensus-building activities [1]

Objective	*Summary of key activities*
A Inventory of national situations	• Desk-based research • Questionnaire and telephone interview programme • Research on international markets
B Socio-economic analysis	• Review of existing economic studies • Stakeholders' hearings/Member States' workshop • Demand for spectrum for alternative uses • Quantitative and qualitative assessment of alternate uses
C Key constraints modelled	• Technology trends • Interference management constraints and constraints linked to treaties • Constraints linked to content
D Scenarios for an EU co-ordinated approach	• Identification of alternative approaches, considering national situations • Cost/benefit and impact assessment of approaches • Review and refinement of proposed options with Member States
E Final recommendation and proposed roadmap	• Detailed impact assessment • Identification of key legal instruments • Implementation plan including timeline • Recommendations for any additional technical work

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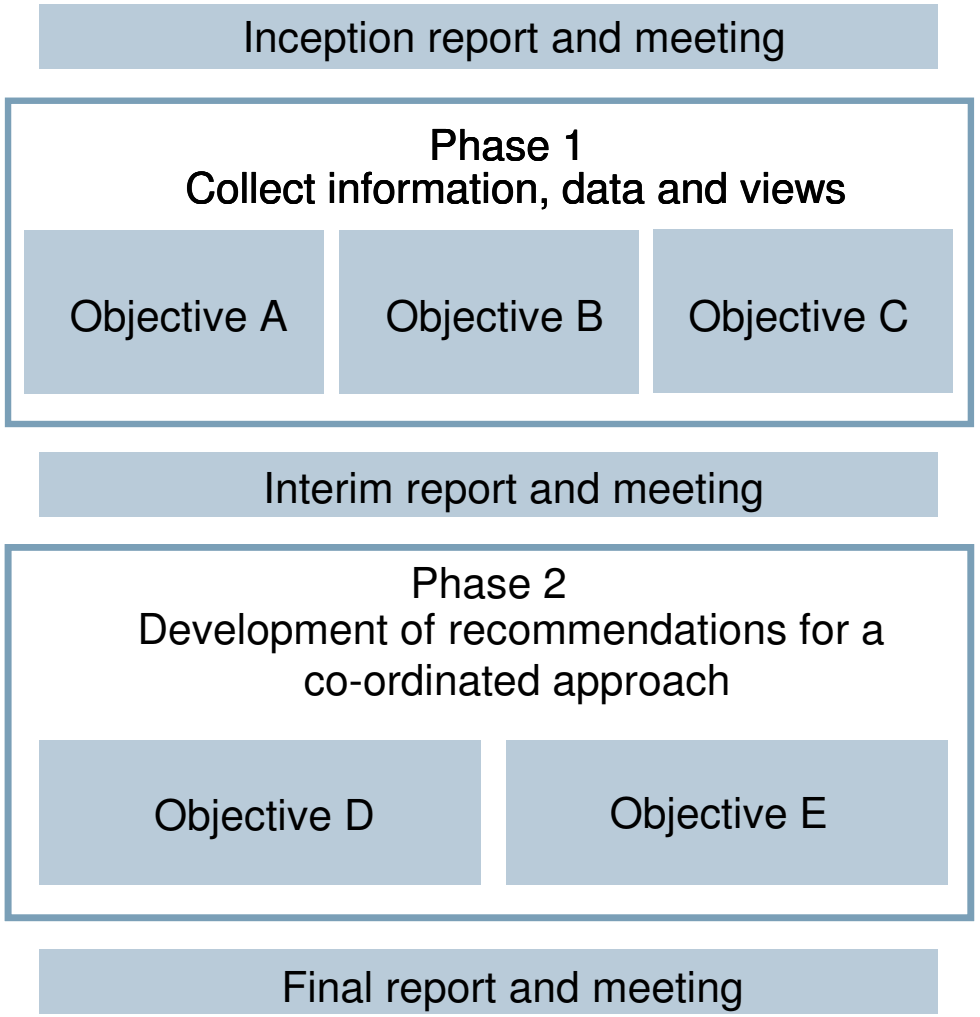
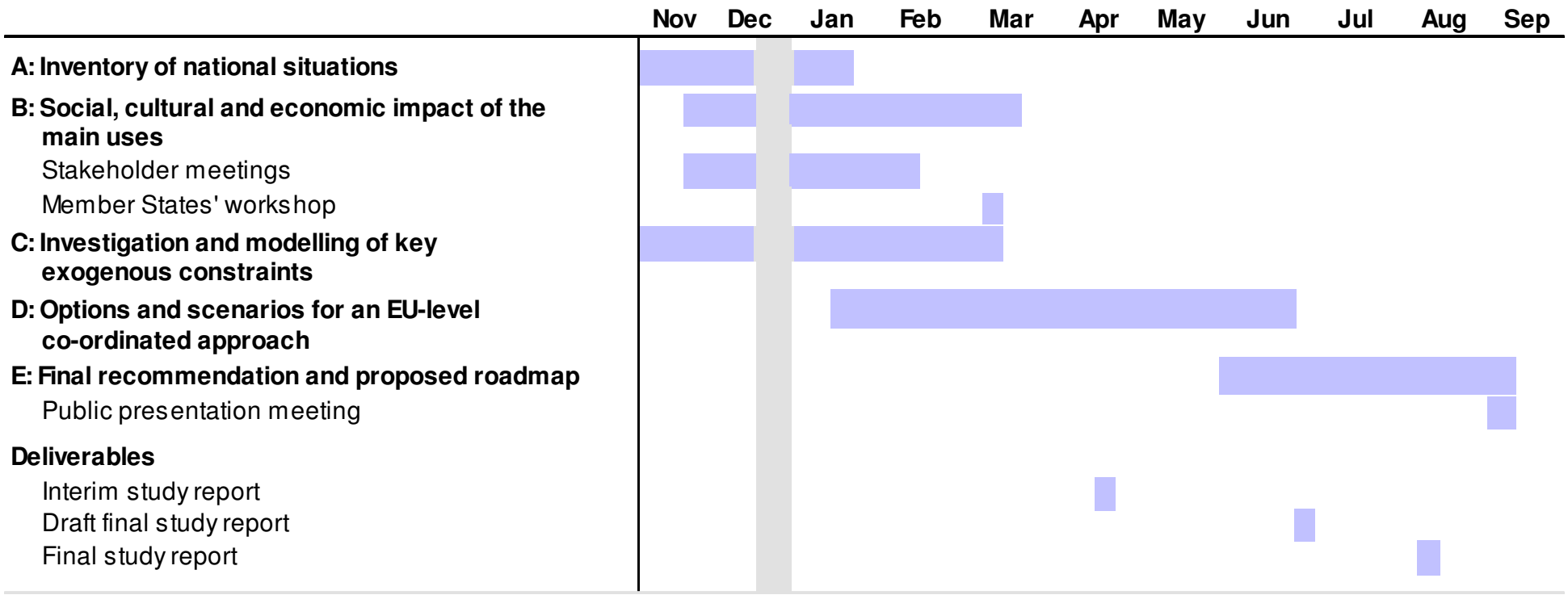


The study is due to completed by September 2009, with main draft recommendations available by June 2009



Input from the RSPG and Member States is key to the success of this study – we need your assistance

1	**Establish political support for information-gathering process and future collaboration (November–December 2008)**	• RSPG to identify contacts to support the information-gathering process on current status/plans in each member state • Information sought includes the digital switchover timeline, plans for digital dividend, any studies undertaken on the digital dividend, overview of broadcasting and telecoms markets, any specific country issues
2	**Participate in Member States' workshop (February–March 2009)**	• Provide input on potential uses of digital dividend spectrum and value generated from uses • Provide input on specific issues in individual Member States
3	**Provide opinion on initial recommendations from study (April–June 2009)**	• Comment on outline options for an European co-ordinated approach and support further development of these options • Support consensus building

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