

The Digital Dividend in Scotland

Hillington Park Innovation Centre
29 October 2009

Agenda

- The digital dividend – what is it?
- Ofcom's proposals for digital dividend spectrum awards
- What the position is for Scotland
- Potential uses of digital dividend spectrum
- Questions

The digital dividend

- The digital dividend is spectrum freed up by digital switchover (DSO)
- Ofcom's strategic review of the digital dividend in 2006-07:
 - Objective of maximising the total value to society that this spectrum could generate over time
- We have to revise our proposals following the decision to align our approach to the digital dividend with Europe.

The digital dividend (as revised)

21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68
69											

Key

Retained for DTT/ interleaved spectrum



Cleared spectrum



Available UK-wide for programme making and special events

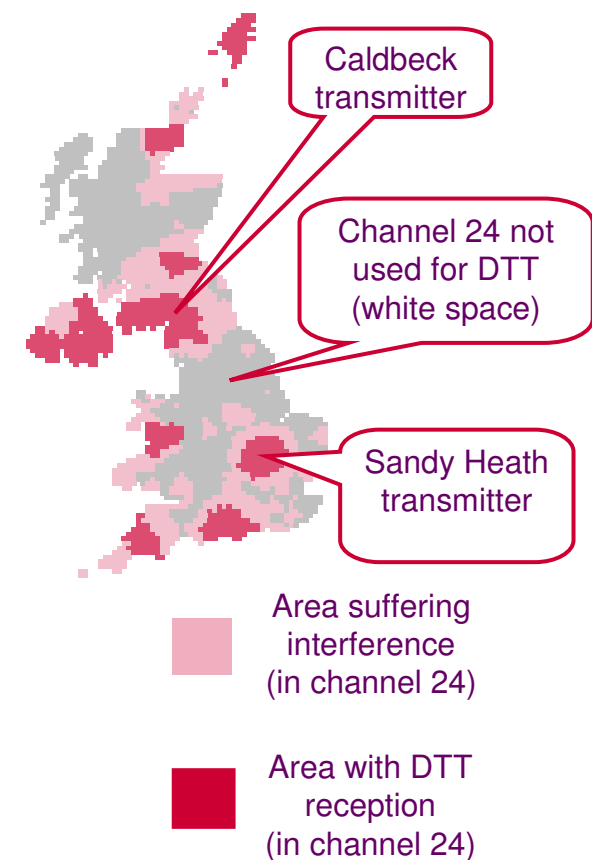


Consequences of aligning our approach to the digital dividend with Europe

- DTT will move from channels 61 and 62 to channels 39 and 40, which were to be cleared for new uses, and programme making and special events will move out of channel 69.
- Channels 61 to 69 (the '800 MHz band') will be made available for new mobile services.
- Channels 31 to 37 (the '600 MHz band') will be made available for new uses – possibly new DTT services, mobile or broadband.
- Channel 38 will be made available for programme making and special events.
- Channels retained for DTT will need to be replanned. This needs to be co-ordinated with neighbouring countries, who themselves may want to co-ordinate new DTT assignments to clear their own 800 MHz bands.
- We presently anticipate that international replanning negotiations will be largely complete by mid 2010.

What is interleaved spectrum?

- The six existing DTT multiplexes use a relatively large amount of spectrum: $32 \times 8 \text{ MHz channels} = 256 \text{ MHz}$
- In any one location only six channels directly serve viewers
- The figure illustrates the position for channel 24 – note that, because of interference constraints, it is not used between Caldbeck and Sandy Heath and in much of Scotland
- Similarly, all of the 32 DTT channels are available as unused ‘white space’ somewhere in the UK
- The aggregate of this white space is the interleaved spectrum



Geographic interleaved awards

Proposals in June 2008 for programme of awards

- **First phased awards.**
- **Combined award.**
- **Subsequent phased awards.**

Impact of aligning our approach to the digital dividend with Europe

- We have to revise this programme following the decision to replan the digital dividend spectrum.
- The interleaved spectrum available will not be known until international negotiations and coordination are progressed.
- The awards cannot start until it is clear what spectrum can be offered – not before 2011.
- The DTT spectrum will be more intensively used.
- This will affect availability of interleaved spectrum at some of the 81 sites identified for award. Likely to be a reduction in the total amount available, particularly in the south and east of England.

Next steps on geographic interleaved awards

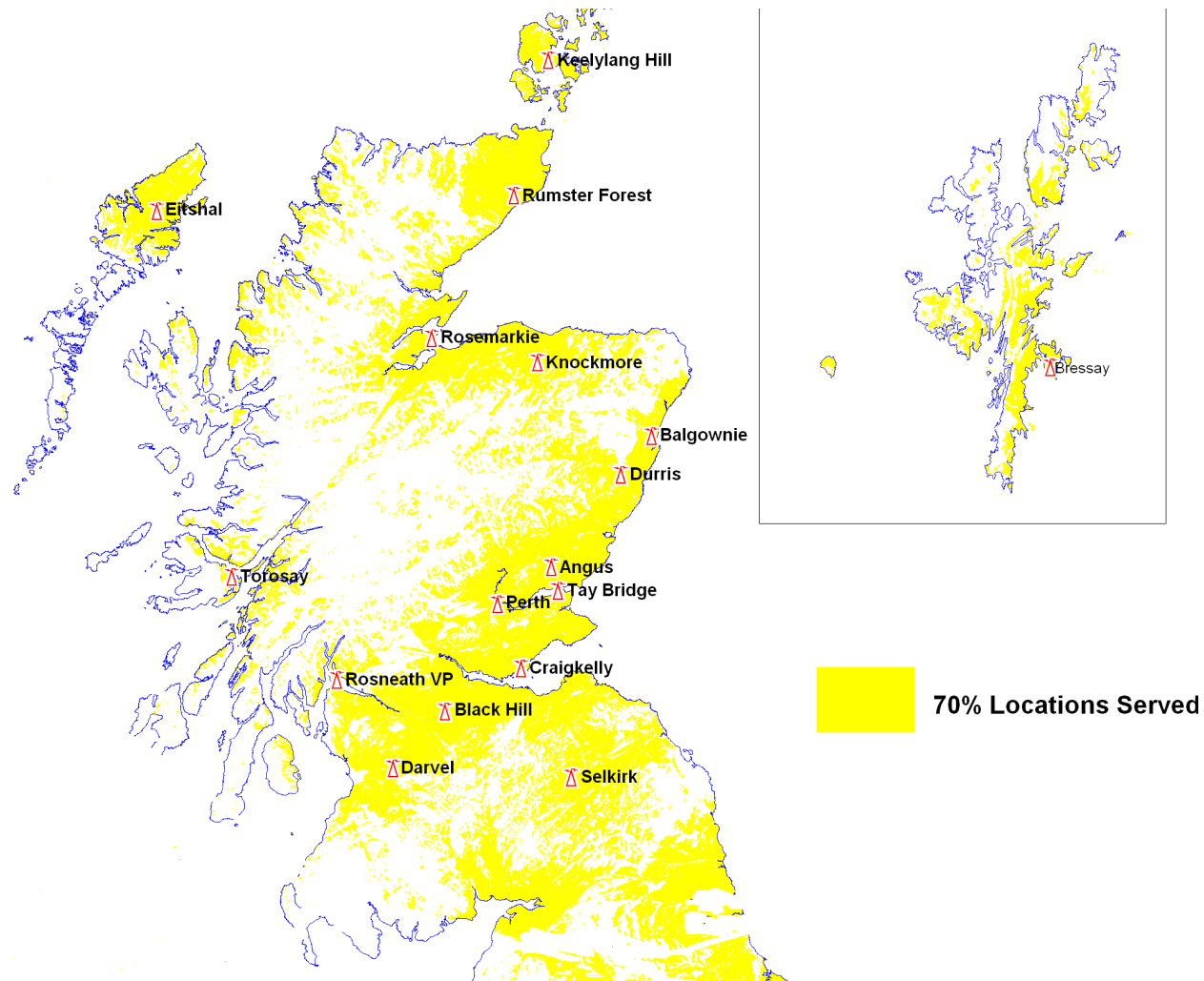
- We are examining options for further geographic interleaved awards.
- We will look at the geographic interleaved spectrum alongside the 600 MHz band of cleared spectrum.
- In deciding how to package and award the interleaved spectrum we need to understand the level of interest in the full range of potential uses of the spectrum.
- We looked at this in 2008 and want to update our information in the light of developments since then.
- We propose to consult in due course on the potential uses of the spectrum and the best way of making it available.

The position in Scotland

Optimisation of spectrum in Scotland

- More interleaved spectrum is available in Scotland than any other part of UK.
- Also more interest in using the spectrum in Scotland than most other parts of the UK
- A study in 2008 found that, with some re-planning of DTT transmissions, five channels could be made available across most of Scotland.
 - Channels 48, 51, 52 and 56 can be completely cleared across Scotland.
 - Channel 30 is only used at one transmitter in far north.
- Offers numerous possibilities:
 - National DTT multiplex
 - Mux covering Glasgow and Edinburgh
 - Local TV services
 - Telecommunications networks, e.g. broadband wireless access

Coverage of 16 sites in Scotland – June 2008



Current work on awarding white space spectrum in Scotland

- Clearing the 800 MHz band will impact on overall availability of interleaved spectrum, across the UK, and the timing of awards
- Still likely to be enough in Scotland to cover towns, cities or larger geographic areas, and / or a near-national network covering 80% of households or more
- In our next consultation we will look at potential uses for spectrum that may be available in Scotland, including the possibilities mentioned earlier [in slide 11].
- We welcome stakeholders' input – either in response to the consultation or in advance of it. Contributions may be sent to joe.sonke@ofcom.org.uk

Potential uses of the interleaved spectrum

Many possible uses

- Digital television
 - Standard definition, high definition, local, near-national.
- Wireless broadband
 - Mobile, fixed access and community networks
- Mobile television
 - Needs careful planning to avoid interference
- Cognitive devices
 - ‘intelligent’ devices that detect other spectrum users, currently out for consultation
- Programme-making and special events
 - Radio mics, sound and vision links
- Combination with spectrum elsewhere in UK, to provide UK wide services



Conclusion and Questions

joe.sonke@ofcom.org.uk
alan.stewart@ofcom.org.uk