Implementing Ofcom’s UHF Strategy
Call for inputs

UHF Strategy Implementation Team
23 May 2013
Agenda

9:30 – 9:35  Welcome -  Erika Forsberg

9:35 – 9:45  Overview -  Jon Higham

9:45 –10:00  Assessing costs and benefits -  Alan McNaboe/Thomas Punton

10:00 –10:15  Reducing consumer impacts -  Siew Yoon Tan

10:15 –11:00  Next Steps and Q&A
PROJECT OVERVIEW
Our strategic approach

• UHF Strategy Statement (16 November 2012) set out our dual objectives of providing more low frequency spectrum for mobile broadband whilst securing the benefits provided by DTT

• We will do this by:

• Seeking to enable a harmonised release of the 700 MHz band for mobile broadband

• Ensuring that the DTT platform can access the 600MHz band, alongside other services sharing spectrum with DTT, including Local TV, PMSE, and white space services
Mobile data growth forecasts

- **Medium growth scenario:** 80x traffic growth from 2012 to 2030

- **Cisco forecast:** 12x traffic growth from 2011 to 2016

Source: Real Wireless
Need to maintain DTT – without another ‘switchover’

- DTT currently uses 700 MHz
- Supports Freeview, YouView, Top Up TV, BT Vision etc.
- Likely to remain key platform in 2020s (right)
- Crucial for delivering low cost access to PSB channels, sustaining platform choice
- Unlikely other platforms could substitute for DTT by 2020

Multichannel in UK homes (main TV sets)

Source: 3 Reasons Ltd
ASSESSING COSTS AND BENEFITS
Costs and benefits of a change of use of the 700MHz band

**Potential Benefits**
- Meeting demand for mobile data services
- Improved indoor and rural coverage
- Reduction in mobile handset costs
- Effective competition
- Downstream market opportunities
- Emergency service use

**Potential Costs**
- Changes to DTT transmission network
- Consumer equipment replacement
- Coexistence between existing uses and mobile broadband
- Consumer information and support
- Opportunity cost of 600MHz band
- Reduction in interleaved spectrum

Have we correctly identified the potential benefits? Have we correctly identified the potential costs?
### Timing of a 700MHz release

The costs and benefits could differ depending on when release occurs.

<table>
<thead>
<tr>
<th>Potential Benefits of earlier release</th>
<th>Potential Costs of earlier release</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Meeting demand for mobile data services</td>
<td>• Possible increase costs of changes to DTT transmission network</td>
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<tr>
<td>• Improved indoor and rural coverage</td>
<td>• Possible increase to consumer equipment replacement costs</td>
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<tr>
<td>• Effective competition</td>
<td>• Possible increase in opportunity cost of 600MHz band</td>
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<td></td>
<td>• Possible increase in impact of reduction in interleaved spectrum</td>
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Have we correctly characterised the impact of timing on costs?
Release date determined by market mechanism

Could there be scope to use a market mechanism e.g. Incentive or Overlay auction to determine the timing of releasing the band?

What would the challenges associated be?
REDDUCING CONSUMER IMPACTS
Minimising impact to DTT viewers

<table>
<thead>
<tr>
<th>Impact</th>
<th>Initial pre-emptive measures</th>
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<tbody>
<tr>
<td>Due to change in DTT frequency plan, some consumers may need new aerial.</td>
<td>Work with industry to:</td>
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<td>▪ raise awareness of potential future changes;</td>
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<td>▪ ensure consumers receive correct information on aerial which is compatible with future re-plan;</td>
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<td>▪ encourage promotion and wider availability of aerials which is compatible with future re-plan.</td>
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Minimising impact to consumer DTT viewers

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| If there is a future platform transition to DVB-T2/MPEG-4 technologies, some viewers may need to replace their receivers (TVs or set top boxes) to continue to receive all DTT channels. | Work with industry to  
  - raise consumer awareness of DVB-T2 equipment compatibility.  
  - Understand the extent to which DVB-T equipment will continue to be available in the future |
| There may be potential interference from mobile handset operating at the lower 700 MHz band. | Engage with industry on the need to improve design of both TV receivers and mobile handset to minimise interference. |
Minimising impact to PMSE users

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<td>Due to change in geographically interleaved spectrum (spectrum unused by DTT), some PMSE users may need new equipment.</td>
<td>Promote use of equipment operating below 700 MHz as less vulnerable to future changes in geographically interleaved spectrum. Work with industry to support continued effort to improve PMSE equipment to operate in more congested and fragmented spectrum.</td>
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Minimising impact to future white space devices

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<tr>
<td>Potential release of 700 MHz band would reduce the overall amount of</td>
<td>WSDs are designed to operate across the whole UHF TV band so we don’t expect impact on</td>
</tr>
<tr>
<td>interleaved spectrum available for WSD</td>
<td>equipment functioning.</td>
</tr>
<tr>
<td></td>
<td>Ensure stakeholders are fully informed about potential future changes in availability of</td>
</tr>
<tr>
<td></td>
<td>interleaved spectrum</td>
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</table>
We are doing further studies to understand

- type of aerial being used by households
- consumers TV purchase behaviour, particularly motivation for HD content
- stock of PMSE equipment operating in the UHF band
- technology vs. cost trade-off to improve performance TV receiver and mobile handset

Do you have any comments on the pre-emptive measures we have identified?
Next steps

• 5 July    Closing date for CFI responses
• End August    Studies on costs and benefits complete
• End 2013    Cost Benefit Analysis
• Ongoing    International engagement and work on implementation policy
Questions
Thank you!

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